

Western Power —

Ms J.M. Freeman, Chair.

Mr W.J. Johnston, Minister for Energy.

Mr G. Chalkley, Chief Executive Officer.

Ms J. Hall, Acting Chief Financial Officer.

Mr R. Watson, Executive Director, Infrastructure and Finance, Department of Treasury.

Mr N. Roberts, Chief of Staff, Minister for Energy.

Miss K. McKenzie, Senior Policy Adviser.

Mr P. Meyerkort, Senior Policy Adviser.

[Witnesses introduced.]

The CHAIR: This estimates committee will be reported by Hansard. The daily proof *Hansard* will be available the following day. Members may raise questions about matters relating to the operations and budget of the off-budget authority. Off-budget authority officers are recognised as ministerial advisers. It is the intention of the Chair to ensure that as many questions as possible are asked and answered and that both questions and answers are short and to the point.

The minister may agree to provide supplementary information to the committee rather than asking that the question be put on notice for the next sitting week. I ask the minister to clearly indicate what supplementary information he agrees to provide, and I will then allocate a reference number. If supplementary information is to be provided, I seek the minister's cooperation in ensuring that it is delivered to the principal clerk by Friday, 31 May 2019. I caution members that if a minister asks that a matter be put on notice, it is up to the member to lodge the question on notice through the online questions system.

I give the call to the member for Swan Hills.

Ms J.J. SHAW: I refer to page 667 of budget paper No 2, paragraph 19, under the heading "Future Network". Could the minister provide us with an update on the PowerBank trial and whether Western Power is in a position to discuss the benefits of grid-scale batteries as opposed to household-scale batteries located behind a meter?

Mr W.J. JOHNSTON: That is an excellent question. I will ask Mr Chalkley to make some comments. We are very keen to support the continued expansion of grid-embedded batteries.

Mr G. Chalkley: Late last year, around October, 52 customers took up that opportunity pretty quickly. It has effectively been in the grid for six months and is working very effectively. It is serving a number of purposes. It was placed in Meadow Springs near Mandurah, which is a high-density, high-growth area. It was an opportunity to defer some traditional investment to try something different in a battery. It has certainly given us data. It is on a feeder that has very high penetration from a solar perspective. We are obviously gaining the benefit of the alternative that we see in some of the issues of high penetration on people's roofs coming into the network. It also has a safety issue, so it has given us good data from some of the analytics that we can see from a safety perspective.

Where does it take us? It is early days in the trial but it is certainly working as we thought it was going to work, which is a good start for us. We are already looking to other feeders in the distribution network that have those similarities—really high penetration of solar PV, and even nearby to Falcon, an obvious example that has a very high penetration. It is one of the solutions that will definitely solve some of the problems that we have seen in the distribution network, while also giving the customer a really good outcome. It is certainly cheaper from behind the battery meter. That is a much cheaper option to put in the community. It is working as expected.

Ms J.J. SHAW: I would be interested in the minister's view of grid-scale batteries and their role in providing ancillary and network support services as opposed to behind-the-meter small household scale batteries and visibility into the network or the system as dispatchable resources.

Mr W.J. JOHNSTON: I will ask Mr Chalkley to make a comment. I make the point that lack of visibility on behind-the-meter batteries is an issue. The controllability of that is a challenge. When it is visible to the system, it obviously helps with the system support. I will invite Mr Chalkley to comment.

Mr G. Chalkley: Following up the minister's comment, at the moment they offer us a network solution for some particular issues that we see in the network pretty much driven from a lot of solar PV on roofs. Really large-scale grid batteries offer a much wider opportunity for us and the customer because they give much better stability for what we are going to get from a visibility point of view. At the moment we are only looking to scale those batteries to resolve issues. They are very modular. They can obviously be adapted very easily to provide other services. We are sitting in an environment within which we have to meet some of the regulatory requirements. The way we

are putting them into the network at the moment ticks those types of boxes because they give better security and reliability, but clearly they are modular. They can offer a much better solution and offer other services on the back of them that give better grid stability across the whole of the network.

Mr D.T. REDMAN: In our discussions with Synergy, the minister referred to the intent to consider remuneration for ancillary services. Mr Chalkley referred to grid-scale batteries being able to deliver some of those ancillary services. There are a range of ancillary services that cannot be delivered by batteries and/or PV, which I understand need to have a level of synchronous generation. Has any work been done in the network on the balance between synchronous generation and alternative sources of energy that have some restrictions on some of those ancillary services such as inertia that can be delivered?

Mr W.J. JOHNSTON: The member is referring to the discussion with the Public Utilities Office. Western Power cannot play in the ancillary services market because of the regulatory framework.

Mr D.T. REDMAN: But it is impacted by it.

Mr W.J. JOHNSTON: Yes. Obviously, it would love to, but at the moment it cannot; it is regulated out of that space. I understand that the South Australian battery has been used 30 times—it has been used quite frequently—but it is automatically supporting the system. There are other things like inertia that we obviously cannot provide. It is a great topic and I am happy to talk about it but we are getting away from Western Power.

[12.10 pm]

Mr D.T. REDMAN: This is, I guess, a technical question about getting some vision on the impact of a network. That is what this is about now. There is a massive impact on the network.

Mr W.J. JOHNSTON: That is correct.

Mr D.T. REDMAN: Mr Chalkley talked about positives in some points in the network, which can be enhanced or deferred in some capital investment, but there is also the broader issue, which the government has to see, of the impact of ancillary services on the network. I know the government cannot play in that space, but I do not have an understanding of whether half of the energy needs have to be dispatchable and synchronous, which means there need to be either coal-fired or gas-fired power stations, or whether there can be a small unit sitting on the side to throw something in at that point in time. I do not know the solution to that problem and I wonder whether the minister can give me some idea of that.

Mr W.J. JOHNSTON: I will get Mr Chalkley to talk, but I want to make the point that that is part of the reason we are doing both the distributed energy resources road map and the whole-system plan. There is a question about how the regulatory framework treats batteries, because they were not thought of. Therefore, we have to think about whether there needs to be change. I do not like the term “ancillary services”, because, apart from anything else, no-one outside industry knows what it means.

Mr D.T. REDMAN: It is what it is.

Mr W.J. JOHNSTON: One of the things we have asked the Energy Transformation Taskforce to look at is the question of how ancillary services are affected. I am sorry; we are getting a long way from Western Power. One way we can do that is to say that if someone wants to connect to the system, they have to be firm. It is then up to them how they do it. They might do it through an ancillary services market or they might use some other mechanism. Again, if the government simply says, “This is what we want”, the private sector will do it. I ask Mr Chalkley to make further comment.

Mr G. Chalkley: As the minister said—I was listening to the hour devoted to Synergy as well—the whole-of-system plan is very important. We effectively operate two licences. We operate a transmission licence and a distribution licence, and they both offer different issues and solutions at the moment. We will get to that road map. We are in the tent that will provide that road map for the future. On the transmission side, we will see what renewables are coming, where they are coming from and what they will do to our current network, and how that transfer from fossil fuels to renewables is going to happen. That is the bit that is playing out now. In the distribution space, there is the issue I was talking about with things like PowerBank and large-scale batteries in the grid about how to make the feeders that feed off the transmission line secure. We have issues on either side—at the connection and usage points—but we also have solutions on either side. The whole-of-system plan is the crucial thing that pulls it all together. We do not have an issue in that we can see how stable we are going forward. It is more about making sure we have the future properly lined up, so that we can take the fundamental changes that are happening in the network.

Mr D.T. REDMAN: Under access arrangement 4, which runs to 2022, there are limitations with these options. Can the minister explain the process that Western Power goes through in order to get approval for an investment that sits outside of the AA4 asset base requirement, such as some of the ones that have happened? Is it simply

a board decision or is permission sought from the minister? Someone might have to pay for it and is able to recoup the resources. Can the minister give me an appreciation for the process he goes through to make that decision?

Mr W.J. JOHNSTON: There are two separate issues: who owns the revenue and who gets to authorise it. Obviously, Western Power is authorised by AA4 to collect revenue for specific activity and, of course, there is a profit margin as well. If we take the example of advanced metering infrastructure, the Economic Regulation Authority is able to install 250 000 advanced meters, but not the communications infrastructure. That came to government, and with the business case approved through Treasury, we have authorised \$61 million—that is a rough figure. It is retaining \$61 million of its money, which would have come back to us, to spend on the advanced metering infrastructure. I invite Mr Chalkley to explain this further.

Mr G. Chalkley: We start with the premise that it probably sits outside the regulatory environment. We obviously present what we feel is a valid investment going forward. As the technology has changed, there are different asset solutions from the ones before. That is really what is playing out. If I take the example of the Kalbarri microgrid, we would think that was technically sitting outside, but it was approved by the regulator from a reliability perspective. It gave Kalbarri much better reliability. It was in tandem. If we take the example of PowerBank, for us it sits on a security and reliability perspective. We are not trying to provide any other service on the back of it; we are just trying to make the network we have more secure. Does the regulator always agree with everything we put forward? Definitely not. I feel, having sat in this seat for three years, that the regulator gives us a pretty big envelope to operate under. We always have the flexibility to make choices. Even the example of advanced metering is interesting. At the moment, the spend has been rejected because it does not fit effectively in the investment criteria, but we still believe it can and we will take the opportunity to do it, and by the time it is done it will only be assessed on that basis. Therefore, it could still be approved afterwards anyway. That flexibility is always within the overall program. There is quite a big program—a \$3 billion program over a period—and there will always be that flexibility on 10 per cent of what the solutions will be. I think there will always be a bit of tension between the regulator and the network provider to make choices when they feel there are different decisions to be made. It is the cream, rather than the main part of the work program. At the end of this regulatory period, we will have some of this new technology in the system. I think we will be able to stand back and say it works, that the customer likes it and that it is probably safer and more reliable than the traditional option. It just moves us forward for a better discussion with the regulator next time.

Mr D.T. REDMAN: Does the minister think there are likely to be any stranded assets that Western Power has invested in under the current regulatory arrangements when alternative solutions emerge and are supported by the ERA, which it might not support now?

Mr W.J. JOHNSTON: I will get Mr Chalkley to speak, but I might make a comment afterwards as well.

Mr G. Chalkley: That risk is always there. I think it was there with AA1, in which I understand there was a very large write-off of traditional assets in what was undertaken. I truly believe that we will see better solutions. The solution becomes more of a catch-up, and we have to see it in situ and working. We are just going through that sort of technology phase. We took a conscious decision not to go into these investments on a big scale. We have gone into them in a pilot stage to prove they work. That is the place we are at. We have said we want to trial these things for two years. It is an alternative to the traditional asset. I class the assets we have chosen at the moment as low-hanging fruit. They stack up economically. Economically, the new solution is definitely cheaper than replacing things. We can take the example of 10, 20, 30 or 40 kilometres of poles with conductors in between for two customers at the end of the line. At the moment, we are taking the sort of options that stack up economically very well, because they give us less risk of a stranded asset and a write-off. We are in an early curve that is economically very good. We are in dialogue with the ERA and industry to play catch-up on the technology.

Mr W.J. JOHNSTON: I add that when the wheatbelt had reticulated energy provided, it was seen as bringing economic development to those areas.

Mr D.T. REDMAN: It was a community service.

Mr W.J. JOHNSTON: Yes, but it was also about becoming part of the wider community. That is quite important. There are already stranded assets. I am advised by people in commercial industry that if two customer poles are needed to connect to the Western Power network, a standalone power system may as well be done; that is without any government subsidy at all. The cost of these things is changing very rapidly. In the past, we would have thought that as more people move to a particular place, the infrastructure would be used more, but that is no longer what is going to actually happen. I think some of these long feeders are already effectively stranded.

[12.20 pm]

Dr M.D. NAHAN: The Australian Energy Market Operator's March 2019 report on the impact of utility-scale renewables and distributed energy, which we have discussed quite a bit, states that unless something is done, there is an increasing risk of blackouts by 2022 due to cascading failure or widespread load shedding. We do not have

that much time. I know the Public Utilities Office and Western Power are thinking about a whole range of things within their regulatory remit to impact those. Can the minister go through the policies that Western Power is starting to implement or has scheduled to develop over the short term, as this is in two years' time? One of the issues that was discussed extensively was constrained versus unconstrained grids. When I left as minister, those issues and the need to invest in intensification of the distribution system and reinforcement were being debated. Could the minister go through some of those?

Mr W.J. JOHNSTON: I am not quite sure about the policies the member is talking about. This is Western Power. It is implementing the policy of the government and others are providing to it, but we are developing those policies not ignorant of Western Power. The Energy Transformation Taskforce very strongly relies on Western Power and the Australian Energy Market Operator. When I made the announcement about the energy transformation process, I said that it would include the Public Utilities Office, Western Power, AEMO and market participants. Western Power is at the table. We held a workshop in February to come up with the transformation plan, and Western Power was one of the participants. There are separate issues in the distribution network compared with the transmission network. I recognise the work that was done by the Leader of the Opposition as minister prior to the change of government, and the generator interim access built on that. It is not without controversy, and of course we also need AEMO to develop new systems for that. Unfortunately, of course, it is having a discussion with the Economic Regulation Authority about regulatory approvals. We have gone back to the ERA to effectively get it enough money to build a business case that will allow it to have the systems in place to deal with the move to a constrained access arrangement. We have to be clear that there are two important but separate issues. The first issue is the distribution system—the Meadow Springs battery is an example of a response to that—and the second issue is the transmission and generator issues that the GIA has tended to respond to. I invite Mr Chalkley to talk about the GIA and how we are going in trying to facilitate generators connecting.

Mr G. Chalkley: Certainly from our perspective, we saw the time line to 2022, maybe 2023, with some of those issues eventuating. I do not think we have stood still. That interim access was a big one for us. It was a recognition that we needed to connect the work on renewables. We came up with an interim solution that could add 900 megawatts to the system from a renewables point of view. I am happy to say that we have worked pretty well with industry and we already have the first cab off the rank in Badgingarra with APA. We can see the wind farms that are following—Warradarge and Yandin. We put the dominoes in place to react to the issue that is definitely coming, and we have started to put in those solutions early enough to react to it. That is how we are reacting to the transmission side of it.

The distribution issue is interesting for WA because of the amount of solar photovoltaic on rooftops and that high penetration. We are trying to put in place a number of solutions. One of the big ones will be that distributed energy resources road map, because one of the key issues for us is visibility, trying to get a system in place that allows us to see what is on our distribution network with the ability to place it where we need it. Again, we are working very closely with AEMO and the market to get that solution.

Dr M.D. NAHAN: A very large expansion of large-scale wind is planned and underway, particularly in the north. Mr Chalkley has mentioned three of them. Is he satisfied with Western Power's investment in its transmission facilities to facilitate those developments?

Mr G. Chalkley: I think we are. We worked really hard with the market to come up with a solution that has its investment off the line. The solution through that interim access has those developments being built, and then we are very confident that we can connect them and that that will keep our transmission secure. We took that conscious decision when the GIA was being developed. We said it would cope with 900 megawatts and circa eight customers of varying sizes. That is why we also said it was interim; it was an interim option that will take us through the curve that takes us to 2022–23, when we obviously should have something that is not only more secure but also lays foundations for the future.

Dr M.D. NAHAN: Is the minister concerned with the balancing of the system, in the sense that with wind we will increasingly have large-scale intermittency in the north? When the doctor does not come in, it drops out and the power is intermittent, and then the balancing load is often in Collie from those coal-fired power stations. Will that present some stress to the grid, to cope with the imbalance, if you wish, and the balancing of requirements?

Mr W.J. JOHNSTON: I will ask Mr Chalkley to make comments, but some of those, of course, are AEMO's responsibilities, not Western Power's. In response to the GIA, AEMO needs to create new systems so that it can constrain generators in the appropriate methods. At the moment it is being done manually, and clearly that is suboptimal because of the very issue that the Leader of the Opposition raised—because it is instantaneous. We are seeking support. I accept the ERA's decision that the business case provided by AEMO was not complete. We are now seeking money from the ERA so that AEMO can do a business case in a more thorough manner. We need automatic systems as we move towards constrained access. It is fair to say that when I became minister, I was not the biggest fan of constrained access, but I am satisfied that it is the appropriate response, and, therefore, we need

to move further down that pathway and have technical systems in place so that AEMO can constrain generators. I will ask Mr Chalkley to talk further about the impact on Western Power and his thought process on this issue.

Mr G. Chalkley: It is very different from what we have at the moment. If that concerns us, that means that we address and resolve some of the issues that it creates. For us, it has been there for the last two years. If it happened overnight, that would very much concern us. We have quite a structured plan of how it is coming on to the grid, which is like anything in life. We have the plan that is taking it forward. It is working for us at the moment, but I am very cognisant of the change in the dynamics of what is happening.

Mr D.T. REDMAN: Energy Made Clean went insolvent and at the time, it had a number of contracts with Western Power. I think one of those might have been involved with Kalbarri. Can the minister give me an appreciation of the costs to Western Power of either early payments that have been unrecoverable, or any costs that it has had to pick up in dealing with the contracts that it had?

Mr G. Chalkley: For us, it is zero. The main contract that we had with EMC was the Kalbarri microgrid. The other one that had already finished was Ravensthorpe. That contract was a joint venture with Lendlease and the EMC, of which Lendlease were doing the civils, and the people smarts—the intelligent part of the smarts—was being provided by EMC, which has people and consultants. It looks like the way forward for that is that most of the work that was undertaken was the civils of EMC anyway, so that was not affected. It looks like the EMC people will go into the joint venture with Lendlease anyway. For us it has been quite seamless; it does not look like there is going to be a change in time line or cost.

The CHAIR: That completes the examination of Western Power.

[12.30 pm]