

ANDREW BRAY, National Coordinator, Australian Wind Alliance, affirmed and examined

STEVE BLUME, President, Smart Energy Council, affirmed and examined

The CHAIR: Would either you like to make a brief opening statement?

Mr BRAY: We both do.

The CHAIR: Mr Blume, would you like to go first?

Mr BLUME: Thank you. First of all I acknowledge the Gadigal people, the traditional custodians of this land, and pay my respects to elders past and present of the Eora nation. I extend that respect to other First Peoples present and those who may be listening or viewing online today. I begin with a little background about the Smart Energy Council. We have a strong and diverse industry membership of more than 1,000 members, comprising companies delivering residential, commercial and large-scale solar storage, smart energy management products and services. Our members include Australian and global manufacturers, distributors, retails, installers, trainers, financiers, project developers and a few individuals. The Smart Energy Council was previously known as the Australian Solar Council and Energy Storage Council and traces its history back more than 60 years.

The Smart Energy Council supports smart energy, smart national and State energy policy and will continue to work with all governments to act in good faith and ensure the implementation of a nationally consistent policy that delivers at least 50 per cent renewable energy by 2030. The basis of the policy must be the science of climate change caused by global warming, but the economics are the drivers of what is happening right now. The economics and financial drivers now place solar and wind as central technologies to lowering emissions. They are the lowest cost of generation, even in the absence of a price on pollution. Perhaps most critically for New South Wales residents who are currently off-grid or at the end of a long, thin transmission distribution line, smart and clean energy solutions offer significant increases in security, quality and reliability of supply. Regional and rural centres in New South Wales are increasingly supplied using clean micro grids because the cost and capability of solar and storage are the least cost, best technological solution for country communities and towns, and farmers, graziers and others who have had to compromise because of their distance from generators and power lines. These same cost drivers also mean that remote communities of all types, whether Indigenous or not, can now be given power supply services equivalent to their urban cousins and at competitive costs.

The same economic and financial technical advantages mean that renewables deployment is the most cost-effective way to deliver energy to those in developing countries with poor supply systems or with no access to electricity at all. It is a simple economic truth that New South Wales faces the closure of large fossil fuel generation facilities by 2030—the biggest problem facing anyone on the National Electricity Market [NEM] just after 2030. Given the seven- to 10-year plan in the construction timelines for large project decisions, they must be made in the next two years. AGL gave a seven-year notice to Liddell and accompanied that with a solid and sensible plan on what would replace that service. The same notice and diligence needs to be done for all generators across the NEM. Funnily enough, the Smart Energy Council is not too far from the views of the AGL in its submission to the Committee, although we would argue that the probable outcomes AGL describes can be achieved with zero emission technologies, clean not just cleaner, and those with lowest emissions not simply lower emissions. We argue that increasing reliance on natural gas is more costly for consumers and does not accord with climate science. With those caveats, the broad thrust and general direction that AGL discusses will take it to the same place and matches the 100 per cent renewable scenarios of a range of studies and reports, such as those from the Climate Council, ClimateWorks, CSIRO and Energy Networks Australia, amongst many others.

I have provided the Committee with a copy of this opening statement. I will not go into the great detail and read the rest of it, but I would like to raise the issue of the need because it will have a massive impact on New South Wales if it proceeds as it is currently structured. I will also provide the Committee, if required, with a copy of our submission to the Energy Security Board. In summary, our view is that the proposed need will curtail investment in renewable energy, fail to tackle climate change emissions, decrease competition in the electricity market and increase costs for all consumers. The need proposes a cap on renewable energy between 28 per cent to 36 per cent in 2030; a figure that would stifle investment and jobs and stop the much-needed modernisation of the Australian and New South Wales economy. The existing renewable energy technology [RET] will deliver more than 23 per cent of needed reductions by 2022, with just a further 3 per cent to 5 per cent from the electricity sector out to 2030. The cheapest, fastest reductions other than energy efficiency and

conservation come from renewables being deployed in the electricity sector, which could comfortably reduce its emissions by 60 per cent by 2030 at the lowest cost.

The low emissions target [LET] will continue the regulatory uncertainty and government interference, making the market almost impossible for investment. We keep investing in the old network because the regulatory system is stopping investment in the new. The sad irony is that we are constraining further private investment that has built a seven gigawatt national solar photovoltaic [PV] power station on rooftops, using more than 60 per cent private investment by householders, and we are putting a similar break on private investment energy storage systems. The fact is there is no business case for storages as the regulators do not now reward storage and dispatchability and are not considering proposals to do so.

Curiously, the Smart Energy Council has been painted by some as extreme, green or being hysterical, when what we are seeking are transparent and competitive market-based solutions to get the electricity and energy system transformation we need. The counterfactual is that there are plenty of projects and private sector options to replace Liddell, as AGL has already identified, and the other ageing dirty plants in New South Wales which would provide the same quality, reliability and security of supply as we now enjoy and bring better services for New South Wales communities west of the Great Dividing Range and to the north. Yet the Commonwealth Government has intervened into the market on the Liddell closure, interfering and placing in jeopardy private sector replacement planning and investment plans.

There are assertions of a shortage of capacity and threats to supply when there are in fact none—unless we do nothing, but nobody is proposing we do nothing. There are threats also to nationalise assets, and the Commonwealth has already done so through the purchase of Snowy Hydro. Again a better solution would be to indicate that there is a need for two gigawatts of firm supply in the National Electricity Market [NEM] and then seek solutions from the private sector on how that should be done and at what cost. It is unlikely, but Snowy Hydro might be the most cost-effective answer. However, since there has been no market contestability we can never know whether that is the case.

The intention of the National Energy Guarantee [NEG] is to delay and prevent change by relying on the difficulty of agreement through the Council of Australian Governments [COAG] process. If the States sign up to this now, getting future COAG agreements will be nigh on impossible within the 10-year time line needed to change and transform the electricity market. The targets will be locked in and these targets come with no compliance costs and no price on pollution. Thank you again for the opportunity to be here. I am happy to answer any questions beyond what I have covered in this statement and to take on notice any questions I cannot answer or which need further information.

The CHAIR: Thank you, Mr Blume. We will table your opening statement.

Mr BLUME: That is fine. That is great, thank you.

The Hon. ADAM SEARLE: And a copy of your submission that you flagged would be very useful.

Mr BLUME: Okay, no worries.

The CHAIR: Mr Bray.

Mr BRAY: Good afternoon and thank you for the opportunity to speak with you today. The Australian Wind Alliance is a community organisation. Our 800 members and many other supporters want to see a strong take-up of wind power for two reasons: to help regional communities thrive and to clean up the power sector. Many of our wind power supporters live in regional New South Wales, from where I have made the trip in today. We are independent of the wind industry and argue consistently for a higher bar around community engagement and benefit sharing from wind companies.

I would like to address my opening remarks to two of the Committee's terms of reference: (a) the reasons for recent increases in the price of electricity and (f) the adequacy of planning to meet future electricity demand. I have tabled some information graphs to the Committee. As graph 1 on the first page, from the Australian Energy Market Commission [AEMC], shows, wholesale price rises were the primary driver of electricity price rises, rising \$120 for the average bill from 2016-17 through to 2017-18, while all other components of the bill remained essentially flat. As the graph on page 2 shows, this wholesale price spike occurred across all National Energy Market [NEM] States in 2017-18, following the announcement of the closure of Hazelwood Power Station in Victoria.

The AEMC graph shows that prices are expected to decrease this year and the next, following the introduction of 4,000 megawatts of new wind and solar capacity under the Federal Renewable Energy Target

[RET]. So the key to stopping these price rises and the key thing to note here is that this new RET-driven capacity essentially arrived two years too late to stop those price rises happening. This was a direct result of the Abbott Government's effective suspension of the RET scheme from 2014 through to basically 2016. That is, the Federal failure on energy policy was the primary driver of those power price rises for New South Wales consumers. So our primary question for this Committee must be what New South Wales can do to insulate itself from ongoing Federal failure in energy policy.

On term (f) around meeting future energy demand, as Mr Blume has already alluded to, a full 60 per cent of New South Wales coal generation fleet or nearly six gigawatts of capacity will be closing in the next 15 years, quite possibly earlier. Without proper planning there is a very real of Hazelwood-type price hikes and sustained higher wholesale prices through that period. Unless you are willing to bet the New South Wales consumer bills on the Feds suddenly getting their act together, my suggestion would be that New South Wales needs to be proactive and take your own measures to ensure that you have enough renewable energy supply before these plants close. We would like to see New South Wales act on its Climate Change Fund Strategic Plan. If you go back and have a look at it and take the dust off it, you will see Mike Baird the Premier and Mark Speakman the environment Minister, and it says 2017-22. To my knowledge it has not actually been formally instituted yet.

The Hon. ADAM SEARLE: It is still in draft form, I think you will find.

Mr BRAY: It is still in draft form.

The Hon. ADAM SEARLE: Consultations are ongoing.

Mr BRAY: There is some great stuff in there.

The Hon. BEN FRANKLIN: There is indeed.

Mr BRAY: But it is a matter of walking the talk. Using innovative market mechanisms to drive development and construction of wind projects in New South Wales wind regions is something from that report that we would like to see. One measure that is in there is around successful reverse options for new wind and solar plants. They have been shown to deliver power price reductions in the Australian Capital Territory. I am happy to elaborate further on how a renewables dominated grid can supply secure and reliable electricity 24/7 and also why low emissions [LE] coal plants, which are mentioned in the terms of reference, are not going to be a great solution for New South Wales. There is also a role for the New South Wales Government in partnership with bodies such as the Australian Renewable Energy Agency [ARENA] to kickstart projects in New South Wales that provide dispatchable support to renewables and demand management to improve the statewide grid. I look forward to answering any questions you have.

The CHAIR: Thank you very much. Mr Blume, in your submission you talk about supporting Snowy 2.0. Do you want to make any comments about that?

Mr BLUME: The comment is more one of—not the technical capability of putting in a two-gigawatt pumped hydro support into the network. The question is more: Is that the best and most opportunistic way of doing it? Have you got the best options for lowering the price and actually delivering the power where you need it and when you need it? I would suggest there are a lot of technical reasons why that is not going to be the case.

The CHAIR: Can you discuss some of those?

Mr BLUME: Yes, sure. The first one is that it is a large-scale project which has already been estimated at around \$4 billion—doubled from the first announcement that was made. It does not include the transmission upgrades requirement to get the energy out of that area. The estimates that have been floated around for that are somewhere between \$4 billion and \$6 billion. The Federal Government has already spent \$6 billion to buy the two shares back, so \$6 billion. We are up to about \$15 billion or \$16 billion expenditure for two-gigawatt capacity into the market. I have to tell you, that buys an awful lot of capacity in the commercial market for those sorts of services right now. The world is going to distributed resources to supply the quality and renewable energy equality and reliability that renewable energy brings.

Having a single big, central provision of resource, whatever that resource is, is probably not the smartest way to do things. It may well be, but if it were me running the policy, then I would say, "We have a need. Here is the need: it is two gigawatts, say. Tell us what you think you need to provide that and where you would provide it and how much it would cost." Just as a secondary comment on that, one of the things that is happening is the sort of helicopter view that has been taken by the Australian Energy Market Operator in its Integrated System Plan consultation process that it is undergoing now—I suspect and hope that out of that, there

will be a broader view of what the market could provide and what that network should look like to provide the equivalence of a power supply that we have now everywhere across the network.

The CHAIR: Do you know how much energy will need to be received for that to pump the water up to get the electricity from there?

Mr BLUME: It is sort of the wrong question, in a way. It is the right thought but the wrong question. The reason is almost anybody, when talking about energy, forgets about the time value of energy. That is what is critical; that is what causes high prices across our network. We pay \$14,000 a megawatt for sometimes 25 hours a year, about, and about a quarter of the price of electricity out of the year is for that small period. The value that you have—if you have got a bunch of water and you let it down the river to go through turbines, you do it for the rest of the network—and, in this case with the renewable energy network, you would have that during the middle of the day because you have a massive peak because of solar; maybe in the middle of the night because oftentimes wind is higher at night, depending on where you are and what part of the network. The value of that in the market is zero or close to zero. It might be negative sometimes, so it costs you nothing to pump that water back up.

They are doing that at the Snowy now. They do not utilise it anything like as much as they should. They have got a small capacity—I think it is about 400 megawatts, but I cannot remember what it is—to do that now. Tasmania did that through the whole of the carbon pricing period. Of course, one of the things you have to do is manage your water. They did a lot of that during the carbon pricing period and let the water run down the river and got some money. But then, of course, they had a drought shortly afterwards and ended up having to buy—so like all these things, you have to plan long-term. The time value of energy is minutes, hours, days, weeks, months, seasonal, years. You have to take that whole-system approach and the values change across all those. We are very good at doing that in Australia. We have historically done it very well and we are still doing it very well. The challenge for us is to make sure we continue that excellence when we change it to clean energy.

Mr BRAY: Could I perhaps chime in on that? In regard to the Snowy Hydro being a very large solution to the problem of variability in the network, it is quite possible that a number of smaller projects throughout the State—or indeed throughout the country—will be the way that it actually works. Even this morning, some of you will have seen that Origin Energy announced that they were doubling the capacity of the Shoalhaven pumped hydro to 275 megawatts. This, in fact, is a good example of the one I mentioned at the end—that it may be that there is a role for the State to be partnering with groups like the Australian Renewable Energy Agency [ARENA] to fund feasibility studies into this. In terms of added security around the network, rather than having one very large plant in the Snowy, you will have one at Shoalhaven; you may have one up in, say, Walcha; you may have other ones throughout the State.

The Hon. ADAM SEARLE: AGL says they are looking at one in the Hunter Valley. You say a number of decentralised pumped hydro facilities for storage and dispatch ability may be more effective in terms of cost and security than one big institution such as the Snowy Hydro?

Mr BRAY: Indeed.

The Hon. ADAM SEARLE: Mr Bray, you provided a document on the energy that is likely to be lost as a result of coal-fired power stations closing. You have got new wind farms under construction and those with planning approval. There is a big shortfall. In relation to the 14 wind farms with planning approval, how likely is it that they will move into the production or construction phase? On what does that depend?

Mr BRAY: The primary considerations are around the finances. Once you get your project approval, in general they are working towards grid connection and financing. It is the availability of power purchase agreements. To date, that has largely been driven by the Renewable Energy Target [RET], and they have been offtake agreements for, say, 10 years or 15 years at a certain price. As the RET gets towards 2020 and the large-scale generation certificate price for that scheme starts to trend towards zero, which I think is basically where projects are now basing their numbers, you will start to see projects enter into the market on a merchant basis. There are other things like group power purchases; Telstra and a bunch of other companies have recently contracted with the Murra Warra Wind Farm in Victoria. You are seeing a number of different paths to market, if you like. They are going to be the main issues. But there are things like grid connection—it is a very long and complicated process, so the more resourcing can be put towards making them happen more quickly, it is probably better.

The Hon. ADAM SEARLE: What are the barriers to grid connection, as you see it?

Mr BRAY: Essentially, it is around capacity, and localised capacity. There are some areas of the State where there is quite a lot of grid capacity; in other ones, less so. There are certainly some high-wind areas. At the moment, the north-east New England tablelands are actually quite well resourced, grid-wise. They have got quite a large one going through there. I understand there is an upgrade going in around Yass at the moment, which may increase the amount of wind that can be connected in that area. They would be the main capacity issues.

The Hon. ADAM SEARLE: Mr Blume, in relation to your opening statement and submission, you have a number of concerns about the National Energy Guarantee [NEG]. How do you say the NEG will put a cap on renewable energy development?

Mr BLUME: Again, it is just down to the finances as much as anything, and the low target. It is an unambitious target. At face value, the logic says, "We have got a national target of 26 per cent to 28 per cent by 2030—the Paris agreement. We should just smear that across all sectors." That is fine, except we know that in the energy sector and the electricity sector particularly, you could go 50 per cent to 60 per cent comfortably—and this is being done around the world—at the lowest cost. When you start trying to get that 26 per cent to 28 per cent in other sectors—so transport or in industry, heavy industry or other places—the cost goes up dramatically. The question there is: Why would you not set a target for the sector where there are commercial, well understood deployable alternatives that are clean when you have that opportunity?

The second thing is that if you have a look at those numbers we have already, we will be sitting at 23 per cent reductions on 1990 by 2022, which is rolling straight out of the Renewable Energy Target. That only leaves 3 to 5 per cent to be achieved to meet the target that has been set for the electricity sector by 2030. That is about 1.5 to 2 gigawatts of total renewable energy. We are currently putting in more than a gigawatt a year on rooftop solar across the NEM. About a third of that is going into New South Wales and that is likely to increase.

Rooftop investment is not government money. The RET has a reducing component that finishes for small-scale people in 2030. Private investors are spending that money at no risk to government. They are building a network of solar power generation. The numbers are also looking highly positive to put in storage in association with that. We need to be able to identify where that storage is and the solar. At the moment the regulators do not see that. It is not translated in the market rules to allow us to get the community benefits of that investment—or the network benefits, for that matter. A lot of things are not monetised and they are not visible. I am hoping some of the Integrated System Plan stuff that I talked about from AEMO will identify some of that and help with it.

You end up with this unambitious target. The proposal for the National Energy Guarantee says you are only going to set targets every five years and you can only review them every five years. That means we only have one review until 2030, effectively. Even if things change you then need COAG to agree on what the new targets are. I know everybody means their best when they go to COAG, but I have sat in some of those rooms in historical times and it is really hard and really difficult. Everybody has reasonably held views about why they are taking their position but if you lock something in that way then that is what it is going to be. That is not a sensible way to do policy. For New South Wales I echo Mr Bray's comment. All the States at the moment need to be taking actions that are at least complementary to what the Commonwealth might do but be very aware of their own circumstance in terms of their energy needs.

The other thing which I add to that which I think is disappointing with all this is that there is no compliance cost in the NEG. It is clear. None of this is secret. It is all in the Energy Security Board reports and all the documents that come out. What is going to happen is that existing generators will just increase the operations they have and they have already got amortised costs and do not need to really do stuff. That is fine, but that is called business as usual. There is no compliance for them not to do anything more cleanly or to do it faster. There is no mechanism for gracefully removing that 60 per cent of generators from the network and making sure that before they are removed you have got a replacement alternative, whether that is generation or demand response or energy savings or whatever.

The Hon. ADAM SEARLE: I understand that you say the targets are inflexible across all sectors, but that is not quite the same as saying that you cannot have more renewable energy than 28 per cent to 36 per cent. There is no proposal to stop people investing in renewable energy or building new capacity.

Mr BLUME: But you are only going to invest if you can make money out of it. It is all about the finances; it is nothing more. The issue with that is if you cannot see where the return on your investment is going to come from you are not going to invest.

The Hon. ADAM SEARLE: Assuming these targets became the approach and all of these coal-fired power stations close, and if you are right about putting the brakes on the development of renewable energy, would we have a big energy shortfall, or what would happen under the NEG arrangements as you understand it in that situation?

Mr BLUME: I think you would find that the agreement would be breached because no government is going to allow the lights to go out. It is just not going to happen. If the process is that in their own State the threat of that capacity reduction is not being met by timely replacement by an alternative—it is not just generation. Demand response and a whole bunch of technologies can give you the same outcome without just building more generators. The proposal from AGL has been derided but it is actually a very good tactical proposal. They are using gas. I would not use gas but that is their business. Why would you not if it is your business? They are having demand response and a whole lot of other alternatives that give you the cheapest outcome to get that replacement for what you are getting from your coal-fired power stations.

The Hon. ADAM SEARLE: What measures should the State Government take to ensure that adequate new build electricity generation is constructed and also meet our energy security needs? What is the suite of measures you think this jurisdiction should take, particularly if the NEG goes the way you are considering that it may?

Mr BRAY: As I mentioned earlier, I think the reverse auction scheme to bring forward some of the new generation, whether it is wind or solar, would make them competitive options. You would find that the prices that you would get in the immediate term would be well below what the current wholesale prices are. It is likely that the Victorian program that is being instituted at the moment will actually not only reduce the power prices but probably also make a return to the Government given that in the way it is arranged it is basically a contract for difference. That helps you to get some of those and make sure that you have got the new generation you need. It may be that as a Government you can say, "We want to see it in this part of the State," or, "It needs to support this part of the network in the State." You can make those kinds of specific requirements in your tender.

Beyond that I would look to be kickstarting projects, but this is a less urgent one. The more urgent one is having enough supply, and you get that through the new projects. But as you start to increase the proportion of renewables you will need to also be working on dispatchability. There are things like getting demand response programs up and going in the State. The sort of virtual power plants that we have seen in South Australia where you network together a bunch of home or possibly larger batteries would be another one. Again the pumped hydro thing, if there are small ones in particular strategic parts of the network that you want to incentivise then you might put some money into those ones. It is really those two sides: enough supply plus some dispatchable support for that variable supply.

Mr BLUME: I agree with what Mr Bray is saying. The reverse auction is back to what I was talking about. You have got to have a market for selling your energy because that is the way you pay back whatever the finance is. Electricity from renewables has a single factor that is different to everybody else—that is, you are buying your electricity up-front. There are virtually no contingencies. There are no fuel costs. You are talking about a small operation maintenance cost and everything else is capital. As long as you have got rid of the capital and you can get that return, to do that you need a contract to sell your power at the time you are producing it. You already have AEMO and that is a COAG body, effectively. I would be using not just State-based powers because you have got some regulatory powers in the State but you have also got people like AEMO to help you deliver that sort of stuff as well.

There is another thing which I think is really important in doing that. I agree with Mr Bray and I think others have talked about it. Mr Franklin has talked about this before; I have heard his speeches. One of the things that is really important with renewables and this transformation—and I said this in part of my opening statement—is the delivery of jobs to rural and regional communities. And that is persistent. It is not just in the construction phase but also in the operations phase. That is unlike almost any other technology really. You can be targeted on that. You can go to areas like the Hunter or outside Wollongong or other places in the State where you are going to have a transitional problem for the workers that are involved in the extraction or generation industries, and that is really critical. You have got time to do that. We should not think it is a surprise that this is going to happen. This is going to happen. Unlike Hazelwood, where you basically had 18 months, you do not want any of that repeated. You have seven years with Liddell, so you have got time. With the other ones we have got, we know there is going to be enough time to do this.

To me there are a whole bunch of State decisions to be made. There are planning decisions. There might be some incentives, but most of them are really regulatory and encouragement decisions. These things do

not require subsidies. On that point, the certificates under the RET scheme, for example, are not subsidies. They are a price on the reduced emissions from the general grid that are offset by having to buy those certificates or build plant. Again, you have got a choice. I can give you a more detailed response and provide that later if you would prefer, because I think there are some direct things that we could do.

The Hon. ADAM SEARLE: You can take it on notice.

The Hon. BEN FRANKLIN: I will start with Mr Bray. We have discussed this in person. This Government put out new wind guidelines—a new framework—in December 2016. How is that going? What is the community sentiment and what are the views about the planning process?

Mr BRAY: It is a question close to my heart. In general the fact there is now a guideline in place is a positive thing and that has cemented the goal posts into the ground after a long period of delay. The proof is going to be in the pudding. We are starting to see some projects apply for their social impact assessments [SIAs] or the initial part of the planning under the new guidelines for the first time now. The wind farm project in Nundle that is being proposed at the moment, they have started to apply the new approach essentially. If anything, they are going out to the public a bit earlier and really consulting on what the visual guidelines are a bit earlier than they otherwise would have. I do not think that is a bad thing.

It is giving people a chance to have their views. There are views on both sides, so we will see how that project goes along. One thing I am concerned about is potentially in the category of unforeseen circumstances. One of the things that the new guidelines do is promote the idea of benefit sharing. It does not cement them in but it suggests that is the way they go. That is translating into offers of neighbour agreements and that kind of thing, which we support and for which we have argued. There are a couple of instances I have seen where that gives some of the neighbours, depending on what their motives are, something approaching a veto particularly around modification applications. That is something we are keeping a close eye on. I hope that will not head off in that direction.

The Hon. BEN FRANKLIN: Mr Blume, did you want to add anything?

Mr BLUME: I think it is something that is relatively new and might not be understood. In the same sort of vein we are starting to have larger scale arrays in rural areas and farmland and things like that. Historically in our industry you do the surveys and people love solar and they bung it on their roof and see their neighbours and think it is a wonderful thing. They can have the warm and fuzzy of, "I am saving money as well as saving the planet" and that sort of thing, which is fine. We are starting to see some of these larger things in areas where people are concerned. Basically a lot of it is education. The social licence approach that has not been seen as necessary for solar farms particularly—the larger scale farms—I think we will have to pay attention to that.

The Hon. BEN FRANKLIN: That was why the visual amenity was included in the guidelines in the first place.

Mr BLUME: Absolutely, and they are very useful. One of the roles we have is to try to get people to understand that there are guidelines and they ought to be looking at them. The people doing the stuff are either financiers or engineers. Their notion of community involvement is, "We have this thing. We are going to deliver it and build it." There are genuine concerns and we need to be able to make sure that that is settled early.

The Hon. BEN FRANKLIN: Do you believe that those concerns have eased, increased or stayed the same in the past decade or so?

Mr BLUME: I have been involved with a couple around the Australian Capital Territory and in southern New South Wales. I think it is probably much the same, to be honest. I think what is going to happen is they were very new and early so the awareness of them happening is higher now. Before it was very localised so the immediate neighbours knew. For solar often it is an educational issue. People worry about heat or glare. They put them on rooftops of airport buildings. There are a whole bunch of answers to these things but you have to engage with people and treat the concerns seriously. The volume is going to be ramping up so there will be more of these things. A lot of them are not near regional communities but there will be individuals and adjacent farms. The conversion of turning productive farmland into electricity generation is an issue for some people depending on the size of some of them. Some of them are pretty big in the number of hectares.

The Hon. BEN FRANKLIN: And getting bigger.

Mr BLUME: And getting bigger.

The Hon. BEN FRANKLIN: Did you see our submission to the Australian Energy Market Operator [AEMO] about the three new energy zones in New South Wales? What are your thoughts about that?

Mr BRAY: I will address your previous question first. My sense is that communities are becoming more accustomed to renewable energy plants in their backyard. I think a lot of the scare campaigns around wind farms in particular beforehand were leveraged on the fact that people did not know what it was going to be like when it went up. In any of the major places where you are going to find wind farms there are now operating wind farms in New England and there have been operating wind farms where I am in the Southern Tablelands for quite a while. In the Central Tablelands, if you have questions, you can drive a few hours north or south and you will get answers to them. That is lowering the temperature on that kind of thing.

The second part is that I think industry is improving. The key factor is community engagement. If you find a developer who goes in and communicates openly and transparently, and they are trustworthy and they deliver on what they say they will do, you build the trust in the community. Then you are talking about whether or not the project is delivering for the community. That is the discussion you want to be having. By and large we have seen industry improve. That is something we have communicated to them to try to get them to improve. I think that is improving.

The Hon. BEN FRANKLIN: I expect the community development enhancement funds help as well.

Mr BRAY: Yes. I might table, after the hearing, our recently released report on Building Stronger Communities, which lists all the community enhancement funds across the country that we are aware of and it talks about the ways that local communities can benefit from wind farms.

The Hon. BEN FRANKLIN: Are there any comments you want to make about our submission to AEMO in particular about the three energy zones?

Mr BRAY: I have to admit that I looked at it a month or two ago when it came out, so it is not at the front of my mind. In general, the concept of renewable energy zones is a promising one. I was pleased to see the New South Wales Government get behind it. For instance, in Texas, up in the northern part of the State, that is a textbook example of how to make this stuff work. You find the windiest spot you can, preferably with as few people around as you can, and you build the infrastructure to take it to where it is needed.

Mr BLUME: I agree. For my sins I read all the submissions to all these sorts of things. It is very useful because it explains intent. You have to be careful not to let a symbol get in front of the reality of what you are trying to deliver. One of the things I think is funny is the parallel with the way we created our electricity and gas systems historically. Historically we built power stations in the city and we had railway lines, so we shifted the coal to the city. Then the coal got too dirty and noisy and they did not like the trains coming in. In the meantime we worked out how to transmit electricity, so we bunged the power stations next to the coal plants and we shipped the electricity. We now know that we can do high voltage of various types—DC or AC; it does not matter.

We now need to build the new lines and the new traffic pipelines to get the energy from where the energy is best placed to be done. The zones are fine so that matches. The real issue is having the conversation with the NEM and the regulators about augmenting and updating those transmission distribution lines. I throw away another thing which I think we need to be careful with. A lot of assumptions are being made about electronvolts [eV] and the impact of eVs. I think we are underestimating how fast that is going to happen. I also do not want to overstate the impact on the grid because it is the time value we are talking about of the energy.

If we have everybody coming home and plugging in an eV onto the new network that we have built at the same time, clearly there will be a problem and they would all want to do it at peak hour in the evening. There is no reason for that. We call ourselves the Smart Energy Council because there is intelligence around that will allow you to do that. None of that is existing right now. One of the things that States can do with the influence they have on the people who are doing distribution and transmission networks in the State is to increase the intelligence of the network. You probably do not know this—maybe you do know it, effectively for networks in Australia, on the NEM especially, they are blind to the low voltage distribution networks.

They have only limited visibility to the sub-station itself. Beyond the sub-station they have almost no visibility. You need that because you are having a whole bunch of people at home putting generators and what look like generators all demand storage, or generators to the network in the form of batteries and storage all around the country and that is going to increase dramatically. You need the smarts to be able to do that. That does not mean smart meters. The intelligence, the mandate of a particular device to do this stuff is last century technology. You do not need to do it that way, you just need the data and the intelligence.

The CHAIR: Thank you for your evidence. That concludes your session. We could keep going. You talked about tabling some information from that report. You will have 21 days to do that. In light of your evidence, you might have further questions from the Committee. The secretariat will help you with that. Thank you for your evidence today. It has been very helpful.

Mr BRAY: Thank you for the opportunity.

(The witnesses withdrew)