ENERGY — SUPPLY

Motion

DR D.J. HONEY (Cottesloe) [4.01 pm]: I move —

> This house condemns the Western Australian Labor government's neglect of the state's energy future and its inability to safeguard a dependable energy supply, enable development or process approvals, which thereby risks Western Australia's energy security and the economic development of our state.

I indicate that I am the lead speaker in this debate. It troubles me to report that the energy portfolio is being mismanaged to the detriment of our state and, obviously, to all domestic electricity consumers. It affects not just electricity consumers but also energy consumers at both the domestic and broader state levels, particularly in industry.

I believe our energy sector is in an extraordinarily dangerous place, and it was put there by this government through its actions and inactions. I have spoken before about the very serious degradation of our rural power grid under this Labor government and the resulting unacceptable level of electricity supply disruption. I will not go through that in detail; we have done that before, but I will remind members of the damning words from the *Independent review of Christmas 2021 power outages*, which stated —

> This data shows over a four-year period a 'materially' worsening customer outage experience trend in CBD and rural areas, with flat performance in urban areas.

The minister made the point that the CBD does not have many outages, so a few seems like a lot in percentage terms. Nevertheless, we know that in rural areas, we have seen substantial deterioration in supply.

I have said before that I do not think we have had such a poor situation in which our power system has been allowed to deteriorate in this way. The government has form in this, in the disastrous Ripper disaggregation of the power system, which the Barnett government tried to remedy to some extent. Despite warnings that that was the wrong way to go, the Labor government of the day was determined to go down that route. What do we see here? We see that this government in its path to decarbonisation is making risky decisions that will put the future of energy users in this state at risk in the relatively near term.

Let us make something very clear. We get lots of gratuitous comments from the other side. We had some gratuitous comments from the Minister for Energy today that do not bear scrutiny. I believe that it makes sense for us to move down the path of decarbonisation from a sovereign risk point of view and otherwise. I have said that before, and I support that, but the pace this state government is doing it at is putting the state at risk. I will go through some level of detail to outline that.

It may make for a good headline to say that the government will do this, and it may appease the crowd when the minister says he will do it. All the smiling faces in the backbench will say, "Yes. This is what we want to do." It has not been announced, but I suspect that maybe the minister will not be here for so much longer that he will have to live with the outcome of it. Pandering to an audience is no substitute for good policy.

I will touch a little bit on question time today. The minister has form in this. As I have said in this place, he is a minister whom I rate for his hard work but, unfortunately, he undoes that good reputation by plunging into the gutter with gratuitous insults. We had a ludicrous episode today in question time about my staff printing off the incorrect letterhead; somehow, that is a great indictment of me. I certainly approved the letter's content, and the minister would know this from his own circumstances, but is this some great "gotcha" from the minister, who does have a good capacity as I have said many times in this place? He plunged into a schoolchild level of criticism about that. To say that policies were continued into 2021 is rubbish. The minister takes a selective part of a statement, conflates it with something else, asserts it and then expects people to dismiss that. I will not dwell on that because there is an enormous amount of detail to go through and discuss in this place.

Again, I was fascinated to hear the minister's answer to the question. He talked about the budget being a plan. A budget is no plan. The statement of activities that the government intends to carry out is no plan. That is just a list of actions. A plan is a detailed analysis of the problem and a detailed explanation of how the government will meet that problem. We have had neither of those from this minister. I call on the minister, I ask him and I plead with him to publicise the modelling that is the basis of his so-called plan and to show how his plan will meet the energy needs of the state. Perhaps I did not indicate at the start that I am the lead speaker in this debate, but the time indicates that is the case. What the minister announced to date is utterly inadequate to meet the power requirements of this state. Let us see the detailed modelling. Do not have it hidden in a room. Do not have a group of bureaucrats sitting around all agreeing with each other—a bit of groupthink—that they have the analysis in hand and have done the right analysis. Release it to the public of Western Australia and show it. The minister can sit here and say that it is this group or that group. No, he is the Minister for Energy for the state government of Western Australia, and he is the minister who has to be satisfied that the detail is accurate.

The other thing is that not all wisdom exists within government agencies. There is a lot of wisdom within government agencies and there are some good people within government agencies, but not all wisdom exists within government agencies. There are many good people outside of government who have the capacity to analyse, comment and say whether, one, the government's analysis of what we are facing in the future is actually correct and, two, the plan the government has published is sufficient to meet those needs. I think that is pretty straightforward and fair. The broader public of Western Australia and industry in Western Australia will live with the outcome of the government's decisions. It is not just an outcome that, if the government gets it wrong, will get it a bit of political odium and make it suffer at the polls when the public passes judgement on how it has failed to manage this properly. The broader public are going to be living without electricity and losing the food in their houses. Industries will have to shut down to meet the energy demands of households when there is a shortage of gas. These people will pay the price so let them see that detail. That is what we do not see. The minister referred to a little bit of detail today. He talked about a couple of batteries and said they were replacing the coal-fired power stations. What an absolute joke. I will go through that. I am not trying to puff up the minister and then tear him down; I know he would not care if I did. However, to say that 800 megawatts of batteries will replace the Collie coal-fired power stations is farcical. I cannot believe that this minister genuinely thinks that that is the case. Again, I will take members through some detail to illustrate the point because members in this place need to understand that detail and understand the challenge that this state is facing. These are dangerous times.

As a little bit of background, our two major coal mines are facing serious economic challenges. I will discuss just how important they are in our energy system in a while. Premier Coal is owned by Yancoal Australia. We had a farcical situation in summer of getting coal from Newcastle, at enormous cost, to meet the power requirements for the state. Clearly, there were serious financial issues. Griffin Coal is owned by Lanco Infratech. Its power station is absolutely pivotal to the good economic fortunes of this state at this time. Firstly, it supplies a substantial amount of energy into the south west interconnected system at the Bluewaters power station, which depends on the Griffin mine. Secondly, there is South32 alumina refinery. I have spoken about this before; South32 is looking to convert. I visited the refinery and was grateful for the company talking about its plans. I am not here to reveal the intimate details of those discussions, although I doubt they are matters they have not discussed with many others before. It is going through a conversion process and trying to convert to gas. Again, that will cause another issue, which I will dwell on. It depends critically on coal from the Griffin Coal mine. That refinery directly employs around 2 000 people. If anyone looks at a normal multiple of that sort of business and the impact it has on the local community, the normal multiplier is about four times, which is 8 000 jobs. The great majority of employees at that refinery come from the local community—Collie, Bunbury and other areas around that refinery. It has a massive impact. If Griffin Coal mine stopped tomorrow, it would cause enormous difficulties. These two mines are in financial difficulty.

The state government appointed Cor Cordis to provide expert advice to the government on how it should manage and develop this. The government has clearly hit the panic button. An article was published in *The West Australian* on 9 August this year titled, "State Government hires KPMG as it mulls more money for doomed Collie coal mines". It has now had to appoint KPMG. As the article points out, $23 million of state money has already been sunk into that. The new Deputy Premier, Hon Rita Saffioti, has outlined the government's approach. The government really has money in this. The minister said the government is doing this to try to ensure that it gets a solution. It is looking to reach a commercial decision, but the government cannot sit at a distance from this. It has to make sure and has to tell us—it is our money—what else it intends to do to ensure that the mines keep going. This state is in an enormously risky, heightened situation at the moment. Griffin appointed Deloitte Australia as receivers for the business to try to help manage it. We hear that its owners, Lanco Infratech, are frustrated with the job that the receivers are carrying out and it is looking to replace the receivers.

Then we go to gas. I know my colleague the Leader of the Opposition is going to talk in detail about this, but I will look at the last statement of opportunity provided by the Australian Energy Market Operator. It looks into the future supply of gas into the state. It indicates that there are some serious issues with supply of gas. We have a gas pipeline that comes from the north west. The minister pointed out that a number of parties put gas into that pipeline, but there are significant constraints on that system. I am going to summarise a 2022 AEMO report. From 2030 onwards, the gas market is forecast to move into a larger deficit with shortfalls of over 200 terajoules a day between 2030 and 2032. That will be driven by the coal retirements increasing the need for gas generation and a decline in production from existing fields. It has gone through and done that. More specifically, the AEMO forecasts a gas shortage of 213 terajoules a day in 2030. That will increase to a gas shortage of 296 terajoules a day. That is a massive increase. We have spoken a little bit about this before in this place. The minister said, "Don't worry. They'll take care of it. They'll find it." What we see is increasing demand on the network. It looks like South32 is going to have to rapidly transition its refinery to gas. It has partially converted some of its boilers to gas but the transition is not complete. It still has to convert the majority of its boilers to gas. That is going to cause even more demand. That is true for other users as well.

This is not just some sort of rhetoric on my part. The AEMO report goes on to say —

> Since … 2021 … the gas generation profile has changed markedly, due to Synergy's announcement of the scheduled closure of all its remaining coal-fired generators within the outlook period.

The early closure of those plants will contribute to that gas shortage and difficulty. I heard the minister talk about a plan for 2025. It is funny. This is a senior minister—one of the most senior ministers in this government that introduced the Aboriginal cultural heritage legislation. Only five weeks out from actually having the regulations in place, when the act was in force, the government said, "No. We're going to bail out of that completely because we've seen additional information and the issues that have arisen from this." That was despite being warned. The government thinks that is a reasonable thing to do. I assume this minister, as a senior member of cabinet, thinks that is pretty fair reasoning. As I am going to take members through here, there is certainly good information and new information to say that the government's hope of reversing away from coal-fired power stations without a significant impact on power reliability in this state is very problematic and will cause issues for Western Australia.

As I said before, the government has said it has a plan. Today the Minister for Energy talked about his batteries. Back on 14 May 2023, the former Premier McGowan made a media announcement —

> **WA's first big battery ready, with bigger battery on the way**
>
> The McGowan Government plan —

That cult worship is over now —

> for cleaner, reliable and affordable energy for Western Australia has achieved an important milestone, with the State's first large-scale battery storage system ready to charge and discharge energy into the grid.

It lists the projects —

- First large-scale battery storage project in WA …
- Kwinana Battery Energy Storage System supporting WA's transition …
- 2023–24 State Budget includes funding for a … bigger battery …
- … $3 billion investment to tackle climate change …

The announcement then refers to the 100 megawatt/200 megawatt-hour battery at Kwinana. It subsequently refers to the proposed big battery in Collie that will provide 500 megawatts for up to four hours. I want members to remember these numbers. That means that that big battery can provide 2 000-megawatt hours in the absence of being charged up, and the other battery at Kwinana can provide 200-megawatt hours, so that is 2 200-megawatt hours. I want members to remember those numbers so that they can contextualise the challenge we face in providing stable energy for just the power grid in Western Australia.

For a little while, I want to touch on the challenge that this state faces, but I also want to touch on the challenge that our nation faces in relation to where we are going with the power transition. The report I am holding in my hand, and I would encourage every member in this place to read it, is the *Final modelling results* published in April 2023 by Net Zero Australia. I will tell members a little bit about Net Zero Australia. Net Zero Australia is a group made up of the University of Melbourne, the University of Queensland, Princeton University in the United States and Nous—I think that is the correct pronunciation.

Mr D.R. Michael: Something you guys don't have.

Dr D.J. HONEY: Thank you for that kind interjection, member—that was necessary.

I am informed that it is a reputable group. Certainly the universities that I have mentioned are highly reputable organisations. The researchers are listed. I will not go through them in detail, but a number are extremely well-qualified. I will mention some of the steering committee members: Robin Batterham, Katherin Domansky, Michael Brear from the University of Melbourne, Simon Smart from the University of Queensland, Chris Greig from Princeton University and Richard Bolt from Nous. These are serious people who are committed to the transition to net zero. This is not some sort of naysaying libertarian group that does not want to transition to renewable energy. This is a group of people who are absolutely committed to that green transition. I mention that because I think it helps to—let us put it this way: they are not a group of people who are going to over-egg the challenge that Australia faces in converting to net zero. I do not intend to go through their entire study, but I would encourage all members to look it up. They have an excellent website with everything from executive summaries through to detailed presentations and the basis for all the calculations that they have used to derive their estimate.

They say that just the capital investment—not the operating cost—to transition to net zero by 2060 is between $7 and $9 trillion. In this place numbers roll off people's tongues pretty easily, but I want to mention what $7 to $9 trillion means, and then what that means in terms of Australia and Western Australia. Let us say it is $8 trillion. Let us hit

the number in the middle. I have played with some numbers. I thought that number sounded reasonable. They have done vastly more clever work than I could probably ever do, so I am not going to challenge it. They say it will cost $8 trillion for that transition. That is $1 000, essentially, for every person in the world, just for Australia to reduce its 1.2 per cent net emissions to zero—$1 000 for every person alive in the world. Just imagine that! Let us take it down. The minister might say "So what? What is this to do with me?" His federal colleagues have legislated that we have to reduce our net emissions by 43 per cent—I think it is against the 2005 level—by 2030. That is going to have a massive impact on the state of Western Australia. I will mention the challenge of this.

I know that people love to go to all the detail, but, currently, Australia has only eight per cent renewables of its total energy consumption. One thing I find disingenuous or misleading in this debate is when lots of people talk about electricity. Even in this state, the government talks about electricity. There is substantial penetration of renewables into our electricity network, but electricity only represents 12 per cent of the state's energy consumption. Electricity is a relative sideshow. It is still significant, but it is only 12 per cent of the state's energy consumption. The great bulk of energy consumption in this state is not by homes or businesses connected to the electricity network, but by industry—transport is significant, but it is industry. Industry is the great consumer of energy in Australia. This federal government policy will have a massive impact on industry, including industry in Western Australia.

I hope that the minister is taking some note of what I am saying, but I also hope that he will work with his federal colleagues to try to get them to see some sense and make a sensible decision to reverse that challenge. Do I disagree with their aspiration in terms of reducing carbon emissions? I do not. However, the time line that they have set is utterly unachievable. This can be dimensioned any way you like. It can be dimensioned in terms of the material flows that are required, the procurement of equipment, the amount of equipment that has been to installed in the time that it can be done, but I will go straight to the financial level.

Renewable energy currently makes up only eight per cent of the energy consumed in Australia. It may surprise members in this place that half of that is biomass. Every windmill, every wind turbine, every solar panel and every interconnected battery—every conventional renewable project in Australia—accounts for four per cent of Australia's energy consumption. Imagine that. A 10-fold increase is needed by 2030 to get to 43 per cent. Imagine that. It is just a phenomenal challenge. We have 35 per cent to go. If we pro rata that against the $8 trillion, it is $2.8 trillion. People just say things in this place; numbers just roll off their tongue. We have seven years until 2030, including this year. That means that $400 billion of capital expenditure is needed each year to achieve that target. Australia's total capital expenditure for every road, every bridge, every mine, every energy project and every stadium in Australia currently hovers at around $500 billion. The 43 per cent emissions reduction target that has now been legislated, with a carbon tax applied to it, will almost double Australia's total capital expenditure year on year to 2030. It is impossible. It cannot be achieved. It cannot be done. The country does not have the money. We are not going to stop building hospitals, roads, schools and the like.

What will this mean for our larger emitters? As I have pointed out in this place, the big emitters are typically downstream manufacturers—the very thing this government says it wants. They are the ones that will be belted by the federal government's scheme. Some members may know that if the 200 big emitters that have been identified cannot meet that target, they will have to either offset their emissions, which they are not going to be able to do because there is enormous competition for offsets everywhere, or pay a tax to the federal government. That tax will be 5.3 per cent, and then the next year it will be 10.6 per cent and so on. What will that mean? It will mean that it is likely that those bigger industries in Western Australia will shut down. That is why I want the energy minister to talk to his federal colleagues about this and work with them—I am sure he has some gravitas amongst them—to get them to reverse that situation. I know it was not this minister's decision, but the reason I raise this is that it will have the most enormously detrimental impact on the state of Western Australia. It terrifies me. People who were involved in that decision either just wanted a carbon tax and this was a back-door way of introducing it or did absolutely no analysis whatsoever of the magnitude of the task ahead of them. I think the report from Net Zero Australia came out after the federal government's decision. In that case, it should go back and reconsider it. Maybe the minister could send a text message. The Premier is in the eastern states talking to his colleagues; they should talk about this.

I want to talk about the size of the challenge in Western Australia and why what the government is doing will not achieve it. In fact, it is foolhardy. I have some sheets here for members' education. I am happy to table them. They are not hard to find. The minister has often exhorted me to look at the Australian Energy Market Operator's website, so I spent time a little time looking through it. AEMO has an excellent website that provides all sorts of information. I have here the fuel mix, as it is called, for last week. I will explain it. The black is coal, suitably; green is gas; light green is distributed photovoltaics; and the other is wind. I will read out the numbers. In the last week, distributed PV was 12 per cent of the total energy supply going into electricity, wind was 8.6 per cent, coal was 33 per cent and gas was 44 per cent. Members might say that that is just a week of energy. If I look at the figures for the last six months, distributed PV was 12 per cent; wind was 14 per cent; and utility solar, down the bottom, was 1.5 per cent. That shows that 27.5 per cent of energy over the last six months came from renewables. Despite the massive penetration

of rooftop solar and all the wind farms we see when we drive up the coast road, 33.5 per cent of our energy still comes from gas and 39 per cent from coal. Seventy-two per cent of the energy that was ultimately turned into electricity in this state came from those sources. I note that a third was from coal.

Members might say that I am selectively picking out the data. Let us look at the last 12 months. What do members notice? A big, thick black line down the bottom. I will go through it. Distributed PV was 16 per cent, wind was 16 per cent and utility solar was 1.8 per cent—that is, 33.8 per cent came from what members would consider to be renewables. Gas was 38 per cent and coal was 27 per cent. Therefore, 65 per cent of our energy supply came from non-renewable sources over the last year, with almost one-third of that being coal. That is the magnitude that has to be replaced. To reinforce the point, going back over the last week—the website gives a picture of the renewables in green and the non-renewables in red—22 per cent of energy came from renewables and 78 per cent from non-renewables. Members might say, "So what?" It is an enormous task. I think one in three houses in Perth has solar panels on their roof and we see all the wind farms, yet this government says that we will be able to replace one-third of our energy from coal in the next handful of years.

I talked earlier about batteries. I told members to remember those numbers. I said it was 2 200 megawatt hours. I have just taken a little slice of the graph that I showed members before on renewables versus non-renewables. On 10 August—green indicates renewables and red indicates non-renewables—renewables provided 6.3 gigawatt hours across the whole day. That is 6 300 megawatt hours for the whole day. The non-renewable supply on that day was 57 000 megawatt hours. Can members tell me how 2 200 hours of battery storage can possibly provide the backup for 57 000 megawatt hours of additional energy requirement? It simply cannot. If we were to have enough batteries to do that, I suspect we would bankrupt Western Power and the like. The minister pointed out today that when we have these small fluctuations in the system, the batteries are useful. He is right. When we have small fluctuations in the power system, the batteries are useful. But when we are trying in a whole day to make up 57 000 megawatt hours of energy consumption —

Mr W.J. Johnston: You need to learn to understand mathematics.

Dr D.J. HONEY: Oh, yes!

When we are trying to make up 57 000 megawatt hours —

Mr W.J. Johnston: You don't understand. Can I make a point to you? You understand that in the middle of the day, demand is lower. It is only at the peak that you need to dispatch the batteries. You don't have to dispatch them 24 hours a day. That is why the Australian Energy Market Operator has not yet asked for any long-term storage. When it does, then we will get long-term storage. At the moment, it is asking for two-hour storage; then it will ask for four-hour storage, and later on it will ask for eight hours.

Dr D.J. HONEY: Minister, I agree with you.

Mr W.J. Johnston: What point are you trying to make?

Dr D.J. HONEY: The point I am making is that the system —

Mr W.J. Johnston: That you don't understand what you're talking about.

Dr D.J. HONEY: I do understand, because this is not just a momentary introduction.

Mr W.J. Johnston interjected.

Dr D.J. HONEY: Minister, please stop. You will have a chance to respond.

Point of Order

Mr R.S. LOVE: I have a point of order.

Dr D.J. Honey interjected.

The ACTING SPEAKER (Mr P. Lilburne): Thank you, member for Cottesloe. The point of order will be heard in silence. Thank you.

Mr R.S. LOVE: The minister is interjecting in an uninvited manner on the member of Cottesloe, who is making his contribution. The minister will have his chance to respond later. I ask him to desist in interjecting.

Dr D.J. HONEY: Thank you very much.

The ACTING SPEAKER: Just one moment, member for Cottesloe.

Please, minister, can we allow the member for Cottesloe to continue. He allowed for some interjections there but now wishes to continue with his valid points. I will continue from that point.

Debate Resumed

Dr D.J. HONEY: Thank you very much, Acting Speaker, for your very clear direction.

Minister, I understand, but the trouble is that that 2 200 megawatt hours of battery storage will be gone in an hour—that is the problem—because we do not have enough storage there. The minister can say that the AEMO will ask for more storage, and I will go through this in some more detail because it illustrates the point. This winter, we have seen consecutive days of almost no wind and almost no sun. The problem with these batteries is that if we are going to use renewable power, we cannot use just that power; we have to replace it. Therein lies a major problem for the network and for the supposed plan. This is why I want to see the detail. We have to see a massive excess of renewable generation capacity to cope with those extended periods; otherwise, we have to accept that we are going to have major power outages over that time.

I want to go into the detail. I am happy to share this with the minister. I have said to the minister on many occasions that I am very happy to learn, but I hope that the minister is as well. I have permission from the author of this document to share it and get it out there. This is a summary of a detailed analysis of the challenge that the state government faces in doing what it says it wants to do. It is an analysis carried out by Mark Chatfield.

Mr W.J. Johnston: He's an idiot!

The ACTING SPEAKER: Minister!

Mr W.J. Johnston: That's why he was sacked from Synergy.

The ACTING SPEAKER: Minister, I would ask you please to desist at that point. Thank you.

Dr D.J. HONEY: As I said, I have high regard for the minister in many ways, but his gratuitous insults bring him down.

Mr W.J. Johnston: He's an idiot; that's why he got sacked from Synergy.

Dr D.J. HONEY: Your gratuitous insults bring you down, minister. That is an offensive slur on someone who is an outstanding engineer and was an outstanding public servant. Mark Chatfield is an electrical engineer. I might say that I have looked in detail at the work he has done, and I can tell the minister that he is a considerable expert in the area of electrical engineering and particularly in modelling those systems. I have every reason to believe that the work he has produced is good work. As I say, the minister can make his gratuitous insults here, but I challenge him with his modelling to disprove the conclusions that Mark Chatfield has made. He is a former general manager of the generation division of Western Power and an executive director of ACIL Allen.

Ms M.J. Davies: I don't think the minister got the memo about arrogance.

Dr D.J. HONEY: Not at all.

Ms M.J. Davies: I think he missed it. Either that or he cannot read.

Mr W.J. Johnston interjected.

Dr D.J. HONEY: For goodness sake!

Point of Order

Mr R.S. LOVE: I seek some direction here on whether this labelling of a person, who is actually not in the Parliament to defend themselves, in the pejorative manner that the minister is doing, is actually allowed; and, if not, I ask that you order him to desist.

The ACTING SPEAKER: Thank you, Leader of the Opposition. Just one moment.

I direct that there is no specific point of order. I will ask for the second time for the minister to please await an opportunity to respond to the member for Cottesloe's points, and I will rule further if those directions are not followed.

I ask that the member for Cottesloe please continue.

Debate Resumed

Dr D.J. HONEY: Thank you very much. I think it is a shame that the minister has gone down that path. As I said, I think that when he does that, it undermines his credibility in other areas.

If we look at the south west interconnected system energy sources in 2022, we see that 29 per cent is coal; 15 per cent is domestic solar; two per cent is commercial solar; 18 per cent is wind; and 35 per cent is gas. That is a huge part of our network. The problem is that members and others look at the installed capacity of these systems and say, "We have this installed capacity; therefore, everything looks sweet." I know the old saying that it is not sunny all the time and the wind does not blow all the time; in fact, it may surprise members. The average wind output was 40 per cent of the nameplate capacity. The annual capacity factor of domestic solar was only 14 per cent; that is, we got only 14 per cent of the nameplate capacity from domestic solar. Obviously, the sun is not shining at night, but the sun is also mitigated for significant parts of the day.

Mr Chatfield has gone through and done a very detailed analysis called Monte Carlo modelling. He has developed a model of the entire SWIS and looked at various cases. I have had a chance to look at that modelling; I believe it is an extremely rigorous approach to the problem, and I would assume—I would hope—that the government has access to similar modelling. He has not used made-up data, but has used the established wind and solar profiles over a period—it would be wrong for me to quote, but certainly more than a year—to look at the actual output of power and then what we could possibly achieve, and he has gone through different scenarios. I will not go through the current situation. In the SWIS network, if we added 7 000 megawatts of renewables into the system above what we have now, the gas consumption, which is now at 97 terajoules a day, would peak at 470 kilojoules a day. This is one problem with relying totally on gas as backup. It is all right to talk about how much gas we have over the year, but there is only so much gas that can come down that line, and it can come down only at a certain rate. The problem is that when we look at the modelled scenarios, we see that we would exceed the total amount of gas that can come down that pipeline, but we would also significantly exceed the peak rates that gas can come down that pipeline. In that scenario, we would exceed the capacity of the line on 62 occasions per annum. That is with another 7 000 megawatts—seven gigawatts—of renewables in the system. If we add 3 000 megawatts of batteries into the system, we would exceed the amount of gas that can come down into the system on 15 occasions per annum. We are talking about a massive increase in the amount of renewable and battery energy into that network.

Even in the most extreme solutions in that system, taking wind to 12 000 megawatts, commercial solar to 5 000 megawatts and batteries to 5 000 megawatts, that line would have capacity on 15 days of the year. Why? First , there would be a massive increase. Something around 29 gigajoules of renewable capacity would be needed. The reason is that on those low-wind, low-solar days, a massive excess of power is needed in the grid, but it also needs to recharge the batteries. The trouble is that when adequate renewable sources are going into the grid, if that peak four gigawatt requirement of renewables is met, all renewable capacity above that is useless. Only a small amount of it can be stored; otherwise, it is useless. Most of the time, that massive excess of about 25 gigawatts in renewable capacity needed in Western Australia is useless. At least in the foreseeable future, it will not exceed more than about four gigawatts in that electricity network. It can go to other purposes, but if it is dedicated to our electricity network, it is useless capacity.

I am happy to share that with the minister. I am not doing this to score points. Like the minister, I care about the state of Western Australia and its future. I especially care about those industries threatened by the federal government's 43 per cent emissions reduction target and the aggressive time frame—sorry; its 30 per cent emissions reduction target. I will get it right. Sorry, members; it has been a long day. The aggressive time frame of the 43 per cent emissions reduction target causes threat to industry in Western Australia. I am extremely concerned about the fact that if the government goes ahead with its south west interconnected system plan, it has massively underestimated the cost of the entire project and its requirements. The minister said that the private sector will fund this massive increase in the cost of the distribution network. I have not had time to cover that, but the government has massively underestimated the calculable expense, and massively overestimated industry's capacity to pay for that required upgrade.

I do not resile from the fact that we should go through this transition, but the time line and the plan set by this government will not achieve what is required. The minister should reveal the detailed modelling so that it can be scrutinised by people outside government. He should reveal the detailed planning, not the glib announcements about this factory, because clearly what has been announced to date is massively inadequate to cope with the problems and challenges this state will face.

I touch very briefly on hydrogen. One aspect of hydrogen is the failure of this government to develop the hydrogen estate at Oakajee. I say it again and again: it is still a paddock. We hear about the propositions put forward and the six proponents. The government is apparently assessing that site, but the fact is that the site is undeveloped. This is the largest development opportunity for this state and it has been completely missed by this government. We need to see a proper focus. The government has touted its hydrogen strategy. We were told recently that the hydrogen strategy would be reset, and now the government will go to a summit on hydrogen when it fails to achieve anything. If the Oakajee estate does not progress in the near future, this state will miss out on the opportunity to develop not only major industry, but also a major regional centre outside metropolitan Perth. On that note, I hand over to my colleague.

MR P.J. RUNDLE (Roe — Deputy Leader of the Opposition) [4.54 pm]: I rise today to speak on something developing in the world of energy. It is mainly my electorate of Roe that I am concerned about, but it is an issue around the state. I briefly mentioned to the minister last night that I have a few questions about things happening in my electorate, and I am keen to get his thoughts in response.

Firstly, my discussions today will be mainly about wind farms and the communities surrounding them. To be honest, I am relatively ambivalent about renewables. I understand the majority of the population is keen to look at renewable energy sources. I understand that wind and solar are an important part of that. I am concerned about the unrest this is causing in neighbourhoods in my electorate. In my electorate of Roe, there are several potential wind farms coming to fruition or in the planning stage—the Flat Rocks wind farm in Broomehill, wind farms in Kojonup,

Tambellup and Williams, one on the horizon in Narrogin and the prospect of a wind farm in Darkan. Behind Darkan, on the way to the member for Collie–Preston's electorate, I understand there are several proposals. I understand the potential consequences of those to the Collie arrangements that the member for Cottesloe was alluding to. I have also heard about a potential wind farm in Ongerup, which will be interesting. One part of the scenario is the connection to the south west interconnected system, and the other is the transmission lines that have recently come to light as both a federal and state issue, especially in Victoria.

There is real concern over the value of land and farm land, and a reduction in the opportunity for farmers to farm their land. That is a brief summary of issues that I am concerned about. The biggest concern is potentially that a proponent in neighbourhoods in which there might be a farmer, or two or three or four farmers in a group, being negotiated with, and surrounding farmers might not necessarily be in favour. We are seeing long-term family and neighbour relationships being fractured. I am worried that this will go down generations and lead to the breakdown of our good regional communities and local neighbourhoods. That concerns me more than whether or not a wind farm happens.

Some of the information that I have gathered shows that the large-scale renewable energy sector is experiencing unprecedented activity across Australia and rural Western Australia. According to the Clean Energy Council, in WA, there are 15 operational wind farms, 12 large-scale renewable projects and five large-scale battery storage projects underway. A report by the ABC in April 2023 titled "Australians are cashing in on rapid wind farm expansion, but it's tearing some towns apart" stated —

> … power and money are pitting neighbour against neighbour as this old farming community grapples with a new, rapidly growing industry.

Some farmers see it as an opportunity to futureproof their operations, with some landholders in the eastern states being offered between $15 000 and $30 000 per turbine a year for the life of the contract. But those opposed to the size, scale and proximity to homes of renewable projects are feeling isolated and shut out of the development and negotiation process. A major failing in many renewable projects is poor community engagement over a long time, and I cannot emphasise that enough. It is about communication and it is about community engagement.

The growth of industry and economic benefits to the state's coffers should not be at the expense of our rural communities. Obviously, in respect of the state's coffers, we refer to the energy that is supplied. The government's push to meet targets in the state's energy transformation strategy should be carefully considered and not go down the same path as the scenarios in which we have seen unintended consequences. I think the government needs to keep that in mind.

Current regulations need to be strengthened. Wind farms are a viable renewable energy alternative and WA, with an enviable climate and the luxury of wide open spaces, is well placed to deliver world-class large-scale renewable projects. But the state must learn to get the planning and the consultation right and not blindside regional communities. As we know, there are many benefits to clean wind energy, but consideration must be given to the impacts of electromagnetic interference and shadow flicker; EMI with pre-existing television, radar and radio reception or transmission; construction and decommissioning requirements; local aviation safety, integrity and efficiency; audible acoustic emissions; separation distances from sensitive sites; scenic and character amenity; and flora and fauna and traffic access. Not only the wind turbines, but also the ancillary structures—including wind farm monitoring towers and electrical infrastructure connecting wind turbines and substations, permanent operation and maintenance buildings, access roads and underground cabling—can all have a detrimental impact on the amenity and function of a regional community.

I want to point out that the WA Planning Commission's *Position statement: Renewable facilities: March 2020* focuses on the benefits of renewable projects but gives little protection to neighbouring properties impacted by wind farms. The Clean Energy Council's "Voluntary best practice charter for renewable energy projects" is designed to clearly communicate the standards that the signatories will uphold in the development of current and new clean energy projects. Certainly, I would like to see wind farm and exploration guidelines strengthened in WA to better prepare and protect regional communities.

From my perspective, I have some interesting information. When we look at site selection in the *Position statement: Renewable facilities: March 2020*, we see that the main points include —

> **5. Policy measures**
>
> …
>
> **5.2 Local planning framework**
>
> Local governments should address renewable energy facilities in their local planning framework.

A question I have is: do local governments have the capacity to deal with the planning arrangements for these wind farms? Under part 5.2.1, "Local planning strategy", the statement says that under the provisions of *State planning policy 2.5: Rural planning —*

> Large facilities should be located close to the network grid and preferably on cleared rural land with low agricultural value.

That is what worries me. In my electorate, some of these wind farms are popping up on high-value agricultural land. Out the back of the member for Central Wheatbelt's electorate, there are certainly areas with wind farms, and potential wind farms are being planned on land that may be of lower potential agricultural value, but I am worried that seemingly the majority of these wind farms are planned for very high quality agricultural land. That is a real issue. It continues —

> Where practicable, the agricultural use of land should continue after installation of a renewable energy facility.

Under part 5.3.2, "Environmental impact", it states —

> To understand the impact of wind turbines on birds and bats, the following matters should be considered:
>
> - stopover sites, local bird species roosting and nesting.

Farmers are unable to clear trees on their fence lines as there may be the odd instance of an endangered black cockatoo using a tree hollow as they migrate between the Swan coastal plain and the wheatbelt, but seemingly that is not an issue with wind farms. Renewable energy companies are selecting sites based on existing infrastructure, which generally places them in higher density rural areas. While the demand for renewable energy remains strong and more power users are moving to offset their emissions, we are going to see only more pressure on regional communities from companies looking to cash in.

I have been contacted by many constituents. I have also had discussions with wind farm proponents here in Parliament and out in my electorate, so I am trying to get a balanced view. As I said, I am not necessarily in favour of or against wind farms. I am not in favour of the heat and the angst that it is causing my constituents.

I want to move on to the transmission lines part of the matter, about which constituents right across the electorate have also contacted me. High-voltage powerlines from renewable energy projects feeding through properties across regional WA is a very new reality. State guidelines need to protect properties from the incursion of transmission lines. Communities will be severely impacted if there is not careful planning, including in relation to aerial spraying, loss of visual amenity and grazing. In an ABC article of 22 July 2022 titled "Australia's energy transformation is ramping up, but there are major challenges ahead", the federal Minister for Climate Change and Energy, Chris Bowen, is reported to have said —

> "The missing piece has been transmission: getting the energy from where it's produced to where it's going to be consumed," …

The Australian Energy Market Operator predicted in a 20-year forecast that we would require more than 10 000 kilometres of new transmission lines and nine times the large-scale renewable generation we currently have. WA landholders need to be informed of the potential for large-scale transmission lines across their farms.

A very interesting recent article from Judith Sloan in *The Australian* of 15 August 2023 states —

> It is slowly dawning on more people that destroying the environment to save the environment doesn't really make any sense …
>
> …
>
> … the harsh reality is that many of us are not keen to see our landscapes plundered and ruined by the intrusion of monstrous turbines measuring up to 250 metres in height (nearly three times the height of the Statue of Liberty) …

She states —

> … the kilometre upon kilometre of new transmission lines required to hook up wind and solar installations to the grid. Think here huge steel pylons up to 100 metres in height requiring easements of up to 50 metres on each side.

For scale, the Rio Tinto building in Perth is 51 storeys high—that is, 249 metres tall. No buildings in Perth are as tall as some of the turbines being built or that are proposed to be built in regional WA. If the minister maintains the same rules for where a turbine can exist in regional areas—I am talking prime farming land—as it does in the city, a turbine can be built as long as it is more than 1 500 metres from the closest dwelling.

I am sure there are places in Kings Park where a turbine could be built 1 500 metres from the nearest house, but of course we would never do that because there would be a phenomenal outcry. If it is built in the bush, there are fewer people to protest and therefore less noise from the regional areas of WA where the voices have been silenced thanks to this government.

In Victoria, we have seen issues cropping up with the Victorian government, landholders and high-voltage transmission lines. There was an article about that in *The Australian Financial Review* on 2 August 2023. In *The Canberra Times* on 13 June 2023, David Littleproud, the leader of the federal National Party, called for a pause on plans to construct electricity transmission lines that Victorian farmers claim will have adverse impacts on their properties. He stated —

> The national energy market operator is planning to build 28,000 kilometres of power lines from the western Victorian town of Bulgana to just north of Jerilderie in southern NSW.

That is different from the quote from the Australian Energy Market Operator. David Littleproud says —

> "It is time to pause to plan better and to make sure that the unintended consequences of this reckless race are taken into account," …

I want to see better protection for landholders and enhanced regulation in WA for wind farm development because, as I said, I worry about the long-term negative impacts on neighbours and I worry about families in conflict. I worry about thousands of kilometres of transmission lines through valuable farming land that will potentially devalue that land. I worry that this government will sit by and not improve regulation and communication. They are the issues that I worry about on behalf of my constituents and on behalf of those neighbours who are not always necessarily in favour. I do not want to stray into saying, "It's great", or, "It's not great." I am ambivalent about renewable resources. I am worried about my constituents and their grief. I know the minister will no doubt deal with this in the years ahead. I know the Minister for Water will as well, because there was a large Water Corporation commitment in the last budget of roughly $180 million for a large wind farm project. This is an issue that the Minister for Water will no doubt be dealing with as well.

I just wanted to put on record the concerns that I have for my constituents, the concerns about neighbourhood conflict and what it will potentially do to generations to come. I do not want to see it. I do not want to see when neighbours are in dispute and they will not attend a fire or something else in the middle of summer because they do not talk to their neighbours anymore. That is where I am coming from and I look forward to the minister's response on that. I understand the member for Moore is going to make a —

Mr W.J. Johnston: I was told there were going to be two speakers.

Mr P.J. RUNDLE: No, an hour and a half and then a half hour response is the arrangement that we had negotiated.

Dr D.J. Honey: Minister, we were told an hour and a half for the opposition and half an hour for the government.

Mr W.J. Johnston: I was told there were two speakers for the opposition, so I am taking the call.

Mr P.J. Rundle: The whip is right behind you there, minister.

Mr W.J. Johnston: I will take the call in a minute.

MR R.S. LOVE (Moore — Leader of the Opposition) [5.13 pm]: I thought the opposition was being very amenable to allow for the reduction in its own time because the government wanted to go to the soccer. Apparently, that is now being thrown back in our face. I thank the member for Cottesloe for his contribution. He has tremendous experience in the industrial scene here in Western Australia and has a deep understanding of the issues about which he has spoken. Thank you also to the member for Roe who spoke from the heart about the issues he sees developing in his community due to the development of renewable energy sources into the future. Before I comment on those matters, I will return to the actual motion, which was —

> This house condemns the WA Labor government's neglect of the state's future of energy and its inability to safeguard a dependable energy supply, enable developments or process approvals, and thereby risks Western Australia's energy security and the economic development of our state.

We are at a fundamentally important moment in time, as we in this house all know, as the shift from fossil fuels takes place and the move to new sources of energy is underway. I want to comment on the safeguard of having a dependable energy supply. It would be neglectful of me as a member for the area that includes much of the midwest not to point out the terrible electricity reliability issues that plague communities such as Dongara, Port Gregory, much of the North Midlands and the Batavia Coast. This situation has not improved. In my view, it has it has become worse under this government, and yet we see little being done with any urgency to tackle those issues.

Turning to the issue of wind farms and those matters in the future, I echo the view of the member for Roe insofar as local government is calling out for some assistance in dealing with the very large applications that are coming their way. Shires such as Northampton, Morawa, Geraldton and Chapman Valley have many proponents who are heading into their areas and signing up large areas of land to create availability for wind towers and transmission lines. Local governments are struggling to properly address this. It is a matter that was discussed at the latest North Midlands zone meeting and it seems to me that right across the state at the moment, that sector needs to

have some consideration from government so that we can make sure that the appropriate planning practices take place going forward.

Many communities in Western Australia at the moment are echoing the concerns outlined by the member for Roe. He spoke of the calls from his community and from politicians that have taken place . This is something that the Nationals WA lay members will bring to the table at our forthcoming conference on 26 August, because there will be a motion for the state convention of the Nationals WA to call on the state government to regulate a community benefit linked to the proposed and actual energy production of the project for the regional towns and cities that are facilitating and hosting energy transition projects. There is a general concern that the regions will pay the price. They will be the ones left with an altered landscape but where will the economic development opportunities be? I am not opposed to development. I want the regions to join in that opportunity. That is very much the ethos there.

The member for Cottesloe spoke well about the ongoing gas situation. We know that the Australian Energy Market Operator in its 2022 Western Australian *Gas statement of opportunities* has outlined a whole series of expected shortfalls in gas production going forward. There is an expectation that new gas supplies will come on stream and that will help to address those issues. That is something that cannot be assumed. The government cannot assume that fresh supplies are going to be developed and made available. I note the government's recent announcement about the Perth Basin and ensuring that it remains in the domestic gas supply. That may be the case but there needs to be further development of gas supplies apart from Perth Basin if we are going to make sure we do not have a shortfall. The statement of opportunities shows that between 2023 and 2026 the domestic gas market could easily move into surplus or deficit, depending on whether or not those things come online and whether there are any changes.

The key risks to the supply and demand balance include market flexibility and the situation with coal. The domestic gas market could be pushed further into deficit if coal supply continues to be restricted. Additional gas demand might come on for new projects—this specifically quotes the Perdaman project—which could increase gas demand and result in supply shortfalls from 2026 onwards and the delay of new gas projects. As I mentioned, this government cannot just sit on its laurels and expect that these things will happen. I am afraid that this government does not really see that risk and is not taking this very seriously. We know that those new supplies could well be threatened into the future. For instance, we know that the federal government has become more adventurous in its foray into developing its own environmental protection agency. I also suspect that consideration is still going on about Aboriginal cultural heritage legislation at a federal level, all of which could impact upon the timely approval of gas projects going forward.

Of course, we know about the union situation on existing projects. We are hearing about strike action being planned on some of the offshore production units. That itself is going to threaten supply going forward. It is actually sending a chill through not only Western Australian industry, but also right through Asia where there are demands for that gas going forward. Western Australia's reputation is on the line here. The minister needs to ensure that he and the government in Canberra are doing all they can to settle this situation and make sure that supply goes on uninterrupted. We know that the decision of the federal environment minister to overturn approvals has meant that gas organisations have had to greatly expand their legal networks and consultations around new developments. That will itself cause expense and delay. I am not saying it is right or wrong, but it will potentially impact on the supply of future projects and it needs to be acknowledged and looked at.

I know that the minister is very keen to respond. I will not be much longer. As we know, the Economics and Industry Standing Committee has launched an inquiry into aspects of the Western Australian domestic gas policy, which is vital for the supply of gas as a very necessary transition fuel for Western Australia going forward. I spoke to Hon Dr Steve Thomas on Monday about this. He kindly furnished me with his submission to that inquiry, which goes through a number of issues in the domestic gas reservation policy. I know that the policy itself says that gas equivalent to 15 per cent of exports will be reserved domestically.

However, there are a lot of grey areas in that. There is no actual idea of what is a competitive or realistic price for that gas. Each of the negotiations is a project matter. Indeed, it is a player-by-player matter. It is difficult to understand just how much of the gas is actually being supplied to Western Australia. This is something that former National Party member Terry Redman was very keen on understanding when he was in Parliament. He did a lot of questioning in this area. He had contact with stakeholders and we have had contact with them ever since. It would seem that probably about nine or 10 per cent is actually being supplied at the moment. The minister might be able to address that in his response. That is my understanding. That means that there is a considerable shortfall between what is thought to be the 15 per cent supply and what is actually being delivered. There are a whole range of reasons for that. Sometimes there are triggers to the supply. It could be that the gas company says, "Down the track we will supply that, and we will get it back in balance", but there is no guarantee that that project will run forever; it could be that it is always in shortfall. It is very important that both the government and the committee look at making sure that that policy is working well.

Much of the credit for that goes to the Carpenter government that introduced the policy. However, it was not the first time that a domestic gas policy was in place, as it happened back in the development of the North West Shelf that was underpinned by state agreements. There were extensive obligations for that gas to be supplied locally. Without that supply into the local market, the project would not have gone ahead. Nonetheless, I give credit to the Carpenter government for further developing that. However, I believe there needs to be a fresh set of eyes cast over it to ensure that it has transparent operations and transactions and that there are appropriate pricing and timing signals—I am not talking about controls. There also needs to be an understanding of the timing of the supply of reserved gas. Those are issues that will need to be dealt with in the near future if we are going to see reliable energy suppled in Western Australia. My fear is that we are heading for a situation in which we are not doing enough to ensure that those domestic gas supplies are secured. Indeed, we would then be put in a situation in which that shortfall would affect a whole range of industry and projects in Western Australia. Much of the mining industry and processing of minerals, but also the general day-to-day commerce of Western Australia is reliant on that gas. We saw the situation in which Wheatstone was shut down a little while ago and what that meant to the industries of Western Australia. Some had to voluntarily shut down to enable sufficient supply in the state.

I will wrap up at this point because we have only half an hour left and I very much want to hear the minister's response.

MR W.J. JOHNSTON (Cannington — Minister for Energy) [5.27 pm]: I want to address the member for Roe first. There are no special land-clearing rules for wind farms. The land-clearing rules that apply to a farmer apply exactly the same to a wind farm proponent. I want to make it clear that there is no special treatment for a wind farm.

At the moment, leaving aside the five wind turbines at the Agnew goldmine, every wind farm in Western Australia is on privately owned land—land owned in freehold. It is not on government land. Personally, I do not think the government should intervene to stop private landowners doing what they want with their own land. That is the approach that I take. If a landowner agrees to having a wind farm on their land, I do not understand the objection. In a world in which we rely on people being able to do what they need to with their own land, what will happen next? Will the government of Western Australia control how farmers operate their farms? I do not think that is a good approach.

The Warradarge wind farm is owned by Bright Energy Investments, which is 19.9 per cent owned by Synergy. Of the land that the Warradarge wind farm is on, 0.15 per cent is used by the infrastructure of the wind farm. That includes the pad for the turbine, the wind farm access road for service vehicles, and, obviously, the cable that runs to the turbine that runs in the road-clearing space. Using a farm and having a wind farm on the same land is entirely consistent. There is no conflict between the operation of a wind farm and the operation of a farm. Remember, the only farms that have a wind farm on them are those that the landowner has decided to do that with. I just want to clear that up.

The next thing is the question of the necessary transmission lines that connect a wind farm to the network. We have not built a transmission line in Western Australia like the south west interconnected system since the Mid West Energy Project took the line to Eneabba all those years ago. I think Peter Collier was the minister who commissioned it and Mike Nahan was the minister who opened it. We have not built a transmission line since then. Of course, we have built the lines that connect an individual wind farm to the existing transmission lines, and they may sometimes run over private property. Again, it is not Western Power using its authority under the energy powers act; that is a commercial arrangement between different people. To date, we have not had the challenges like those that are being talked about in Victoria.

Let me be blunt: I live less than 100 metres from a high-voltage transmission line. If somebody says that a high-voltage transmission line 1.5 kilometres away is something they do not want, I say that I live 100 metres from a transmission line. I live in the middle of the city and I have a highway on one side and a rail line on the other, as well as a transmission line. I am not asking anybody to do anything that I am not prepared to do. There is no research anywhere in the world—ask the member for Cottesloe this—that says that a transmission line is, of itself, dangerous. Obviously, if it falls down, that is a different thing. But there is no research in the world that says that the transmission line itself causes health effects; and, if there were research that showed that, I would obviously respond in the same way as I do on health and safety matters. A lot of people run around for their own reasons stirring up trouble in rural communities about transmission lines. The member says that he is neither for nor against. I would like him to support science. I would like him to ask the member for Cottesloe to point out to people that transmission lines are not dangerous, because that is absolutely essential.

Mr P.J. Rundle: I didn't say they were.

Mr W.J. JOHNSTON: I know, but the member is a leader in the community; he has some responsibilities as well.

Mr P.J. Rundle: I'm talking about devaluing farmland.

Mr W.J. JOHNSTON: Yes, but I am making the point that that is a separate issue and we can talk about that. There are all sorts of different issues that we can deal with there. In terms of the construction of transmission lines,

people are running around in Victoria right now telling farmers that a transmission line will kill them. That is crazy. It should not be allowed. The member is a leader in the community and I ask him to get off the fence and support the necessary actions.

There is a separate question about land access. Connecting a line to a wind farm should be done on a commercial basis, and whatever agreement is reached between the proponent and the landowners, that is okay. We have to build some transmission lines. Both lines that are at the top of the list are ones that the member for Cottesloe raises with me regularly. The first is the extension to the north to allow the Oakajee project to go ahead. That is the number one priority arising from the SWIS demand assessment. The second is the reinforcement of the line to Kalgoorlie. Both lines will run through rural properties; there is no question about that. Obviously, we are at the start of the planning process and we have not got to line definition or anything like that. Obviously, there will be lots of opportunities for Western Power to engage with communities, just as it did when it built the MWEP. But we cannot have the line zigzag because the costs will go up; every time a line turns, the costs increase massively. We have to have a generally straight line for transmission infrastructure. We can avoid sensitive areas; lines run for hundreds of kilometres, so we can plan over that long distance. But let us not kid ourselves: it will not run as a zigzag; it will generally be in a straight line.

Member for Moore and member for Roe, we are going to have to talk about this, because the member for Cottesloe is demanding that we deliver power to Oakajee. The government has a plan to do it. We can do that only by running powerlines through the seat of Moore. The member for Cottesloe says that we should build extra infrastructure for industry in Kalgoorlie. The government has a plan to do that. It will go through the electorates of the member for Moore and the member for Central Wheatbelt. The new wind farms that are being developed in the south east of the state are in the member for Roe's electorate. It will not be like the extension for Oakajee, but sometime over the next 10 years, there will be another transmission line to the south east. It is coming. It is publicly available information. This is not a secret. We have already published our high-level plan that has arisen from the SWIS demand assessment. It is public; we have put it out there. We are not hiding anything. As opposed to a person who does modelling on his laptop over the weekend, this is a proper complex model built by the consulting firm EY that can model the electricity system at five-minute intervals over 20 years. We have done that modelling. The results of the modelling are public. Obviously, the specifics are not, because that type of modelling is never going to be 100 per cent accurate and there could be a debate about whether it will be this day or that day. It is not worth it. The outcomes are public information. The demand for 4 000 kilometres of transmission infrastructure is public. We do not have a route; we have not done that type of detailed planning. We will do that detailed planning only when we are ready to do the project, and we will do it in consultation with the community. It will probably be five years before the consultation starts, but when it is ready, we will go out to the member's community and consult with it about where the transmission line will run.

There is a proponent who wants to build a major hydrogen project around Esperance. If that project were to move ahead faster than we think, it would also bring forward the need for that transmission line, because obviously the larger the grid, the lower the marginal cost and, therefore, it would be better for the people who want to do that project in Esperance. I understand there is a lot of excitement about the potential of a hydrogen project exporting out of Esperance. That can be achieved only if there is transmission infrastructure. To the extent that the people in the member's electorate are looking forward to these projects, it means that there will be infrastructure. We have to come to terms with that. I again make the point that I live 100 metres from a transmission line. I am not asking anybody to do anything that I am not personally doing myself.

Mr P.J. Rundle: Finally, minister, do you think there should be any regulation for how far turbines should be from people's residences or the boundaries of other farms?

Mr W.J. JOHNSTON: Environmental approval is needed to build a wind farm. The Environmental Protection Authority does all that stuff already. It takes account of all the challenges, including birds. Interestingly, people at the Warradarge wind farm have to go around every morning to see whether any birds have been killed overnight. I think they have maybe one a week. It is very uncommon for wind farms in Western Australia to kill birds. I know that there is all this stuff about Robbins Island off Tasmania being used for only nine months of the year, but in Western Australia, there is no evidence of significant bird kills at wind farms. The member for Moore was with me at the opening of the Warradarge wind farm. It was one of the topics of conversation on that day. Another topic was whether there were actually 57 turbines, because I could not count them all. I do not know whether the member for Moore did, but we stood there and took it in.

There is no inconsistency between farming and wind farms, which is why I have been told by a number of proponents that people from neighbouring properties have asked whether their properties could be looked at for wind farms. I am not saying that everybody wants a wind farm, but clearly there is an appetite. I think the member said that it is a stable income because they get paid. I do not know what they get paid, because it is a private treaty, but significant money is paid per turbine to the farmers for the lease of the land.

In respect of the gas demand, when the Premier was the Deputy Premier, he wrote to the chair of the Economics and Industry Standing Committee and asked it to do a review of the outcomes of the 2011 inquiry. We know that different people have different views about gas supply. We have our own model. We know where things are going.

People raised the question of Perdaman. One hundred per cent of Perdaman's gas is supplied from Scarborough; it has no impact on existing supply. The Australian Energy Market Operator has a more conservative attitude to the supply of gas than the government. Even AEMO does not say that we are short of gas; it says that it will be in balance and out of balance in individual years—out to about 2030. AEMO says that that balance can be managed through storage. It has come to that conclusion. Given that gas demand will grow here in Western Australia, at the moment we do not have any great fear for the next six or seven years. Then we will. We need a significant supply of gas. The Premier's agency, in his role as the Minister for State and Industry Development, Jobs and Trade, works on this challenge. There are a range of proponents in the midwest with gas projects. They keep saying that they should be allowed to export. I keep saying to them that they have not produced any gas, so how can they export? If they start producing some gas, we will have a look.

I remind everybody that the domestic gas reservation policy applies to gas that comes from commonwealth waters. It is not our gas; it is the commonwealth's gas, but we have control over the onshore infrastructure. That is why no domestic gas comes from the Ichthys gas field, which is located off Darwin. No domestic gas comes from Prelude, which goes out from its floating platform. They need our agreement to build the onshore infrastructure.

We are working with the proponents. It is not the government that invests; it is the private sector. The government has levers and we are looking at each of those levers to consider how we might respond. If we believe that we need to take additional action, we will. One of the recommendations from the 2011 inquiry was that retention licences in the offshore region be more rigorously opposed. The retention licence scheme is managed by a joint authority. I am the Western Australian member of the Offshore Petroleum Joint Authority and Minister King is the commonwealth's representative. In the end, it is the commonwealth's decision. I have been briefed directly by the National Offshore Petroleum Titles Administrator about some of these projects. There are six specific projects in the offshore region that I think should be closely examined. We will have to see what happens. Refusing a retention licence does not mean that the gas automatically comes to market. If a retention licence is not granted, the proponent would have five years to bring the project into development. Two of the North West Shelf's domestic trains are underutilised. There is ullage at Wheatstone. Macedon, Devil's Creek and Varanus are not fully utilised. They have ullage, which is unused capacity. Those projects should enter commercial negotiations with the owners of that infrastructure to get themselves to market. As I said, that includes Wheatstone, which is already doing third-party gas. That is my view.

In the end, it is not my decision; it is the decision of the commonwealth. There are a range of issues. I am sure the owners of those resources will have their own reasons for not agreeing with me, but I make it clear that in the end, it is their decision because they own the rights to develop the gas. It is in commonwealth waters, so I have no control over that. We will continue to pressure in any way we can.

Now I turn to the member for Cottesloe. Mark Chatfield works for a company but it is not his company that is doing the analysis; it is him on the weekend. We have a model. Unlike his, ours is sophisticated and detailed, and it works. I invite members to google his background. Just because he says something does not make it true. His own company does not endorse his commentary. They are his personal views. The member for Cottesloe says that Mr Chatfield works for ACIL Allen. Yes, he does, but it is not ACIL Allen's view; it is his view. I have an agency with 120 people in it which has engaged Ernst and Young to do the modelling of the south west interconnected system. We have done it. We ran it a few years ago when we developed the energy transformation strategy. If members asked anyone in the sector what they think of the ETS, they would say it was a brilliant system. Did I do it? No, we got Steve Edwell to lead that piece of work. Now we have Energy Policy WA, which is one of the things we developed out of the ETS. It is doing the work. These are dedicated public servants who are doing the modelling.

People get confused. Clearly, the member for Cottesloe is confused about the difference between replacing the coal-fired power stations and providing electricity for the system. Sixty per cent of the electricity in the south west interconnected system is already provided by the private sector. Synergy is only 40 per cent of the system. Already today, before there was any demand growth, Synergy is not even half the system.

The member for Cottesloe talked about the total number of electrons that come from each energy source. I put it as one-third gas, one-third coal and one-third renewables. That is what it is in round figures. It might be 40 per cent gas one day and 20 per cent on another day. We should not forget that on an individual day, we have 80 per cent renewables in the SWIS. We have 80 per cent renewables on a Sunday in October. The member forgets to talk about the price of electricity. For the most recent week reported on the AEMO website—it does not report live; it is a week behind—from 31 July to 6 August, the maximum price was $324 and the minimum price was $62. I wanted to find a week in spring because the figures are starker. For the week 10 to 16 October, the maximum price was $290 while the minimum price was minus $1 000. That was because so much extra energy went into the system

that one generator was prepared to pay to have another generator switch off. Members have to understand that this is a dynamic system. That is why the peak is important. The volume in the middle of the day can be half the peak load. On a weekend in spring, we almost get down to 600 megawatts. When I became minister, people told me it could not go below 900 megawatts; now we are getting it down to nearly 600 megawatts, but that evening, it will be 2 000 megawatts. This idea that a coal plant can fit into a market like that is mind-blowingly stupid. On those days, we have to switch the coal-fired power station off.

Ms J.L. Hanns: Don't say that, please, minister.

Mr W.J. JOHNSTON: It takes three days to turn on the Collie coal-fired power station if it is cold. That is 72 hours.

Ms J.L. Hanns: And a grumpy husband!

Mr W.J. JOHNSTON: Yes, and a grumpy husband.

It takes 48 hours to turn on an individual station. That is why we put a cold start facility into Muja a couple of years ago. Until now, we could not switch all of Muja off at the same time; we had to keep one unit running. If we did not keep it running, we could not switch the other units back on. We put in a cold start facility so we can switch off all the units because we do not need them in October. Last year we put the Collie coal-fired power station on an outage to save coal, but the year before, it was out for six weeks anyway because it could not be used; there was not enough demand. That is why the batteries are so good; we only need to chop off the peak.

The member for Cottesloe talked about the volume of energy stored. That is not the question; the question is about the capacity to discharge. When they are all built, the total volume of instantaneous discharge will be 800 megawatts. That means that at the time we need those electrons, they will be available. A gas turbine takes about 16 to 20 minutes to shoot up. It is instantaneous. AEMO can press a button and get the electrons out of the battery at that moment. It is the first time we have had an instantaneous response from any kit. We are all learning how to use these things. That is why we did KBESS 1 as a small unit—100 by 200. That is 100 megawatts of capacity and 200 megawatt hours of storage. In other words, it is rated at 50 megawatts in the system. It has four-hour storage but it can do 100 megawatts. The KBESS 2 is 200 megawatts of instantaneous capacity and 800 megawatt hours of storage, so it can run for four hours. Collie is 500/2 000, so 500 megawatts of instantaneous response and 2 000 megawatt hours. If it ran at 250 megawatts, it would be eight hours of storage, but that is not the way it will be rated. That is the way they rate the one in KBESS 1. That is why we know that we can switch it off. Where are we going to get the electricity from? As I said, last week during the day it was minus $62. Synergy is selling electricity at $62 negative. It is paying $62 for people to take its electricity. Members can see why we would go to a battery. Instead of selling the electricity at a negative price, we can put it into the battery and then use it when we need to. I do not understand how the member for Cottesloe can read things and not understand them. Mark Chatfield should be embarrassed by the idea that he is some expert. Every time he opens his mouth, just like Paul Murray, he shows that he does not understand the modern electricity system.

I want to show people something: this is the new Liberal energy jobs plan. It is on the Liberal Party's website right now. It says the Liberal Party was going to close all coal-fired power stations by 2025. Do members know how big the battery was going to be? It was going to be 500 megawatts. What a joke! Remember, we are building the battery energy storage systems KBESS 1 and KBESS 2 and Collie BESS 1. However, that is not the end of it; we still have more battery infrastructure to build. Is that going to be the only thing the network needs? Of course not, because the Australian Energy Market Operator operates the south west system and it is taking the action that it needs to take. We have had flat demand for electricity for over 10 years, and that is no longer the case. We now have rising demand, principally driven by industry. Western Australia has a successful economy drawing in new investments and, therefore, electricity demand is going up.

We have a capacity market that works three years in advance. They are going to go to market and they will specify how much additional capacity is required and they will procure that capacity through the capacity market. That is exactly what the government has designed it to do. That was designed in 2004. By the way, that was the underpinnings of the change when we disaggregated Western Power back in the Ripper and Carpenter days. It was not changed by members opposite. That is exactly the system that was used. The only change the former government made was to get rid of the Independent Market Operator and replace it with AEMO. That is the only change it made. Because it was not a significant change, I was happy to see it. There is a strong argument to say that AEMO has more resources than the Independent Market Operator and, therefore, can provide a better job.

I will move on. I have only a couple of minutes to go because we have an agreement across the chamber that people will be able to get out of here at six o'clock.

There is a conflation of the needs of the south west interconnected system and the energy system in Western Australia. As I have said to the member for Cottesloe in this chamber on many occasions, over half the electricity used in Western Australia is not distributed through a grid. That means that future energy demand is not being secured in the south west interconnected system; it is going to be secured in the north west interconnected system.

Do members know what we have just done? For the first time ever we have got the large users and producers of electricity in the Pilbara to agree to have an integrated grid. That is something people have been trying to achieve for 40 years. There are three rail lines running next to each other because the iron ore companies will not share. But they have actually agreed to share. This is groundbreaking. That is why it is being reported here in Australia and around the world that this is a massive change, because a high renewable energy system will be done at a lower cost through an integrated grid. That will be the first time that has been able to be achieved. Unlike the former member for Cottesloe who used to come in here and blow his own trumpet and say how wonderful he was, I do not come in here to blow my trumpet on this point. However, I am very pleased that I was able to get the companies around the table through the Pilbara industry roundtable over four meetings over the past 12 months, with a working group underpinning that work so that everybody could be assured that their interests would not be ignored as we move forward. I was very pleased when all the companies—all of them—agreed to participate in an integrated grid.

There is a lot of work to be done before we can integrate the grid. Previously there was no point even talking about it if the companies were not prepared to use it. That would be the most ridiculous thing in the world. It is the biggest advancement for energy policy in Western Australia since the original North West Shelf project. It is extraordinary that they have all agreed to do that and it is absolutely transformational. Things like the POSCO project that is proposed for Boodarie cannot proceed without an integrated grid. It is genuinely transformational. That the member did not mention it in any of his comments just shows that he does not talk to anybody about it. It is very frustrating.

The member says that it is good enough for him that Mark Chatfield says that on 62 occasions, or 15 occasions depending on the scenario, the pipeline would not be able to supply sufficient gas to the south west. There are two things about that. I have already said in public that it is possible that we will need additional storage in the gas system at the southern end of the pipeline, because at the moment the two storage facilities are at the northern end of the pipeline. I have already said in public that that is a possibility. The other thing people forget is that most of the natural gas that comes down the pipeline is not used to make electricity; it is used as either feedstock in the production process to make explosives or fertiliser, or at Alcoa, where the member for Cottesloe used to work, to make alumina. In fact, 40 per cent of the gas coming down the pipeline goes to Alcoa and it does not make electricity with it; it makes alumina. Alcoa has already said that it wants to electrify that process. If it electrifies the process, the gas it currently uses will not be used to make alumina anymore. That means that gas will then be available to feed peaking plants.

Dr D.J. Honey: Not by 2030.

Mr W.J. JOHNSTON: Who knows? The point is that until it electrifies, the demand for electricity is not present. When it moves to renewables, the gas will be there. It is only for peaking or support, because principally the electricity will come from renewable energy. The member for Cottesloe knows that because I imagine he would talk to the company and it has told the member what its plan is. This is the ridiculous thing: the member complains about a world that does not exist. He complains that we have not done the plans that we have done. He complains that none of it is public when it is all on a website. He complains that it is insecure when it is not. January showed that our gas supply system was secure and June showed that our electricity system was secure. We had three coal-fired power stations break down at the same time and we still managed the system. The people at AEMO and Western Power do a great job. I do not understand why the member keeps criticising. I do not understand how the member reads the AEMO website but does not understand it. And I do not know why he goes back to people from the past to talk about the future. I am happy to have the work of Energy Policy WA and its consultants put up any day against Mark Chatfield and Paul Murray. It is just crazy. Coal has played an essential part in our electricity system and we will need coal until we do not need coal. I have always said that if there needs to be an adjustment of the retirement dates, we can do that because it is common sense. We are not doing this for ideological reasons; we are doing it for commonsense, practical reasons. We said at the start that if we had to adjust one element or another, of course we would do that, but we have a plan and it is working.

Debate adjourned, on motion by **Ms C.M. Rowe**.

House adjourned at 5.59 pm