Australia's energy market operator is worried about the grid's reliability. But should it be?

February 23 2023, by Dylan McConnell

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The Australian Energy Market Operator (AEMO) this week released an update to its annual assessment of reliability, the so-called Electricity Statement of Opportunities. This has been reported as the market operator forecasting "power shortages," or the network being "at risk of

supply shortages."

The market operator has certainly put up in lights its message that there's an "urgent need for investment in generation, long-duration storage and transmission to achieve reliability requirements over the next decade." Yet the reliability outlook has actually improved overall since AEMO's previous statement last August.

At first pass, this seems counterintuitive. How can reliability be improving, yet still evidently cause for grave concern?

To interpret the report and statements fully, it's important to understand how the analysis is prepared, and what is and isn't included in the overall outlook.

The Statement of Opportunities

Every year, AEMO prepares a report that assesses the reliability of the National Electricity Market (NEM). Reliability is a measure of the power system's ability to supply demand. A reliable power system has adequate resources—generation, demand response and transmission capacity—to supply customers.

In the NEM, the reliability of the system is reported in terms of "expected unserved energy." This is essentially a measure of the expected amount of electricity *not* delivered to customers, as a result of inadequate capacity to meet the anticipated demand.

AEMO's reliability assessment looks ahead ten years, to provide information to the electricity market more broadly on any potential gaps or shortfalls in supply that would put reliability at risk. This was intended to guide the private sector, by highlighting "opportunities" for new investment across the electricity system. Hence the report is named the

Electricity Statement of Opportunities.

But, importantly, the assessment does not actually forecast a market response or any other intervention in power generation or transmission. It generally only looks at "committed projects"—those that are all but guaranteed to be completed.

As such, it provides an estimate of the expected unserved energy over the next decade, if (and only if) there is no further investment or response. A consequence of this is that a large amount of potential investment and future capacity is not included.

The update

AEMO's updated report was prompted by a range of "material generation capacity changes" since the August statement. This includes delays to the Kurri Kurri gas-fired power plant and the Snowy 2.0 hydro project.

However, it includes the addition of 461 megawatts of battery storage and 1,326MW of wind developments that have reached "committed" status since August. It also includes the Waratah Super Battery, which will effectively unlock additional capacity in the transmission system.

This is why the reliability outlook has improved. There are now no "supply gaps" projected in any region of the NEM, which covers Australia's southern and eastern states, until 2025–26, where previously there were.

Besides these committed projects, more than 2,000MW of battery capacity is "anticipated" to be available. But, as it has not yet met the formal commitment criteria, it has not been considered in AEMO's assessment.

The latest report also doesn't include capacity that will supported by the Victorian Renewable Energy Target or the NSW Electricity Infrastructure Roadmap.

Several transmission developments that are expected to significantly reduce projected reliability risks were also not included. One of these, the Victoria-New South Wales Interconnector West, received a significant boost just yesterday, with the Victorian government issuing orders to accelerate the project. Other schemes are still working their way through the regulatory process, and hence are also not yet included in AEMO's statements.

So, while AEMO's assessment projects supply gaps appearing from 2026 onwards, as various projects and other initiatives progress we can expect this outlook to continue to improve. This is, after all, how it's supposed to work. The market operator highlights emerging gaps, and various actors respond to prevent those gaps becoming reality.

Emerging risks

This is certainly not to say everything is fine. There are some significant risks and challenges on the horizon.

The potential closure of Eraring power station in just two-and-a-half years is a key risk to reliability in NSW in particular. In the shorter term, a return to hot summers in 2023–24 could give the system its harshest test in years.

The delay of Snowy 2.0 may also have significant impacts on the reliability of the system. Unfortunately, AEMO's update doesn't provide much meaningful information on the implications of this situation.

AEMO's report does not include the transmission projects required to

realize the benefits of Snowy 2.0, so the impact of a delay is rather a moot point. It is reasonable to assume, however, that the promised 2 gigawatts of firm supply would have a considerable impact on the reliability outlook.

As previously mentioned, there are plenty of projects—renewable, storage, transmission and demand response—that can mitigate these risks. But of course we have to actually deliver them. Supply-chain issues, skills shortages and community opposition are key challenges facing the delivery of new capacity.

At a federal level, the newly announced Capacity Investment Scheme may help bring more storage capacity online. The Rewiring the Nation plan is intended to bring forward important transmission projects. A bevy of state government programs and interventions will also help bring new projects online.

Supply shortages can be assured if nothing happens beyond what is assumed in the assessment. Things are of course happening—but we do have to get cracking.

Provided by The Conversation

Citation: Australia's energy market operator is worried about the grid's reliability. But should it be? (2023, February 23) retrieved 26 April 2024 from https://techxplore.com/news/2023-02-australia-energy-grid-reliability.html