ELECTRICITY INDUSTRY AMENDMENT (DISTRIBUTED ENERGY RESOURCES) BILL 2023

Second Reading

Resumed from 30 August.

DR D.J. HONEY (Cottesloe) [1.26 pm]: Before I commence my contribution to this important debate, I want to express my deep sympathy for the people of Israel and the many families in Western Australia who have been directly impacted by this terrible invasion by Hamas. I know that the member for Mount Lawley is extremely distressed and represents a very large percentage of the Jewish families in Perth who are directly impacted by this event. Certainly, my thoughts and prayers are with the families who are being impacted by this invasion. I hope with all my heart that the conflict can be brought to an end very quickly. Thank you.

I indicate at the outset that the opposition supports the Electricity Industry Amendment (Distributed Energy Resources) Bill 2023. This is one of two bills that the Minister for Energy has brought forward that aims to improve and, in part, simplify the legislative government provisions relating to the electricity supply in our state. It is interesting that in his ministerial statement today, the minister talked about the energy transition. I want to talk a little bit about that before getting into the substance of the bill. It is a new era of electricity supply with the transition to, and the great penetration of, renewable energy in our network. It brings a whole heap of interesting aspects along with it. For the first time, many families and many small businesses are genuinely considering energy independence from the grid. As a boy, I lived on a small farm west of Cranbrook. We had a little diesel generator. There was no battery backup. It was a 240-volt system. If that was not on, we had no lighting. We were excited when we were connected to the grid, and that connection continues today. Gosh, it would be 40 or more years ago that we were connected. It cost $3 000, which was a lot of money for our family, but having reliable power was important. I am certain that the link that went out to our farm would not have paid for itself. Of course, there is now a move for isolated farms to be moved onto independent systems where appropriate. Even people within my electorate in metropolitan Perth believe that they can be energy independent through batteries and solar energy.

Of course, the most profound impact has been on traditional energy supplies, and especially coal-fired power stations. The minister talked about the transition of our power supply, but we are really entering a period of uncertainty the like of which we have not experienced for some time. We have a serious pending issue with coal-fired power stations being able to obtain sufficient coal from our local coalmines. Both Griffin Coal and Premier Coal are in financial difficulty, and the government is having to pour in millions of dollars to sustain the coal supply. Although some people might eschew coal and say that it should not be part of our network, the reality is that we cannot survive at the moment without the electricity supplied by coal-fired power stations. That is why the minister has taken appropriate action to help support those coalmines to provide coal. As I have mentioned before, those companies do not provide coal just to government-owned power stations; Griffin, of course, is also a key supplier to the alumina refinery just outside Collie. That refinery relies on coal. It is trying to transition to gas, but that is not easy. You cannot just click your fingers and do it. That means that we have a real risk of energy instability. I am certain that the minister is more than aware, and some members may be aware, of the latest report from the Australian Energy Market Operator into the potential shortfall in electricity supply in the reasonably near future. That is pretty disturbing. I do not intend to go through it in great detail now, as I will have another opportunity to talk about it, but we have seen a tenfold increase in the estimated shortfall within a year, basically. I am sure that the minister will remind me, but I am aware of AEMO's role in all this. Nevertheless, the report highlighted the rapid change in circumstances that we are experiencing with this transition.

The minister touched on batteries in his brief ministerial statement earlier today. I want to mention how much batteries can contribute to providing backup power to the network. I understand that batteries are very useful when dealing with what might be called a "fuzz" in the network—switching noise and the like, when large energy users switch in or out of a network—but they are no salve to the magnitude of the problem that we face. I looked at the cost of the systems that have been installed. Stage 1 at Kwinana was originally budgeted to cost $155 million but it blew out by $19 million to $174 million. I am not sure whether there is a later update on that; I am relying on a report from December 2022. At 200 megawatt hours, that is $870 000 a megawatt hour for that battery backup. Stage 2 at Kwinana will provide 800 megawatt hours, so that is 200 megawatts at four hours. The quoted cost of $625 million comes out at about $711 000 a megawatt hour for that battery backup. I suspect that is an optimistic cost, but it will be somewhere around $800 000 for each megawatt hour of battery backup.

I will mention the magnitude of the task if we were to replace all existing non-renewable hydrocarbon energy sources with batteries and what that would mean in terms of battery capacity. I am not looking at modelling as it is always good to look at real data. I chose the date of 10 August 2023 because it was used in another debate, so I thought it was useful to use it again as an example of real data of where we are at. If we look at the figure for distributed photovoltaics, utility solar PV, wind and landfill gas on that day, we see that they provided 6 269 megawatt hours. That is what the renewables supplied. Non-renewables—that is, gas, distillate and coal—provided 56 892 megawatt hours. Conveniently, that shows that 10 per cent of the electricity produced on that day was supplied by renewables

and 90 per cent was supplied by non-renewables. That is an enormous gap. If we were going to provide all that power from renewables on that day, we would need a tenfold increase in the amount of renewable generation capacity.

We know that some days would be worse than that. I did not deliberately pick the worst day of the year; I picked that day because it was conveniently used during a debate on a similar topic. One of the problems with renewables is that people talk about the levelised cost of renewable energy. If we ignore the requirement for redundancy and backup, the levelised cost of renewable energy is very low. The problem is that we cannot do that. There has to be a massive excess of generation capacity to guarantee that sufficient renewable energy is coming into the network—or we need a massive energy storage system. People talk about lots of things, such as hydrogen and the like, but those things are not a realistic backup at the moment. If there was excess renewable generation capacity to charge the batteries, almost 57 000 megawatt hours of batteries would be required. On the dollar figures used before, that would be equivalent to $45.5 billion worth of batteries. Batteries are useful in the network, but batteries are not the solution; there has to be some other form of energy storage. When I discussed this topic before, the Minister for Energy said that I did not understand as batteries can switch in and out, but in that circumstance, the batteries would be exhausted and would have to be recharged. That day in August was one of those typical end-of-winter days with lots of high cloud and no wind. There were many days like that throughout August and into September. If we were going to recharge those batteries, we would need something to recharge them with. That is why a massive excess of renewable generation capacity would be required. As that infrastructure, which would carry this massive amount of capital, would not be used most of the time, the whole-of-system cost would dramatically increase.

That reinforces why we need natural gas in our network. I know that the minister has not argued against this point—in fact, he argued that natural gas is important—so I am not trying to make a counterargument to where the minister is heading on this. Our network is going to require gas for a long time to provide the level of stability that it needs. There is a lot of concern about gas at the moment. A recent Federal Court decision rejected the National Offshore Petroleum Safety and Environmental Management Authority's approval of seismic work that was going to be carried out by Woodside as part of the Scarborough development. The court rejected it because it said there was, apparently, insufficient consultation. I do not intend to go into a debate on this point, but I have had discussions with relevant people and it is very clear what will happen if this sets a precedent for other interventions. Federal government money went into funding the court challenge, but the person involved in that challenge was only peripherally impacted, not directly impacted. Nevertheless, that intervention was upheld. If that is a precedent, and at the moment it is, it will cause chaos in the development of future gas projects in the state. Federal government intervention is urgently needed to create certainty and make sure there is real clarity on the limits of the consultation required. If that is not done, there will be serious disruption to every future project, not just offshore but onshore. It needs very strong advocacy. I hope the Minister for Energy and the Premier provide strong advocacy for those gas businesses in Western Australia that will be so pivotal to our energy stability for the foreseeable future. It is absolutely crucial that that happens.

I want to talk a little bit about the cost of the renewable energy transition. The minister indicated that the government will invest a few billion dollars in some of the infrastructure needed to provide some stability and power when people need it. I do not think people have any concept of the level of capital investment that will be required. Net Zero Australia is a group made up of representatives from Princeton University in the United States, the University of Queensland, the University of Melbourne and a consulting group called Nous Group. It did an estimate of the capital required to get to net zero by 2060 and said it would cost $7 trillion to $9 trillion. Australia is currently at about only eight per cent renewables. If we are to get to 43 per cent by 2030, that means there is a 35 per cent gap. A simple linear extrapolation shows that is equivalent to about $2.8 trillion. People can argue about the quantum, but I think that is not such a bad estimate. That is $400 billion a year Australia wide, year on year, for seven years. That is the estimate of just capital investment, not operating costs. As I pointed out, the price of renewable energy will not be lower than the historical energy prices we are used to from non-renewables in Western Australia. I will talk about the difference between us and the rest of the states later. The amount of $400 billion a year is huge. Australia's total capital expenditure in mines, schools, rails, hospitals and renewable energy projects at the moment is around $500 billion, so we are talking about almost doubling Australia's capital expenditure year on year for seven years. It is impossible. That is to get to just 43 per cent renewables by 2030. That investment is for zero productivity. In fact, there is a high probability of a decline in productivity during that period. I am certain that ministers and others in this place would know that if that much money is invested for zero productivity gain, it is economically destructive. This is an enormous challenge for Australia. Doing a straight pro rata, our share of that—I think it will be higher given the amount of industry we have in place—would be about a $48 billion capital spend in Western Australia year on year; that is, if we just do a ratio of our population against the Australian population at 12 per cent of that $400 billion. That is just for capital. Look at the amount of money we have spent for these tiny little projects, which I know sound big but are really tiny in terms of the state's energy needs. I have pointed out before that electricity is only a small part of our total energy use in this state, at only 12 per cent. As long as we have gas for a good period, I am not pessimistic about the electricity network in the state. I am extremely pessimistic about the ability of high-energy users in the state to maintain their businesses.

In fact, if the current federal government legislation persists, we will see a complete shutdown of major industries, including the industry I used to work in. That will include Rio Tinto's Boyne smelter, the biggest aluminium smelter in Australia. It has written the book value for the smelter. After the federal legislation came in, the book value was written to $0. I talked to a senior ex-manager from Rio recently and that manager said that that is what is done immediately before something is closed down. That will be a tragedy for Australia. I will go back to the substance of the bill shortly, but the tragedy is that there will not be one tonne less of aluminium or alumina made in the world, because that is driven by demand, but the alumina and aluminium will most likely be made in China, where dirty brown coal is used. The carbon emissions from that are more than double the carbon emissions from the gas used in Western Australia. It will be a worse outcome for the global environment and it will destroy a really wonderful industry in our nation that provides really high quality jobs. I know the minister will have discussions with his colleagues; he does not control federal legislation.

The good news is that this bill and the associated Electricity Industry Amendment (Alternative Electricity Services) Bill 2023 will definitely establish an improved framework to help us cope with the renewable energy transition and improve protection for some consumers in that process. In Western Australia we are blessed. Perhaps there has been some debate at times about who is responsible for what, but I do not care. I will claim it for Western Australia. We have the best regulatory framework to manage energy in Australia. That is reflected in what the minister has talked about a number of times; that is, we have such low and stable energy costs compared with the rest of Australia that does not have the regulatory framework that we have. That regulatory framework is driven by ensuring we have sufficient capacity and independent oversight by the Australian Energy Market Operator in terms of daily management and longer term capacity provision because of the statement-of-opportunities process and procuring suitable supply from the market. As I say, when we have had discussions about this topic in this place, the minister has commented that this regulatory framework exists and therefore we will simply get that capacity from the private sector. I know there is a lot of investment in the private sector; however, that rate of investment is a fraction of the rate we require if we are to achieve the government's time line of transitioning out of coal. As I said, we have the safety net of gas, but if we are to transition away from gas as well by 2050, it will be an enormous challenge to do that without causing major harm to our economy and the stability of electricity and, more particularly, energy supply in the state.

The legislation is largely enabling legislation, as has been pointed out in the briefing notes. I was going to say this at the end of my speech, but I will say it now: minister, I am grateful for the quality of the briefings that were given on this. In particular, I would like to award the parliamentary gold star and elephant stamp to the explanatory memorandum that was provided with this bill. I think it is the most usefully thorough explanatory memorandum I have seen with a bill, so congratulations to whomever was responsible for that; they did a really topnotch job. Thanks, minister.

I will go through some of the detail of the bill. A major part of the bill is establishing the state electricity objective, and I will go through that a little bit. The state electricity objective is to promote the efficient investment in, and efficient operation and use of, electricity services for the long-term interests of consumers of electricity in relation to the quality, safety, security and reliability of the supply of electricity; the price of electricity; and—the new one that has come in—the environment, including reducing greenhouse gas emissions. The government is making a statement there in that whatever decisions are made that march towards reducing carbon emissions is an important consideration. We support the bill. I do not object to that inclusion in the bill. The only thing that I would say is that it is fine to have aspirations for what the government is trying to do, but it cannot be just an act of faith; a really detailed plan has to be available. We can rely on market mechanisms, but there has to be another level of examination on how likely it is that those market mechanisms will deliver the outcome the government needs in energy-generation capacity and the long-term energy-storage capacity. We need to be able to cope with the sorts of days we had on 10 August this year and the many days surrounding it when we had effectively no wind and very high cloud cover, which substantially reduced the capacity of the rooftop solar network. As I said, I do not think there is any controversy in that, and obviously it makes an important point.

Part 1 of the bill is the commencement scheme. Part 2 of the bill is the first of two stages of implementation; the definition of the new terms; the state electricity objectives, which I have just talked about; the new electricity system and market rules, which are obviously a critical part of all of this; provisions relating to the prescription of voltage and frequency limits; provisions relating to the transfer of content for existing regulatory instruments to the new ESMR and the operation of those instruments; and the provisions relating to the deployment of standalone power systems by Horizon Power.

The second stage of the bill will look at the Electricity Networks Access Code 2004, Electricity Industry (Metering) Code 2012 and the Electricity Industry (Network Quality and Reliability of Supply) Code 2005. The government has said that there will be a good review of these acts, and I think the Minister for Energy is very thorough in his consultation with industry, which is certainly the feedback that I have had about that. That consultation obviously needs to happen, and if this minister is in charge, that consultation will occur.

In all this, what will this legislation do? It will help to ensure that we have the correct administrative framework to cope with what will be many dispersed sources of electricity input. The other part of it, which we will talk a little bit about, is the potential that we will need to control the use of electricity remotely. Perhaps if there is a part of the bill that will excite interest from the public, that might be it. I think people are used to the fact that they need the controlled supply of electricity into the network. Announcements have been made in this Parliament that rooftop solar, with some wind, can effectively provide all the power required for parts of some days during the year, and there is a very high expectation that we will continue to see a massive penetration of rooftop solar—a doubling of rooftop solar—by the end of the decade, as I understand. That is the estimate. The private renewable energy projects that the minister has talked about will all be generating electricity. There will be times when the input will need to be controlled, but, as I say, I think there is pretty good acceptance of that across the community even though some people are grumpy at different times about controlling the uses of electricity.

What we will have to do to our electricity network in terms of the uses of electricity in the future is going to be quite interesting. I have seen estimates that if every household in Perth suddenly went out and bought a Tesla or an equivalent vehicle, we would need to increase the supply capacity of the network by around 40 per cent. If that were to occur, that would be an enormous undertaking, and that is assuming that people would get their power from the network and not from their own generated power, but I think that many people would get it off the network. Typically, they would charge their cars when the sun is not shining, and that is the issue because there will be a huge demand on the network. Those vehicles have an enormous power draw, and that is a real issue for the stability of our network into the future.

This bill sets out a framework, which relates to the point that I am talking about, to improve the visibility of the amount of distributed energy resources, including the power to control those resources. If I read the bill correctly, minister, proposed section 124E is the distribution system regulation. We can go through this in consideration in detail, but I am interested in whether the government intends to reach into individual energy user's homes for information on their use of energy, such as pool pumps and air-conditioning systems, in the event that that information is needed for the control of the network. As I have discussed, if we look at solar and wind energy, we have now reached saturation point, and there are days when there is an excess of renewable energy in the grid. As I have pointed out, we have high-energy uses in houses, such as pool pumps, air conditioners and with the transition to electric vehicles, so it will be interesting to see and understand the level of that.

Overall, this is a well-drafted bill that promotes sensible changes. I have already thanked the minister's staff for the preparation work that they have done, and I commend the bill to the house.

MR G. BAKER (South Perth) [1.58 pm]: I was not expecting to speak. I would like to speak for one minute or so on the Electricity Industry Amendment (Distributed Energy Resources) Bill 2023, nice and slowly to start with.

The ACTING SPEAKER (Ms M.M. Quirk): You are charged with talking on current matters.

Mr G. BAKER: Okay.

Several members interjected.

Mr G. BAKER: I do not think you are allowed to object from the chair.

Several members interjected.

Mr G. BAKER: This bill is one part of an extraordinary transformation of WA's electricity infrastructure, driven by a revolution in electricity-generating costs. I am not sure whether many people—particularly the member for Cottesloe—understand how transformational this process is. I was listening to the member for Cottesloe just then and he used words like it was "impossible" or it was "economically destructive".

Dr D.J. Honey: I didn't say it was impossible.

Mr G. BAKER: You did!

Dr D.J. Honey: In the time frame.

Mr G. BAKER: Okay. The member also said, "I think you're getting it wrong."

This transformation will address the great environmental issue of our time, global warming, while at the same time making WA a world-leading source of cheap electricity and energy. It is a transformation involving the production, transmission, storage, consumption, export and regulation of energy.

Debate interrupted, pursuant to standing orders.

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