CLIMATE ENERGY FINANCE

Australian Energy Market Operator (AEMO)
2024 Electricity Statement of Opportunities (ESOO)

Tim Buckley, director, Climate Energy Finance

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AEMO's new 10 year Electricity Statement of Opportunities (ESOO) released today concludes there is no reliability gap until 2034 in any state in the National Electricity Market (NEM) unless there are project delays in the deployment of replacement capacity.

AEMO forecasts show that power supply reliability levels can be maintained over most of the next 10 years – assuming programs and initiatives already established are delivered on time and in full.

We simply need a lot more zero-emissions energy capacity approved and built, particularly utility-scale renewables. Now is the time for urgency and upscaling of ambition by our state governments to align with the Federal government's 82% renewables by 2030 target, particularly given the inevitability of looming end-of-life coal capacity closures.

AEMO's modelled shortfalls that result from likely delays in building of replacement capacity are smaller than AEMO forecast earlier in 2024, which was inflated to justify $450m of coal subsidies by the NSW government for Origin Energy to extend the life of massive, polluting coal clunker Eraring. More coal subsidies are an untenable tax on the public and should be ruled out.

In an important admission, AEMO now sees distributed consumer energy resources (CER), particularly commercial and industrial rooftop solar, as playing a transformative role in the energy transition as a valuable resource in the future energy system. If well coordinated ('orchestrated'), they help deliver reliable and secure energy, offset the need for grid-scale clean energy infrastructure investment, and reduce costs for consumers as well as slashing energy sector emissions.

AEMO also underestimates the ambition of the federal government's 32GW Capacity Investment Scheme (CIS), a key driver of the accelerating buildout of renewables nationally. We need to see confirmation of the first 6GW CIS auction round, or even an upscaled outcome to get things back on track to give consumers the confidence that we can permanently resolve the energy affordability crisis.

Any delay to the delivery of expected generation, storage or transmission may result in reliability standards not being met, whilst any earlier withdrawal of existing capacity would also deteriorate the reliability outlook of the power system, with NSW highlighted as

vulnerable and in need of more timely investment given risks in FY2028 and then FY2034. The CIS can solve this, if NSW moves with urgency.

The solution to our concurrent energy, cost of living and climate crises is an acceleration of the transition of the energy market to low-cost, clean, reliable firmed renewables at speed and scale.

This AEMO update should provide more motivation for state governments to pick up the pace on streamlining clean energy approvals processes to prevent any further delays and bottlenecks, and to boost strategic public-interest investment into both utility and distributed firmed renewables to ensure our energy security into the future.

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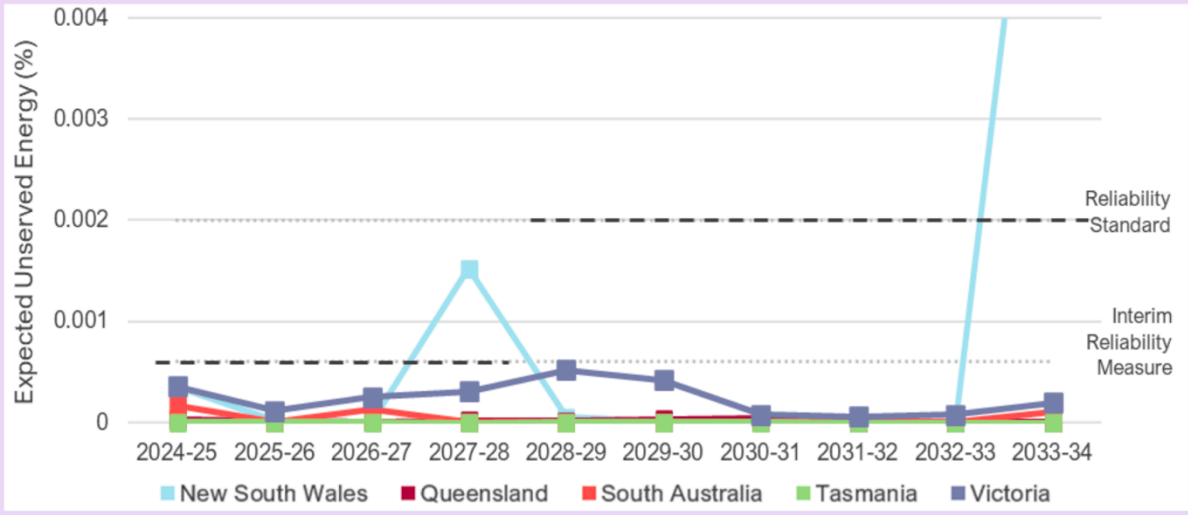
Further details below:

AEMO starts by saying grid reliability through the end of this decade is robust, if we deliver on current projects as per their committed timelines - Figure 1.

Figure 1 Expected USE, additional actionable and anticipated developments, 2024-25 to 2033-34 (%)



This sensitivity includes only those announced and identifiable components of announced federal and state schemes, including various tender stages that have been concluded. Delivering planned subsequent tender stages will support further improvements to this reliability assessment.

AEMO also acknowledges: “If further investment beyond current committed and anticipated projects is delayed or does not materialise, AEMO forecasts reliability gaps will exist over the coming years in some NEM regions - Figure 2 below. These gaps are smaller than those forecast in the May 2024 Update”. This reflects:

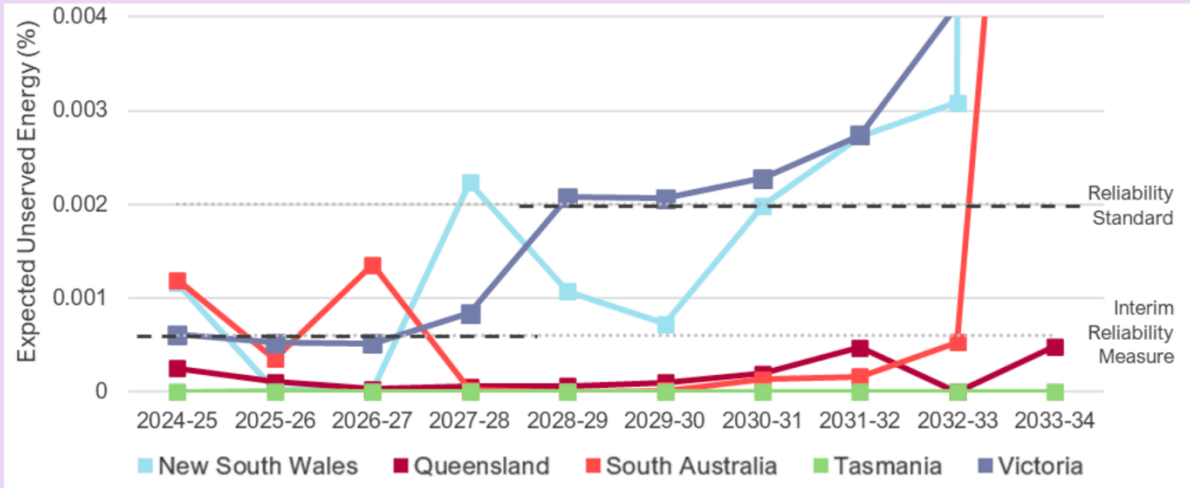
1. AEMO states 5.7 GW of developments have progressed sufficiently to be newly included since the 2023 ESOO, including 3.9 GW/13.5GWh of batteries, 1.2GW of large-scale solar and 0.4GW of wind.
2. More C&I rooftop solar supply
3. Delayed closure of the 2.88GW Eraring coal plant
4. The pending Humelink grid transmission project
5. Lower demand growth projections that AEMO assumed previously.

A >$300bn pipeline of proposed projects – totalling 178GW of variable renewable energy and 111GW of dispatchable resources (including battery, pumped hydro, and other technologies) – demonstrates the opportunity for the market to ensure reliability is maintained through the transition, if projects are approved and developed in a timely manner.

A large number of generation developments are classified as ‘in commissioning’, ‘committed’ or ‘anticipated’. In total, 20.2 GW of new scheduled or semi-scheduled generation and storage developments are classified within these commitment categories, and are forecast to be operational by 2033-34 alongside existing capacity. As noted above, this includes 5.7 GW of developments that have progressed sufficiently to be newly included since the 2023 ESOO, comprising 3.9 GW/13.5 GWh of batteries, 1.2 GW of large-scale solar, 0.4 GW of wind and 0.2 GW of H2 developments.

Figure 2 shows reliability risks if project delays eventuate.

Figure 2 Expected USE, *Committed and Anticipated Investments* sensitivity, 2024-25 to 2033-34 (%)



New capacity additions assumed this coming decade:

- Hunter Power Station (750 MW) in NSW from December 2024.
- Kidston PHS (250 MW/2,000 MWh) in Queensland from February 2025
- Snowy 2.0 (2,200 MW/350,000 MWh) in New South Wales by December 2028.
- Borumba Pumped Hydro (1,998 MW/48 GWh) in Queensland from September 2031.
- A 204 MW hydrogen generator as part of the South Australian Hydrogen Jobs Plan from Dec’2025.
- More than 8,500 MW/22,500 MWh of BESS, including Eraring Big Battery, Liddell BESS, Orana BESS, Richmond Valley BESS, Swanbank BESS and Wooreen BESS.
- Numerous renewable energy developments across the NEM, including more than 4,000 MW of wind generation and 4,50 0MW of utility-scale solar generation.

Committed and anticipated transmission developments:

- Project EnergyConnect linking South Australia, New South Wales, and Victoria, with full capacity release by July 2027.
- Waratah Super Battery project & NSW transmission upgrades that collectively increase transmission transfer capacity. Full capacity release is by August 2025.
- HumeLink, a new transmission line which will connect Wagga Wagga, Bannaby, and Maragle, with full capacity release advised by December 2026.
- Western Renewables Link in Victoria, connecting renewable generation in north-west Victoria to Melbourne with full capacity release by July 2027
- Central-West Orana REZ Network Infrastructure Project, increasing the capacity for new renewable developments in NSW, with full capacity release by August 2028.

Expected thermal power plant closures timetable:

- Torrens Island B Power Station (800 MW) and Osborne Power Station (180 MW) in South Australia in June 2026 and December 2026 respectively.

- Eraring Power Station (2,880 MW) in NSW in August 2027.
- Port Lincoln and Snuggery power stations (total 136 MW) in South Australia in January 2028, although both stations are advised to remain mothballed until then.
- Yallourn Power Station (1,450 MW) in Victoria in 2028.
- Callide B Power Station (700 MW) in Queensland in 2028.
- Dry Creek and Mintaro power stations (total 246 MW) in South Australia in 2030.
- Hallett Gas Turbine (240 MW) in South Australia in 2032.
- Bayswater Power Station (2,715 MW) in NSW in 2033.
- Vales Point Power Station (1,320 MW) in NSW 2033.
- Mt Stuart Power Station (292 MW) in Queensland in 2033.
- Somerton Power Station (170 MW) in Victoria in 2033.