

REPORT ON PROCEEDINGS BEFORE

**SELECT COMMITTEE ON ELECTRICITY SUPPLY,
DEMAND AND PRICES IN NEW SOUTH WALES**

CORRECTED PROOF

At Macquarie Room, Parliament House, Sydney on Friday 17 November 2017

The Committee met at 9:15 a.m.

PRESENT

The Hon. Paul Green (Chair)

The Hon. Robert Borsak

Mr Jeremy Buckingham

The Hon. John Graham

The Hon. Ben Franklin

The Hon. Taylor Martin

The Hon. Adam Searle

The CHAIR: Welcome to the second hearing of the Select Committee on Electricity Supply, Demand and Prices. Before I commence I acknowledge the Gadigal people, who are the traditional custodians of this land. I pay respect to the elders past and present of the Eora nation and extend that respect to other Aboriginals present. Today the Committee will hear from the Australian Energy Market Commission, followed after a short recess by the Australian Energy Council, which will give evidence via Skype. After the lunch break, the Committee will take evidence from the Australian Energy Regulator, and finally from Energy Networks Australia.

This hearing is open to the public and is being broadcast live on the Parliament website. The transcript of today's hearing will be placed on the Committee's website when it becomes available. In accordance with the broadcasting guidelines, while members of the media may film or record Committee members and witnesses, people in the public gallery should not be the primary focus of any filming or photography. I remind media representatives that they must take responsibility for what they publish about the Committee's proceedings. It is important to remember that parliamentary privilege does not apply to what witnesses may say outside their evidence at the hearing, so I urge witnesses to be careful about any comments they may make to the media or to others after completing their evidence as such comments would not be protected by parliamentary privilege if another person decided to take an action for defamation. The guidelines for the broadcast of proceedings are available from the secretariat.

There may be some questions that witnesses could answer only if they had more time or with certain documents to hand. In these circumstances, witnesses are advised that they can take the question on notice and provide an answer within 21 days. I remind everyone here today that committee hearings are not intended to provide a forum for people to make adverse reflections about others under the protection of parliamentary privilege. I therefore request that witnesses focus on the issues raised by the inquiry terms of reference and avoid naming individuals unnecessarily. Witnesses are advised that any messages should be delivered to Committee members through the Committee staff. To aid the audibility of this hearing, I remind both Committee members and witnesses to speak into the microphones. In addition, several seats have been reserved near the loudspeakers for persons in the public gallery who have hearing difficulties. Finally, I ask everyone to turn their mobile phones to silent for the duration of the hearing. I now welcome our first witnesses from the Australian Energy Market Commission.

ANNE PERSON, Chief Executive, Australian Energy Market Commission, sworn and examined

KRIS FUNSTON, Executive General Manager, Energy Market Commission, affirmed and examined

The CHAIR: Do you wish to make an opening statement?

Ms PEARSON: For those not familiar with the Australian Energy Market Commission [AMC], we are one of three energy market bodies set up by the Council of Australian Governments [COAG] Energy Council to support and to run Australia's energy markets. Our role is to adapt and change the energy market framework as the circumstances require, either to address the big-picture questions affecting the future of the market or to deal with specific technical problems that arise from time to time that require a change to the rules. In fact, our core business is problem solving through consultation with all of our stakeholders so that energy services can be delivered to consumers at the lowest possible cost. We make and amend rules to support the evolution of energy markets and we monitor and review areas of the framework to help inform the policy decision-making of the COAG Energy Council.

Our work has always been thus; we have always been working to support changes in the long-term interests of consumers. However, more than ever before, our work program recognises the great potential of new technologies, services and service providers to benefit Australian energy consumers and our economy more generally. We also need a resilient energy sector in which consumers' energy needs are met at the best possible price. I turn to the situation before the national framework was established. There was a handful of energy service providers, and generally one or two in each State. They were known as vertically integrated utilities. Consumers were lucky if they had two choices to make in how their energy needs were met. New technologies only made it if those running those state-owned utilities thought that they were worthwhile. The National Electricity Market was set up to move the power, so to speak, into the consumers' hands so that decisions could be made increasingly by consumers themselves, not by government or utility providers.

It is this evolution towards a customer-centric energy system that underpins the commission's work. In the past few years, we have made rules to promote competition, to empower consumers to make better choices, and to encourage efficient investment in new technologies. Along with these enabling rules, we have also had work program that goes to consumer protection and how that framework also needs to evolve alongside the changes in the market. Our rules sometimes seem mundane. In fact, they are enablers, but they are important enablers. They help the market and they create platform from which market providers, service providers and new technology providers can develop in ways that are exciting and also reflective of what consumers want.

Members may be aware that each year the commission does an annual review of the effectiveness of retail competition in our retail energy markets. The last review undertaken made it clear that these innovative products and services are growing in the market. For example, those with a domestic solar battery set-up will be able to find retailers that will optimise their energy use and generation patterns in line with wholesale price signals. Those with a swimming pool are able to get a deal that works along with the assets associated with the pool. The energy junkies—for want of a better term—can sign up with retailers that will give them real-time use information 24/7. They can turn appliances on and off remotely if they are that interested.

We know that this will continue. Our research shows that one in five Australians already has solar panels, and 21 per cent of consumers say that they are likely to adopt battery storage within the next two years, and 18 per cent tells us that they are likely to take up a home energy management system over that same period. I give you this background as a way of framing the discussion for today. Transformation of the energy sector is now being driven by consumer choice, and that is a good thing—that is how the sector is meant to evolve. Your Committee is asking questions about whether the energy system is delivering enough supply to consumers at a price that they are willing to pay. There is no doubt that the changes taking place at the moment are causing supply and price challenges for us all. In the past, price increases were driven by networks' investments in poles and wires to meet a forecast demand of energy usage that has not really eventuated. Currently, price increases are being driven by what is going on in the wholesale market.

There are a range of reasons for these price increases in this area. Some of the key ones are old power stations are closing down; investment is being driven by the renewable energy target [RET] rather than the physical needs of the power system, so this new investment is not always filling the gap—it is not always providing the power when and where it is needed; gas-fired generation is being used to meet demand more often and, as a consequence, gas prices are setting the electricity spot price more often and gas prices have increased in recent times. Finally, investors are waiting to find out what emissions reduction policy will be in place for the

energy sector post 2020 before they take a risk and build anything too much that is not supported by government.

Given the supply and price challenges this Committee is inquiring into largely revolve around the wholesale market at the moment, I would suggest that the solution to the issues will be found in that area as well. One solution is to set up a framework that guides investment in the right kit or infrastructure, in the right place at the right time, so that consumers' energy needs are met with the lowest-cost possible combination of technologies. The Committee may be aware that the Australian Energy Market Commission itself, and as part of the COAG Energy Council's Energy Security Board, has provided advice to governments on the ways to guide investment in the generation sector that meet three key criteria: reducing emissions, maintaining a reliable supply and keeping prices as low as possible for consumers. Next week at its meeting, the COAG Energy Council will be discussing further work being done by the Energy Security Board in this regard, so I will not dwell on that too much more.

I will finish by saying that in the commission's experience to date it is market solutions that tend to offer the lowest-cost way of discovering what technology and services work best for consumers in terms of what consumers want for themselves and for their businesses. Markets are not perfect, which is why we use regulation where appropriate and put in place good safety nets and enforcement frameworks for the times when things go wrong or when we know the market cannot deliver what is best for consumers. We could regulate absolutely everything, but it would be more expensive and it would stifle innovation. We could regulate nothing and leave all consumers exposed. So our job at the commission is to strike the right balance. I might leave my formal comments there and I am happy to answer any questions, along with my colleague Dr Funston.

The Hon. ADAM SEARLE: You are the maker of the rules that govern the market. Is that correct?

Ms PEARSON: That is right. We make the national electricity rules, the gas rules and the retail rules.

The Hon. ADAM SEARLE: How are those rules made? Can you give us a brief overview of the process?

Ms PEARSON: Any person can submit a rule change request to the commission, anyone except the commission itself. It then goes through, generally, a two-stage consultation process, a draft decision is made and a final decision is made. The standard process takes around six months, some expedited ones can take six weeks, very complex rule changes can take a little longer.

The Hon. ADAM SEARLE: With the current rules, what are the sorts of environmental considerations that inform the operation of the electricity market? Are there any at present?

Ms PEARSON: We assess all of our rule changes through a framework established under law. What that means, in short, is that every rule has to pass what we call the rule-making test, which means that it has to contribute to, say in the case of electricity, a rule that meets the national electricity objective that is about the efficient provision of energy services in the long-term interests of consumers. There is no specific environmental consideration in there, neither is there one for social considerations. But, of course, any other laws that are in place in the jurisdictions or by the Australian Government have to be taken into account, effectively, as constraints on our rule-making, and they are.

The Hon. ADAM SEARLE: But your organisation also provides advice on proposed rule changes. Is that correct?

Ms PEARSON: In our review-making function when we are asked to look at bigger-picture, more policy-type questions we will explore a problem, we will explore the possible solutions to it and we may make recommendations regarding rule changes, but a third party—someone else—must submit those rules back to us.

The Hon. ADAM SEARLE: Just as a matter of policy, given where the market is at and the different challenges it is facing, should not the national electricity law have an emissions consideration as well as a social consideration built into that?

Ms PEARSON: Obviously these are really big policy questions for governments, not for us. Emissions targets, environmental policies, more properly rest with elected parliamentarians. Our role though is in how those emissions targets or other policies can be best implemented.

The Hon. ADAM SEARLE: You mentioned earlier that what was driving investment was the RET. But, absent the RET, it would be the case, would it not, that there would be nothing driving investment in new electricity generation projects?

Ms PEARSON: The environment for investment sends the signals to investors, and that is driven by a number of factors: the broader investment climate, the cost of capital, supply, demand—there are a host of factors. What we are saying in relation to the renewable energy target is that because it creates a particular source of revenue for those generators who can generate at any point in time, it has not necessarily encouraged the investment that is best for the power system and best for meeting the reliability requirements. Indeed, the market system operator advised the Commonwealth Government back in September—advice which is public—around the reliability requirements for the market. When I am talking about reliability I mean how much this sort of dispatchable capacity is available to meet needs at any point in time.

The Hon. ADAM SEARLE: In New South Wales we get 80 per cent or 79 per cent of our electricity from coal-fired power, and those power stations, like any machine, will come to the end of their life at some point. New South Wales is not unique; I am sure this is the challenge facing other jurisdictions. Governments built those things, but now, apparently, government got out of that business by privatising. So the question is: Who is going to invest in the replacement machines that will provide us with electricity, and will they do it in a timely way? If you took the RET out of the picture what is there that will guarantee a supply as and when we need it in the future?

Ms PEARSON: I think the Australian Energy Market Commission has, over the past few years, made it very clear that investors need certainty in this market in order to make the investments that are required. Our market is one that is in a state of transition. Markets such as ours that are in transition need investment. The investment will not come without the requisite level of certainty and unless the emissions reduction policy is settled and settled in a way that can work in a complementary way with how our energy markets work, it will be difficult to meet those challenges that you have just mentioned.

The Hon. ADAM SEARLE: We have been in a state of transition, by my counting, for the past decade or seven to eight years. What if there is no certainty? What happens then? Does government have to step back into the ring?

Ms PEARSON: You may be aware that the Energy Security Board is advising the Commonwealth Government on the proposed national energy guarantee. It is anticipated that that will be considered at the COAG Energy Council at the end of next week. We are working towards the COAG Energy Council agreeing to the Energy Security Board doing further work on that mechanism to help create the certainty to which you refer.

The Hon. ADAM SEARLE: You mentioned before that key drivers of costs in the system used to be network prices and investment in physical infrastructure but that more recently the wholesale market has been the key driver. Evidence we received through submissions suggests that the retail market is also a significant driver. In New South Wales we have the gentailers and massive vertically-integrated retailers that are interfacing with customers and generators, and so have a conflict. We also heard evidence on the last occasion that not all of the electricity bought and sold is done through the net and that it is sometimes done from generator to retailer. Do you have any idea about the quantum of electricity that is traded peer to peer or company to company, rather than through the visible market?

Ms PEARSON: Dr Funston might respond to that, but first I would like to properly understand your question. There is the spot market for the wholesale electricity exchange that manages the dispatch of electricity in real time to meet demand. Alongside of that there is the hedge contract market, through which retailers and generators manage the risks of participating in what is a volatile market, particularly given that the storage of electricity is not really possible in any significant way. Are you referring to the contract market on the side?

The Hon. ADAM SEARLE: That is what I am referring to. Are these big integrated bodies essentially selling their own generated electricity back to themselves, on-selling it to the customer and then saying, "Oh, you can't blame us for the price raises. The wholesalers are lifting their costs, not us." When I have spoken to these companies they all say it is not them; it is the wholesale market and that because prices are increasing they have to pass the increases on. The issue is that they are their own customer. Is that a problem?

Dr FUNSTON: There are a couple of issues. Are you asking about the visibility of the contracts market? It is fair to say that there are some issues around that. In terms of the contract market, there are two types of contracts that people can enter into: There are the over-the-counter contracts and the exchange contracts on the ASX. In the last retail competition review that we did in 2017 there seemed to be a lack of information around over-the-counter contracts. We recommended that there needed to be more visibility around that. There used to be a survey that was done by Australian Financial Markets Association [AFMA] that highlighted how many contracts were in the market but that has subsequently disappeared. That is important because feedback in the 2017 Retail Energy Competition Review around whether or not retailers saw vertical integration as a barrier

or a problem highlighted that retailers did not think it was necessarily an issue, provided that we have a liquid contract market and that the contracts were available out there. They believe they have the ability to compete on a good basis with the three big vertically integrated companies and with the other vertically integrated providers.

The Hon. ADAM SEARLE: We do not have that liquid system, do we? What do we need to do to make that a reality so there is more visibility?

Dr FUNSTON: We would say that there is a liquid contract market in New South Wales. There are certain States where there are challenges in terms of the liquidity of the contracts market, and that is borne out in South Australia. There is a question around the visibility, though, and we have suggested potential means where visibility could be achieved through voluntary actions if the gentailers and the retailers were open to doing it. It could be reported in a confidential way through the survey. The Australian Energy Regulator [AER] is also doing work at the moment to monitor the wholesale market. As part of that review it may look at the issue of contract visibility.

The Hon. JOHN GRAHAM: What are the problems that arise from not having that visibility? If you are confident that there is a liquid market in New South Wales, what problems does the lack of visibility create?

Dr FUNSTON: The issues around a lack of visibility come back to the retailers and whether or not stand-alone retailers can compete with the big three.

The Hon. ADAM SEARLE: The big three control approximately 90 per cent of the market in New South Wales. The Grattan Institute did a report a year or so ago that looked at that phenomenon here and in Victoria. The report concluded that a very limited part of the market was engaged in competition and that although there might be some emerging innovative services and products, very few people were accessing them or were able to access them. It concluded that the costs of competition were driving price increases rather than price decreases because of the market's concentration. How do we respond to that policy challenge?

Dr FUNSTON: The thing to remember is that the New South Wales electricity market has only been deregulated for a fairly short period of time. While it has been open to contestability since 2002, deregulation of prices happened in 2014. I have a background in the deregulated telecommunications sector and the regulated water sector and my experience with deregulated markets is that the question of when competition will start to emerge and be really intensive in part depends on having the right settings in place, but, if you look at the telecommunications market, it is very much driven by the changes in technology that occur. At the moment in the energy market there is technology out there that can assist consumers. There is perhaps low awareness of those types of technologies, although our survey suggests that awareness is improving. We are also seeing the new energy retail service providers emerging who are providing the new technologies. At this point in time it would be wrong to suggest that competition has not worked because it is very early in the process of an evolving competitive market.

The Hon. ADAM SEARLE: The Grattan Institute looked at the somewhat longer experience in Victoria and drew the same conclusion. In fact, it is possibly even worse there.

Dr FUNSTON: You need both the right settings and technology to emerge to potentially disrupt the industry. That is what we are seeing now. We are on the cusp of that. That was the point we made in our Retail Energy Competition Review. At the moment we have these opportunities that are being created by the technology to drive down costs for consumers, so they have increasing control over their bills.

The Hon. ROBERT BORSAK: Do you have any data that supports what Mr Searle was talking about, in terms of whether there is any real competition between the three fully integrated suppliers in New South Wales? It is one thing to talk about retail competition, but like everybody else I sign a retail contract every 12 months. If the tide is forever moving up it does not matter how much discount they get, they are going to get me in the end. My understanding and my background in economics tell me that full integration, especially in a situation like what we are looking at now, means that no matter how much competition you think will be entered into the system, there will never be enough competition to knock out a fully integrated company such as AGL. Have you got any statistics or international examples to show how this is going to work in the long run and how these three large energy companies that are wholesaler, retailer and everything in between are going to drop the prices in real terms?

Dr FUNSTON: We provide statistics about concentration in the market and—

The Hon. ROBERT BORSAK: With respect, that does not answer the question, does it?

Dr FUNSTON: I would say that it highlights what is happening to market structure and whether or not you are seeing an increase in competitiveness in the market. We have seen reduced concentration.

The Hon. ROBERT BORSAK: As I said: Where is the competition?

Dr FUNSTON: At the moment in New South Wales we have 22 retailers, of which there are 26 brands because you have retailers with multiple brands, such as Lumo and Red. Since 2014, when the market—

The Hon. ROBERT BORSAK: Should there not be competition at the wholesale level as well? Is that not how markets are supposed to operate?

Dr FUNSTON: Yes, definitely.

The Hon. ROBERT BORSAK: How do we achieve that?

Ms PEARSON: We achieve that by having further certainty around some of the policy settings that drive investment in generation. That is what will help to improve further liquidity in competition in the wholesale sector. The Energy Security Board has provided advice to the Commonwealth Government around the proposed National Energy Guarantee. One element of that is covered by emissions reductions and reliability. It is the view of the Energy Security Board that a mechanism such as that will drive further activity and liquidity in the wholesale market, which will improve competition in the wholesale market, which should then improve competition in the retail market. That is our response to your question, at the absolute highest level.

The Hon. ADAM SEARLE: Going back to the increase in household and business electricity bills occasioned by the behaviour of the wholesaler and leaving aside gas—we understand that gas has increased in price—do the wholesalers themselves have any big cost drivers that lead to legitimate increases in prices they are charging their customers, or are they simply taking advantage of their position in the chain of production and charging top dollar at peak times?

Dr FUNSTON: I would say that wholesale costs are driven by, obviously, supply and demand conditions that exist in the market.

The Hon. ADAM SEARLE: Essentially, without trying to be pejorative, apart from the cap, they will charge whatever they can get away with and whatever people are willing to pay.

Dr FUNSTON: This probably comes back to the issue raised around the importance of the feasibility of the contracts market. If you have contracts in place, there is less likelihood that you will get volatility in terms of the pricing in the spot market. It is important to say that it depends on how many contracts are out there, because if you were contracted, you have an incentive to turn on and to dispatch to where there is a level of demand. You are effectively getting paid a revenue stream, which is locked in over time.

The Hon. ADAM SEARLE: That is true. Most of the generators are coal-fired power stations. Apart from routine maintenance and repair, they are not building any new ones, so there is not a lot of new plant and equipment or capital cost. As far as I am aware, they are not suddenly paying their workforce double or triple wages. When retailers say, "Don't blame us for the fact that your power bills are going through the roof; it is the wholesalers from whom we have to buy." Leaving aside the fact that in most cases it is the same company or a different face of the same company, these wholesalers seem to be able to sweat their existing assets and squeeze their customers, and there really is no accountability.

Ms PEARSON: I will go back to Dr Funston's point about visibility of contract markets and the obligations between market participants, because the spot price is not necessarily reflective of the underlying costs.

The Hon. ADAM SEARLE: That is right.

Ms PEARSON: We do not have the full picture, which is why we have been recommending this.

The Hon. JOHN GRAHAM: That is a pretty concerning conclusion, is it not? That might be true at any one time, but it should not be true over the medium term.

Dr FUNSTON: It goes to the point that Ms Pearson was making earlier in terms of the Renewable Energy Target [RET] and the types of financial instruments that has encouraged. It has encouraged a different type of financial instrument, which is not the same financial instrument that was used previously. The previous financial instrument was to protect against high price rises, and now there is a different type of financing mechanism.

Ms PEARSON: If it is okay, I would not mind going back a few steps. When this market was established back in the late 1990s, the generation fleet was quite different to what we see today. They were largely synchronous generators, so they turned on and off when we needed them to do so. They also brought with them a number of characteristics or properties that were not valued separately. A number of them relate to what we call system security-type services, so they are services that go to keeping the power system stable and supporting the power system against sudden fluctuations or disruptions. Another property that they had associated with them was reliability; they were there when we needed them. That old generation fleet is retiring, as it should. Currently, the policy settings have a tendency to encourage a form of generation through the RET that does not have with it those properties and those characteristics. Over the last couple of years and continuing over the next couple of years, the commission is evolving the regulatory framework to create markets or other appropriate ways of valuing what the old generation used to provide in one price. One of the aspects that is quite attractive about the proposed National Energy Guarantee is that it deals with that reliability side, about valuing the resources and the capacity that need to be there when and where they are required.

The Hon. BEN FRANKLIN: Could you talk about your views on the NEG delivering investment security as well as reliability?

Ms PEARSON: How the NEG would deliver investment security would be that it deals with creating some investment certainty with respect to emissions reductions. The advice of the Energy Security Board explains how the mechanism would work, but very importantly it also has an element around the governance. The proposal would be, for the Australian Government to set an emissions target, as it is appropriate, but the mechanisms and the way to evolve the mechanisms over time would be established through the broader energy governance framework. It would be established through the rules and be subject to the rule change process and adaptable over time. This certainty comes through the Parliament and the Government setting a target and then creating a governance framework that will give investors certainty that the mechanism could be in place for a while and could adapt in a predictable and manageable way.

The Hon. BEN FRANKLIN: Are you supportive of the NEG?

Ms PEARSON: The Energy Security Board is doing further work for the Commonwealth Government, which will be shared with the COAG Energy Council. It is the hope and anticipation of the Energy Security Board that the COAG Energy Council will agree to develop it further. It is being done at a fairly high level—principal level—at the moment, but as you can appreciate energy markets are very complex.

The Hon. ADAM SEARLE: We do not know what it is.

The Hon. BEN FRANKLIN: That is pretty much exactly the answer that I give when I am asked about it.

Ms PEARSON: You would appreciate, if you follow our work, that the outcomes are very broad and relevant and we understand them, but the workings and the mechanisms behind them are very, very complex and they need to be worked through. We know that we get the best outcomes when we go through an adequate and careful consultative process with all stakeholders who have an interest in this area, which is why the main recommendation out of all of this is that the COAG Energy Council charge the Energy Security Board to develop this in consultation with stakeholders to work out the best way to do it, and to deal with any concerns that might happen along the way.

The Hon. BEN FRANKLIN: Would you agree with Dr Finkel's view that the vehicle is a credible one in its potentiality?

Ms PEARSON: Which vehicle? The NEG?

The Hon. BEN FRANKLIN: The NEG.

Ms PEARSON: Yes. The commission signed off on the advice.

The Hon. BEN FRANKLIN: I move to something else and that is demand response and what role you see it playing in strengthening our energy security outlook?

Ms PEARSON: I think demand response, particularly with changes in technology, has many roles to play in our market and can serve many different purposes. Demand response has a role to play for consumers in managing spot price volatility. It has a role to play in providing reliability and indeed in the advice of the Energy Security Board regarding the NEG talks about the role that demand response could play in supporting reliability. Demand response also has a role to play in supporting networks and in perhaps avoiding investment in capital to support networks. Have I forgotten any other role of demand response?

Dr FUNSTON: No.

Ms PEARSON: I think the view of the commission is that it could play a role in many aspects of running the market. The commission's starting point, of course though, is that it is relatively technology neutral to things. We are outcome focused. We establish what is required and then let the market do its thing to keep costs as low as possible for consumers because that is our overriding objective.

The Hon. BEN FRANKLIN: Do you have views about how best government should implement a demand response strategy and what components it should consist of?

Ms PEARSON: I think our view is that the role of government is in the broader policy settings. Our view around demand response and indeed any other technologies and services should be that regulatory frameworks enable them to all operate on a level playing field and it should be for the best and most efficient service technology to win on the day and for consumers to drive that.

The Hon. BEN FRANKLIN: Finally I just want to ask about the east coast gas market. Obviously there is a lot of reform being undertaken at the moment to improve transparency and competitiveness. What are your views about the appropriateness of those reforms and what further actions governments could take?

Ms PEARSON: You may be aware that the commission undertook an East Coast gas review over about an 18-month period and submitted its final report to the COAG Energy Council in the middle of last year. It recommended a series of reforms to improve transparency around wholesale market trading and capacity on pipelines. The COAG Energy Council agreed to all of the reforms that the AMC suggested and established a gas market reform working group led by Dr Mike Vertigan. They are going through a process of now developing a whole series of rules through an expedited process for the South Australian Minister to make.

At the same time we are also doing a review of the Victorian wholesale gas market. The Victorian Government has taken on board the recommendations we made in that as well and we are expecting some more changes around the Victorian market as well. We are obviously very supportive of the work that the COAG Energy Council is doing, not just because we made the recommendations but we think that in the current environment getting the gas that is available to where it needs to be as quickly and as cheaply as possible is obviously the best thing for consumers in the long run.

The Hon. BEN FRANKLIN: Absolutely. Do you have views about what further steps industry can take to assist in that process?

Ms PEARSON: The best thing for industry to do is to participate in the reforms and to actively use the trading and transparency platforms that are being developed at the moment. That would be my view, off the top of my head. Dr Funston, do you have any views?

Dr FUNSTON: No.

The Hon. TAYLOR MARTIN: Dr Funston, earlier you gave an answer that was cut short. Just before you were interrupted you said something to the effect that technology is emerging to drive down costs for consumers. Are you discussing generation, transfer costs, retail? How can we better drive down costs? Are you able to elucidate the answer you gave?

Dr FUNSTON: I was talking specifically about the retail market and some of the new energy service providers that are emerging and the different business models they have that go against traditional business models. By way of one example there is a business called Reposit out of Canberra. Effectively you have solar and batteries and then they give you some smart software and smart technology that can optimise the battery and the solar that you are generating. It effectively looks at the consumer as a series of contracts and says, "If you save money I make money". They are premised on a business model, which is around win-win. That is the sort of new emerging business model that is in the market. It is people having the ability to take control of their usage and manage their usage. They do not have to be engaged in doing that because they have software there that actually does it for them.

The Hon. TAYLOR MARTIN: Can you elaborate on how that would play out in reality? What kinds of things would be put in place, giving a household example that is not presently available?

Dr FUNSTON: If the spot price was really high, it would try to effectively shave your usage so that the retailer would not have to have to pay the spot price at the time or if they were exposed to spot price they would not have to pay that at the time and therefore there is a benefit to both the retailer and there is a benefit to the consumer as well; the benefit to the retailer is shared with the consumer.

Mr JEREMY BUCKINGHAM: I apologise for having to leave briefly. Your report this year on retail prices said that the wholesale gas price was an increasing component of the retail price, which had gone from 19.6 per cent in 2014-15 to 28 per cent and there were contributing factors such as Hazelwood closing, but we always knew that was going to close. Increasingly the wholesale gas market is a big factor. Concerns have been raised by the Australian Competition and Consumer Commission [ACCC]. Are BHP and XON operating like a cartel and if they are what can we do about it and if they are not, then I would be interested in your views?

Ms PEARSON: I think any questions of that type are best addressed by the ACCC. They have a reference around retail energy prices and they are best placed to address those questions. We can talk about the role that gas is playing in electricity prices. We cannot comment on the business practice of BHP and others. Would you like us go through that a bit?

Mr JEREMY BUCKINGHAM: Yes, because gas prices are a massive factor?

Ms PEARSON: Are you talking about that in relation ultimately to electricity prices?

Mr JEREMY BUCKINGHAM: Yes, of course.

Ms PEARSON: Right. We spoke earlier—you were not in the room, Mr Buckingham—but we were talking about the changing generation mix in our power system. Older generation is retiring and newer generation is coming in. Particularly forms of generation supported by the renewable energy target are coming in. That renewable generation does not necessarily provide the reliability that the system needs and in the absence of other forms of generation, gas-fired generation is being used increasingly to support reliability and to make sure there is energy when and where consumers require it. As gas prices have increased for a whole host of reasons they have increased the price of electricity from time to time. That is the direct relationship. Mr Funston, do you want to comment on anything?

Dr FUNSTON: No.

Mr JEREMY BUCKINGHAM: So why are gas prices increasing? What are the factors that are causing gas prices to increase for our electricity generators?

Ms PEARSON: I think there is a general issue around gas supply. That is commented on by the ACCC in its report into gas markets last year and I refer you to its work for the reasons and rationale around that.

Mr JEREMY BUCKINGHAM: But the AMC has done reports on gas and how to introduce competition, such as talking about gas hubs, trading and transparency?

Ms PEARSON: Our work is around the gas that is available and how that can be used as efficiently and effectively as possible, how it can be transported as efficiently and effectively as possible to where it is needed. Because it is not within our remit, our work does not look into the ultimate gas supply sources. The ACCC did some complementary work at the same time and it is their work that looks into the issue of gas supply more generally.

Mr JEREMY BUCKINGHAM: The AEMC review last year recommended that two trading hubs should be developed in Victoria and Wallumbilla. How is that being progressed?

Ms PEARSON: Those reforms are being progressed. As I mentioned, the Council of Australian Governments Energy Council last year agreed with the recommendations of the AEMC's report. It established a working group to implement those reforms in a very expedited way. It is being led by Dr Michael Vertigan. It is in the process of making its second or third set of rules at the moment. That is being done separately through a consultative process with industry and stakeholders and the AEMC is on that. Many of those rule changes should be in place, some by the end of this year and further in 2018-2019.

Mr JEREMY BUCKINGHAM: Recently there have been concerns in the community about alleged gaming of the system because we now have an electricity mix where peaking gas plants are more important. There are issues about frequent control and ancillary services. What is the AEMC doing about the allegation that gas-fired power stations and their operators are gaming the system, using infrequency of supply to drive up prices and profiteer?

Ms PEARSON: The specific behaviours to which you refer are being examined and looked at by the Australian Energy Regulator. It has published some reports, and I understand it will be here later this afternoon. Regarding system security and ancillary services more generally, the Commission has undertaken a review and made three or four rule changes over the past 12 months or so that go to creating a more effective and efficient

way to provide those services as the generation mix changes. We have a work program over the next two years that is looking at it further around frequency operating standards and voltage control. Further technical work is being done on generator performance standards over the next couple of years to develop the framework to make those services provided in a more open, transparent and efficient way.

Mr JEREMY BUCKINGHAM: Is there a risk that the new Federal Government policy, the NEG, will entrench the power of the gentailers? The Australian Competition and Consumer Commission is of that view. Do you think the NEG will put too much power in the hands of the gentailers and be a backward step for competition?

Ms PEARSON: The National Energy Guarantee has been the subject of some advice and will be discussed and hopefully get some endorsement at the next COAG Energy Council meeting, but its detail is yet to be developed. Market power can be an issue in any market and needs to be carefully monitored all the time, regardless of whatever market you are talking about or regardless of whatever its design is. In the case of energy, that is why we have the Australian Energy Regulator and the ACCC. It is their job to look at that. Regarding the proposed guarantee and its impact in relation to the big three, if you like, the way we understand that it will operate—given that it is considered just at an in-principle level at the moment—is that it is unlikely that any business would be able to perfectly manage and meet both the reliability and the emissions reductions element of it in any region at any one point in time.

Whilst the generation and retail businesses may over the whole market have a balanced portfolio, within each region generally they do not. Because no business is likely to be able to meet them both at the same time, they would need to contract and trade with each other, as they do now, in relation to energy. But ultimately that is a question for the design of the National Energy Guarantee, and it will be very important to design it in a way to minimise the risks of anything like that or any of that sort of behaviour being entrenched. Having said that, I will go back to the first point that I make, which is that market power can arise at any point in time and it is important for the regulators to monitor that.

Mr JEREMY BUCKINGHAM: Has the detail of the National Energy Guarantee not been signed off?

Ms PEARSON: No. We are hoping that the COAG Energy Council at the meeting next week will charge the Energy Security Board to work with stakeholders to develop the detail. That is the next stage.

Mr JEREMY BUCKINGHAM: There has been some concern that the AEMC is deliberately inflating the cost of renewals in this modelling to try to protect the coal and gas industries. Is that the case?

Ms PEARSON: The costs that are used in modelling are reflective of the expert advice that we have included in there. I think generally modelling includes different assumptions over time. The costs for newer technologies are dropping rapidly and you will see modelling, whether it is commissioned by the AEMC or indeed anyone else, that is coming out that the technology costs are dropping, very, very rapidly.

The Hon. ROBERT BORSAK: With integrated suppliers such as AGL, for example, what is your view on this as a model that is going to be conducive to long-term competition in the market, both at the wholesale and retail levels? Do you have a view on that?

Ms PEARSON: Have a view on what?

The Hon. ROBERT BORSAK: Integrated suppliers such as AGL, where they produce the wholesale electricity and, as the Hon. Adam Searle was implying, sell it back to themselves and then pass it on to the consumer. If I understand correctly, in the past wholesale generators were owned mostly by State governments. Based on policy frameworks that had been largely agreed to at the Federal level, those State governments sold off the generators to the highest bidder or to their mates. We have seen it in the past in New South Wales. I do not really know how those deals were done as most if not all of it was Cabinet-in-confidence. We now have the unhappy position where we have top-to-bottom, front-to-back—however we want to call it—arrangements where they are generating their own wholesale electricity and then retailing it through the system. As I said earlier, you can play with the retail competition short-term contracts as much as you like, but do you have a view that the separation of wholesaler and retailer should be forced back into the marketplace in the future—that is, if we are going to have true competition that may generate lower wholesale prices, which will in the long term lower retail prices, putting aside any renewable energy targets? You are dealing with markets.

Dr FUNSTON: I think I made the point earlier that, in terms of the retailers' view on this, and in particular standalone retailers, that the view was that provided there is that liquid contract market out there, at least on the retail side, they can compete very effectively with the vertically integrated providers. I think there is

a question, and this goes back to the question that was asked earlier around the NEG as well, that comes back to the market design of that and whether you can get a market design that incentivises—and obviously that is what we would like—the right types of contracts to continue to be offered and to be offered by someone, irrespective of whether or not you are a standalone generator or a vertically integrated generator.

The Hon. ROBERT BORSAK: I am speaking of personal experience from a business point of view, not just as an ordinary consumer as we all are. I used a consultant to help prepare contract negotiations or renegotiations for electricity supply for the commercial operations of the businesses I am involved in. There were five quotes—and I am happy to table the document if required—and the only one that came in at less than 10¢ per gigajoule was AGL. All the other retailers were unable to get down to that level.

Ms PEARSON: Is this for gas or electricity?

The Hon. ROBERT BORSAK: Electricity. Our contract negotiator—obviously we do not do it ourselves—was saying that this is the first time it has seen pricing from AGL, for example, where it knocked everybody out of the market. The retailers themselves, and the other three or four were probably ordinary retailers of electricity, were not even in the ballpark. In fact, there was no choice: We had to take the AGL contract price. I know it is anecdotal but this is what businesses face. There was no competition at the level that allowed us to be able to make a true choice. It said to me that this is an integrated supplier that is perhaps doing some internal transfer pricing and they can produce a price at 9¢. I think the other retailer that was the closest was about 10.5¢ or 11¢, so where is the competition?

The Hon. ADAM SEARLE: That is not an isolated example. That is one anecdotal example.

The Hon. ROBERT BORSAK: It is a real example because I can produce the quotes.

The Hon. ADAM SEARLE: I have spoken to a lot of businesses and they tell me they have one-year, two-year, three-year contracts for electricity. They use a lot of it, particularly in manufacturing. I am being told that the contracts they are being offered have 120 per cent to 160 per cent increases in electricity.

The Hon. ROBERT BORSAK: That goes without saying.

The Hon. ADAM SEARLE: We have the Independent Pricing and Regulatory Tribunal [IPART] in New South Wales telling us that electricity prices have fallen. Yet in the real world those people who are competing in competitive business markets and have spoken to 10 retailers are being offered increases of 100 per cent to 160 per cent. There is a big disconnect here.

Dr FUNSTON: None of what you are saying comes as a surprise to us. We have heard the same thing anecdotally. A lot of this was coming through in respect of the traded contracts in the contracts market on the Australian Stock Exchange. If you had entered into a contract for electricity in August 2016 for the 2017-18 financial year, you would be paying around about \$60 a megawatt hour. If you looked at it in April 2017, it was double that amount.

Mr JEREMY BUCKINGHAM: It was \$150.

Dr FUNSTON: Yes. We discussed Hazelwood before. It was known that Hazelwood would retire at some time in the future. There was an unexpected aspect in how quickly Hazelwood did shut down and that seemed to catch the market by surprise. It was not that in August people did not think that Hazelwood would shut down—there was lots of talk and speculation in the market at the time that it was going to shut down—it was more about how quickly it shut down. When you are talking about something that had the capacity of 1,600 megawatts, which was effectively 20 per cent of demand in Victoria, you will get a major correction in the market.

The Hon. ADAM SEARLE: Is that a real correction or a psychological one? A number of people I have spoken to have said any shortfall caused by the close of Hazelwood has been filled by other suppliers. There is the psychological shock which then enables the generators to say, "Oh, potential shortage here. I will stiff my customers." Of course most people—me and everyone around this table—do not know from day to day how much supply is out there. Is this real or are we getting hit with market expectation that there might be a shortfall, therefore, there might be a tightening of supply, therefore, we will charge more?

Dr FUNSTON: The market always bases things on expectations. The challenge with Hazelwood shutting down was that it also did provide, from what we understand, a lot of the smaller retailers with contracts. Obviously there was a change in the contracts market as well, so to the extent that people are off contracts and there are fewer contracts available, then you will see an increase in those prices.

The Hon. ADAM SEARLE: Observers like Carbon Market Economics and the Grattan Institute say there is a real difficulty in getting proper visibility of what is actually being charged by retailers. There is a lot of high-level talk. We can talk about certain costs like the distribution companies that we can see. How do we get better visibility of what is being paid by customers? Is it now time to require anonymised retailers to provide that hard data to the national regulator so we can see what AGL is charging—what is the most it is charging a customer, what is the least it is charging a customer—whether it is small business, large business or households, so we as policy-makers know what is happening?

Dr FUNSTON: That is a reasonable point. If you look at what we recommended in the 2017 Retail Competition Review, we were very clear that there was a lack of visibility around the over-the-counter contract market. We believe that the type of reporting that used to occur in the sector up until 2014-15 should be reintroduced because that obviously has an effect on what is happening with the spot price and helps us to explain what is really happening in the market.

Ms PEARSON: The Australian Competition and Consumer Commission is doing some work on the complete retail price using its extensive powers. That work is going on. The Australian Electricity Regulator has been given some increased powers recently regarding wholesale market monitoring and can also ask for information from retailers. As you may be aware, it is given a significant increase in their operating budget so it is gearing up to do much more of that work over a long time because it is important to see trends in this regard.

The Hon. JOHN GRAHAM: It not just about the visibility, is it? At the start you talked about the power of consumer choice, customers driving this market on the retail side, but there is clearly evidence, including evidence to the Committee, that that is constrained and consumers are confused.

Ms PEARSON: Yes.

The Hon. JOHN GRAHAM: There is not a huge amount of switching between contracts. How real is that consumer price?

Ms PEARSON: Whilst all these reforms are going on, we still have a work program that goes to the consumer protection framework and to looking at areas that need some support. Whilst we are of the view that generally consumer choice should drive it, markets are generally the way to go. We do not think that they are perfect all the time and they do not solve all the problems. What you need as law-makers and what we need as regulatory folk is to have adequate, complete and comprehensive evidence over time to see what support regulatory frameworks can actually provide.

The Hon. JOHN GRAHAM: We do not have that evidence at the moment. What do we need to do to get it?

Dr FUNSTON: One of the points you are potentially raising here, and please interrupt me if I am wrong, is the lack of awareness potentially that consumers have. One thing we found through doing the recent consumer survey is that consumers are aware that they have choice in the market, and that is a good thing. Part of the issue is that when we ask them whether they were on a standing or market offer—and there is a big discrepancy between those offers and what you pay, depending on what you are on—only 30 per cent seemed to know that.

The Hon. JOHN GRAHAM: It is not just a lack of awareness. This is a deliberate market strategy by retailers to confuse consumers. This is part of a profit-seeking strategy. Consumers know they can switch, but products are deliberately confusing. Is that not part of the problem?

Dr FUNSTON: Whether it is deliberate, we have identified it as an issue. We made nine recommendations in the Retail Competition Review. At least six of those targeted this idea of problems that we saw with both consumer awareness, the information that was being made available to consumers, the transparency of offers, the ability to compare offers and also outcomes for vulnerable consumers. We made recommendations to deal with those things which then need to be taken up by Government.

Ms PEARSON: And the Commonwealth Government has taken up some, in some respect. We have just made one rule change that came through from the Australian Minister for Energy and we are expecting a couple more to come through.

The Hon. JOHN GRAHAM: From a New South Wales point of view, what can we do to drive that agenda? Your point is that it may or may not be deliberate. It is certainly profitable.

The Hon. ADAM SEARLE: And it is certainly happening.

The Hon. JOHN GRAHAM: What can New South Wales do?

Ms PEARSON: The best thing New South Wales can do is support the national framework reforms, because these businesses operate on a national basis—to take on board some of that and encourage the COAG Energy Council to really look at the consumer protection framework and to make sure that it is fit for purpose as this market evolves. We are seeing energy services being provided in very different ways from those in the past. The consumer protection framework needs to keep up with that. We can do so much, but a lot of this stuff is enshrined in law. The rules that cover the more mechanical aspects can be amended over time, but I think that is one of the best things that the New South Wales Parliament can do.

The Hon. JOHN GRAHAM: Lastly, in this area your emphasis on what is driving prices really focused on the wholesale market.

Ms PEARSON: At the moment—yes.

The Hon. JOHN GRAHAM: Some of our discussion, as you can hear, has been raising questions about the contribution of the retail sector. Clearly there are the wholesale problems. How do you see the balance, though, with the price drivers between the wholesaler and the retailer?

Ms PEARSON: Our view is if you can address the wholesale market and you have more competition in the wholesale market, more liquidity in the provision of hedge contracts and those sorts of tools, then you create more competition in the retail market. You enable second tier and new entrant retailers to get access to those financial products that help them manage the risks of retailing. You get more of them, you have more competition in the retail market, then that affects consumers.

The Hon. ROBERT BORSAK: Are you saying that, despite the fact AGL owns its wholesale generating capacity, the financial instruments that are available and the information available to the marketplace is sufficient to—

Ms PEARSON: No. I am saying we are wanting to encourage more. That is where the reform should be.

The Hon. ROBERT BORSAK: Are you saying at the moment it is not sufficient?

Ms PEARSON: I am not saying it is not sufficient; I am saying that there should be more. In any region the situation is different.

The Hon. ROBERT BORSAK: We will just talk about New South Wales.

Ms PEARSON: It is different. We are a rule-maker for a national market. I think overall—

The Hon. ROBERT BORSAK: Are you saying we should be talking about making rules under that subset to deal with New South Wales' lack of transparency and products?

Ms PEARSON: What I am saying is we are suggesting that there need to be some regulatory changes, that an emissions reductions policy should be settled and that there are a number of changes in policy settings that need to be made in order to create an environment in which investors feel confident enough to invest in generation and the types of generation technologies that will provide more contracts and liquidity in the market. We have our own work program to help do that. The Energy Security Board, through its work for the COAG Energy Council, is also doing work to support that.

Mr JEREMY BUCKINGHAM: In 2016 the AEMC received a lot of submissions and recommended rule changes that we move from a 30-minute to a five-minute settlement period for retailers buying into the wholesale market—big users of electricity. That was seen as an opportunity to remove possible market manipulation—that is, the people gaming the first five and the last five minutes of those settlement periods to drive up average prices. That has been recognised as something that has happened and that is happening. Why is the AEMC now saying that we should not implement that rule change until 2021? Why are we not doing that immediately?

Ms PEARSON: The final determination will be made next week. As you are probably aware, the commission in its draft determination has recommended to make the rule. We set an implementation timetable based on what we think is necessary to be done. I will ask Dr Funston to explain that. What I would say, though, is that compared to other jurisdictions internationally, when other markets have aligned settlement and dispatch, we are doing it either as quickly or faster. What we are proposing is either as quickly or faster than any other markets that have done it. But I will ask Dr Funston to explain the detail.

Dr FUNSTON: The issue goes back to the fact that effectively this market has been premised on 30-minute settlement from its inception in 1998. You have got IT systems, the Australian Energy Market Operator's [AEMO's] system and metering that is all based on 30-minute time frames. To move overnight would be very difficult. There are three things that are affected: one is issues around metering; another is issues around IT systems and the coordination of IT systems from both the generation networks and the retail side, because we want to get access to five-minute data; and then it is really about contracts and minimising the potential disruption to contracts that are entered into and the terms around that. That was the rationale behind the proposed time frame for implementation that we had in the draft.

We looked at this and we said that ultimately there are going to be both practical challenges and risks associated with undertaking this exercise. We believe, nevertheless, it is a beneficial exercise for the market and there will be efficiency gains associated with that. Some of those are the things you highlighted around potentially the bidding strategies as well. We also see it as providing a better market signal for more flexible generation and also demand response in the market in the future. Notwithstanding those benefits, though, we recognise that there are real risks and real challenges, practically, to actually implement this because you are talking about every aspect of the supply chain needing to change the way that they currently operate and the information systems changing as well.

Mr JEREMY BUCKINGHAM: And you think it will take four or five years for us to get to that.

Ms PEARSON: We have suggested it is about 3½ years, this determination.

Mr JEREMY BUCKINGHAM: Are you not saying that, by delaying it, there is a massive disincentive in the next 3½ years for investment in battery storage as more flexible dispatch?

Ms PEARSON: I would challenge that point, Mr Buckingham. The Commission will make a rule. It might not actually start to take effect for three years or whatever. But just making the rule creates the certainty for investors to start getting on with things too. You cannot just do this in five minutes. Investors need to source infrastructure, source their kit, get it to Australia and install it. Just making the rule will provide quite a significant degree of certainty and we would expect to see participants start to make investments relatively soon after that.

The Hon. BEN FRANKLIN: Regarding your concerns about the speed with which it was announced that Hazelwood was going to be closed and the obvious flow-on impacts of that, do you believe that a company should be required to provide a substantial period of notice before they shut down power plants which, as you rightly point out, are being retired? If so, what period do you think is appropriate?

Ms PEARSON: You may recall that after the events in South Australia in September of last year the COAG Energy Council commissioned an inquiry to be undertaken by Dr Alan Finkel, Australia's Chief Scientist. His panel made a whole host of recommendations. One was that the rules be amended to require generators to give three years' notice of closure. I understand a rule change will be coming forth along those lines. The Commission will obviously have to consider that and the advantages and disadvantages of doing that, understanding all the time, though, that a notice can be given of an intention to close but circumstances can change. Generally I think the Commission would take the view that more transparency of those sorts of decisions would be beneficial for the market.

The Hon. ROBERT BORSAK: Ms Pearson, getting back to wholesaling—and I have a bit of a burr under my saddle in relation to lack of separation between wholesale and retail—are you getting enough data or enough information in terms of the drill-down from wholesale suppliers of power to the retail sector?

Ms PEARSON: We have enough information to carry out the tasks that we are charged with carrying out under the law. As I said, we undertake broader scale reviews for the COAG Energy Council and we undertake rule changes as they come in from anybody. Through our open and consultative processes we are of the view that we have adequate information to make the decisions that we do, generally. When we do our retail competition reviews, my experience when I was doing them many years ago—Dr Funston can comment himself—is that market participants are very open with us in giving us information.

The Hon. ROBERT BORSAK: You do good work on retail competition. Who does work on wholesale competition?

Ms PEARSON: I think I alluded to this earlier. The Australian Energy Regulator has a role in monitoring wholesale markets and how they operate. Those functions were recently included in some changes to the national electricity law. I think we can expect to see more reporting from the Australian Energy Regulator in that regard.

The Hon. ROBERT BORSAK: Should retailers get that comparative information on their quarterly bills about the cost of wholesale from generator to generator?

Ms PEARSON: A retailer or a consumer?

The Hon. ADAM SEARLE: Consumers.

Ms PEARSON: As I understand it, some consumers do get that information broken down. It depends on the nature of the service that consumers purchase from their retailer. It depends on the type.

The Hon. ADAM SEARLE: Regular householders do not get that?

Ms PEARSON: Regular householders do not, but with changes to metering requirements for small consumers, over time I think we could expect that consumers will start to see a much more detailed breakdown of their costs, if that is indeed what they want to get. The technology will be there to provide it for them if that is what they want.

The Hon. ADAM SEARLE: In relation to your retail market review of 2017, I think you said you made nine recommendations?

Dr FUNSTON: Yes.

The Hon. ADAM SEARLE: I am happy for you to take this question on notice. Apart from those things, and apart from supporting one of the national things that emerges from or limps out of the COAG Energy Ministers' confabulation, what other things should New South Wales consider doing to make the market more transparent, to get more information and to be able to address what has been a fairly alarming rise in electricity prices?

Ms PEARSON: We will take the question on notice.

Mr JEREMY BUCKINGHAM: Returning to a previous point, the chair of the Australian Energy Market Commission [AEMC], John Pierce, has been tasked with modelling the National Energy Guarantee [NEG] for the Energy Security Board [ESB]. As part of that they have released the costs of various renewable energy generations. Ms Pearson, you said earlier that the costs were coming down. But the cost that the AEMC and the ESB are using are vastly above the costs that other people and commentators are referring to. We know that the economies of scale are fluid and that the cost of renewable energy is coming down at an incredible rate. For example, the cost per megawatt hour for solar energy used by the ESB was 90 to 100 now, 72 by 2030 and 60 by 2040. In comparison, Bloomberg had costs of about half that. Why are the assumptions being built into the NEG so pessimistic about the cost of renewable energy?

Ms PEARSON: I think you might be referring to the advice that the Energy Security Board gave to the Commonwealth Government which used some previous modelling that the AEMC had commissioned in relation to other work to draw some inferences around likely cost impacts of the National Energy Guarantee. That was then. You may be aware that currently the Energy Security Board is doing some further modelling on the National Energy Guarantee that is just being finalised now to go to the Commonwealth Government and to then go to the COAG Energy Council for its consideration next week. That will have more up-to-date information and use more up-to-date costs in relation to technology. That is what I was referring to about our technology costs coming down. What was in that advice referred to previous work that we had done. What we are saying, and what everyone is seeing with the modelling, is that within six months you can see technology costs dropping in the modelling done by all the major players.

The Hon. JOHN GRAHAM: I refer to the operation of the market, particularly the interaction between the spot and the contract market. You talked about the visibility issues, which are understood. Putting those aside do you have other concerns about the operation of those markets and how they are functioning at the moment?

Ms PEARSON: I would not use the word "concerns", but we have a work program at the AEMC that is looking at how the security of the power system is evolving and how the liability frameworks need to evolve over time. As the market changes I think our view is that the way it is operated needs to change and we have initiated work in that respect. Market participants and, indeed, governments have put in changes to kick those processes along.

The Hon. JOHN GRAHAM: What you are referring to goes to some of your earlier comments about some of the effects—

Ms PEARSON: The effects of a changing power system.

The Hon. JOHN GRAHAM: Exactly. Specifically on the question of how the market is operating at the moment, is the spot market working as an effective price signal to the contract market at the moment, given the rapid transition we are going through? Do you have concerns about that?

Dr FUNSTON: One of the things that has been raised is potentially there are things around the whole RET scheme design. We have made this point in both the Retail Competition Review and also in the work that we have done on price trends, the incentives and the types of contracts that have been entered into around that have been to increase levels of volatility in the spot market. We have highlighted that point. I think it is a similar point that the Grattan Institute has made.

Ms PEARSON: We have been saying for some years that emissions reduction mechanisms and policy need to be integrated with energy market policy and frameworks. They need to be able to work together, not against each other. To the extent that that happens—and that can happen—it will make the markets work better.

The Hon. JOHN GRAHAM: But obviously it is impossible to land that detail until emissions policy is settled?

Ms PEARSON: Emissions policy settled, and then a mechanism to achieve it that works—in relation to the energy sector's contribution anyway—with the way energy markets are set up to function; and a mechanism that works with the needs of the power system so that consumers' needs can be met.

Mr JEREMY BUCKINGHAM: Like a carbon tax.

Ms PEARSON: I think the Commission has been pretty consistent with its views on how emissions reductions policy can be integrated with energy markets. I think the view is that there are quite a few ways of doing it but there are some essential features that any mechanism would have. I refer you to previous work that the Commission has done on that and published.

The CHAIR: Thank you for attending this morning. Your evidence will be very helpful. You have 21 days to answer questions on notice. In light of your evidence the Committee may put some further questions on notice.

Ms PEARSON: Certainly.

(The witnesses withdrew)

(Short adjournment)

MATTHEW WARREN, Chief Executive, Australian Energy Council, affirmed and examined

BEN SKINNER, General Manager Policy, Australian Energy Council, affirmed and examined

The CHAIR: Would either of you like to make an opening statement?

Mr WARREN: Yes, I would. By way of reference in talking about the electricity system in Australia and globally, we are talking about a system that is undergoing a significant transition. The changes we are seeing and the transition we have commenced upon is the biggest change in the system's operation since the electrification of the economy 100 years ago. It is basically framed by two concurrent things. The first is the emergence of climate change and the management of that risk, and what it is for this industry is a risk management process that is materially impacting the shape and design of the carbon intense grid that we run in Australia. That process is irrevocable insofar as investment in new assets is concerned for our industry.

The second parallel transition is the change of energy and electricity from utility to a consumer. We have begun to see that with consumers buying rooftop photovoltaic [PV] systems and exploring batteries in their sheds and other technologies which will change the way the grid functions as there will be an increased involvement of consumers as participants, rather than just recipients of that utility service. Those changes are happening concurrently, and how the second one unpacks will depend to a large degree on the evolution and cost of those technologies. But we think that that relationship is forever changed, and there are many positives to come from an efficient deployment of those technologies. Ultimately, to some extent—as we have seen with the PV and other technologies—customers will buy things because they like them. They need to be allowed to make rational choices to explore and experiment with these technologies, providing that they do not impose costs on other customers in that process.

Clearly, in the last decade we have seen significant price increases. We are now reflecting on the Australian Competition and Consumer Commission's analysis and there are four different percentages of increases in New South Wales, depending on your methodology. These increases have been significant and, obviously, subject of political inquiry. We note that the Australian Bureau of Statistics has recently adjusted the inputs for its basket of goods in the Consumer Price Index [CPI], and electricity went from 1.99 per cent of average household spending to 2.17 per cent of average household spending. The point is that the changes in electricity costs have come while many other household services and costs have declined in relative terms. Whatever the case, it is significant for consumers that it is a good that they purchase really in the background of life. They do not consider electricity to be something that they enjoy the same way they enjoy other goods and services. Customers can reasonably want to expect it being affordable, whatever that means, and reliable, which is without question. They also want the system to be sustainable, which means they do not want anxieties about climate change and other threats to materially impact on their lives.

In looking forwards at the things we need or want—and we have been asking for this for more than a decade—we realise that we want effective national climate management policy. That has been the request of this industry since 2006. We have supported a carbon price or its equivalent since that time, and we have never faltered from that. That is not some ideological perspective; that is because we need a carbon price or its equivalent to conduct business in this sector. The consequences of inaction for various reasons in the past decade have played out in the impact on the wholesale market today. On the retail side and on what State governments could and should be doing, the two greatest barriers to the market working in the way that it needs to work in the twenty-first century is to enable technologies like smart meters and accelerate their use, because they can be coupled with much more dynamic tariff shapes. This is a partnership that is required between government and industry, and we are going to need to discover how customers are willing and able to shift their load and trade off their loads to explore and exploit their different demand preferences. That will enable us to manage this changed generation that we are going to have in the twenty-first century. We do not have the luxury of having large thermal generators this century in the way we had last century, and we need to have a more flexible demand response to manage the cost and reliability of that better.

The Hon. ADAM SEARLE: You represent the electricity generators, essentially. Is that correct?

Mr WARREN: We represent the generators and the retailers.

The Hon. ADAM SEARLE: That is an interesting combination.

The Hon. ROBERT BORSAK: Gentailers.

The Hon. ADAM SEARLE: Yes, gentailers. In New South Wales the three big vertically integrated retailers are also generators. We have Origin, AGL and EnergyAustralia and we have been told that the big drivers of cost increases in electricity bills are due to the wholesale market and the retail market. In a number of submissions we have received, everyone is pointing the finger of blame at your members, essentially. There is a significant concern, for example, that those of your members that are retailers are selling electricity to themselves from their generators and then onselling that electricity. When retailers say, "Don't blame us for price rises because the cost that we have to pay for our wholesale electricity has gone up", really in a sense they are trying to deflect the blame. How do we unravel this? There is not a lot of transparency in this process because householders cannot see on their bills what is the network cost, what is the generator cost and what is the retailer cost. Surely a starting point should be that consumers should have that basic data. Would you agree?

Mr WARREN: There are many things to respond to—and I will let Mr Skinner jump in as well—but there is a perennial debate about the complexities and content of electricity bills and we get as many complaints about them being overly complex and confusing as we do requests for more information to be provided. We find that the interest of most customers varies and they can access more or less information as they require. We can debate that but I think most customers just want their bill to be cheaper or not change radically. I think that is a reasonable expectation.

The Hon. ADAM SEARLE: Yes, we can agree on that.

Mr WARREN: If we put more information on bills we find that we get complaints that there is too much information. If we take it out, then there is not enough information. These days if you wish to find out more information that is accessible to most customers. As to the first issue raised: there are four parts to the supply chain to electricity. There is generation, as you discussed; there is transmission, which is the movement of electrons between regions and jurisdictions; there is retail, which is the selling of the electrons; and there is the distribution, which is the poles and wires network through the streets. There are obviously other costs.

The thing to note is that there have been two major drivers of price increases in the past decade in New South Wales. The first is network costs in the early part of the decade and that was defuncting of a range of things but primarily significant increases in reliability standards imposed on the network businesses, which led to this reference to gold plating and the question of the extent to which that was warranted. More recently we have seen wholesale price increases in the last 12 months. Prior to that we saw weakening in wholesale market prices. It is really important that if these generators are allegedly capable of gaming this market, then they have been very poor at it because the wholesale prices have been falling in places like New South Wales until the last 12 months. The market shows that it has been working and it has been frustrating to investors and owners of assets in that market because they have been struggling to get returns on their investments.

The general problem faced in the last 12 months is a function of shocks outside of New South Wales to a large degree but they have had flow-on effects in the way that electricity is transacted in your State as well. Now we do not fix those problems by trying to suppress prices at the retail level. We fix those problems by fixing the very cause of them, which is a lack of investment in those jurisdictions. The Australian Competition and Consumer Commission [ACCC], as you would be aware, has recently released an interim report on its review of the sector and it has provided some very useful data which we have not seen—we are seeing it for the first time along with you—in aggregating some of the data. There is no real suggestion that retail margins and the way retail is working is the root cause of these cost increases.

The data plays out that those two cost drivers have been the main source of price increases. The network issue has been largely dealt with. There have been changes to the rules and that has flattened the process out. The real challenge is to get the wholesale market back to a functioning level and that requires effective climate energy policy in Australia to unlock the investment we need. We will never see a return to the prices of the 1990s; that has gone. The cost of gas has permanently changed; the cost of building new assets has permanently changed but they can come down from where they are today.

The Hon. ADAM SEARLE: Leaving aside gas, you say that the price of wholesale electricity is falling in New South Wales yet from 1 July the three big retailers who control 90 per cent of our retail market increased their prices from between 15 per cent and 20 per cent. Those same three companies control something like 70 per cent of the generators in New South Wales so something is not working here. People are getting very large increases in their household and business electricity bills at a time when you are telling us that the wholesale price is falling. The networks are saying their prices are falling so who is trousering the money?

Mr WARREN: I said until the last 12 months the wholesale price had been falling. It has increased in the last 12 months. My point was that the wholesale market is discrete from the retail market—and that

differentiation is important because it is designed that way to enable other retailers to enter the market to contract for electricity and sell it to their customers—and the reason why there is both vertically integrated [VI] businesses and non-vertical integrated businesses is partly historical. It is largely driven by investment risk. If you are running a large retail book, it is desirable to have some generation to hedge against that because that is one way of managing the significant volatility in electricity markets. I am not quite sure what you are inferring but I am struggling to see that there is any evidence of collusive behaviour because the two markets are quite discrete.

Mr SKINNER: I make a comment on the concept of vertical integration. Decisions about being vertically integrated businesses is largely a business decision of the owners. Some prefer specialisation and others prefer to have a broader role. Because it is a merchant, unregulated competitive market that tends to attract a certain type of investor as opposed to one who might be focused on regulated networks with more steady incomes and lower risk appetites. It is up to businesses as to whether or not they wish to get into vertical integration. When one thinks through the incentives of the vertically integrated business, ultimately their behaviour in each part of their business, be it on generation or retailing, ends up not really changing under a vertically integrated business. I refer you to page 82 of the ACCC report, which has just been released, which has a précis of analysis provided by Frontier Economics on this general question and explains that ultimately the generator bidding behaviour is quite similar between a contracted generator and a vertically integrated retailer, maybe with a slight bias towards slightly more conservative behaviour and slightly lower prices tend to be offered into the market for the vertically integrated retailer.

The Hon. ADAM SEARLE: What percentage of electricity do vertically integrated retailers sell to their customers that they buy from themselves?

Mr SKINNER: We would acknowledge it would be a reasonably large proportion.

The Hon. ADAM SEARLE: The majority?

Mr SKINNER: The contract markets are very important for them, which allow them to engage with other participants. You will find if you are a vertically integrated generator and retailer you will have a large number of customers that will change from time to time—the total amount depending on how competitive and successful you are in the retail market. You will also have generators, and they tend to be quite lumpy. You have purchased them and you do not crank them up and down all the time. You have a certain amount of capacity and it might be years before you change that. Therefore, there will always be a substantial mismatch in terms of the nature of your portfolio and it is very important for you continually to adjust. The way that the market does that is in exactly the same way that non-vertically integrated parties do it, just by trading with each other through contracts.

The Hon. ADAM SEARLE: Let us try to unpack this. We do not have a lot of time. If you look at the generators—leaving aside gas—their prices have been fixed. They are not building new power stations, although they do have repair and maintenance; they are not suddenly paying their workers two or three times more; the price of coal is relatively stable; and coal-fired generation is the bulk of price generation. The retailers say, "Don't blame us for those price rises; our wholesale costs have gone up." But their wholesale costs in large part are driven by themselves. AGL buys a lot of its electricity from itself and then sells it to its customers on a cost-plus basis. They are saying, "It is not our fault." What are the things legitimately driving the increase in the wholesalers' cost of business, leaving aside the cost of gas?

Mr WARREN: There are a few things. It is not as you describe. First of all, there are two major triggers in the market in the last 12 months and prior to that, probably in the last two years, the demand uplift in Queensland from liquid natural gas. Liquid natural gas traders are using electricity to compress gas rather than gas, which is unusual, but reflects the relative scarcity of gas available for export on the east coast of Australia. But the big trigger point in the market in the last 12 months has been the closure of Northern Power Station in South Australia and Hazelwood in Victoria. The effect of Hazelwood closing has meant a big uplift in demand from New South Wales to provide extra power into Victoria, which means that the coal-fired generators have had to source coal in New South Wales at much higher levels than they had reserves and contracts for. That has been a problem and it is one of the constraints on the system here.

The coal industry in New South Wales is largely export focused, with 80 per cent of the coal exported to Japan and Korea, and a little bit to China. Those contracts are also, as you would be aware, very specific contracts. They produce coal at specifications required by their customers. They are very longstanding contracts. You cannot simply walk down the road and buy half a million tonnes of coal in New South Wales. That is just not available. The coalmining sector is at capacity. The effect of that is that there is a scarcity. There is not as

much coal available as we need to increase supply. The effect of the way the electricity wholesale market works is we bid in stacks. The price is set by the marginal cost of generation, and in this case the price has been set by gas, because gas is being called upon to set that price on a regular basis. That is the cantilever effect of these factors.

Mr SKINNER: I would like to give a response to a submission on that very issue. TransGrid makes a reference on page 7 of its submission to the increase in the bid prices of New South Wales generators during this period of tight coal supply. They have made, I guess, the erroneous inference that the bids have gone up above a sort of long-run marginal cost of generation. TransGrid is confusing the concept of long-run cost with opportunity cost. The trouble is these generators, as a result of the shock of the sudden closure of Hazelwood, are suddenly required to produce more volume. But because they were not expecting it, they simply did not have the coal supplies prepared for that amount of volume. They then have to ration the amount of coal that they can release. The actual price at which they purchased it for, maybe years ago—who knows?—is irrelevant.

The question is: What is the value of that coal right now? If they were to continue to say, "Release it at a low price," then it would simply all be exhausted in no time at all. Then they would have to re-enter the market and they would be paying very high prices indeed. Therefore, they are actually rationing that by simply raising the price of their bids to the opportunity cost of that coal. That is how the market was designed to work and it accurately reflects what has now become a more scarce commodity. Things can change. A few years ago we had a surplus of generation and people were having to dump our surplus gas and coal below the original price at which they purchased it in order to get rid of it because they sunk those costs and there was nothing they could do with it. The market will go through these cycles. It is the nature of it.

Mr JEREMY BUCKINGHAM: If I got that right, in New South Wales there is not enough coal to supply to our coal-fired power generators, and it is not the cost of the coal that they are buying but the cost of the coal that they would have to replace. They are not buying coal at a higher price; they are avoiding buying coal but assuming that they will have to in the future, and that is driving up their costs. Can you explain that to me again?

Mr WARREN: I think you are on the right path, but there is a constraint on the amount of coal that can be produced in New South Wales and there is a constraint on the transport of coal. The rail network in New South Wales is constrained. I think people assume that the mines can produce at any given quantity and the coal can be moved indifferently, and that is just not the case. There are physical constraints on getting enough coal to increase the generation from New South Wales generators. That means, as Mr Skinner said, they effectively ration the coal that they have got. That means in terms of price that we are seeing gas enter the market more frequently and setting the marginal cost for electricity in New South Wales, which is why prices have increased.

Mr JEREMY BUCKINGHAM: Can you explain the coal rationing again? There are two elements. We are rationing coal, and that is driving up the wholesale price.

Mr WARREN: There is still the extra demand on electricity. Twenty-two per cent of Victoria's generation has exited the market in Hazelwood. It is a big chunk of generation. They are calling on a lot more generation. They have also got the increased demand of supplying more power to South Australia because Northern has closed. In the current dynamic there have not been power stations built to replace them. We are seeing renewables coming into the market and we can see the back build of renewables having an effect potentially on the contract price next year and the year after as it begins to bring prices back down again. At the moment there is not the capacity to replace that.

The effect of those megawatts coming out of the market means something has to fill them, and it ends up being the prices set at the marginal cost of generation—and with gas prices high that is kicking up the average cost of wholesale electricity in New South Wales. That is a temporary state. If you look at the forward contract market, while it is liquid and thin we are seeing it softer next year and softer again the year after. There are encouraging signs of both confidence in political agreement around the National Energy Guarantee or something else, and also the effect of those renewable builds bringing capacity while bringing enough downward pressure on spot prices to ease those prices.

Mr SKINNER: I would also add to the concept the very short-term issue that is in play here. This is not to say that there is actually a lack of coal in New South Wales, certainly not. It is just to say that when you have set up your portfolio with an expectation in 2017 of obtaining only a certain amount of fuel, and then an exogenous shock, such as the closure of Hazelwood, suddenly causes you to need to get more of it, you cannot just switch it on like a tap. These things have been recontracted and prepared again, trains from mines must be diverted, et cetera. That is part of the reason that we are seeing a substantial discount from 2017 in the futures

prices for 2018 and then the same again in 2019. There has been a step change in the market and the market is reacting to it. If the price goes up, then it will back off. It happens in all sorts of market.

The Hon. ROBERT BORSAK: You mentioned earlier that it was a natural thing for the integrated suppliers to want to have generation capacity to hedge their books. Do you want to explain what you mean by that?

Mr WARREN: Sure. If you think about electricity, its fundamental property that makes it unique is that it cannot be stored. We are now talking about batteries—

The Hon. ROBERT BORSAK: That is no different to airline seats; it is inelastic.

Mr WARREN: No, it is different to airline seats in that it literally cannot be stored. It is instantaneous supply and demand balance. You have to produce enough electrons every millisecond of the day to meet demand and demand moves significantly through the day. It generally peaks in the evenings as well as peaking at different supply and demand during the year. The way we solved that in the past is with what we call base load. Base load generators provide the floor of generation—

The Hon. ROBERT BORSAK: I am talking about the marketplace. I understand the mechanics of the supply of electricity. You said, for example, that AGL—and it may not be AGL; it may be one of the others—needs to have its own wholesale capacity to hedge its supply arrangements for its own retail needs and, perhaps, if it is compelled to, supply under contract to third party retailers. Why?

Mr WARREN: Yes, I understand. The point is that, as a commodity, the spot price of electricity is incredibly volatile. That is why 80 per cent of electricity is contracted on the forward markets. It is a way of hedging for that volatility.

The Hon. ROBERT BORSAK: Hedging in the forward markets. Why is AGL now more profitable because it owns the generators than it was before when it was separated from the generators and had to buy its electricity in the forward market like any other retailer?

Mr WARREN: No, if you are talking about the acquisition of Macgen, AGL had generation prior to that.

The Hon. ROBERT BORSAK: Not at the level it is now.

Mr WARREN: I have not memorised them but they had some gas generation in New South Wales. They have got Loy Yang A in Victoria, Torrens Island in South Australia. They had a reasonable level of generation before the acquisition of Macgen. Initially when they purchased it, the wholesale price was softer and that reflected the price. The prices have increased significantly, so, yes, in the short run that has been comfortable for them this year and we have seen that in their announcement of their performance and results. That is a separate issue; that is an investment. They are also noting that they had plans to close Liddell, which is half of the Macgen in 2022, so that is part of their strategic plan to transition towards lower emissions generation.

The Hon. ROBERT BORSAK: They have no incentive to keep the price of electricity down then for the retailer?

Mr WARREN: It is a competitive market, though. The wholesale price in New South Wales is often below long-run national costs. There was no investment because there was no way of getting a profitable return from building new investment in generation. It is swings and roundabouts. This is the problem. You do not want large capital intense assets trying to operate in markets where its returns are volatile because that discourages banks and investors from underwriting those investments. What we are seeing as a result of these conditions is that there is no investment in those types of assets. There is investment in either renewables projects because they have got sufficient confidence behind the renewable energy target or other very short, fast start investments. We are not seeing the like for like equivalent replacements that we need. We will need to replace Liddell, we will need to replace Hazelwood and then Yallourn. We all know that thermal generators are exiting and we still have nothing to provide, to replace those assets with something that does the same job obviously with lower emissions.

The Hon. ROBERT BORSAK: We are not giving the confidence to the likes of AGL in the policy settings to replace like for like, for example, with a high-efficiency, low-emissions [HELE] plant in New South Wales?

Mr WARREN: HELE is a low-emissions coal technology. It is expensive. Anyone is free to invest in any type of generation. Anyone can enter the market and anyone can build that plant if they can source the coal and get the capital. They can do it today.

The Hon. ADAM SEARLE: Mr Warren, it sounds like all paths are leading back to the Government having to build generators if the market will not come back to the party.

The Hon. ROBERT BORSAK: Exactly.

Mr WARREN: That is less than desirable. The market can solve this; it can build the capacity that is required. If we do move to the Government building generators, first, what will you build; and, secondly, once you do that, you have the effect of chilling the market. Then State revenues that were going to be used on other things that are more appropriate for State Governments such as roads, hospitals and schools are then diverted to build power stations that you quote out to the private sector—

The Hon. ROBERT BORSAK: It is generating cash flow.

Mr WARREN: That is a good outcome for the people of New South Wales, but I do not think it is necessary.

The Hon. ADAM SEARLE: Except the private market has not been investing. If that continues, we will run out of power.

Mr WARREN: The private market has been investing and it is not the New South Wales Government's fault for that. We have had six different attempts at national climate management policy in the past 10 years. We go around this process, and it is a source of frustration to all sides of Parliament. If you keep doing this, you end up in the place we are in now. We know we need new investment. Banks will not invest in large coal-fired or heavy emissions assets unless they can see there is a risk management for that carbon intensity over the life of the asset. We differ about the technology used but we know that there is nobody in our sector who is looking to build—

The Hon. ROBERT BORSAK: What you are saying is that the market is not working?

Mr SKINNER: No.

The Hon. ROBERT BORSAK: The market has no foresight. We all knew there was going to be a major closure in Victoria. That has been coming for how many years?

Mr JEREMY BUCKINGHAM: Forty.

The Hon. ROBERT BORSAK: Forty years, yet nobody did anything about it.

Mr SKINNER: The specific timing of the Hazelwood closure was a surprise, hence it has had an impact on 2017. It was not expected to occur at that particular time. It occurred with very little notice. Obviously it was expected to occur over some time in the coming decade from that time, but the actual moment of its closure was different. There is a rich history in Australia of the time when governments were involved in the industry more than it is now. It is a rich history of governments cherrypicking particular technologies and preferences, which did not actually match the economics because in the end they were not taking the risk for the capital investment that is involved. The fundamental reason that we have a market is that the actual investors who are making the investment and making the choice are wearing the risk of getting it wrong. Therefore, it should lead to the most efficient type of construction and build and the most innovative change for the industry over time. As Mr Warren says, it has been problematic because we have had an uncertain effect on the environment and it is very unfortunate that it is making it difficult.

Mr JEREMY BUCKINGHAM: It is not unfortunate.

Mr SKINNER: But it is unrelated to this fundamental design question.

Mr JEREMY BUCKINGHAM: It is not unfortunate. It is by design. Many of the entities that you represent have torn down the carbon price, arguing that the carbon price was a cost on business, was onerous and they were lobbying against the carbon tax. That has been torn down. That provided policy certainty. You represent Origin Energy, AGL. Did they never lobby against the carbon tax?

Mr WARREN: No.

Mr JEREMY BUCKINGHAM: Never ever?

Mr WARREN: We have never deviated from the need for some kind of emissions signal.

Mr JEREMY BUCKINGHAM: Yes, a market signal, but there were certainly significant voices in your sector arguing against the carbon tax. And now we have chaos and a market which is driven by a profit motive with a lot of vertically integrated gentailers. Companies such as Origin Energy, for example, which has moved to a massive export industry, have created a massive supply crisis in gas. They are then profiteering because the wholesale price of gas and electricity has gone through the roof. As you say, these gas spikes become more profitable for companies like Origin Energy. People are asking why we handed this over to the private sector and wondering who is benefiting from this. We have a private sector that is not investing because it is not going to make a buck out of it. That is the key thing.

Mr WARREN: I am reticent to speak on behalf of any specific company, but I am struggling to think of any companies that came out and opposed the carbon tax at any time. As an industry, and our members, when the Federal Government—

Mr JEREMY BUCKINGHAM: Grant King.

Mr WARREN: I am sorry, but when they recanted—

Mr SKINNER: It is not true.

Mr WARREN: It is not true. When they shifted and they moved to direct action, we held the line that we support a price on carbon. We have never deviated from that. Other business groups have to speak for themselves, but we have never deviated from supporting it, Mr Buckingham. The second point we make is the reason we cannot build new assets is because we cannot get them financed, and that is because of the uncertainty. If you backtrack to 2008, after the attempts to bring in the Carbon Pollution Reduction Scheme [CPRS], there was a big initial boom in low emissions generation that came from that, and those assets got stranded when they got built, because the carbon price that they had assumed to operate under which changed the maths on the returns on that investment was not in place anymore.

Origin took a big hit on a couple of assets it built because it built them assuming a carbon price was coming, and that was not there. That had the effect of causing the investment community to say, "We need to see considerably greater certainty about the lockdown of those policy measures before we would go back and invest again in this space." That is where we still sit today. That is solvable, and we have been begging governments of both colours to solve this for the past decade. We remain engaged in trying to get that outcome. But we have never deviated from that requirement because it is fundamental if you are going to operate in the electricity sector, especially as a large business where you have to manage both an increase in renewables and low emission portfolio and the security supply of large thermal generators, you need that price signal and that certainty to invest.

The Hon. BEN FRANKLIN: Thanks for appearing before us today. I want to talk first about the transition to digital metering. There is some substantial criticism levelled at your constituent members about their customer service and the speed with which they are responding to customers when they want to transition in this area. What are you doing to improve that and to support customers when they want to move to smart meters?

Mr WARREN: It is difficult for us at the industry association level. We do not tend to get into customer service complaints. That is handled by the individual retailers. We note, though, that we certainly support the rollout of digital meters and we think they are a crucial enabling technology. It is a competitive market for those services in New South Wales. But I can take that on notice because we do not really have visibility of that specific aspect of our member businesses.

The Hon. BEN FRANKLIN: Please do take it on notice. If you could reinforce what I suspect is the unanimity of this Committee in saying that, frankly, it has not been good enough and we need a greater focus from your members to ensure that people receive the service and the meters in a timely manner, an answer as to what actions they are actually performing to speed it up and do that would be great.

Mr WARREN: By way of information, there is a large group of companies providing that service in New South Wales, both our members and not our members, which is terrific.

The Hon. BEN FRANKLIN: I know.

Mr WARREN: We do coordinate the committee on that, so I will get back to those businesses amongst our membership and provide your feedback and also advice on what they are doing.

The Hon. BEN FRANKLIN: Thank you. I would like to move to the issue of people who are on low incomes and other vulnerable customers. What are you doing to support them and what are the most effective actions retailers can take? Do you have any thoughts about what else the Government can do in that area?

Mr WARREN: It is an important and ongoing issue. Virtually all retailers run accredited hardship programs. It is a separate issue to the conventional market, because for customers in hardship and facing financial difficulties the cost of energy is significantly greater in their share of spend than it is in other households. We are mindful of that. Hardship customers are likely to be self-nominating and then they are put into hardship programs run by the retailers. This has been a longstanding practice. It is not new. The trouble with that is it is necessary but not sufficient.

The challenges we face in hardship are that it is not just their energy costs that impose financial hardship on those consumers; it is a whole range of factors. What is the successful role of both government and business in that regard? In our businesses we will write off millions of dollars of unpaid bills in that sector, but that is not really solving anything in the stress it places on those households that are accumulating power bills that they cannot afford to pay. One thought we have had, but it is a much bigger solution, is about the relationship between government and industry in changing and improving the stock of public housing.

Ultimately, if you want a systemic change to this thing, you have to get the cost of living in public housing down. That means: How do we get them with more rooftop photovoltaics and with other technologies that they cannot access because they do not own those assets? How do we ensure that they are energy efficient—that they are using less energy and have access to the right sorts of appliances and devices? A lot of the time their consumption can be greater because they simply have less efficient and less reliable appliances. That is a structural change and that will take years to implement.

If we are serious about dealing with that important part of the customer base then it has to be a lot more systemic than simply having a discussion with the Prime Minister about making sure they are on discount offers. By definition, most retailers move hardship customers onto the best deal straightaway because there is no point in accumulating an expensive bill that they cannot afford to pay. It works in everyone's favour to get them paying the lowest rate they possibly can. That is all necessary but not sufficient. The role for government and industry working more collaboratively with the groups that represent those voices is to actually shift the way that they live so that they access the consumer transformation that we are seeing other households benefiting from.

The Hon. BEN FRANKLIN: Do you believe that your members would be open to working with government to help in, for example, social housing or assist with working out a way to support renters to have access to solar PV and so on? Would they be positive and committed partners?

Mr WARREN: They are actively trying to explore those markets themselves commercially anyway. When you are dealing with renters who have resources and who can pay power bills, that is probably the competitive market. For the costs incurred in hardship customers, any solution that we could find that makes that more manageable is an improvement.

The Hon. BEN FRANKLIN: My final question is on the National Energy Guarantee. What recommendations will you be making or have you made in order to ensure that it delivers its dual objectives and, as importantly, lower costs for customers?

Mr WARREN: We are actively working with and supporting the process to get an outcome. We think we can get there. There are two obligations. The easier obligation is the emissions obligation, in a sense, because it is relatively easy to apply and it operates as a secondary market behind the existing market arrangements. The more complex management of the NEG is behind the reliability obligation, because reliability takes a number of different forms, whether it is fast start, inertia or frequency services. That is where the hard thinking will come as to which of those services should be part of a market base funnelling into some kind of reliability obligation and how we ensure those services are provided adequately as we transform to different generation types at the lowest cost.

We do not want to impose undue regulation or cost on the operation of the system. We want it to work and customers want to see the transformation is working well. The market has managed the integration of renewables at very high levels in South Australia remarkably well. Of the six blackout events, four of them were directly weather related. I observed that there was a convergence of weather events and inexperience in managing that level of renewables because no-one else in the world has ever done it. We have had to learn by doing it in South Australia. For all that, we run a grid of the entire scale of Australia with half the generation

coming solar wind, so these systems are remarkably adaptable. I do think it is as big a challenge as people are making it out to be.

The Hon. TAYLOR MARTIN: Labor would like to assert that the market does not work.

The Hon. ADAM SEARLE: I object. What we have been saying is that it is not working.

The Hon. TAYLOR MARTIN: It is not working.

The Hon. ADAM SEARLE: I think everyone can agree with that.

The Hon. TAYLOR MARTIN: If the Government started to use taxpayer funds, perhaps on loss-making projects which we have seen in the past with desalination plants when politicians start making investment decisions, do you believe there is a risk of having a white elephant where losses are borne by taxpayers?

Mr WARREN: I am a South Australian and I was in Adelaide when the economic disaster hit that State. That was all good intentions. The State Government was using its ownership of the bank to try to drive investment in the State but it went horribly wrong. There are mature risks and the numbers are much bigger on this. If we see government stepping in, by definition that stalls the market. That has really been what we have seen for the past decade. In part, government interventions are as a result of the frustration of State governments. In many cases, there is a lack of clarity in investment so they have taken steps to develop policy and initiatives to try to bridge the gap, as it were.

Ultimately it is frustrating to criticise the market for not working when it has had that level of interference with it. We would simply observe the right investment signals will allow this market to invest. The returns will be there and we can respond to that. So preferably, on the retail side we will need a dramatically good market to track different consumer preferences. On the generation side, it frees up government funds for much more useful and appropriate investments. It is desirable to have the private sector fund this sector, if it is at all possible.

Mr SKINNER: I also would not say that white elephants are purely a government symptom. Of course, private industry does it as well. But, most importantly, when private industry does it, it does not get back its investment. It made the decisions and it will suffer the consequences of that. Hence the incentives seen in a market environment seem more appropriate and are less likely to lead to those decisions.

The Hon. TAYLOR MARTIN: Are we seeing a scenario where investors are seeing such a rapid change in technology that every year that they wait to invest better technology is becoming available, for instance, with wind generation? What kinds of technologies do you see replacing the existing base load, like Liddell?

Mr WARREN: Wind is interesting because wind and solar have both been significantly improving their efficiency over the past decade. But that did not stop investment in those areas. As long as at the time of investing the numbers stack up so there is a sufficient return for that investment to proceed. Then those investments go ahead. We have seen that through other sectors; it is not unique to this sector. There is a constant evolution of technology and prices. But providing assets can get away they tend to deliver those returns. If the private sector is wearing that risk the private sector wears that risk if those assets are not returning as well. We are not waiting to see what technology arrives. The investors behind that who will need to finance these projects are not waiting to see sufficient clarity around that. If you are building a gas generator, for argument's sake, it has a 20 year or 30 year life. There is sufficient clarity around that but what do the returns look like in the back end of that investment.

You could borrow for a coal-fired generator. You could probably borrow for five or 10 years if you needed to but that is a 50-year asset, so it is like buying a house and paying it off in three years. You asked what technology would replace Liddell. It will be a combination. To keep costs and emissions down we use as much renewables as we can—so wind and solar. Gas prices will never reach the level that they were in the 1990s, but we will support gas price technology. Entry costs have come down as well. Whether it is storage or chemical batteries, a combination of those technologies can replace Liddell. The mix of that will depend on the price of the technology and the price of the fuel source in the case of gas.

Mr SKINNER: I want to add something to help with the way in which you have worded your question. You described the removal of Liddell as the removal of base load. In much of the national discussions now they are trying to avoid that term and they are using the term "dispatchability" instead. A coal-fired generator provides both the capacity, which they are now calling dispatchability, and also energy at a relatively

low marginal cost. These very cheap renewable energies are providing large amounts of energy at very low marginal cost, but they are not providing the other side of it—which is the term "dispatchability". That does not imply that you have to replace it with something new; it implies that the best thing to replace an old coal-fired power station at this time is not another coal-fired power station. If we are getting all of this very cheap energy out of these renewables we get our energy from there and then we get that dispatchability—your firm capacity from something else that is better suited to doing that, even if its marginal cost may not be that low.

Mr Warren has mentioned gas-fired capacity. That has been around for many generations as an excellent way of providing very cheap and very flexible dispatchable capacity to back that up and to firm that up. We have also seen great innovation. The market is supporting people who are going into innovations within storage and also in distributed resources, particularly on the demand side.

The Hon. JOHN GRAHAM: I want to ask about one issue and get your perspective on it. I refer in particular to the view that has been put to the Committee about the visibility over the contract market. The view that has been put to the Committee is that it should be more visible and that is fundamental to competition. Do you have a perspective on that?

Mr SKINNER: It may be a reference to a small fairly technical change. The Australian Financial Markets Association [AFMA] has historically produced a survey every year of the number of turnovers of the electricity contracts market, which provided quite a rich source of information about the amount of contracts that were not traded on the Australian Stock Exchange—those that were traded bilaterally. It was quite a useful report that people used to refer to. Some decisions were made a couple of years ago where the AFMA chose to stop publishing that. We have heard the commentary. Both our own members and many key stakeholders have suggested that that is a very unfortunate loss of that resource. So there are moves underway that the council is very heavily promoting to get that reinstated to that type of grid. The final decision has not been made but there are certainly some positive signs on that front. We should hopefully solve that problem.

The Hon. JOHN GRAHAM: Are there any barriers to that happening that would be useful for us to be aware of?

Mr SKINNER: I will take that question on notice. Our expert on that matter is not here at the moment. We might be able to feed something back to you. There might be something useful. There is likely to be something in Federal financial law that will be relevant to that.

The Hon. ROBERT BORSAK: Would you characterise the deregulation of electricity prices in New South Wales since 2014 as a success for the consumers of New South Wales? In other words, are we getting the lowest cost of electricity that we can get in the circumstances?

Mr WARREN: I do not think deregulation has caused any of these price increases. The intent of deregulation is to enable consumers to have greater choice and to encourage innovation in retail markets. It is hard to innovate in markets. We have seen limited innovation and that needs to evolve. I do think deregulation has been a success. I do not think it is the cause of the current problems. I think we are desperately going to need a deregulated and competitive market. The future we are moving into is one where we no longer have the same absolute control over generation that we had in the twentieth century. We are therefore going to need a much more dynamic response for customers to different prices and signals on energy use. That will be alternated but we need to have them incentivised to do things that they do not mind doing, but we just want to get that reflected in their costs.

The CHAIR: You have 21 days to answer questions on notice. The secretariat will be glad to help you out to ensure you are able to comply.

(The witnesses withdrew)

(Luncheon adjournment)

PETER ADAMS, General Manager, Wholesale Markets, Australian Energy Regulator, affirmed and examined
IMOGEN HARTCHER-O'BRIEN, Director, Consumer Policy and Engagement, Australian Energy Regulator, affirmed and examined

WARWICK ANDERSON, General Manager, Network Finance and Reporting, Australian Energy Regulator, affirmed and examined

The ACTING CHAIR (The Hon. Robert Borsak): I welcome witnesses from the Australian Energy Regulator. Would you like to start by making a short opening statement?

Mr ADAMS: Yes, thank you. We thank you for the invitation for the AER to appear before the Committee today. In our opening statement we would like to inform the Committee of our role in the energy sector and the work program we have underway to ensure that the regulatory framework meets the opportunities and challenges of technology change and customer expectations in the energy market. Like the other institutions in the national framework, the AER is driven by the objectives of the national electricity law to strive for a secure, reliable and affordable energy future in the long-term interests of consumers. We released our strategic statement early this year to clearly reaffirm our role and strategic objectives.

Specifically, we regulate electricity networks and covered pipelines in jurisdictions except Western Australia. We set the amount of revenue that network businesses can recover from customers for using their networks. My colleague Mr Anderson will briefly talk about that in a minute. We also protect the interests of consumers by enforcing the retail law. Our retail energy market functions cover New South Wales, South Australia, Tasmania, Queensland and the Australian Capital Territory. My colleague Ms Hartcher-O'Brien will talk about that in a minute. We are the enforcement agency responsible for monitoring and enforcing the laws and rules for the National Electricity Market and the spot gas markets of southern and eastern Australia. I will conclude our introductory statement by talking more about that.

We understand that the energy markets are always evolving, and we want successful services to thrive and be able to be rewarded because they meet the needs of their consumers. In our view, the best way to deliver this is through competition and regulation, where necessary, to advance customers' long-term interests. As a Federal agency we are independent, open and accountable. We have a responsibility to ensure that the regulatory system is fit for purpose and that we engage actively with all our stakeholders. You will see in the material we have provided that our statement of intent has five strategic objectives: to drive effective competition where it is feasible; to provide effective regulation where competition is not feasible; to equip consumers to participate effectively and protect those who are unable to safeguard their own interests; to use our expertise to inform the debate about Australia's energy future and the long-term interests of consumers; and the regulatory landscape. We take a long-term perspective while also considering the impacts on consumers today.

Also included in the pack that we have provided is our latest "State of the energy market" report. This is the tenth edition of our report and it explains important market developments and the factors affecting our energy prices. The report uses non-technical language to consolidate material from a range of sources and highlights the key trends across the electricity and gas industry. I hope the material we have provided and the discussion we have today will give you an insight into who we are and what we do as the National Energy Regulator. I now ask my colleagues, initially Mr Anderson, to talk in detail about our specific roles.

Mr ANDERSON: I would like to give you a quick overview of the regulation work that we do around networks as shown in the "State of the energy market" report, which we have provided to you. This overview starts on page 94 of the report. Essentially our role is to set the maximum revenue that network businesses can recover from their customers. On page 95 there is a map showing the electricity networks we regulate. On pages 96 and 97 there is a table with the key characteristics of the electricity networks we regulate. Moving on to pages 98 and 99 we start to address the gas networks that we regulate. On page 103 there is a series of pie charts showing the composition of the revenues that the networks can recover from their customers. What you see in those pie charts is that cost of capital, or rate of return, is the primary driver of the revenues. These businesses are capital intensive businesses, and the rate of return has the greatest influence on the charges that they apply to customers. On pages 105 and 106 you can see the schedule of our reset determinations as we move through each of the networks that we regulate on a five-year cycle.

There are some charts on page 108 showing trends in electricity network revenues. Generally, what we have seen in the past few years is that the revenues that businesses can recover from their customers have been decreasing. On page 110 there is an interesting chart showing the trends in the rates of return that are included in

our regulatory determinations. You can see that there has been a significant reduction in the rates of return that we are allowing in our determinations, from a high of in the order of 10 per cent around the time of the global financial crisis to the present rate of return around 6 per cent. There is an interesting chart at the top of page 112 showing the capital expenditure going into these network businesses. The blue line is augmentation expenditure, which is expenditure to increase the capacity of the networks to deal with demand. That has fallen off significantly, and we have seen a slight increase in replacement capital, which is replacing older equipment. That is shown in the orange line. I will finish on page 114. These two charts show the trends in productivity for the network sector. Generally, over the past decade there has been a slight downward trend in productivity for the networks. That is reflected by the large amounts of revenue that have been going into these businesses, in particular capital. If I get questions, I will be happy to explain that further. With that I hand over to Ms Hartcher-O'Brien.

Ms HARTCHER-O'BRIEN: I echo my colleagues in thanking the Committee for the opportunity to appear today. As Mr Adams noted, our strategic statement places consumers at the centre of our work, and our retail functions reflect that focus. Energy and the energy supply chain can be complex, but most people can relate to our retail functions. We will all receive electricity bills and many of us will look at them at some point and ask whether we can get a better deal and whether we should switch retailers. I will briefly outline how the retail market works and provide an overview of our retail market functions and then highlight some of the key priority work that we have underway in the coming year.

Retailers typically buy electricity in wholesale markets. They then package the electricity they buy with the network services that my colleague Mr Anderson referred to sell to customers. Electricity charges can be flat or vary according to the time of use or the season, but they generally insulate customers from wholesale price fluctuations. Until recently, many of the retail offers available in the market were flat-rate charges. However, the market is changing; it is becoming more complex and the range of offers is also changing. Time-of-use tariffs, which as I said reflect the time of use, are becoming more prevalent.

Many New South Wales customers are moving to smart meters, and that will continue as a trend. As it continues, we will see them looking at options like time-of-use tariffs and other demand-reflective tariffs. There are other options, such as fixed-price contracts, where a customer pays a fixed amount regardless of how much electricity is consumed. We are also seeing offers where customers are rewarded for reducing their electricity usage during times of high demand. Retailers may offer direct load control where they can remotely adjust the customer's electricity use. Australia also has the highest penetration rate for solar PV at around 17 per cent of households.

In market regulation, the Australian Energy Regulator [AER] administers the national energy retail law and rules, which provide energy-specific consumer protections to customers alongside the Australian consumer law protections. Small customers include residential customers, but also small businesses that use less than 100 megawatt hours of electricity a year. While small customers make up about 90 per cent of electricity connections, they account for less than 50 per cent of volume sold. There has been a great deal of focus recently on the costs that make up a customer's bill. The average retail customer bill can be broken down into three components: the networks costs, which are around 40 per cent to 55 per cent; wholesale and retail costs, which are also about 40 per cent to 55 per cent; and the cost of green schemes for renewable generation and energy efficiency, which make up the remaining 5 per cent to 15 per cent.

The AER regulates markets to enable customers to participate confidently. We empower them to make informed decisions about their electricity use and we protect them when problems arise. However, we do not have a retail price setting or monitoring role. Our role does include monitoring and enforcing compliance with the retail law and rules. We also oversee market entry and exit by authorising businesses that want to become retailers. We administer a national retailer of last resort scheme to protect customers and the market if a retailer fails. We monitor and report on the performance of the retail market, and we will be releasing our 2016-17 annual report next week. We approve customer hardship policies for programs that retailers offer to customers who are facing financial hardship and payment difficulties.

We also run the energy price comparator website, Energy Made Easy. The show bags we have provided to members reflect that name. We know it is not necessarily easy, but that is the name of the website. Our aim is to increase consumer confidence in engaging in the retail market. Energy Made Easy, which helps customers to compare energy plans, is a key part of that. We are considering more improvements to the site to reach a wider audience and to help consumers use it more effectively to get the best deal possible.

Our focus in the coming year is on a number of key projects aimed at making it easier for customers to engage in the market and to do so with confidence. We recognise that energy is complex. We are currently

consulting on how pricing information can be presented to customers to make it as simple and easy to understand as possible. As part of this, we are reviewing the retail pricing information guidelines, which will help customers more easily compare offers by standardising how retailers present their offer information. To inform our work, we released an issues paper in September. It focused on four key areas: how we simplify fact sheets; a comparator rate; technology such as the QR code; and how we can best assist those customers who are not digitally engaged.

Hardship assistance and vulnerable customers continue to be a priority focus. We are currently conducting a review of retailers' hardship policies and expect to complete that review this month. The findings will be used to inform consultation with retailers on better practices across industry and, where possible, to drive improvements in specific retailers' policies should they be lacking in particular areas. Finally, we are working to extend access to the Energy and Water Ombudsman's services for small customers and exempt sellers. These customers can be some of the most vulnerable in the market, such as long-term stay customers in caravan parks and also people in retirement villages. We are working closely with the Energy and Water Ombudsman of New South Wales to expand its jurisdiction. It can already hear disputes, but we want it to be able to make binding decisions for its members.

Mr ADAMS: I will briefly cover the wholesale side of the National Electricity Market [NEM]. We have more than 300 generators selling electricity into the NEM, which powers the lights of almost 10 million residential and business customers. As the State's Chief Scientist said earlier, the wholesale electricity market is complex. Chapter 1 of the State of the energy market report, May 2017 is dedicated to explaining and providing a good overview of how that wholesale market works, including chains of technology, discussions on entry and exit and who is coming into the marketplace, price trends, and market drivers. Chapter 2 provides similar information to the closely related gas industry. Our role at the wholesale end of the industry is to monitor the markets and to ensure that participants, including the market operator, comply with the underlying legislation and rules. We are able to take enforcement action when necessary.

We also monitor for irregularities and market inefficiencies, and we publish quarterly compliance reports and weekly reports on activities across all markets. We prepare detailed reports on extreme price events. Three in regard to New South Wales were published earlier this year and they might be of interest to the Committee. In December last year, we were given a new role to monitor and to report on wholesale market performance. This involves analysis of where the market is effectively competitive and whether any features detrimentally affect efficient market functions. Monitoring plays an important role in a market like Australia's, and supporting efficient operation of the wholesale market is extremely important. It allows early detection and analysis of issues impacting on efficiency and compliance concerns.

The AER will be able to monitor the progress of competition and recommend reforms where competition may be lagging. We have been consulting on this new function and our approach to the new role. We released a discussion paper earlier this year and held a public forum last month. We will be reporting on the results of the monitoring at least every two years. Our first report is formally due under the legislation in December next year. Following recent shifts in spot pricing in this jurisdiction, we were tasked in September by Minister Frydenberg to monitor the New South Wales market for features or generator behaviour that may be detrimental to effective competition. We will provide our advice to the COAG Energy Council later this month. Towards the end of last year we were tasked to provide advice to the COAG Energy Council on factors affecting efficiency within 12 months of the closure of the Hazelwood power station in Victoria. Our advice on that request is due in March next year. That concludes our introductory statements. We are happy to answer any questions members might have.

The Hon. ADAM SEARLE: Thank you for appearing before the Committee today. I would like to talk about the 2014-19 regulatory determination. The gap between your final determination and the submission of the different New South Wales distribution companies was about \$6 billion in the revenue stream. For Ausgrid, I think it was \$3.2 billion; for Endeavour Energy it was more than \$1.25 billion; and for Essential Energy it was \$1.7 billion. They did not like the decision and challenged it in the Australian Competition Tribunal, which overturned it, and depending on how things were remade they stood to gain additional revenues representing that gap. Is that a fair assessment?

Mr ADAMS: That is correct.

The Hon. ADAM SEARLE: What has happened with the network charges given that that was on hold, that your determination was overturned and that the matter went to the Federal Court and it has now been remitted to the AER? What have the networks been charging and on what basis?

Mr ANDERSON: Sure. Would it be okay if I handed up a chart?

The Hon. ADAM SEARLE: Yes, please.

Mr ANDERSON: The chart is the revenue that the New South Wales businesses have been collecting from customers going back to 2006. Is it okay if I take a little bit of time to explain the history?

The ACTING CHAIR: What is the left-hand scale?

Mr ANDERSON: The left-hand access is dollars.

The ACTING CHAIR: Billion?

Mr ANDERSON: It is million; so it is \$4,000 million. What has happened is that in the summer of 2003-04 there was a series of storms that went through south-east Queensland and there were blackouts resulting from those storms. The Queensland Government undertook an inquiry, the Somerville inquiry, to look at the reasons behind those blackouts. In response to that inquiry the Queensland Government increased its reliability standards for its networks. Shortly after that the New South Wales Government followed and also increased its reliability standards and in 2006 a cost pass through application was made to the Independent Pricing and Regulatory Tribunal [IPART] and that cost pass-through was approved by IPART, which resulted in higher operating and capital expenditure for the networks.

Then around 2009 we had the global financial crisis [GFC] starting to bite and so the costs of capital increased substantially around that time, and we also made our first determination for the New South Wales electricity distribution businesses. Those reliability standards were continuing to bite and there were large increases in operating expenditure and capital. In our most recent determination in 2014 we saw that some of those drivers had eased. The New South Wales Government had relaxed its reliability standards somewhat. The situation in the financial markets was easing and the cost of capital was coming down. Also there had been reductions in peak demand so the stresses on the networks were also declining. So with all of those factors, in our view, we determined that the networks needed less revenue than they had put in their proposal to us—and you are right, Mr Searle, the amount in dispute was around about \$6 billion for the New South Wales businesses. That was made up of three major elements. The first was around the return on equity and that was the largest component, which was worth about \$3 billion. We were successful on that element in the tribunal and our decision was upheld. Then there were two other elements—return on debt and operating expenditure and there was also—

The Hon. ADAM SEARLE: Cost of capital?

Mr ANDERSON: Yes, and there was a further element on the value of invitation credits.

The Hon. ADAM SEARLE: I do not want to cut you off but our time is limited.

Mr ANDERSON: Sure.

The Hon. ADAM SEARLE: I wanted to focus on a couple of things. Given that you made a determination and that was set aside, on what basis have the network companies charged their customers? Are they interim agreements you have reached with them about consumer price index [CPI] increases?

Mr ANDERSON: They are. There was no clear guidance in the rules about what happens in this environment. The businesses offered us enforceable undertakings which would set their revenue path for the next year or two. Essentially those revenue paths were the adoption of our decision trended forward on CPI.

The Hon. ADAM SEARLE: And that is why from 2015 onwards there have been increases in the network costs?

Mr ANDERSON: Yes. So from 2016 onwards, that was where our decision was applied and then you have the first of those CPI changes coming through, yes.

The Hon. ADAM SEARLE: So the amount of the dispute is about \$6 billion? I think we have established that.

Mr ANDERSON: Yes.

The Hon. ADAM SEARLE: And it is now back to you to remake the determination?

Mr ANDERSON: Correct.

The Hon. ADAM SEARLE: After you lost in the Competition Tribunal you took judicial review proceedings in the Federal Court?

Mr ANDERSON: Yes.

The Hon. ADAM SEARLE: The basis upon which the three distribution companies under the banner of Networks NSW essentially proceeded was that they said a number of things. I think they said they needed the extra revenue to ensure reliability?

Mr ANDERSON: Yes.

The Hon. ADAM SEARLE: I think Essential Energy in particular had three reasons: They wanted to preserve employment, make sure there were no bushfire risks and make sure the integrity of the network assets were maintained. They said they could not do that with the revenue envelope you had given them, that is correct, is it not?

Mr ANDERSON: That is probably right, yes.

The Hon. ADAM SEARLE: In May of this year that dispute between you and the network companies was still in the Federal Court, was it not?

Mr ANDERSON: I am not quite sure of the date of the Federal Court decision, but yes.

The Hon. ADAM SEARLE: I will come back to that. I have obtained under freedom of information laws an internal briefing note from Essential Energy, which I provided to you earlier this week?

Mr ANDERSON: Yes.

The Hon. ADAM SEARLE: On the second page it essentially says that if the Federal Court directed you to remake your revenue determination there would be minimal impact for Essential Energy because it had already cut their costs to live within the means of the original determination. That is correct, is it not? Is that essentially what the memo says?

Mr ANDERSON: Sorry?

The Hon. ADAM SEARLE: On the second page under Potential Impacts, in the first paragraph it states:

If the Federal Court directs the AER to re-make its revenue ... is expected to take more than 12 months ...

In the event of the Federal Court directing that the ACT [that is the competition tribunal] made legal errors ... the program of reform already implemented by Essential Energy has delivered sufficient adjustments to enable the business to operate within ... the allowances of that determination.

Mr ANDERSON: Yes.

The Hon. ADAM SEARLE: It sounds like, notwithstanding what it said to the competition tribunal and indeed to the Federal Court, nevertheless it was able to live within the means you had set them. Is that correct? Is that what it says?

Mr ANDERSON: That is what this briefing note appears to say.

The Hon. ADAM SEARLE: Did it tell you that in May?

Mr ANDERSON: I do not believe it did, no.

The Hon. ADAM SEARLE: I got hold of this document. It was given to me in September and made publicly available in October. Where are things up to between you and Essential Energy with remaking your determination? Has it revisited its approach to the revenue?

Mr ANDERSON: In the undertaking that we received from Essential Energy the undertaking adopts the original decision that we have made. The revenue that Essential Energy is currently collecting from its customers is in line with our decision and does not include any uplift as a result of the tribunal or Federal Court process at this point. We are now in the process of remaking each of the decisions and a couple of weeks ago we released this issues paper.

The Hon. ADAM SEARLE: Are we talking about page 5?

Mr ANDERSON: Page 5, yes. This is where we are up to with Essential Energy. Essential Energy has told us that in respect of the remade decision they are proposing to adopt most of the key parameters in our 2014-19 determination, including Opex and cost of debt.

The Hon. ADAM SEARLE: When did it tell you that?

Mr ANDERSON: I do not have the date when it told us that.

The Hon. ADAM SEARLE: It seems quite extraordinary. It cannot live within the means you have set it in terms of the revenue envelope. It engages in lengthy legal processes to overturn your decision, presumably so it can get more revenue from their customers than you wanted to allow it. It turns out none of the basis of its appeal is correct because it can actually live within its means and did not tell you it was able to make those adjustments. What do you as the regulator make of that behaviour by Essential Energy? It seems pretty poor to me.

Mr ANDERSON: Our decisions are complex. There are a range of factors that go into here. We are looking into the future to try to work out how much the businesses need to operate in order to provide a safe, reliable service for their customers and reasonable people can differ on that. There are also some timing issues here. We made our decision in 2014. Essential Energy would have formed a view at that time around what their needs were, and over the passage of time perhaps it is the case that their views have changed.

The Hon. ADAM SEARLE: Perhaps, but they did not tell you, even though the matter was still before the Federal Court. They were engaged in litigation against you in the Federal Court of Australia about these issues and they did not tell you, and I assume they did not tell the court. Did they?

Mr ANDERSON: I am not aware that they told the court this.

The Hon. ADAM SEARLE: So, as the regulator of this system, what do you make of—and I am happy for you to take it on notice if you do not have an answer—this lack of openness and transparency from Essential Energy? It strikes me as quite extraordinary. They are disputing your decision, they say they cannot live with it, it is going to cause bushfires, it is going to impair the integrity of the network assets, and then suddenly they can live with it, they do not need the extra \$2 billion of revenue from their customers they were after, but they do not tell anybody until I get hold of the document and it becomes public knowledge. It does not seem to be a very satisfactory way in which to operate a regulatory system. I am not criticising you, I am criticising Essential Energy. Do you, as the regulator, have a view about that kind of behaviour or that lack of transparency about this change in position?

Mr ANDERSON: We have had your letter now for this week and we have sent you back a reply to say that as part of our remittal process we will look through all of the relevant material, including this document, and we will take that into account in making our revised decision.

The Hon. ADAM SEARLE: Moving from that topic back to your original determination, I think households were going to save about \$300 on average, depending on which distribution company area they lived in, and I think small businesses were going to save on average about \$528, again depending on which distribution company. Now you are in the process of remaking the determination, do you have any indicative sense of the impact that your remade determination is going to have on the average household and the average small business here in New South Wales compared to where things are at now?

Mr ANDERSON: I think it is a bit too early to make that call and, in respect of Ausgrid and Endeavour, they are still working through their positions, and that is part of the reason we put out this issues paper: so that we could gather more information and hear from Ausgrid and Endeavour about where they were proposing to take their proposal for the remade decision. But in terms of Essential, given that they have told us that they are proposing to adopt the key parameters from our decision, it would be our expectation that the remade decision will look quite similar to our original decision.

The Hon. ADAM SEARLE: It is hardly worth the bother for them then, is it? In relation to Ausgrid and Endeavour, although I do not have a counterpart document, given the behaviour of Essential in this approach of, shall we say, an evolving view about what they need to run their business, are you going to inquire with Ausgrid and Endeavour about whether they have also had a similar evolution in their approach?

Mr ANDERSON: We have had your letter now only a few days and we are still working through it. I would be happy to take that question on notice, if you would like.

The Hon. ADAM SEARLE: I would like you to do that. What is your time frame for completing those determinations?

Mr ANDERSON: We do not have a firm timetable; we have set out an indicative timetable in our issues paper, which is—

The Hon. ADAM SEARLE: End of 2018?

Mr ANDERSON: End of 2018, yes.

The Hon. ADAM SEARLE: So by the end of 2018 you will have completed—again, I am not critical of you—the 2015-19 determination period?

Mr ANDERSON: Yes.

The Hon. ADAM SEARLE: The gap between 2018 and 2019 is quite narrow. Then presumably from 2019 you will start making the 2024 determination.

Mr ANDERSON: The businesses are due to lodge their proposals with us in January 2018. Essential has already come in to us and asked us for an extension of time until April. The reason they are doing that is they want to take the time to consult with their customers in the preparation of their proposal and also to address the issues arising from the remittal decision.

The Hon. ADAM SEARLE: Leaving Essential Energy to one side because, I think from what you have said, essentially their revenue envelope should look very much like your original determination, so they will not be saving \$1.7 billion from their customers. In relation to the other two companies, depending again on what happens with your redetermination and their new proposals, customers of those two distribution networks could be facing the potential of overlapping determinations operating together and that could lead to quite a bit of bill shock on top of what people have already been experiencing, potentially. What are we able to do to guard against that?

Mr ANDERSON: There are a few issues there. The first is that not all of that \$6 billion revenue is in play, so we were successful on equity, which takes about half of it out. In the full Federal Court decision we were successful on the value of imputation credits, which takes out another \$300 million or \$400 million. So really the two areas in dispute are around the operating expenditure and cost of debt. For cost of debt we have had two recent tribunal decisions which have upheld our current position. So we need to work through all of those court determinations to figure where debt will settle.

The Hon. ADAM SEARLE: By cost of debt you mean the cost to the business of borrowing the money for their capital investment and other needs?

Mr ANDERSON: Correct. Also, in terms of bill shock, the businesses have put forward a rule change to the Australian Energy Market Commission, which has been accepted, which allows for revenues to be smoothed over the upcoming regulatory control period. So in remaking our decision, if it is the case that the businesses are ultimately successful in having an uplift in the revenue that is allowed to them, that uplift can then be smoothed over the next five-year period.

The Hon. ADAM SEARLE: Instead of it all having to be paid in 12 months?

Mr ANDERSON: Correct.

Mr JEREMY BUCKINGHAM: The east coast gas network, which you regulate, is a disaster, in my opinion; there is no transparency in terms of the producers, in terms of the supply side. How can we have an effective regulated market and regulate prices when, according to your own reports, there is almost no information, clearer information, about supply and also an incredibly opaque wholesale gas price market? How can we have a regulated fair market when that is the situation, and what can we do about it?

Mr ADAMS: Thanks for the question. I agree that markets are premised on the basis that information is available to all to be able to make commercial decisions. I agree that there is still enormous scope to improve the quality of information in the gas markets. The ACCC's first review and current review have also reinforced that. There are steps in place to improve the quality of information, with changes to the framework over the next year or so. We have constantly used our instruments to try and improve the transparency. But in terms of principle, markets cannot really work effectively unless there is complete transparency. I totally agree.

Mr JEREMY BUCKINGHAM: The AEMC proposed immediate action to improve market and price transparency in regards to gas, falling out of those reviews of the ACCC. The reforms include harmonising the gas day start time for spot markets across the east coast, to take effect in April 2021, and enhancing pipeline capacity trading information on the Gas Bulletin Board. That is in the context of various different trading

markets across the east coast, the ACCC saying that, effectively, price gouging is going on by some of the transmission networks. Why are these reforms set off in the never-never in 2021?

Mr ADAMS: We have come from a place where the various instruments to manage gas trading have different starting points. For example, the Victorian jurisdiction has had gas markets since the late 1990s. These other reforms have occurred in other jurisdictions at various stages over the past few years. It is only in relatively recent times, when you compare it to electricity, that we have had a national framework for gas. All of these processes have driven various reforms, various initiatives by governments and various reviews such as Mike Vertigan's review, for example, and the harmonisation of that. I think the objective is clear: To have a harmonised market across the country with access to quality information is imperative. But those transitions take time. I am not the custodian of the time frame but each of those areas is moving in the long run towards a national gas market that would much more closely reflect, for example, the electricity market.

Mr JEREMY BUCKINGHAM: Is it not a matter of urgency? We have businesses going to the wall and individuals suffering. In New South Wales the Government is effectively subsidising electricity for 900,000 homes. Gas is a major factor in all of that. Is the market not completely broken if the net back price for LNG means that gas that was to go to export is now being sold back to the Australian market? We are importing gas to make up for gas that we are exporting. Is the market not totally broken? Has there not been a monumental failure since we have handed the gas market over to the private sector which is only interested in profiteering?

Mr ADAMS: The Australian Energy Regulator has a particular role when it comes to gas. Our role is to ensure that the provisions of the rules that are currently in place are enforced, and that is certainly what we do. The reform of the gas industry is being driven by a number of different things. As you would be fully aware, the ACCC has completed one review and is moving through its second review. The Gas Market Reform Group is looking at harmonising various elements. All those reforms are currently in progress.

Mr JEREMY BUCKINGHAM: Does the national gas law give you power to prosecute people for breaching that law? Do you initiate prosecutions?

Mr ADAMS: If there are provisions under the law and we can determine that someone has not followed that rule or law, we have the power to institute proceedings, that is correct.

Mr JEREMY BUCKINGHAM: Where do you institute those proceedings?

Mr ADAMS: If we were to pursue a matter we would generally go to the Federal Court.

Mr JEREMY BUCKINGHAM: Have you done that?

Mr ADAMS: No, we have not.

Mr JEREMY BUCKINGHAM: You have never done that?

Mr ADAMS: We have never pursued a matter through the Federal Court with respect to gas, no. That is not to say we have not taken enforcement action in gas. There are a variety of mechanisms available to us, including from the lower end of the scale—issuing an on-the-spot fine, so to speak, an administrative undertaking, an enforceable undertaking right through the spectrum of enforcement action to the Federal Court.

Mr JEREMY BUCKINGHAM: What is some of the more serious action that you have taken?

Mr ADAMS: The role of the gas markets that have been formed, as you have indicated, is to increase transparency. That places obligations on the various players of the gas industry to provide information to the markets, to provide information to the market operator, to ensure that as these emerging markets evolve people can have confidence that the information out there is accurate, timely and a true reflection of what participants are expecting to do. Most of the provisions of the gas law that we have pursued have related to the quality of information that goes into those marketplaces.

Mr JEREMY BUCKINGHAM: Effectively it is not working, is it? There needs to be either a change in those laws or more enforcement. Your report says:

Public information about wholesale gas prices is opaque. A lot of pricing information is private and particular ...

Getting information out of wholesale producers is basically impossible.

Mr ADAMS: As I suggested, those reforms are currently underway to improve the quality of that information and a series of work is currently being done to try to improve the quality of that information.

The Hon. ROBERT BORSAK: In what way does the reporting coming from the national gas supply market differ from that coming from the electricity supply market? Obviously because it is connected to the poles and wires it is truly a national market, at least on the eastern side of Australia.

Mr ADAMS: The reforms in the electricity sector began a number of years ago and have evolved. We are coming up to our twentieth year. In the gas industry, those reforms have lagged behind. There is probably about a 10-year lag. It is fair to say that the amount of information that is available in the gas industry compared to the electricity industry is much less. Market designs are much more sophisticated and more advanced. Energy systems have been put in place in electricity that have not been developed, at this stage at least, to the same level of complexity or capability. There is quite a big gap between what is available in the electricity space and what is available in the gas space. Having said that, even in the electricity space there are areas of information where we as the monitor would believe there should be greater transparency.

The CHAIR: In what way?

Mr ADAMS: In electricity?

The CHAIR: In the area that you mentioned you said there should be more transparency. In what way?

Mr ADAMS: I was referring to the electricity markets. In the electricity markets, the information that is out there based on what is happening in the real-time market is enormous. There is certainly a significant amount of information. Those with an interest and those that are managing risk can use that information to develop that. What is relatively opaque—in the electricity market at least—is the amount of information that is out there in the underlying contract markets. From our perspective, if we are to form a view on whether these arrangements are effectively competitive, we would suggest that a better handle on those contract arrangements would allow us to do a much clearer job. I was referencing the electricity market when I said that.

The Hon. ROBERT BORSAK: In regulating competition in these markets where do you cross over with the ACCC?

Mr ADAMS: I am assuming you mean economic regulation?

The Hon. ROBERT BORSAK: Yes.

Mr ADAMS: The economic regulation part of the gas industry is handled by my colleague Mr Anderson because they are monopoly pipelines that are regulated. If you are referring to that economic regulation, that is the role of the AER and our colleagues in our network branch manage that. That goes back to providing enough revenue to those covered pipelines to recover their costs. At a general level, if you are talking about regulation, the ACCC is responsible for the Australian Consumer Law. They have a series of provisions. They have powers to investigate and review, hence the review they are currently running into the gas industry.

The review they ran a couple of years ago was the first of those reviews. They have the power to review and make recommendations to government and enforce the consumer law—things like abuse of market power, mergers and acquisitions—those sorts of areas that sit under the consumer law. The AER's role sits within the national gas laws and national gas rules. If there are provisions that have been developed to run these various gas markets around the country that place obligations on players within the gas industry it is our role to ensure that those provisions are satisfied.

The Hon. ROBERT BORSAK: Where does the rubber hit the road between the two responsibilities? It all sounds inordinately complex to me. I am sure you are doing a great job in regulating what I would call the mechanics of the industries and the ACCC is trying to do its job from a consumer point of view. Is there not a gap between the two? Hypothetically, would it not be better for you to take over control of the consumer-based regulation and more efficiently bring that in line with the findings you have from the wholesale marketplace that you are regulating?

Mr ADAMS: When the reforms in the energy sector occurred there were a series of laws and rules that were established to operate, monitor and ensure that the markets operate correctly. As part of that process there was a governance structure that was established that included various institutions, including the Australian Energy Regulator [AER]. Our role is to enforce the operational rules of how the gas industry works. That is our mandate and that is what we do. In terms of the regulation or economic regulation of various elements of the gas and electricity industries, our colleagues in the networks branch of the AER allocate those revenues accordingly. In terms of the customer interface of those industries, our colleagues in the retail branch enforce a series of rules related to customer protection. I am not trying to speak on behalf of the Australian Competition and Consumer

Commission but the ACCC's mandate is to ensure that Australia's competition laws are enforced. That covers all industries across the economy. Our role is specifically related to energy.

The Hon. ROBERT BORSAK: Do they sit in judgement of your regulation?

Mr ADAMS: No, that is not the case. Decisions that are made by the Australian Energy Regulator with respect to the law and the rules of both electricity and gas laws are decisions for the AER board, not the ACCC.

The Hon. ADAM SEARLE: In your original determination of Essential Energy you determined households savings of approximately \$313 annually and small businesses savings of approximately \$528. Are they the cost savings that you now envisage in your remade determination for Essential Energy customers?

Mr ANDERSON: Because of the undertaking that we accepted from Essential Energy when it adopted our original decision, my expectation would be that those cost savings have already passed through to customers.

The Hon. ADAM SEARLE: They are not on customers' bills—someone has trousered the money again. I am happy for you to take this question on notice, but can you tell us when Essential Energy told you it was going to accept the terms of the original determination?

Ms HARTCHER-O'BRIEN: I will have to take that on notice.

The Hon. ADAM SEARLE: As of May 2017 it had not done so, so I would like to know what day or month it did approach you.

Mr ANDERSON: Sure.

The Hon. ADAM SEARLE: Are you confident that those savings should have already been passed through to Essential Energy customers, in terms of network price reductions?

Mr ANDERSON: We set a revenue target and then Essential Energy sets its tariffs in order to target that level of revenue. My understanding is when tariffs are set there can be differences depending on movements in demand from time to time. My understanding is that Essential Energy may have slightly over recovered against our original determination.

The Hon. ADAM SEARLE: Rather than you guessing, can you take that on notice and then come back to us?

The Hon. JOHN GRAHAM: I would like to ask about customers and the Energy Made Easy website. From a customer's point of view, it is not easy to navigate your way through this system. Is it not the case that some of that confusion is deliberate by the companies in order to make profits?

Ms HARTCHER-O'BRIEN: You are right, energy is a really complex area. We recognise the pricing and offer information can be really confusing.

The Hon. JOHN GRAHAM: But it is deliberately complex some of the time, is it not? This is just confusing customers.

Ms HARTCHER-O'BRIEN: There are a range of ways in which retailers can set out the information about their offers. They are required to follow a set of guidelines that the AER administers in relation to the display and setting out of that information on energymadeeasy.gov.au. In terms of the ability of customers to navigate that information, we recognise that it is complex and we are doing work at the moment to bring greater clarity to the information that is available to customers.

The Hon. JOHN GRAHAM: One of the issues that you have talked about is a comparator rate. Do we not have to go down something like that path? You can turn up in the supermarket and can easily compare product prices. That is not the case in the energy market.

Ms HARTCHER-O'BRIEN: As I said earlier, we published an issues paper in September and one of the questions that we asked for comment on was a comparator rate. For the most part, the submissions on our website strongly support a rate of some kind, such as a comparator rate. Submitters said it would be helpful in providing clarity to customers to understand offer information.

The Hon. JOHN GRAHAM: It should be a lot easier to do than it is in the supermarket, where there are a lot of different products. Electricity is one basic product that people need but it is deliberately confusing.

Ms HARTCHER-O'BRIEN: I do not think it is deliberately confusing—

The Hon. JOHN GRAHAM: That is certainly how it feels.

Ms HARTCHER-O'BRIEN: I completely understand. As an energy nerd, I am coming at it from a somewhat different position. In terms of how pricing is conveyed to customers, my colleague Mr Anderson can tell you how the tariffs are derived at the business end and then retailers are able to set particular tariffs to pass on pricing to customers. Some of those tariffs are becoming more complex, but we are working to make sure that customers have relevant, accurate information about the offers in a way that is not too complex for them to navigate.

The CHAIR: It is pretty unfair for the consumer to buy something like power without having the true cost per unit. Even if you go into Woolworths products have the unit cost. We are buying blindly without knowing the cost per unit of electricity. I went to that website and the comparable quote I got is three times more than my current bill—\$3,000.

Ms HARTCHER-O'BRIEN: The website tries to provide an estimate based on benchmark data of average usage. It draws on the tariffs that the retailer provides for that offer. The tariff data, which is what you pay as a usage rate per day, is available on a fact sheet that comes up in the results section of the website. That information is available to customers. The results page attempts to make is visually easier to navigate.

The Hon. JOHN GRAHAM: It still does not sound easy, even when you say it like that.

The CHAIR: We are not energy nerds; we are just trying to switch on our lights and cook our food.

The Hon. ROBERT BORSAK: I want to switch the lights off.

The CHAIR: Sadly, some of our elderly are having to, to try to get by.

Ms HARTCHER-O'BRIEN: As I mentioned, we are aware that affordability is a real issue. We recognise, as the ACCC found in its preliminary report, that there is no silver bullet.

The CHAIR: There is. A fair transparent way of assessing an electricity bill would go a long way in the cost of that.

The Hon. BEN FRANKLIN: Do not misunderstand—everybody thinks it is great to have a website that has a lot of resources and information for people. I strongly agree with John Graham in that comparator rates would be fantastic. It sounds to me like you are open to that and are looking at that?

Ms HARTCHER-O'BRIEN: Absolutely.

The Hon. BEN FRANKLIN: It would be the unanimous view of this Committee that while this website is excellent, it would be terrific for it to be made as easy and as transparent as possible for people to be able to compare the different providers and programs. What are you doing in terms of the promotion of this website, which is a good thing? I note that you are looking at doing more.

Ms HARTCHER-O'BRIEN: Recently we ran a Facebook and Twitter campaign. We had more than 12,000 engagements with that campaign, which ran for about a month. We have also been essaying Google advertisement words as a way of promoting the site and we are looking at ways that we engage with customers. We have done a number of events recently. We went to the EWON Anti-Poverty Week in Wagga Wagga earlier this week, and we were in Penrith a month or so ago working with customers face to face.

The CHAIR: What did you call it? E-poverty or energy poverty, which is not a bad name for it.

Ms HARTCHER-O'BRIEN: EWON, the Energy and Water Ombudsman NSW.

The CHAIR: There is energy poverty, which is what we are talking about—the elderly and the vulnerable being exposed to those prices and not having a clear undertaking of exactly what they are getting for their dollar.

Ms HARTCHER-O'BRIEN: As I said earlier, we are undertaking a review of retailers' hardship policies. Those policies are there to support customers who are—

The CHAIR: With all due respect, having been a provider of water services, do we really want to humble people to such a degree that they have to come crawling and begging simply because they do not have a clear understanding of what their expenditure is when they could take some actions to reduce their spending and put the savings where their priorities are?

Ms HARTCHER-O'BRIEN: One thing the AER has done—and last year and this year we have worked with retailers on it—is put forward a best practice guideline to retailers as to how they engage with

customers in hardship. It focused on, as you say, not humbling customers having to apply for hardship. However, we recognise that access to hardship programs can be difficult. Sometimes customers are not necessarily being picked up. I can say that we issued a media release this morning that when retailers fail to properly protect customers who should be on hardship, we take action against them. We issued two infringement notices and they were paid this morning.

The CHAIR: Can you indicate to the Committee how many of those infringements you have allocated in the past 12 months compared to the past three years?

Mr ANDERSON: Relating to hardship, I will have to take that on notice.

The CHAIR: Yes, take it on notice. It will be interesting to see what you put forward now compared to three years ago.

The Hon. BEN FRANKLIN: Can I follow up on the hardship issue?

The CHAIR: Yes, please. That is what this inquiry is about.

The Hon. BEN FRANKLIN: Indeed. You are doing the review now. What is the time line?

Ms HARTCHER-O'BRIEN: We anticipate finalising our findings by the end of this month.

The Hon. BEN FRANKLIN: In those findings I presume there will be a series of recommendations.

Ms HARTCHER-O'BRIEN: Yes. As I said, we will use those findings to work with retailers to look at what options there are in the market to improve hardship policies.

The Hon. BEN FRANKLIN: That is what I am interested in. When you come up with your findings do you anticipate you will be requiring some companies to implement them or will you only be suggesting that they do?

Ms HARTCHER-O'BRIEN: Under the retail law there is a series of minimum requirements that a hardship policy has to meet before we will approve it. Then there is a second provision that essentially allows the AER to require a retailer to review a hardship policy where it is not being implemented in accordance with those minimum requirements. If we find as a consequence of this review that there is a failing by a retailer under a retailer hardship policy to meet those minimum requirements and to essentially implement those, then we will be requiring retailers to improve and resubmit their hardship policies. We also have an audit power. We issued audit guidelines earlier this year and one of the priorities for our audit work is looking at hardship and compliance with hardship obligations by retailers.

The Hon. BEN FRANKLIN: You can take it as a given that this Committee, particularly in the words of the Hon. Paul Green, are unanimous in (a) wanting to preserve the dignity of the elderly in particular but anyone who is struggling with energy poverty, and (b) we would strongly endorse and support anything you can do to ensure that these companies fulfil their obligations.

The CHAIR: Price gouging the rich is one thing, but price gouging the poor is deplorable.

The Hon. JOHN GRAHAM: I want to ask about price gouging. In your introduction you referred to three extreme price events in New South Wales. Can you give us the details of those events and the AER's view about what happened?

Mr ADAMS: The AER has a responsibility under the rules to report whenever the spot price—this is the wholesale spot price—exceeds a threshold and that threshold is \$5,000 a megawatt hour. If in New South Wales the spot price exceeds that threshold, we are obliged to write a report and explain the circumstances that led to that price and some of the key drivers. As you would all be aware, conditions in New South Wales during last summer were extreme. During that period demand was high. Available generation was lower than what would normally be expected. As a result, the 30-minute spot price in New South Wales exceeded \$5,000 a megawatt hour. We produced three reports covering the events of 10 February—which I understand you are familiar with—9 February and also 6 February. Would you like me to go through the specifics of each day?

The Hon. JOHN GRAHAM: A short run-through would be useful for the Committee.

Mr ADAMS: I will start with the sixth. This was a period when New South Wales and Queensland had extreme temperatures. There was less than what you would normally expect in the way of available generation within the region. As a result of that, as you would expect in a marketplace, supply and demand shifts and you move up the supply curve and capacity is—

The Hon. JOHN GRAHAM: I will be more specific. There has been a bit of discussion on these price events in Parliament about the general background between supply and demand as a result of the extreme weather. However, concerns have been raised publicly about price gouging and companies taking advantage of these moments. I ask you to direct your remarks specifically to that question relating to those three dates.

Mr ADAMS: When you are referring to price gouging, I am assuming you are referring to the ability of a generator to re-offer its capacity at high prices as opposed to low prices, which then forces you up the supply curve. Am I correct?

The Hon. JOHN GRAHAM: Yes, and general market manipulation.

The CHAIR: If you want to put it that way.

The Hon. ROBERT BORSAK: Especially gas generators which can be easily switched on when the price is high and switched off as it falls back.

Mr ADAMS: So the question is: Were there instances when generators were pricing capacity at the high end of the spectrum instead of the low end of the spectrum? I can tell you from our analysis of the events of 6 February that we found no evidence of generators moving capacity from low prices to high prices to drive the spot price up. In terms of the events of 9 February, it was primarily driven by circumstances in South Australia. You will remember that the national electricity market is an interconnected system. Events in South Australia saw problems occurring that effectively were reflected throughout the system. I will add to that particular point. There are safety mechanisms built into the system that allows the market operator to intervene in the market. When it does intervene in the market, one of the design features is that we do not want to destroy scarcity pricing when there is scarcity.

The Australian Energy Market Operator [AEMO] intervened in the South Australian market and directed someone to do something out of market. As a result of that, the price was set to the price cap. That price cap is reflected across the market because we have an interconnected market. Again, there was no evidence in our review of generators in New South Wales moving capacity from low prices to high prices to force the price up. The third day, which is probably the more public day, I suspect, is 10 February when there was a shortage of supply to meet demand and there was some interruption occurring with one of the smelters in New South Wales. Again, in our conclusions, re-bidding, which is one of the parameters that we are asked to look at from low prices to high prices, was not a contributing factor on that day.

The Hon. JOHN GRAHAM: Thank you for those contributions. Feel free to tell me that this is someone else's job in this complex area, but do you have any views you would like to put before the Committee about the issue that was publicly raised about market manipulation occurring within that 30-minute bid window, particularly in the last five minutes of those 30-minute bid windows?

Mr ADAMS: I am happy to contribute. Our role, as I said earlier, is to monitor these outcomes. We have analysts that are looking at the market on a daily basis to try to put into the public domain what is going on. There have been periods over time where we have seen generators in various jurisdictions use their ability to rebid their capacity at very late notice, which then reduces the ability of other competing generators to move. We have certainly seen evidence of that. We are on the public record as seeing evidence of that.

As a result of some of that evidence that has produced some concerns changes were made to the rules a year and a half or so ago related to the rebidding in good faith type provision, which put a greater onus on participants to have what we would call contemporaneous records for the reasons behind their shifting very close to dispatch. Those provisions have been in place for just over a year. I guess, in answer to your question, we have had concerns in the past where that has occurred.

The primary reason for the concern is not necessarily the behaviour. There is nothing to prevent a generator from moving capacity to suit their own commercial needs. Our primary concern goes back to the earlier question from Mr Buckingham about transparency and the information that is available to the industry. If you leave things to the very last minute, those gas turbines that you suggested have no opportunity to come in and push the price down. Our view is that the way this wholesale market works requires very high levels of transparency to allow the commercial players to manage risk and move in and out of the market as they see fit.

The Hon. JOHN GRAHAM: If I understand you correctly, you can give us some assurance about rebidding on these three dates and that sort of market manipulation. Can you give us that general reassurance after the rules have changed? In New South Wales is that something we should be concerned about or we should no longer be concerned about?

Mr ADAMS: The rebidding provision was changed to address a concern that was raised.

The Hon. JOHN GRAHAM: From a New South Wales point of view, has that worked? Should we be concerned or not?

Mr ADAMS: I can tell you from the analysis that we have done particularly for those high-priced events, rebidding from low prices to high prices, whether it was close to dispatch or not, was not a contributing factor.

The Hon. JOHN GRAHAM: I am asking about a general assurance.

Mr ADAMS: There is no restriction on the ability of a generator to move its capacity around to suit its commercial objectives—it is obviously trying to maximise profit, that is what it is there to do. The restriction is that if they do that inconsistent with the rules as they stand our role is to enforce it.

The Hon. JOHN GRAHAM: But can you give us an assurance that that is not occurring in general? You have in relation to the three days. Is this happening in New South Wales or not? Do you have a view on that?

Mr ADAMS: I will answer the question this way, if I may: As I said, in September the Federal Minister asked us to look at this general concern in New South Wales about the way the generators are behaving. We are working through that as we speak. We expect to take our conclusions to the Council of Australian Governments Energy Council towards the end of this month. It is on the public record by various people that the input cost to New South Wales generators has certainly risen. Since the summer of last year there have been no instances where prices in New South Wales have been driven to high levels as a result of that sort of behaviour. What we have seen is a shift in the average price since the start of the year.

Our role is to look at whether there are instances, and I will give you a quick example. In the 2016-17 financial year there were 46 times—not a very high number—where the five-minute price went over \$10,000. We would refer to that as volatility in the five-minute price. In the current financial year, 2017-18, there have been no instances where the five-minute spot price has exceeded \$10,000. In answer to your question, I am not providing any guarantees because that is not my role but we have not seen volatility in the spot market since the summer where supply and demand conditions were extremely tight in the New South Wales jurisdiction.

The CHAIR: The Hon. Ben Franklin will table the electricity bill, which you now have a copy of. We are talking about transparency. The top column on the document notes energy charges for peak, shoulder and off-peak and then gives a subtotal. Can you unpack what is wholesale and retail in those categories and explain why that is not shown on their bill to help them understand what they are paying to whom?

Ms HARTCHER-O'BRIEN: Retailers are required by the retail rules to essentially put the tariff information on customers' bills. They have done that. This is a time of use tariff that I mentioned before. In terms of the make-up of those charges, I think we mentioned that there are fluctuations in the wholesale price and retailers are not required to display that information. Also in many instances it will not necessarily be meaningful and it will fluctuate a great deal. I am not going to speak about wholesale prices with anything like the authority of my colleague, so if you have further questions about that I can hand over to Mr Adams.

The CHAIR: Is there any way that these businesses can go online to see the fluctuations to get a deeper understanding of their bill, or is that just unachievable?

Mr ADAMS: Can customers see how the wholesale price is changing the electricity market?

The CHAIR: Yes, because one of the comments was that those providing bills get in trouble for putting too much information on them and at other times not enough. We are hearing that companies' bills have tripled, doubled or quadrupled and gone up tens of thousands of dollars. How are they able to assess whether it is wholesale or retail and what happening with their bills so that they can understand their energy use?

Mr ADAMS: Are we talking about a commercial or industrial customer or a mum and dad?

The CHAIR: Commercial, as per this bill, which is from a company.

The Hon. ADAM SEARLE: I think the issue is that there is a deficiency in the information being given to business customers, but household customers do not even get that information. Why not?

The Hon. ROBERT BORSAK: We heard evidence this morning that it is good and more efficient—and I want to assume therefore cheaper in the end price of electricity—that a company like AGL has front to back total supply integration. In other areas of economic competition, generally speaking, it is better for markets

for wholesalers to be separated from retailers and yet we are being told that this is better in the electricity market and that this information is available anyway. We have a commercial example here where the price will double when the contract is renewed. We are told that the energy price is one thing. We have network costs, we have renewable energy and we have some other charges. We have seen in various reports—probably including your own—that these are the major heads under which charges are being levied, yet we cannot see the difference from the AGL point of view as to how much money they are making out of their wholesale activities to themselves or from others and/or what their retail electricity is generating to a customer.

Mr ADAMS: I will try to answer the question like this: If you are a customer and you have an arrangement with a retailer you will enter into some sort of contractual arrangement. Unless you are actually physically playing in the spot wholesale market, while your contractual arrangements will be influenced by the average wholesale price you will not be exposed to a \$14,200 spot price. The whole premise of the wholesale market design is that generators and retailers participate in a gross market and they are incentivised to establish contractual arrangements to manage the risk of participating in a wholesale market with a price cap of \$14,200. Participants do that. The arrangements between a retailer who is managing their exposure to the wholesale market and the relationship with their customer and what they strike through a contract—particularly a commercial or industrial customer—is really in the negotiation process with the customer. There are examples where some large industrials might prefer to take some element of their exposure based on the spot price. During periods of low spot prices they might be much better off. There are other examples where the retailer may offer them a contract that is just a flat contract, depending on the requirements that they want.

The Hon. ROBERT BORSAK: With due respect, there are not many commercial users—forget about retail users—or ordinary customers who are sophisticated enough because they are large enough to be able to do what you are talking about. In this case this business is a medium sized company. It does not have the wherewithal, the energy or the resources to deal in the wholesale market to try to negotiate a deal. Even if it wanted to, it does not have the data to do it.

Mr ADAMS: I guess the answer to your question is that if I do not want to understand the wholesale aspects and I do not want to engage in that you need to find a contractual arrangement with, for example, a retailer who is providing those services that suits your needs, I suspect.

The Hon. ROBERT BORSAK: The retailer that suits your needs in this case is AGL. I will get a copy of this document to you. We have a business consultant who does comparative work for renegotiation of contracts—it is pretty common in the industry—and AGL, conveniently, is the lowest priced provider for electricity by a country mile against all the other retailers who I believe have no capacity for generation at all. Yet we again copped evidence this morning that said, "Oh, no—they can become highly competitive by buying and selling in the other markets that are available to them to buy." It seems to me there is a relative level of unfair competition going on here.

The Hon. ADAM SEARLE: Or is this an area where economic theory just does not match up with commercial reality and behaviour?

The Hon. ROBERT BORSAK: That is right.

Mr ADAMS: Was that a question?

The Hon. ADAM SEARLE: Yes.

Mr ADAMS: Does the economic theory match reality?

The Hon. ADAM SEARLE: This seems to be an example of where it does not, so how can we do better?

Mr ADAMS: I am not well placed to answer that question. I could give it a crack, but I think I am probably—

The Hon. ROBERT BORSAK: We do not expect you to answer the questions on the spot, but from my viewing of what we are seeing, as Mr Searle says, we do not see a match-up between what we think is supposed to be happening and what you perhaps think is supposed to be happening—unless we have it completely wrong and AGL manages to be 2¢ or more per kilowatt hour below the rest.

The Hon. ADAM SEARLE: You said you looked at the rules and on the three days—6, 9 and 10 February—and that you do not think the rules were broken by the generators. Do we have the right rules in place? Is the \$5,000 threshold the right threshold?

Mr ADAMS: The \$5,000 threshold is just a reporting requirement. To go back in history a little, when the National Electricity Market started in 1998, that was the price cap. The energy market design is centred on the fact that you need to be able to recoup your costs. There are no payments by just presenting capacity in the Australian context. So that price cap has moved up over time. When it was introduced it was \$5,000. That reporting requirement exists. Our role as the market monitor is to make public and available to everyone what the key drivers for those prices were.

The Hon. ADAM SEARLE: We have received evidence that says only 20 per cent of the volume of electricity sold appears to be traded through the spot market and the other 80 per cent seems to be as a result of opaque contracts between generators and their customers. That seems to be one of the contributing factors as to why we do not know what is making up the actual price the customer is paying. How can we have greater visibility of those contracts that are offline, as it were, and cannot be seen? Should they have to be reported? The highest price, the lowest price, the kilowatt-per-hour price charged—whatever the breakdown is it seems there needs to be reporting and information gathering about that.

Mr ADAMS: There are probably two responses to that question. The first is, as you all know, the ACCC is currently looking at the breakdown of costs—retail margins—and that review is going on. Their preliminary report is already out. Their final report will come out in June next year. That will shed considerable light on the opaqueness, as you describe it, of what retailers are charging and the breakdown of those costs. The second point is that, as I mentioned earlier, the Australian design of the wholesale market is premised on the fact that players who are exposed to that risk will manage that risk through contractual arrangements.

As a market monitor, we have access to those quantities, volumes and prices that are traded through the ASX. We report on that on our website. We can see trends, what the market is expecting future prices to be, how much volume has been trading and those sorts of things. As the market monitor we do not have access to bilateral contracts. If the question is whether we would prefer to have access to that to create a better picture of what is going on, I guess my answer to that would be yes.

The Hon. ADAM SEARLE: I think you said in answer to an earlier question that the absence of that information means you are not in a position to be able to judge whether there is proper competition taking place. Here is the picture: In New South Wales, the three big retailers control 90 per cent of the market. Those same three big retailers have 70 per cent of the generation capacity in New South Wales. Submission after submission that we have received says market concentration is one of the big culprits in driving price increases that customers just cannot get around through competition. What is the essential answer there? Do we need to break up the vertically integrated companies? Do we need to put caps on how much market share they can have?

Mr ADAMS: I do not particularly have the answer.

The Hon. ADAM SEARLE: You would be a wealthy man if you did, I guess.

Mr ADAMS: It is a complex issue. It is certainly clear that those that manage risk by vertically integrating internally reduce liquidity in contract markets. Reductions in liquidity in contract markets do not help, having the energy market design that we have got. I suspect steps to improve the liquidity that is going on in the contract market is something that those at the appropriate level in the appropriate organisations would be—

The Hon. JOHN GRAHAM: Improve the liquidity and, going back to your first point, improve the oversight. Your point about oversight is more important now, given your observation and also given this is a market that is in transition, is it not? Your point about visibility might not have been so important five or 10 years ago but it is pretty important now.

Mr ADAMS: It is clear that the energy sector is in a fairly significant transition. Where we once had a significantly oversupplied situation, people were not that interested. Obviously that has changed considerably. I am talking from my perspective as the market monitor. The ability to completely understand what is going on in the marketplace requires a complete picture. Fortunately the ACCC has information-gathering powers that we do not have and it is able to take information in to be able to create that picture. Their report, as I suggested, will be out in July.

The Hon. ADAM SEARLE: Is this not the problem, though? A retailer says, "Don't blame us for the price hikes. It is our wholesaler. We are having to pay more for our wholesale electricity. But—whoops—whoops—we just happen to buy 90 per cent of our electricity from ourselves."

The CHAIR: That is right.

The Hon. ADAM SEARLE: It is passing through to their customers on a cost-plus basis. How do we know that the increased costs they say their wholesaler is charging them are real or legitimate?

Mr ADAMS: The way I would answer that is to say that it is extremely important in these complex markets—and they are complex markets; there is no doubt about that—that those who are charged with analysing and reviewing outcomes in that market have the appropriate tools and powers to be able to do that. The role that the Government gave us in December last year to look at the effective competition of the market is, in my mind, an extremely positive and important role that we will fulfil. We will be able to provide a view to all of what we think is happening in terms of the effective competition of the wholesale market.

It is sometimes dangerous to take a very short-term view of this. Competition works where, given the industry we are in, large investments are sunk and people move in over time, so it is very important for us. The terms of reference or the guidance that we have been given through the rules is to take that broader view of how competition is working in the electricity sector. Our first report, which effectively will go back seven years, will be able to create a picture to ask, "Over time, are we working in the long-term interest of consumers?" We are very hopeful. We have invested heavily to be able to do that and to produce reports that reflect that in due course.

The Hon. ADAM SEARLE: What are the increases in the costs of business experienced by generators in New South Wales to which you alluded in one of your earlier answers?

Mr ADAMS: I would prefer not to pre-empt our report, which goes to the Council of Australian Governments [COAG] Energy Council in the near future. What I can say on the public record is that it is clear that input costs to generators in New South Wales have gone up—in both gas and coal. You would be far closer to the coal situation in New South Wales than I, but certainly on the public record there have been issues with coal supply and reliability, and there have been increases in price, in terms of short-term and long-term contracts. All those input costs are reflected in the wholesale price.

The Hon. ADAM SEARLE: Do we need coal reservation here in New South Wales?

Mr ADAMS: I am not suggesting that.

The Hon. BEN FRANKLIN: In New South Wales we are obviously looking at demand management as another important part of the equation. How will demand management be considered in the next revenue determination process for New South Wales networks?

Mr ANDERSON: Thank you for that question. Within the rules currently, when businesses come to us with a regulatory proposal they are required to consider alternatives to network investment, including demand management. We are in the process of putting together a demand management incentive scheme. This is a requirement under the national electricity rules. We are about a month out from finalising that scheme. We put out a draft a few weeks ago. What we are proposing to do in that demand management incentive scheme is to provide the networks with a financial incentive if they undertake demand management instead of building new capital into their networks.

The Hon. BEN FRANKLIN: When do you envisage the scheme will start?

Mr ANDERSON: We will have the scheme out in the next few weeks. We need a rule change to go with that to allow for early implementation of the scheme. Our expectation is that—if the rule change that we propose is successful—we will start providing those financial incentives from 1 July 2018.

The CHAIR: That concludes the evidence for this session. Thank you very much for presenting. You have 21 days to answer questions you may have taken on notice. I think you did take some on notice. The secretariat will be glad to help you with those. In light of your evidence we might put some further questions to you. Once again, I thank you; your evidence has been incredibly helpful.

(The witnesses withdrew)

ANDREW DILLON, Interim Chief Executive Officer, Energy Networks Australia, before the Committee via Skype, affirmed and examined

GARTH CRAWFORD, Executive Director, Economic Regulation, Energy Networks Australia, before the Committee via Skype, sworn and examined

The CHAIR: Would either of you like to make an opening statement?

Mr DILLON: Thank you for the opportunity to come before this Committee's inquiry into electricity supply, demand and prices in New South Wales. We recognise that this inquiry occurs at a time of critical focus on the electricity sector and on how we transform to deliver on a rapidly changing needs of our consumers. Energy Networks Australia represents the operators of Australia's electricity transmission and distribution and gas distribution networks. Our members provide energy to virtually every household and business in Australia. Electricity grids are sometimes called the world's largest machine, and Australia's transmission and distribution electricity network infrastructure operates over 900,000 kilometres of wires, operated with synchronised frequency, balancing supply and demand instantaneously every minute of every day of the year. Our electricity grids are an essential community service. They are effectively social infrastructure that exists to serve our customers, powering Australian homes and providing a critical economic input for the Australian economy.

Here in New South Wales this has recently been reinforced by the system events around 10 February this year. New South Wales's operational demand—that is the energy demand supplied from the grid—peaked at 5.30 p.m. that day at 14,181 megawatts. This is within 4 per cent of the all-time New South Wales overall record that occurred in February 2011. Every kilowatt matters on these days. As the New South Wales energy Minister noted, it was the biggest day ever for solar in this State, and if things like the curtailment of supply from the Tomago aluminium smelter had not occurred it is quite likely that we would have seen a new New South Wales peak demand set on that day. Throughout the New South Wales networks, however, many individual parts of the networks did hit unprecedented demand levels for electricity.

In many cases this record low was able to be delivered to households, only due to the network assets that had been built as part of the significant capital expenditure programs undertaken over the past decade. There have been some who have criticised the New South Wales networks for building assets that have not been needed to meet demand that has not eventuated. We would suggest that networks have to plan and build for the long term, and we are certainly seeing increased demand now. I am not a network engineer but I suspect that if you were with one on 10 February this year they would have struggled to identify any network assets that were not helping deliver electrons to power the air-conditioners in New South Wales households to get them through the heatwave.

Our customers are driving an historic transformation. Australia's per capita overall electricity consumption has fallen in recent years. We lead the world in penetration of rooftop solar panels and Australia is a global hotspot for new developments like battery storage and micro grids. Here in New South Wales electricity is supplied to three million customers through an extensive network of poles and wires. The electricity networks here are operated by TransGrid, Ausgrid, Endeavour Energy and Essential Energy. These companies deliver energy to consumers with the cost passed on through the retail electricity bills.

Network charges are regulated to protect the long-term interests of consumers. The independent regulator who you just heard from, the AER, is responsible for assessing efficient expenditure forecasts on network infrastructure. Through a comprehensive public process the AER has to approve, in advance, the five-year revenue proposals for each network business. The cost of electricity distribution service delivering it from power stations to homes and most businesses typically accounts for around 36 to 40 per cent of the final price in New South Wales.

In the current round of AER decisions, electricity network revenues are forecast to fall by an average of 13½ per cent compared with the previous round of decisions. I am keen to highlight this point. Network charges have been falling in New South Wales over the past few years. For example, network prices fell by 12 per cent in Endeavour's network, and 35 per cent in Essential's area in 2015-16 for residential customers. Even more recently than that, according to consumer price index data, electricity prices in Sydney rose by 15.1 per cent for the September quarter this year, but for networks, our average prices fell across all three distribution regions on 1 July 2017.

While it is true networks have been a material factor in New South Wales electricity price rises over the past decade, since 2013 network prices have been trending down—a point highlighted in the recent draft report

on New South Wales electricity prices from the Independent Pricing and Regulatory Tribunal. More broadly, the New South Wales networks have been active participants in our recent project launched earlier this year—the Electricity Network Transformation Roadmap. Energy Networks Australia developed this with the CSIRO and a broad base of stakeholders. It indicates that we expect customers, rather than traditional utilities, to determine more than \$224 billion, or over a quarter, of all the investment in the electricity sector between now and 2050.

The roadmap identified a range of activities in policy, regulation, grid systems, standards, markets and pricing reform to help meet the grid modernisation challenge. The opportunity is there but it does rely on strengthening national energy institutions, getting our frameworks and markets right so investors can make decisions without unnecessary policy and regulatory and political risk. The critical input from the network side is improving how we charge for electricity. Our current pricing system is fundamentally unfair. Flat pricing structures mean we are not rewarding customers who can feed power back into grid at peak times, or move their usage from peak to off-peak times. Our current pricing structures are providing distorted signals today and this will get worse in the future if we do not transition to fairer pricing structures as soon as we can. We look forward to assisting the Committee further today.

The CHAIR: I refer to page 7 of your submission under the heading "The growing retail component of electricity bill" which states:

As noted in Energy Networks Australia's recent submission to the Australian Competition and Consumer Commission's (ACCC's) Inquiry into Retail Electricity Supply and Pricing Issues Paper, it is difficult to establish clear information about the extent of actual competition between electricity retailers in each market. A number of commentators have recognised that while the ostensible indicators of competition (e.g. customer churn) appear positive - the actual price outcomes for customers are opaque.

Will you clarify that statement?

Mr DILLON: I will start by saying that we are obviously the network sector so we are not active participants in any way in the retail sector. The challenge for electricity is that we have competition markets that are delivering an essential service to households. In many competitive markets the idea that some people are getting a good deal and some people are getting bad deal is not particularly a problem. For example, the fact that many people may choose to pay more for their milk at 7-Eleven rather than go down to the supermarket and pay less, is not a particularly public policy concern. The challenge here is that we are talking about an essential service. So how well a competitive market is delivering for most consumers, I think, is of interest to policymakers.

The Hon. ADAM SEARLE: On that topic, a continuing theme is that despite markets allege competition the real world experience of households and small businesses, perhaps even big businesses, is that their power bills are not just increasing—that is a fact of life—but they are increasing by an order of magnitude that is incredible. Sometimes people have doubled power bills. Businesses are telling us that when they are trying to renegotiate contracts for their power needs they are being quoted in excess of 100 per cent or 160 per cent increases. That is just not sustainable. We are trying to understand how and why that is taking place. There is no systematic way of finding or collecting the evidence of what is being charged at the point of sale.

Mr DILLON: Yes, that is one of the challenges that many reviews into the retail sector have had. I think the ACCC, given its information gathering powers, will get some more granular data on many of the prices that people are seeing in that space. Again, from the network sector one of the interactions we are already starting to see—we are certainly going to see more and more going forward—is that as the sector evolves we will start to see more things like mini-grids operating and network structures operating as platforms for two-way energy trading. What we still need to determine as part of that is exactly who does what? What bids more naturally lend themselves to a genuinely competitive market that should be able to compete? Again, from our end it makes more sense for the network owner, under effective regulation, to undertake that role. We are certainly interested in that role. There is no doubt—and this goes far broader than electricity—that there are many sectors where we are starting to see particular challenges with traditional economic approaches to competition in retail markets with the challenges that are best summarised, I guess, by the phrase "behavioural economics" for how the demand side works, and therefore, how effectively the market itself can work.

The Hon. ADAM SEARLE: Your members who have also made submissions to the Committee—the network and distribution companies—are all saying that their costs have been coming down but it is the retailers that are pocketing the savings. The customers are saying, "If the network costs are anywhere between 45 and 55 per cent of my power bill, I do not really know because it is not broken down on my bill." You are saying that you are bringing down the costs of your businesses but it is not ending up in the customer's pocket. That is just not good enough, is it?

Mr DILLON: No. As an aside, I think many of my members—it is not always unanimous amongst them—would support network charges being identified separately on bills. One of the challenges is obviously being able to do it and whether that adds to complexity rather than simplifying it. But certainly from a network point of view we would then be very clear on our charges when prices are going up and down.

The Hon. ADAM SEARLE: And whether your fees are, in fact, going up or down?

Mr DILLON: Yes. It would be very explicit if you had that obviously.

The Hon. ADAM SEARLE: You say opinion is divided amongst your members. Does your organisation have a policy position of the organisation as a whole?

Mr DILLON: I am not 100 per cent sure on that one. It has been a while since we revisited it.

The Hon. ADAM SEARLE: It is not a trick question; please take it on notice.

Mr DILLON: I am happy to take that on notice.

The Hon. ADAM SEARLE: It is something the Committee will be exploring with the distribution companies and the networks as well.

The Hon. JOHN GRAHAM: Your behavioural economics point about the retail market is an important one. It is reinforced in your submission about retail companies carving off segments of the market and dealing with them differently. It is the case, is it not, that there really are customers who you are not moving around who are possibly paying far too much in the retail space?

Mr DILLON: This is one of the challenges we have. I should start by making sure it is on the record that Energy Networks Australia supports effective competition where it can be up and running. Behavioural economics is possibly the easiest way to describe it. We know in many areas of purchasing, in particular, that most people often do things that are irrational, and sometimes significantly so. Given that is human nature, how does that interact with competitive markets particularly for essential services? That is an ongoing public policy question.

The Hon. JOHN GRAHAM: Humans might be good at picking between one, two or three choices but faced with a huge amount of confusing information about the options in the electricity market people can get overwhelmed.

Mr DILLON: Yes, and it occurs in many areas. One particular area of interest to us that has similarities is the structure of our electricity pricing. There is an assumption by many people that the current pricing arrangements are a relatively fair base, and any movement from that you have to demonstrate why they are an improvement on the status quo. From a network point of view, we are largely charging customers for how much energy they use over the whole year, whereas the actual cost they impose on us—I am oversimplifying a bit—are almost determined solely by what they use during the peak time. That is what we have to build the network for, so being able to transition to give the right signals to move people away from the peak and reward people for using it off-peak and encourage them to do so is important for us.

The Hon. JOHN GRAHAM: In the retail market you are describing you draw attention in your submission to the fact that it is often the vulnerable customers who are really bearing the brunt of this—and I think you are quoting AER data. Would you like to expand on that point?

Mr DILLON: Not really beyond what is already in the submission. The reality is the more complex the offers, the more challenging it is for people to access that market. Naturally, particularly those who, for example, have trouble with English as a second language are going to have more challenges accessing those sorts of markets.

The Hon. JOHN GRAHAM: It is one of the ironies that the most vulnerable customers might be paying much more than some other customers in the market.

Mr DILLON: Yes, although that is not always the case. I imagine there are plenty of vulnerable customers who are very active in the market and are getting good deals. Again, the characteristics that may lead people to be described as vulnerable may also mean they have more challenges on average than others in accessing some of the deals.

The Hon. JOHN GRAHAM: I ask about one specific group of customers, not low-income customers but customers who are identified as being a credit risk to retailers. Are they unlikely to be able to access

discounts due to that status? They are able to get an electricity contract, but really they only have one choice, and that is their local provider which is obliged to give them a contract. Is that correct?

Mr DILLON: It is not really my area of expertise, but I suspect so, yes.

The Hon. JOHN GRAHAM: Obviously, they are doubly vulnerable as they may be subject to the sorts of issues you have generally referred to.

Mr DILLON: Certainly. If a significant portion of the discount is linked to something that, in turn, you need to have certain credit status to get access to and you do not have it, that is going to be a challenge.

The Hon. BEN FRANKLIN: The nub of the issue is that although it is fantastic that network prices have dropped, what would be the most effective action that could be taken to continue to have network prices drop even further?

Mr DILLON: Probably I would suggest pricing reform, which is linked, in New South Wales in particular, to getting more smart meters out there so we can give people incentives. Possibly the easiest way to describe this is that at the moment—and this is a countrywide problem, not just a problem for New South Wales—pretty much everyone who puts solar panels on their roof are told by installers that they must be put facing as north as they can be, because that maximises the output over the whole day. We are seeing increasingly in many networks—although possibly South Australia and Queensland are more advanced than New South Wales—what they call the duck curve. What you see is a peak in the morning, a drop in the middle of the day when there is lots of solar generation and then a rapid ramp up as the sun starts to go down in the late afternoon.

From a network point of view, if you get too much of that, that is making life harder for us, not easier. Whereas if we were able to introduce differential incentives, so your rate per kilowatt hour generation from your solar panels goes up between, say, 6 and 8 p.m., therefore you might get a few more panels facing west. From our end, that could help significantly. Many people see reforming prices as about trying to stop people from doing things. From our end, it really is about incentivising people. There is an element of getting you to help us to help you. If you got more solar panels facing west and we were able to provide incentives to do that, you would start to be able to clip some of these peaks and ease back even more on expenditure.

The Hon. BEN FRANKLIN: That is a very good suggestion, which hopefully we will look at seriously. I had some words with the chief executive of the Australian Energy Council beforehand about smart meters, noting that I do not believe that some companies are as enthusiastically supporting their consumers by providing smart meters as quickly as they could be. Do you have any concrete suggestions for what should be done in order to increase the rollout and uptake of smart meters?

Mr DILLON: Smart meters have been a challenging issue in this country for a long time. As I am sure you are aware, there was a mandated rollout in Victoria. The positive of that is they have smart meters in almost every household in Victoria; the negative is it was a hugely challenging from a political perspective and also from a logistical and cost perspective. Therefore policymakers have unsurprisingly chosen not to go down that route in other parts of the country. We now have what we would describe as quite a complex, possibly overly complex, arrangement to deliver competitive metering. As you may be aware, that is due to start on 1 December this year. The different parts of that need to be closely monitored. We need to start seeing the actual numbers that start to get rolled out. Linked to that, we have on our forward work program to monitor what is happening, monitor where they are going and, where we have certain network areas that we can almost justify putting in smart meters from a network benefit point of view, start to develop arrangements to work with retailers and others to get smart meters in certain locations, where they will start to provide benefits straightaway.

The Hon. ADAM SEARLE: Is that not a problem? Hitherto meters have been a network asset. Under the smart meter rollout in New South Wales, they are going to belong to retailers, not to the networks. Does that not create a problem for getting smart meters into the hands of households?

Mr DILLON: Yes, in a word. The Victorian rollout was challenging from many perspectives. I think everyone, including those starting to roll out smart meters right now, have learned from that experience. In theory the arrangements being put in place can deliver a low-cost smart meter rollout. We will see in coming months how well they can work in practice.

The Hon. ADAM SEARLE: There are something like 380,000 solar households in New South Wales. The Fair Trading website shows that somewhere between 30,000 and 60,000 of them have smart meters at the present time, a year or 18 months after the enactment of the smart meters legislation. No doubt there are

workforce constraints because of training who can install them, but retailers are refusing to give solar households adequate recompense for their solar being generated on the dubious proposition that they need smart meters so they can see the net consumption and production. The fact is that retailers already have that information for a billing period and just need to read the two meters. Because of the slow rollout 320,000 households are frankly getting ripped off.

Mr DILLON: I think you are right in your general point. One of the challenges with metering is that when you have certain parts of the system that could possibly make more sense to be universally delivered by networks such as our members then sometimes they can be cut off and delivered instead by a competitive arrangement. Whilst there is effective competition in that space, it can deliver very well. If there is not effective competition, there are less levers for policymakers to pull to make things happen. As a regulator network, we get laws in various guises imposed on the networks, and the networks are required to deliver, and we do.

The Hon. ADAM SEARLE: And to justify those costs.

Mr DILLON: Yes.

The Hon. ADAM SEARLE: At the moment, with these meters being network assets, your members will have to justify that to the national regulator.

Mr DILLON: Absolutely, yes.

The Hon. ADAM SEARLE: Whereas now the retailers do not really have to.

Mr DILLON: If effective competition can be up and running, this can work well. We will see, as that rolls out, whether that can happen.

The Hon. ADAM SEARLE: We know that there are severe workforce constraints in terms of who can install these smart meters. It is so dire that the Government lowered to the standard required of the workforce to try to increase the pool of people who can install these meters, but the rollout is still very slow. The three big retailers control 90 per cent of the market in New South Wales, so all the information I have seen suggests to me there really is not much effective competition in the retail space. These meters are so important that they must be key network assets. Did the Government talk to you about making these no longer network assets?

Mr DILLON: In regard to the New South Wales Government, I am not sure what the discussion was. The national rules, under which these are happening, were developed quite a while ago. There has been quite a long process.

The Hon. ADAM SEARLE: Will you take that question on notice and tell the Committee what happened in New South Wales? Can you tell the Committee how the policy of them being retailer assets was reached, at least as far as your members know this, and when?

Mr DILLON: Yes.

The Hon. BEN FRANKLIN: What action do you think could be taken to streamline and improve network connection processes?

Mr DILLON: I am happy you raised that point. It has been a challenge around the country that particularly solar households, but not solely, have had issues in terms of differing connection standards, differing timelines, differing technical requirements from different distribution companies and even different parts of different distributors. The challenge from the network side is once we go from, for example, delivering as we have historically an eight-lane freeway heading in one direction to one lane and two lanes at certain times of the day to three or four lanes coming back the other way. That does create significant engineering issues. It does not mean we should not connect to these generators; it means that we need to figure out appropriate ways to do it, what are the appropriate charges for connection, and then link to other things like pricing reform to be able to make all that work better.

We have just undertaken a project working with other groups such as the Clean Energy Council to get better cohesion across the country in how people can connect various new technologies to the electricity grid. It is not just solar; there will also be similar challenges when batteries are connected with two-way flows potentially changing almost instantaneously. It is a critical part of our future, particularly for the distribution networks, to be able to develop trading platforms that will enable two-way flows of electricity both between houses on the street and also between that street with the broader region and even into the transmission network going the other way. There are huge challenges with that and there are huge regulatory challenges that we need

to identify. However, our future relies on that happening successfully. We are certainly looking at that now with a view to making things far more streamlined.

The Hon. ADAM SEARLE: Your submission identifies two major culprits in terms of escalating costs of electricity for customers, one of which is the growing retail component. The other one is market concentration, particularly here in New South Wales, where we have three big players who have 90 per cent of the retail market and nearly 70 per cent of the generator market. What is the answer? Do we need to cap market share and supply?

Mr DILLON: I would not go as far as proposing an answer. As you said, our submission highlights that issue. Again, it goes back to the point about supporting effective competition where it exists and delivers for the users. The challenges in the wholesale market with the level of competition and market concentration have been highlighted by the Australian Competition and Consumer Commission [ACCC] and other advocacy bodies. As I said, we do not study the wholesale market in significant detail, so I am not keen to go on the record putting a specific proposal. However, we do think it is a significant issue, and I know that the ACCC is looking at it.

The Hon. ROBERT BORSAK: It is an obvious virtue that the network costs are coming down every year. However, to be fair, that is after an extended period of growth in expenditure mandated by, for example, the New South Wales, Victorian and Queensland governments, which wanted significant upgrading and renewal of those networks.

Mr DILLON: This is where we have challenges because many of our assets are 40-year or 50-year assets delivering for a long time. I will take you back two decades to the late 1990s. Five years to eight years after that, in New South Wales in particular, there was significantly lower investment in the networks. Then we had some blackouts in 2004, and then after that there were rules and underinvestment and a catch-up period, both of which were different from the long-term trend. We now need to have a far more stable environment and to get our regulated asset bases and hence our consumer prices steadier and trending downwards so that we can deliver more affordable electricity.

The Hon. ROBERT BORSAK: There is no simple answer, but do you amortise those assets on a straight-line basis over 40 years or 50 years? Do you re-evaluate the life of those assets on a regular basis and according to some accounting standard?

Mr DILLON: It is not an accounting standard. There are different rules depending on various asset classes as worked out with the Australian Energy Regulator in the way the regulatory system works. One of the challenges we have is that the regulatory system does not work in a one-for-one relationship where an asset is depreciated over four years and every year you replace one fortieth of the asset.

The Hon. ROBERT BORSAK: I am not suggesting that for a moment. I am saying that when you build or replace the asset you might say it has a 40-year life. As you said, you maintain the asset probably better now than you did in the past. You may start amortising that asset over 40 years and after 10 years or 15 years you might re-evaluate it and find that it has another 40 years of life. What would happen in those circumstances? Would you adjust the network charges down, or would you simply continue to build up a reserve?

Mr DILLON: The challenge is always that there are two effects. If you are extending the life of an asset you are getting a return on that asset base for a longer period. What we tend to see in the energy industry is that it goes the other way; assets that were intended to have longer lives often for various technology-related reasons have their life shortened. In the transmission network in particular, there may be parts of the network where usage trends are changing things and there is a shorter asset life. In terms of the way the rules work, Mr Crawford might have something to add. There are mechanisms for changing that.

Mr CRAWFORD: That is correct. The only thing I would add is that there is a rock-solid principle in both the electricity and gas rules that assets are depreciated only once and customers will pay for them only once. There is a flexible process around asset life that the AER oversees in its regulatory period. The principle is that the customer is no worse or better off.

The Hon. ROBERT BORSAK: You are saying that you cannot make super profits by re-evaluating the economic life of the asset?

Mr CRAWFORD: Correct.

Mr DILLON: Yes.

The Hon. TAYLOR MARTIN: I turned to the retail side of the market. Do you see any low-hanging fruit or areas in the retail sector where costs can be reduced? Could any disruption happen in the market to reduce prices?

Mr DILLON: I think some of that will be the role of the retailers and how that evolves over time. Some of our members are involved in various ways in community mini-grid projects and things like that. There are a couple of examples in New South Wales, I think. They are looking at whether the community itself can become a retailer and how that sort of thing can operate. Again, it is not impossible, but it is a challenge to get that up and running within the rules.

The CHAIR: I refer to page 9 of your submission where you talk about retailers developing contract arrangements that effectively hide their prices. Have you dealt with that already?

Mr DILLON: Yes, we have. That is a quote from the chairman of the Victorian Essential Services Commission. I know that the chair of the commission, Dr Ron Ben-David, has concerns in that space about what is itemised and what is not itemised on a bill to determine what is contributing what to the final price the consumer pays. It is good we have had the opportunity to highlight both in our submission and here today what is happening with network prices. The challenge is that almost no-one else in New South Wales knows about this because all they see is a retail price. For other factors that has continued to increase in the past few years.

The Hon. ADAM SEARLE: It is also the case that with only 20 per cent of the trade in electricity being done through the spot market there is no visibility of the 80 per cent of the volume of the electricity that is traded.

Mr DILLON: In many cases, no, there is no-one. There are challenges in terms of some small retailers and, indeed, developing new retailers, that I touched on previously.

The CHAIR: On page 12 of your submission you refer to generation technologies. Your second paragraph states that we should seek to avoid identifying a silver bullet or developing climate change policies favouring particular technologies. Would you like to clarify that?

Mr DILLON: Certainly. While again we do not do electricity generation, as I touched on before, our future is about integrating more renewable technology, both small-scale and at the transmission level large-scale renewable generation. I think no-one can sit here and tell you exactly what is going to be the cheapest generation in 20 years time, particularly not just the absolute cost of its output but being able to be reliable, keeping the system secure and all that sort of thing. The transition in generation is about reducing emissions so if that is the case, we prefer policies that focus on reducing emissions rather than necessarily being focused on promoting one or more technologies.

The CHAIR: On page 11 you quote a couple of reviews and state, "It maybe worthwhile for the Select Committee and/or IPART to consider whether this situation is also occurring in NSW". That is to do with the previous quote "that competition has added additional costs to the market that have not been offset with cost reductions or other benefits and these costs need to be recovered from consumers".

Mr DILLON: Yes—and this is particularly from the Thwaites review into the retail market in Victoria—so compared to a market where a government or some form of regulator sets a price and there is no competition; compared to that where you have a competitive market, one of the undoubted costs that come through then is the cost of customer acquisition and retention, so various marketing costs and retention costs. That is an extra cost that you do not see in a regulated market but in an effectively competitive market, in theory those costs should be more than offset by efficiencies by the retailers and product innovation which delivers for consumers. One of the challenges raised by the Thwaites report is: Is that actually happening in the Victorian retail market? We think that it is a fair question. We do not have a firm view either way but we think it is certainly something that is worth reviewing.

The CHAIR: There are no further questions so that concludes your evidence. Thank you very much, Mr Dillon and Mr Crawford. You have 21 days in which to answer any questions you may have taken on notice or there may be further questions in light of your evidence. The secretariat will be glad to assist you with that. Thank you for your contribution to this inquiry; it is very important.

(The witnesses withdrew)

The Committee adjourned at 3.12 p.m.