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Iberdrola Australia submission to the Draft 2023 Inputs, Assumptions and Scenarios Consultation

Submitted to AEMO by email

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Overview

Iberdrola Australia welcomes the opportunity to make a submission. Iberdrola Australia delivers reliable energy to customers through a portfolio of wind and solar capacity across New South Wales, South Australia, Victoria, and Western Australia, including both vertically integrated assets and PPAs. Iberdrola Australia also owns and operates a portfolio of firming capacity including open cycle gas turbines, dual fuel peaking capacity, and large-scale battery storage. Our development pipeline has projects at differing stages of development covering wind, solar and batteries. This broad portfolio of assets has allowed us to retail electricity to over 1500 metered sites to some of Australia's most iconic large energy users.

Iberdrola Australia is part of the global Iberdrola group. With more than 120 years of history, Iberdrola is a global energy leader, the world's number-one producer of wind power, an operator of large-scale transmission and distribution assets in three continents making it one of the world's biggest electricity utilities by market capitalisation. The group supplies energy to almost 100 million people in dozens of countries, has a workforce of more than 37,000 employees and operates energy assets worth more than €123 billion.

Iberdrola is globally recognised by its experience building, operating and maintaining electricity lines, substations, transformation centres and other infrastructures to transfer electrical power from the production centres to the end user across relevant jurisdictions as Spain[1], UK[2], US[3] and Brazil[4]. Iberdrola currently operates one of the

[1] https://www.i-de.es/home

[2] https://www.spenergynetworks.co.uk/

[3] https://www.avangridnetworks.com/wps/portal/avangridnetworks/home

[4] https://www.neoenergia.com/en-us/about-us/lines-of-business/distribution/Pages/default.aspx

world's largest power distribution systems, comprising more than 1.2 million km of distribution lines and more than 4,400 substations, which carry electricity to more than 34 million people around the planet. 40% of the group's organic investment for the period 2020-2025 (more than €27 billion) will go to the Networks area.

The Iberdrola group has also extensive experience in offshore wind projects. Iberdrola has over 1,250 MW of operating offshore wind projects across ten regions, with a further 7,100 MW under construction, and a pipeline of over 25,000 MW. We also work closely with our local communities and partners to support local businesses and industry, including supporting local supply chain opportunities.

We thank AEMO for the opportunity to consult on the Draft 2023 Inputs, Assumptions and Scenarios Report (IASR). The ISP is a valuable planning document, with AEMO considering scenarios that are consistent with Australia's international obligations to make efforts to limit global warming to 1.5 degrees. We thank AEMO for the significant effort that has gone into the development of the ISP scenarios, and the close engagement with all stakeholders, and the subsequent modelling.

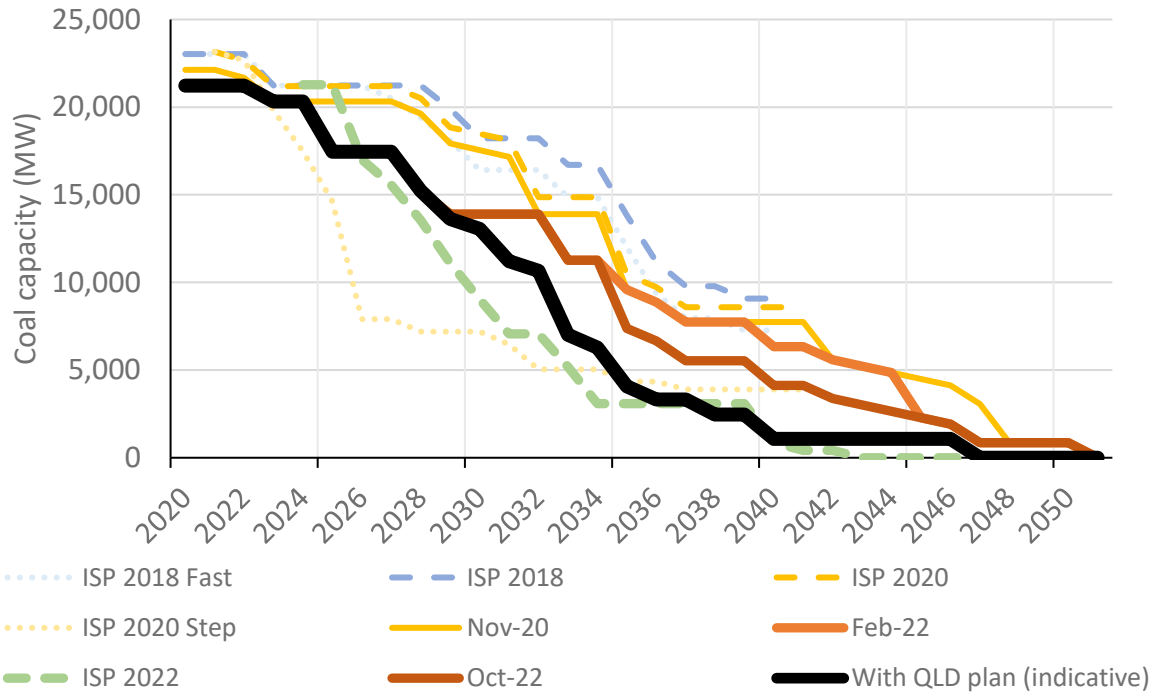
Scenarios

Iberdrola Australia is supportive of the four scenarios proposed in the 2023 IASR. It is important that the scenarios chosen are aligned with Australia's commitment to the Paris Agreement and achieving emissions reduction in line with limiting global warming to well under 2 degrees. The four scenarios chosen cover a reasonable distribution of outcomes in this regard, with the majority of the scenarios in line with global warming under 2 degrees. The current "Progressive Change" scenario is however not consistent with the Paris Agreement or Australia's current policies. If included, what AEMO seeks to "learn" from this scenario should be well articulated – i.e., what is the purpose of a non-viable bookend scenario – and it should be considered whether there are alternative scenarios that would deliver more value given AEMO's finite resources.

Iberdrola Australia agrees with the decision to remove the 2022 ISP "Slow Change" scenario, as this scenario is inconsistent with current government policies and stated targets.

Iberdrola Australia considers that the biggest risk to over or under investment lies with the scheduling of thermal unit retirements. The approach outlined in determining the generator retirement schedule is reasonable. It is important to account for closures occurring earlier than the announced due date due to emissions constraints, suboptimal operating regimes due to the proliferation of solar PV, and profitability assessments.

We note in particular that AEMO's 2022 ISP was the first ISP with a "central" scenario that was not almost immediately out of date (see the figure below). It is critical that AEMO continue to focus on coal closure trajectories consistent with the scenarios, regardless of announced closures that will inevitably be brought forward.



Source: Iberdrola Australia analysis of published AEMO data

We question the credibility of any scenarios that include coal generation after 2035. We also recommend an accelerated coal closure scenario with no thermal coal generation after 2030; this is at least a credible possibility, and AEMO should understand any gaps in managing such a system over the next seven years.

Carbon emissions

In each of the four scenarios proposed there is a large reliance on carbon sequestration in order to meet emissions requirements. This includes (in all but the 1.5°C Green Energy Exports scenario) a very high level, at least 26%, of sequestration being achieved by the use of direct air capture.

Given concerns around the credibility of many offset schemes currently available, Iberdrola Australia believes that the ISP should include a scenario with a much lower use of carbon sequestration in order to model the requirements of Australia and the energy sector in the very credible scenario where these large emissions reduction through sequestration are unable to be achieved.

System services

While previous ISPs have focused on a straightforward co-optimisation between supply and transmission, AEMO has increasingly highlighted the need for other system services, including inertia, system strength, and other services that AEMO is still to define (as implicit in AEMO's ongoing unit configurations in SA and advocacy of an Operational Security Mechanism as a fallback option if new needs are identified).

The assumptions around these services, expected provision from emerging technologies (e.g., batteries), and interaction with transmission will likely be critical. We strongly support having a forward-looking view of these services and requirements arising from the transition to a decarbonised energy system. Having a clear view will enable new system strength service providers (SSSPs) to propose timely and innovative solutions.

Co-optimising these services (or at least identifying potential future needs to new SSSPs, investors, and governments) is of critical importance. Transparency and a level playing field for service providers will underpin the ability to accelerate the integration of new projects across the NEM. To be a true Integrated System Plan, AEMO needs to publish its expected needs for these services as part of the ISP and then also in its next Electricity Statement of Opportunities, making sure all industry have access to the same key information that would allow a proactive approach on solutions from the market.

CAPEX

Iberdrola Australia agrees with the near-term increase in CAPEX costs in the 2023 IASR. This increase is more closely aligned with current market prices, reflecting cost increases due to supply chain issues. From 2028 onwards, the CAPEX projection rapidly falls to levels previously forecast in the 2022 ISP. AEMO should seek feedback from Original Equipment Manufacturers (OEMs) as to what component of cost increases is short-term only and whether there is also a "reset" of prices. We also note increased global demand for turbines and panels, driven by strong global climate policies such as the USA Inflation Reduction Act. Iberdrola Australia believes that it is credible that CAPEX will not return to previous forecasts so rapidly. This also takes into account additional factors such as the additional cost requirements due to growing biodiversity offset requirements and additional social licence pressures.

On the point of site quality deterioration and efficiency improvements it is noted that AEMO adjusts down the capital cost of wind technology to mirror the turbine efficiency improvements. It is understood that this approach is taken to maintain simplicity whilst accounting for changes in efficiency for new build, however it is difficult to judge the accuracy of these forecasts when the turbine efficiency and capacity factor improvements are rolled into the capital cost projections. It also makes it more difficult to assess the forecast future renewable energy profiles. It would be helpful if AEMO could publish figures showing the breakdown of energy resource changes attributable to site quality deterioration and efficiency improvements separately. In Iberdrola Australia's view improvements in efficiency will to a large extent be outweighed by the effect of site quality deterioration.

Electrification

To allow stakeholders to give useful feedback, AEMO needs to publish the percentage of potential electrification that is modelled in each year, for each of the scenarios. In particular, it should publish the percentage of Victorian residential gas use that is being

electrified year on year. This will help to assess the forecast pace of electrification, and in comparing the different scenarios.

Newly electrified loads will not necessarily mirror existing electricity consumption profiles, particularly in relation to electrification of residential gas. Iberdrola Australia considers that further analysis should be undertaken to assess the impact that electrification may have on changing the daily load profile, rather than assuming that electrification load will match existing electricity consumption patterns. This would have the added benefit of assisting networks develop plans for increasing capacity utilisation (i.e. more energy consumption without building significant new additional capacity) and reducing network unit costs and therefore tariffs.

For these new loads, AEMO should publish as detailed of a breakdown as possible over its assumptions around usage patterns. In the above example, assumptions around Victorian electrification loads will provide insights for both large-scale and distributed generation developers. Given the potential for high evening loads from Victorian heating and cooking, this could be a key driver of future build and requires stakeholder consultation.

Gas

There is the assumption that unlimited hydrogen blending in the gas network can be achieved in the 1.5°C Green Energy Exports scenario. It is not clear why the level of hydrogen blending should be an assumption that is very different between the 1.5°C Green Energy Exports scenario and the other scenarios.

The viability of hydrogen blending in consumer distribution networks has not been demonstrated, particular in terms of transitioning household appliances, etc. A useful sensitivity would be considering how this scenario would play out with and without significant hydrogen blending, and high levels of domestic hydrogen consumption. This could inform a broader calculation around cost-based switching and preferred over electrification.

In all scenarios, AEMO should outline its assumptions over gas distribution networks, including utilisation.

Conclusions

We look forward to the opportunity to continue to engage with AEMO. If you would like to discuss this submission, please contact Joel Gilmore at joel.gilmore@iberdrola.com.au, or on 0411 267 044.

Yours sincerely,

Joel Gilmore

GM Policy & Regional Energy