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 — 24 October 2016

Members

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Witnesses

Mr David Meiklejohn, Executive Officer, and
Mr Rob Law, Project Manager, Northern Alliance for Greenhouse Action.

The CHAIR — Allow me, David and Rob, to welcome you on behalf of the Economic, Education, Jobs and Skills Committee's inquiry into community energy projects. All evidence taken at this hearing is protected by parliamentary privilege. 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 Hansard transcript so you can correct any typographical errors. I invite you to make an opening statement. It is my understanding that it is up to 5 or 6 minutes — we do not have to be by the minute — and then the Committee members will ask questions. I will leave the stage to you, just state your name before your contribution.

Mr MEIKLEJOHN — My name is David Meiklejohn, and I am the Executive Officer of the Northern Alliance for Greenhouse Action, NAGA.

Mr LAW — My name is Rob Law. I am the Project Manager for NAGA.

Mr MEIKLEJOHN — We would like to thank you all for the opportunity to speak today. Just a bit of background quickly. NAGA is a network of nine local governments in the Northern Metropolitan Region of Melbourne, as well as the Moreland Energy Foundation, who spoke just before us. We have been in operation for the past 12 years. We tend to work in three main areas—advocacy work, developing and implementing projects, and sharing knowledge and best practice amongst our members.

In our response to the inquiry we are conscious of what you have already heard and, not wanting to go over old ground, we are trying to focus on those things which are most relevant to local government as a representative of that here today. Those include five main things: local energy trading, local generation credits, the current payment in lieu of rates methodology, issues of overshadowing and the role of apartments. I notice there was a question, I think, just about to be asked before in the last session, so hopefully that will address some of those concerns.

Starting with the very first one in terms of looking at local energy trading, one of the priority barriers that we face for local government is in terms of creating opportunities for local energy trading, which is also called—I think Nicky referred to it earlier as—virtual net metering or peer-to-peer trading. It really is an arrangement where electricity generated at one site can be netted off for use at another site, so effectively site 1 sells or assigns that energy to site 2.

In particular, for councils this is quite relevant because they often have buildings where we may have the capacity to generate electricity at one site but not the usage at that site—for example, a lot of town halls, which stand empty most of the time but have a lot of roof space—and wanting to be able to net off that amount to be used at another building like council offices or a library and so on. Unfortunately, at the moment very few electricity retailers offer that capability to net off power in that way. So that is one of the things that we are looking to work towards and trying to change.

The second issue which I mentioned was the local generation credit, and again this was mentioned by a couple of the speakers this morning. The fact is that there are no credits awarded to generators that use only a small portion of the network to transport electricity from nearby sites—this can be as close as next door to one another or across the road. It is crossing property boundaries effectively. So even though it benefits consumers by lowering electricity prices through the availability of renewable energy, it is not a value that is recognised for the generator itself.

To actually achieve this is beyond the power of state government. It needs a rule change from the Australian Energy Market Commission, which has just ruled against the idea of such credits, so we are going to be stuck with that particular ruling for the next five years, I think we are. However, we do see there is a role for state government in the meantime to be able to support trials of local energy trading and also to continue to advocate for those broader changes—for example, through the COAG Energy Council.

The third issue is the prescribed mechanism for calculating the amount that small-scale energy generators pay to local governments in lieu of rates or PiLoR. I am assuming everyone is au fait with that term. It

currently presents a barrier to the development and ongoing operational viability of community energy generators, as small-scale generators are charged comparable rates to large-scale generators. So a small wind farm is going to be charged at the same rate as Hazelwood, for example. While we recognise that PiLoR provides councils and advocates for community energy with the flexibility to negotiate—it is designed to be a mechanism to generate an idea of how much the community energy generator should be paying—what happens in reality is the existence of the mechanism acts as a default for local governments, and it is difficult for community energies to devote sufficient time and resources to participate effectively in that. That was recognised by the last review of PiLoR in 2004, which brought about the mechanism in the first place. So we would look to recommend an updating of that mechanism to provide a more equitable rate.

Fourthly, we are looking at overshadowing, and we note that new development has the potential to impact on the performance of existing solar panels through overshadowing, whether it is owned by community energy groups or by private home owners. There are currently no statewide guidelines for assessing overshadowing impacts. The issue is that, while we have individual member councils—for example, some of our councils like the City of Moreland—that have developed planning advisory guide notes to assess the impact of development on solar panels, at the moment, without state planning guidance, a lot of those regulations are therefore subject to challenge at VCAT. We would recommend that Victoria look to what Western Australia has done and write that protection for solar from overshadowing into the state residential design guidelines.

Finally, I would just like to talk briefly about apartments. We notice that the definition of community energy could be applied to body corporates and owners of strata-title properties who seek to install commonly owned renewable energy systems. That can apply in terms of energy provided to the common areas in an apartment or, for example, to individual apartment owners. We are conscious of this because, as I say, we represent councils in the north of Melbourne, which are seeing a lot of growth with a lot of new apartments going up. One-third of all new dwellings approved across the state is apartments, and that is at a higher rate than ever before, so we are conscious that there is a growing equity issue between home owners, who are still the largest proportion of property owners in Australia and who can easily install and operate solar, and apartment owners, who are not able to do so easily. Our councils are getting an increasing number of inquiries from owner corporations, tenants and owner-occupiers about how to install commonly owned solar systems. So it is one of those things that is a priority issue for us. As it currently stands owner corporations cannot conduct an energy business and so must engage a retailer, and to onsell that electricity to private owners they would need to install an embedded network, which involves a large up-front expense. So that makes it difficult and acts as a barrier effectively to their engagement.

Those five areas are of particular concern to local government in terms of the barriers that exist to promoting community energy in Victoria at the moment, so I guess we would now throw it open to any questions.

The CHAIR — Rob, would you like to add anything, or shall we start the questions?

Mr LAW — Not yet; I am happy to take questions.

The CHAIR — Can you expand more on how community energy projects can help to reduce power bills for low-income households, how these projects are funded and are they sustainable?

Mr LAW — We have just been successful in a grant through the New Energy Jobs Fund with the state government, and that is working with 20-plus councils across the state to try to scale up the Darebin Solar $aver model, led by Maroondah Council. So that really is looking at how you scale up this model, which you have heard about before, for low-income households using the special rates charged to pay back a system. The issue with trying to get that at scale has been that other councils do not have that up-front bucket of money so that they can pay for the systems up-front. So we have been looking at different financing mechanisms that could be applied and tested. One is through working in partnership with Bank

Australia to offer low-interest loans at sub-5 per cent over 10 years. That is really the threshold for interest rates, in terms of ensuring that the household is…

Mrs FYFFE — May I interrupt for clarification—this is solar panels on individual houses?

Mr LAW — Yes, solar panels on individual houses, but that is in the first phase. Just as Darebin Solar $aver concentrated on individual houses in the first phase, it is now in the second phase looking at cooperative housing and social housing as well—it has introduced that as it has learnt from the first phase. That is probably our intention too—to target those more complicated areas down the track. Without going into too much detail on that project I am happy to provide more information on those different financing mechanisms, but we are aiming to test that over the next couple of years as to how you unlock finance for low-income households.

Ms RYALL — Where residents do not have access to perhaps community programs—we were just discussing before, and I think you may have heard some of the discussion—from an equity perspective, if I do not have access to a community program and others do, they are getting discounts potentially on their energy, whereas I am not and in fact could be facing increases because others are less reliant on the traditional systems and also the maintenance aspect. How do you see that?

Mr MEIKLEJOHN — I guess there are two parts. It is a broader question generally about access to renewable energy: if people cannot get access to renewable energy for one reason or another, whether it is the up-front costs or in very odd situations where they just may not be in suitable situations—whether they are renters, for example…

Ms RYALL — Or location.

Mr MEIKLEJOHN — Yes, or location; that is right. The apartment is the thing that I mentioned earlier—it is one of those sorts of key things that we are trying to work out. We are bringing in a new form of energy. It is tricky and it is difficult, and we need to therefore come up with multiple solutions for different situations.

So it is an access to renewables issue in that sense, about what we can do for that, and then I think it is looking at those sorts of solutions that we are talking about here, that is, where you are able to trade electricity across boundaries and being able to change rules to be able to do that. That allows people to be able to buy into that in a way that they are not able to do in their current circumstance.

So it is looking at the rule changes that allow for those segments of the market that are not well served by current commercial solar providers or, for example, what we might think of as a standard community energy model, and looking at what the solutions are for those. A lot of those are around things like local energy trading and generation net credits. Anything you want to add?

Mr LAW — Yes, and I think that is kind of what community energy is trying to tackle. That is, the fact that a lot of people—renters, apartment dwellers—do not own their own property and do not have suitable roof space, so community energy models that are emerging very much have that social focus on access to clean energy.

A number of them might do it in a way that sort of allows for low-income people to access a project at a lower cost than someone that has the capacity, so there are a number of different models. Being from local government, I guess that is one of our key concerns as well, the social equity aspect.

Ms RYALL — It is opening up the market in a sense.

Mr LAW — Yes.

Ms RYALL — And it is competitive and will be competitive to a degree.

Mr LAW — Yes.

Ms RYALL — So my concern is—and rightly—this is disruption, and that is going to continue to happen for as long as we are around and certainly after we are around. As that disruption occurs, if we are not anticipating and therefore putting in place arrangements to ensure equity or arrangements to ensure people are not disadvantaged, then it can create problems going forward when you have got a whole lot of different organisations all developing community projects left, right and centre. Then suddenly you find out later that people are disadvantaged and you are trying to unscramble an egg or at least work out what needs to be put in place.

Would you see that it would be vital to actually be able to strategise on these issues and determine, from a risk management perspective, what these issues could be and try to manage them as we go along?

Mr LAW — Absolutely, yes. I think that needs to be a key focus area for any of the projects. That is challenging because there are a number of different models in lots of different locations, and I would imagine that most of them are quite open door in terms of the people that they can take in. But certainly in the project that we are running for low-income households it is already creating that sort of subset of low income. We are targeting pensioners, so it is creating somewhat of an equity issue there—that it has excluded other areas of low-income households—but to start with that is sort of the easiest area to tackle. We start with them; they are home during the day and so more likely to benefit from solar.

Ms RYALL — And someone else might develop different methods and so forth.

Mr LAW — And then someone else might develop different models for different…

Mr MEIKLEJOHN — Yes. We should say that as part of that project we have commissioned and just had delivered to us a business case looking at a range of these different models, which we would be happy to share with you, on notice, sometime.

Ms RYALL — That would be good.

Mr MEIKLEJOHN — Yes, it is a really key part of why we are involved in this particular project: to directly address those potential equity issues that we cannot see right now.

Ms RYALL — That is it, yes. Thank you.

Mr CRISP — To explore that, we have talked a lot about generation initiatives to deal with social equity. I want to hop back over to the other side of the energy equation and look at consumption. Has all that could be done been done in energy saving as a way of delivering a benefit for people?

Mr MEIKLEJOHN — Short answer: no. There have been tremendous reductions in residential energy consumption in Australia over the last 10 years, but a lot of that has been due to changes in standards for building, building shells, appliance standards and upgrades—those sorts of things. That is starting to come to an end now, and that decline that we have seen over the last 10 years will start to peter out over the next 2 to 3 years.

Mr NARDELLA — So it will plateau?

Mr MEIKLEJOHN — Yes, and potentially increase because of maybe people getting used to particular ways of using those appliances. This is a report—which again we are happy to share with you—that was done for the federal government, looking at recent energy consumption trends in Australia. The issue will be, even if it either increases or plateaus, that we are not getting better in that sense; and unless we see the next technological revolution that is going to drive further energy efficiency in appliance use or in home standards and so on, we are not going to see further decline. Alternatively, the other option is to look at what we do to re-engage households and get them to think about these particular issues and start to address it from a demand management point of view.

Mr CRISP — You want to be looking at providing for that area of retrofitting because the socio-economic demographic we have been concerned about are in existing dwellings, so looking at

whether that area is exhausted yet or what can be done in that existing dwelling to lower demand and deliver benefit that way.

Mr MEIKLEJOHN — Yes. One of the things that we have had very early discussions about as a result of this work on the business case I mentioned earlier is how the State Government's energy concession budget is used at the moment. Really at the moment it tends to be just a matter of supplying finance to the homeowner regardless of what their energy demand will be, so it is trying to alleviate any stress on them from that point of view. Maybe there are more imaginative ways that we could start to use the money that is set aside for the concessions budget to encourage better housing standards, access to solar and other renewables and so on, that will alleviate the economic stress for those households in a way that does not have a continuing demand on the state budget in the future. But, as I say, we are in the very, very early stages of thinking about that.

Mr LAW — And, if I could just add one thing, I think there is a huge opportunity for demand management programs, as well as traditional energy efficiency programs, in delivering benefits to a broader range of consumers. We are working on a project at the moment with all the electricity networks in Victoria, all the network planners and land use planners in councils to try to bring the two sectors together to really kind of identify those key areas of network constraints where programs can be developed with the community around demand management, and that can sort of alleviate the need for infrastructure upgrades and that type of thing. So it benefits the networks and it benefits the community. We are trying to find those areas for collaboration.

Mr MELHEM — How do you balance the need for community-based renewable energy and also the need to maintain economically sound baseload power? You cannot do one without the other. I think you have got to have both. It would be nice to have 100 per cent renewable energy, but in reality today that is not possible.

Mr LAW — Yes, sure.

Mr MELHEM — How do you balance the two?

Mr LAW — I do not think anyone thinks that community energy will create a 100 per cent renewable future. It will be a mix of different scales of generation. There have been quite a number of studies showing that a mix of large-scale renewable generation combined with medium and small can deliver that. But I think in the short term it is definitely a situation of determining where we can optimise where we integrate renewables into the grid, so that is the importance of working with the networks to identify those areas and where they can handle it and where it adds value to the network. Anything else?

Mr MEIKLEJOHN — Yes. I think one of the things to add to that—and this sort of builds off the project that Rob mentioned that we have, bringing together local government stat planners and planning agents for the energy distributors at the moment—is that community energy projects, a little in the same way as large-scale renewable energy projects, are probably a slightly easier proposition for distributors to know about. They know that, for example, a community energy project will take a few years to get up off the ground, they know what the scale of it is going to be, and they can plan better for that to be integrated into the grid to make sure it does not cause any disruption or any fluctuations.

By contrast, Australia has by far the highest proportion of individual household rooftop solar in the world—we are 16 per cent, compared to Belgium which is the next highest at 9 per cent. That causes much more disruption for energy distributors at the moment, because they simply do not know or cannot anticipate where that growth is going to take place. They do not know if suddenly one week a new suburb is going to put on 3000, 2-megawatt solar systems and therefore what that is going to do for the local grid, in the same way that a planned community energy project over a number of years gives them a greater ability to be able to plan for the future success of the network.

Mr MELHEM — Just on that, basically do you accept, whether it is an actual solar system or it is community based, that there has to be some sort of contribution to the maintenance of the network or the

retention of a state and national network distribution? There has been a bit of argument about the cost, 'If I pass that next door, I should not be paying the same cost towards the maintenance of the network'. We are going to have more of these arguments. Should the government look at some sort of medium to long-term policy in relation to that?

Mr MEIKLEJOHN — I think it is a difficult one. How do you assess what the individual demands of a household, a group of households or a project is going to be upon the grid as a whole? That argument can be made, for example, for solar power. What is the argument, for example, for mass take-up of air conditioning? That produces a tremendous strain on the grid during peak hours in summer. What is the value of that?

The other issue just to keep in the back of the mind is that the Australian grid companies have invested $47 billion over the last 10 years in upgrading the infrastructure of the grid. I would hope that we would be getting to a point where we are at a reasonable capacity to be able to plan not just for where we are now but for some degree into the future, the whole point about that balance between the base load and between what we have now in terms of renewable energy and what we are going to see into the future. As you have said, it is a transition. It is going to be messy, but it is going to take place over a long period of time.

Mr LAW — Just to add to that, it is quite complex, because it is not just only paying for a portion of the grid; it is being recognised for the contribution that you are providing to the grid in certain areas—it is not always the case. So that is what the credit is about. And then it is also considering the alternative, which we are seeing more and more of, of private wires, which is duplicating infrastructure. The only business case that stacks up for councils a lot of the time when they want to share across boundaries is for a private wire, so instead of going across the road through the network, they are building their own infrastructure. That is obviously not the most efficient way to go. That is part of those trials that Nicky talked about this morning, that looked at all of those scenarios and showed that for the networks and for consumers broadly this credit is one pathway forward. That avoids that grid defection, I guess.

Mrs FYFFE — I just want to refer to the cost to the councils who are involved. You have got nine councils involved in your Northern Alliance. The previous submission stated that councils make a contribution of $12 000 to $14 000 to have information. What contribution do those nine councils make to you guys?

Mr MEIKLEJOHN — Our councils pay an annual membership fee. Because you asked that question of the last witness, I was anticipating it.

Mrs FYFFE — Well done.

Mr MEIKLEJOHN — It is $24 761 in the current year.

Mrs FYFFE — So you have got that income from there…

Mr MEIKLEJOHN — Yes, that is it.

Mrs FYFFE — That is it from nine councils?

Mr MEIKLEJOHN — Yes. So any extra income we get is through State Government funding. We will often work together with our councils. Because our councils are often at capacity in just delivering their own services, we provide a service not only in terms of the advocacy for this kind of thing but also looking at helping them develop project ideas that we can put up for State Government funding.

Mrs FYFFE — So what would have been your total budget for the last financial year?

Mr MEIKLEJOHN — It was about $190 000.

Mr LAW — And we are one of the more expensive alliances. There are greenhouse alliances across Victoria with different amalgamations of councils, and I think we would be at the top end of membership fees. Some of the more regional ones are more in the range of 5000 per council.

Mrs FYFFE — I just feel that it is very important that we are aware of the costs, because if we want to encourage more, we have got to be aware that individuals are paying.

Mr LAW — It costs money.

Mrs FYFFE — Whether it is paying through their rates, whether it is paying through their state taxes or through their energy bills, and when it is in various areas, of course, you do not realise how much money goes out into it.

Mr LAW — It all adds up, sure.

Mrs FYFFE — So you run the Northern Alliance on $190 000 plus whatever grants you get?

Mr LAW — That is correct.

Mr NADELLA — It is $222 849.

Mrs FYFFE — I am sorry, what was that?

Mr MEIKLEJOHN — Don has worked it out better than I have.

Mrs FYFFE — Typical. So with the state government grants, are they usually dollar for dollar, two for one or straight-out grants?

Mr MEIKLEJOHN — It is dollar for dollar, but they are often a mix of in-kind and cash. Some will designate and say it has to be 50-50 in-kind and cash, and some will just say, 'It is up to you to set that amount'.

Mr LAW — And we can justify our existence through our advocacy sometimes. So we have saved our council $7 million over the next five years through our advocacy around streetlights, for example. It is just a number of different areas that we work on to try to deliver value to the councils, which outweighs that membership fee.

Mrs FYFFE — So you are the ones that got my council to pay for all the new streetlight globes?

Mr LAW — Possibly.

Mr BOURMAN — Who do you guys work for? Is it NAGA or for one of the other councils?

Mr MEIKLEJOHN — We work for NAGA. We are based actually at the Moreland Energy Foundation.

Mr LAW — So they auspice us.

Mr MEIKLEJOHN — But the other alliances do it differently. They actually are based at councils.

Mr BOURMAN — Are you the only full-time employees?

Mr MEIKLEJOHN — Yes.

Mr CRISP — In your submission you note that community energy projects in New South Wales and other states do not require a licence to generate, distribute or sell electricity, which is not the case in Victoria. How did that come about in those other states?

Mr LAW — Others states across the NEM are part of the market, and while Victoria has its own licensing framework, which is being reviewed at the moment, the indications are that that has been reviewed and opened up and improved for community energy, so I do not see that as being an issue for too much longer. Hopefully once that is finalised it will have been overcome. I think that is all I can say about it.

Mrs FYFFE — Could I just ask about energy reliability with all of these projects? How is it going to improve energy reliability? I do not feel it is, but that is my personal opinion; I do not know anything.

Mr LAW — It is probably a question more for the energy market operator, because that is their job. They have looked at different future scenarios and how they might integrate more and more renewables at different scales. It is challenging, but it is achievable and achievable in the medium term. There is also the CSIRO Future Grid Forum, working with the Energy Networks Association that looks at how we can integrate more and more renewables but also all sorts of different technologies that are on the horizon like electric vehicles that might draw at different times of the day and pose all these new challenges. They are thinking through these scenarios and how they can optimise it. I do not think it is an area that we would probably be able to answer very well though. But we are conscious of it because it has to be…

Mrs FYFFE — It has got to be considered, has it not?

Mr LAW — Everything we do has to work in with that framework.

The CHAIR — David, I was going to ask about apartments before, but I am going to ask you now. With solar PV on apartment buildings, in what ways can the Victorian government remove the legislative barriers that currently make commonly owned solar PV prohibitive for apartment buildings?

Mr LAW — From our members' experiences there is the Smart Blocks program run out of the City of Melbourne. They provide information and advice to apartments around energy efficiency and solar. They ran a $3000 rebate last year, I think. That delivered for seven different large apartment buildings quite significant solar systems on common property. What they found was that for council that was only a cost of about $20 000, but it leveraged about $200 000 of community investment in solar in an area that has been seen as too difficult, I guess. The common property in apartments is quite challenging for a whole range of issues, technical and physical—like enough roof space and competing with all sorts of different things on the roof like air-conditioning units and all that sort of thing—and financial. You tend to need 100 per cent approval from everyone in the building. So it is a very difficult model, and I think that is probably why we have not seen a huge uptake of it.

Having said that, as David mentioned before, it is a huge opportunity in terms of the scale that it could deliver. The City of Melbourne I guess is forging the way a little bit in that it is demonstrating across those seven apartment buildings how it can be done. It is really important to keep working through different trials and understanding what all the barriers are. As David mentioned before, there are three ways that you can do that in apartments; it is for common property or it is for wiring to individual apartments or it is for embedded networks, which is probably the most challenging.

Mr CRISP — On community and council partnerships, you talked about an in-house town hall to the office or library. How are councils going in extending that model to certain parts of the community? I know that relates to the earlier question, because you then have to be registered up. With your view to the future, are you starting to work now on what sorts of community projects you think are workable examples? What is the downhill push on this or the easiest one to bring forth?

Mr LAW — Yes, sure. I guess with that idea of moving from one building to another building, it is an advocacy issue for us, because the rules do not allow that at the moment. They can allow a form of that in terms of working with a retailer to net off a small amount between the bills, but it really relies on that rule change that has been talked about before—the network credits—to get through. There are challenges in local governments acting as host sites for community energy projects if they do not have a seven-day-a week load that is required. Unlocking that sort of ability to share with neighbours when the building is not

being used opens it up as host sites for community energy projects as well. I think for us primarily though it is about thinking about ways of testing pilot projects of these new models for councils and how they might work with the community. But also primarily it is an advocacy issue at the moment, I think.

Mr MEIKLEJOHN — I should also add that some of our councils and some of the councils in other alliances have looked at how to start to map those areas to make it easier for community groups in the future to be able to identify what are going to be those suitable properties. So whether they are commercial properties or existing council properties or even state government properties—for example, like schools, which often have fantastic roof space and will often have solar systems and are not used at all during summer.

The CHAIR — Can you expand more on how demand side community energy projects, such as microgrids, can improve energy reliability and reduce the need for expensive network upgrades?

Mr LAW — Yes. There are a number of trials happening at the moment. One of note is probably one in Mooroolbark, which is part of the eastern alliance of councils. That is working with AusNet and Greensync, which is a Melbourne-based company. We are looking at a number of houses being able to disconnect from the grid as a microgrid. They are still connected, so they have the capacity to be connected or disconnected. From our view, that sort of improves the resilience, particularly in storm events or things where the transmission network has come down et cetera; they are able to carry on. That is one example.

There is also a much larger example on the Mornington Peninsula of demand management, which will need to engage about 10 000 households for critical peak times. We are looking at in the summer particularly where a network has been able to access the appliances of the households and they then get a payment for that access so they can shut down the systems when necessary, with their consent. They are some examples. There are a whole range of council-based demand management programs as well that probably are not necessarily aligned perfectly with network issues at the moment, and that is what we are hoping to improve.

Mr NARDELLA — I want somebody else to shut down my air-conditioning unit during summer—fantastic!

Mr LAW — It would only be for about 15 minutes. And you have signed up for that, so it is not like a…

Mr NARDELLA — Yes, I would be signed up for that!

Mr CRISP — The next evidence will explain some of this in more detail, I am sure.

Mr LAW — Yes.

Ms RYALL — Something that that just reminded me of is what you mentioned in relation to when you have got outages, and often there is huge pressure on energy companies to get that restored as quickly as possible—you have got people's fridges and all sorts of things…

Mr NARDELLA — Air conditioners.

Ms RYALL — Yes, air conditioners. All sorts of things can go off. In that instance, who is the insurer making sure things get back up quickly and who is paying for that?

Mr LAW — Are you considering that in a microgrid scenario or in a general setting?

Ms RYALL — In any.

Mr LAW — In the general setting it would be the national market operator who has to deal with that and the networks.

Ms RYALL — However, you have got lots of little markets within that. The expectation is that the overall one would manage all of this cost?

Mr LAW — If you think about it, the household has a solar system on and the network goes down, your solar system automatically switches off so you cannot access it unless you have got islanding technology, which allows you to have electricity.

Mr NARDELLA — What type of technology?

Mr LAW — Islanding. It is part of the inverter. It you allows to…

Mr MEIKLEJOHN — Effectively creating an island around your house.

Mr LAW — Yes. You are not exporting…

Mr CRISP — It generates your 50 hertz. I reckon SP AusNet will tell us all about this.

Mr MEIKLEJOHN — Yes, they will be able to give you a lot more detail.

Mr LAW — It is primarily the network…

Ms RYALL — Is there cost shifting that goes on is essentially my concern.

Mr MEIKLEJOHN — We are not at that scale yet, to be able to, but it is a good point to anticipate when we are seeing that sort of market growth in the future.

Mr NARDELLA — I wanted to have a chat about reducing demand. We talked about plateauing and so forth. Would that be a better way of maybe dealing with some of this stuff, rather than spending a lot of money on setting up microgrids and a whole range of other things? Would we better off, especially for low-income earners, regardless of which way you cut it? I would hate to be the politician that starts taking away some of the concessions that go into putting on solar panels or batteries or whatever else in the future. Would that be a better way of dealing with some of this stuff? You are in the Moreland office, so you are doing a bit, they are doing a bit and a there is a whole range of other people doing bits.

Mr LAW — I think it is two sides of the same coin. I think that the potential is to reduce demand through these types of programs, so the microgrids is one way of reducing peak demand.

Mr NARDELLA — How do you reduce peak demand in microgrids?

Mr LAW — It is taking load off the network in those times. So you can activate what is being generated locally and it removes the need to pull from the grid in peak times. As more and more batteries come on the scene, we are seeing new technologies come in so that they act as what are called swarm generators which sounds a bit sci-fi, but they essentially activate once there is a critical peak and they can export to the grid to provide that local renewable energy, so that it takes the…

Mr NARDELLA — But you would do that grid wide; you would not just do it in the…

Mr LAW — You do it at the substation level.

Mr MEIKLEJOHN — That is where the pressures tend to be on the network.

Mr LAW — They might be a street-level constraint, they might be more moderate constraints or they might be across the whole substation. It really depends on the location and the time.

Mr NARDELLA — People would know where these problem substations are. Do they come up all the time or are they unique, depending on the day and the time and the year?

Mr MEIKLEJOHN — No. The distribution companies certainly know where they have problem substations, especially where you have got settled, if you like, residential areas or urban areas. It is more

difficult when you have got a need to upgrade substations in outer growth areas which may have been country substations designed for farms and suddenly you have got 50 000 new homes going in. So there is a bit of difference there, but within the existing suburbs they are aware of that.

Mr LAW — That is part of the information that we are trying to get from this project that I mentioned, the future energy planning one where local governments and networks come together, to share that information about where are the constraints and how we can target programs that help the networks rather than traditionally, which has probably been councils going out and doing a range of programs, not necessarily in strategic locations.

Mr MEIKLEJOHN — Specifically to that issue around demand management, about whether it should be that or renewables, as Rob said, it should be both. If we look at the good examples—at work done, for example, in Germany, Denmark, France and so on—there is as much effort put into improving energy efficiency of households as there is being put into renewables and definitely we need to see a balance of that going forward.

Mr NARDELLA — So you would probably see an extension of the 5/6-star rating to 7?

Mr MEIKLEJOHN — Yes. We are still short of a lot of European standards for housing. I was at a conference recently where I heard German delegates complaining that their system was still falling short of what they wanted, so there is still a long way to go.

The CHAIR — David and Rob, on behalf of the Committee I would like to thank you.

Witnesses withdrew.