

27th July 2022

Anna Collyer

Chair, Energy Security Board

Submitted via email to: info@esb.org.au

Re: Iberdrola Australia submission to ESB's Capacity Market High-Level Design Paper

Dear Ms Collyer,

Iberdrola Australia delivers reliable energy to customers across Australia through over 670 MW of renewable capacity, supported by a portfolio of firming capacity, including open cycle gas turbines, dual fuel peaking capacity, and battery storage. With a further 453 MW of assets under construction, and over 1000 MW in various stages of development, this broad portfolio of assets has allowed us to deliver firm, affordable electricity to over 400 metered sites including some of Australia's most iconic large energy users. Iberdrola Australia is part of the global Iberdrola group, a global energy leader with more than 120 years of history.

Iberdrola Australia supports Ministers' efforts to increase investment certainty and ensure that sufficient new resources are available to deliver a reliable and affordable grid as coal closes and the system delivers the government's objective of 82% renewables by 2030.

A broad-based capacity market articulated by the ESB would not deliver on what was requested by Ministers, and cannot be implemented by 2025. It risks deferring new investment and a traditional capacity mechanism will not, of itself, improve reliability or affordability outcomes.

We agree with the ESB that it is necessary for new capacity to be in place *before* ageing and increasingly unreliable coal retires. As such, we suggest the ESB recommend to Ministers three separate mechanisms:

- An underwriting mechanism for new capacity. This could take the form of a capacity reserve.

- A very short-term mechanism for assisting coal plant to be reliable until it retires at a mutually agreed point in the future
- An operating reserve that ensures that the system remains resilient to foreseeable shocks (such as coal plant failures).

We attach a recent working paper which demonstrates that a traditional capacity market would not have helped with the recent market suspension. Instead, it would risk windfall gains to “wounded bull” coal generators and be counterproductive in driving new investment in dispatchable technologies

Iberdrola Australia therefore supports a differentiated package of policies for the NEM, focused on delivering investment certainty and providing additional resilience, minimising additional costs on consumers, and delivered quickly. Rather than a complex revision to the fundamental market design, we consider three targeted solutions are required. These can be implemented quickly (within 12 months) and will facilitate new, physical capacity.

1. Responding to market challenges

Challenge 1: risk of *unexpected* coal plant failure and exposure to “unknown unknowns” such as extreme weather conditions.

Solution: This is a problem of *engineering* not of *economics*. Only new, physical capacity can provide insurance against these risks. The solution is to build the required replacement capacity in advance, but put it in a “waiting room” (bidding into Operating Reserves/RERT) ready to enter the market when required. This guarantees a smooth transition when coal closes and provides extra resilience to deal with extreme conditions. Putting the replacement capacity temporarily into a reserve market ensures that the economics of existing capacity is not impacted (e.g., it doesn’t force coal out earlier than other policies require).

Iberdrola’s Physical Reserve Capacity Market¹ provides one approach, coupled with Iberdrola’s Operating Reserves rule change (which has been waiting to be progressed by the AEMC since March 2020, and would have provided reserves to help with the recent market challenges). The ESB’s proposed certificate scheme will not provide this insurance, unless certificates are over-procured with the higher price paid to *all* incumbents.

¹ <https://www.energy.gov.au/sites/default/files/2022-02/Iberdrola%20Australia%20Response%20to%20Capacity%20Mechanism%20Project%20Initiation%20Paper.pdf>

Challenge 2: Uncertainty around the timing of new required investment, investment environment, and volume of firming required.

Solution: Continued policy uncertainty has created a challenging investment environment. There may also be risks that prudent private investors cannot hedge against (e.g., 1 in 20 year events). There may therefore be a role for governments in underwriting new investments, to provide certainty of both capacity and timing. For example, the NSW Roadmap provides one approach for delivering long-term storage, and Flow Power has proposed a safety net scheme to ensure investment will be delivered. In particular, derisking investment in long-duration firming could be a valuable role for jurisdictions.

Challenge 3: Operators of coal power stations do not have incentives to provide accurate closure dates

Solution: Currently, coal power stations must provide 42 months notice before closing. However, the ESB's process implies that this is not currently sufficient for operators to invest and prevent early closure. We understand that penalties are low, particularly in the case of engineering failures. There is a "first mover disadvantage" associated with closing a power station, which creates space for the remaining units – creating a coordination challenge. Operators are also able to extend their closure date, meaning signals for new entrants are weak.

There are several options readily available to Ministers, which could be combined to deliver improved financial certainty for both incumbents and new investors, including:

- The Grattan Institute has provided a simple solution² through coal bonds that require operators to commit to closure dates and face penalties if they close early, therefore guaranteeing an orderly closure schedule.
- ANU³ has proposed a contract for closure scheme, funded by remaining coal generators, that would improve certainty at no cost to consumers.

² <https://grattan.edu.au/news/no-more-hazelwoods-a-proposal-to-ensure-coal-plants-close-in-an-orderly-way/>

³ <https://ccep.crawford.anu.edu.au/departments-news/7022/phasing-out-emissions-intensive-power-stations>

- Orderly Exit Management contracts could be used to provide certainty to governments to negotiate closure dates when this would deliver value to consumers.

2. Challenges with ESB proposal

The ESB's proposed model, based on capacity markets designed for simple grids with predominantly thermal generation, is not fit for purpose for the future grid and does not deliver against the policy objectives. We further note this is basically the same proposal that the ESB originally presented in 2019. The few subsequent modifications (such as longer duration contracts for new entrants) are best addressed through targeted mechanisms.

We further note:

- The proposed design cannot be delivered by 2025. It represents a major market reform, which would require new market systems, new trading markets, and (critically) the reopening of many existing contracts. For example, the move to Five Minute Settlement⁴ was a well-defined, narrow change but took over 5.5 years to design and implement (including further delays due to unexpected complexity). The proposed mechanism would be costly and disruptive.
- It is also perplexing that after spending so much time and effort to introduce 5 minute settlement to acute pricing signals for flexible firming assets, we would seek to reduce the effectiveness of this market by introducing a blunt price for capacity.
- It would create a separate, illiquid capacity (certificate) product that would be challenging for small retailers to hedge. This approach was rejected by Ministers and the ESB during the design of the RRO because of its impact on competition.
- Operators of existing capacity markets increasingly have to undertake complex modelling (e.g., Equivalent Load Carry Capacity (ELCC) calculations⁵) to estimate the capacity derating of resources. The most critical finding is that the contribution of a portfolio of resources is greater than the sum of its parts⁶ (i.e., assigning a capacity

⁴ <https://www.aemc.gov.au/rule-changes/five-minute-settlement>

⁵ <https://www.pjm.com/-/media/committees-groups/task-forces/ccstf/2020/20200407/20200407-item-04-effective-load-carrying-capability.ashx>

⁶ For example, see https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf

value to individual projects, or even individual technologies, will result in the wrong mix of technologies and either excess costs or low reliability). This is consistent with Iberdrola's approach to delivering firmed renewable energy to our customers. In contrast, identifying and closing a "gap" is already a capability that AEMO has developed, which could be leveraged for a capacity reserve.

- The proposed capacity market will not provide certainty of coal closure timing, but will actually deter proactive replacement capacity. The proposed penalties by the ESB (simply handing back capacity payments) represents a free option to coal generators⁷, but even stronger penalties would not likely alter the risk of technical failure as seen with Hazelwood, and no mechanism for delivering reserves.
- A whole of market, certificated capacity market is not compatible with Victoria's commitment to excluding additional payments to coal generators from the mechanism. This is a sensible policy position, that puts the focus on investment in new, clean capacity and consistent with international markets that exclude high emissions intensity generators from capacity payments⁸.
- In the ESB's proposal, AEMO would calibrate the amount of capacity to be bought to the reliability standard. As AEMO has consistently forecast a "reliability surplus" in the ESB's words, the proposed market will incentivise a reduction in installed capacity – this does not seem consistent with Ministers seeking a more resilient system.

We look forward to continuing to work towards a rapid transition to a low emissions grid, and ensuring a reliable and affordable transition. If you would like to discuss this submission, please contact me on joel.gilmore@iberdrola.com.au or 0411 267 044.

Yours sincerely

Dr Joel Gilmore
GM Energy Policy & Planning

⁷ That is, rational coal generators will always offer capacity into the market and receive the associated payments, and can simply return the additional money if they are ultimately unable to deliver.

⁸ See for example the United Kingdom https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004874/capacity-markets-emissions-guidance.pdf and the European Union <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32019R0943&from=EN#d1e2855-54-1>, where capacity markets must (or by 2025) exclude payments to coal generators.