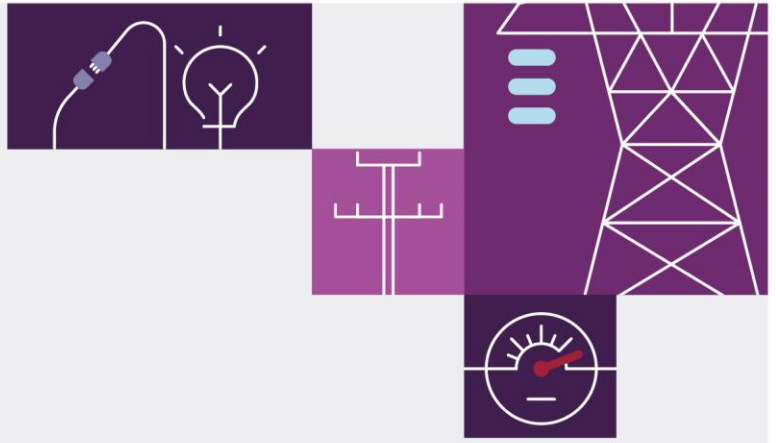


# Update to the 2023 Electricity Statement of Opportunities

September 2023

An updated report for the National  
Electricity Market





# Important notice

## Purpose

The Electricity Statement of Opportunities provides technical and market data that informs the decision-making processes of market participants, new investors, and jurisdictional bodies as they assess opportunities in the National Electricity Market over a 10-year outlook period. This Update to the 2023 Electricity Statement of Opportunities is published under clauses 3.13.3A and 11.160 of the National Electricity Rules, and is issued in accordance with the 'Extending the application of the IRM to the RRO' rule change. No updates have been made to the inputs, assumptions or modelling results published in the August 2023 Electricity Statement of Opportunities.

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# Update to the 2023 ESOO

This publication provides an update to the 2023 *Electricity Statement of Opportunities* (ESO) to incorporate the ‘Extending the application of the IRM to the RRO’ rule change<sup>1</sup>. On 21 September 2023, the Australian Energy Market Commission (AEMC) made a final determination to extend the application of the Interim Reliability Measure (IRM) of 0.0006% expected unserved energy (USE) to the reliability forecast for Retailer Reliability Obligation (RRO) purposes until 30 June 2028. Prior to this rule change, the IRM applied for the purposes of the RRO only until 30 June 2025.

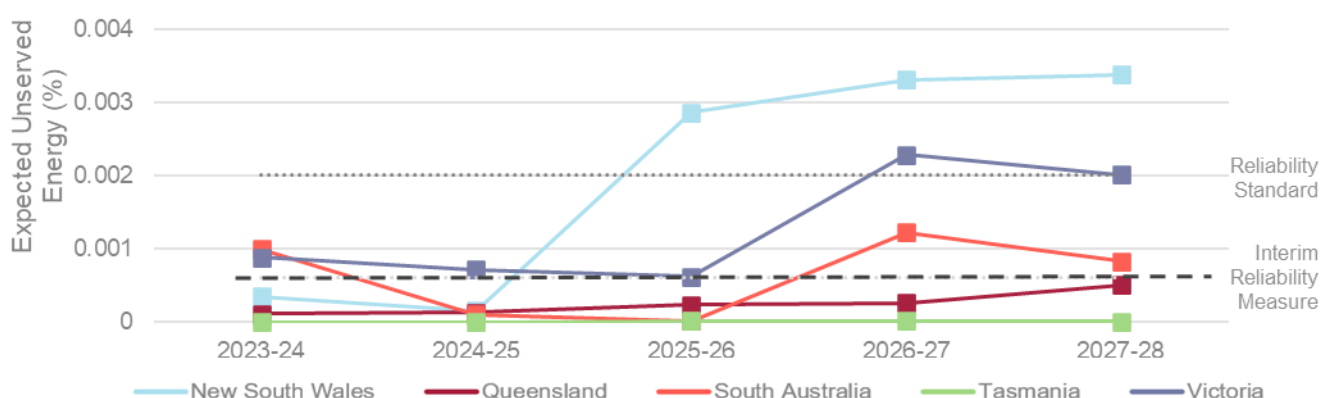
While some new information has been received since the 2023 ESOO related to new and existing generation and storage developments, AEMO does not consider these changes to be material to the outcomes of the reliability forecast presented in the 2023 ESOO. As such, no other changes apply to this update relative to the 2023 ESOO published in August 2023<sup>2</sup>.

Consistent with clause 11.160 of the National Electricity Rules (NER), AEMO is providing this update to apply the IRM to the reliability forecast. **As a result of this update, AEMO is requesting the Australian Energy Regulator (AER) consider making a T-3 RRO instrument for South Australia in 2026-27.**

The reliability forecast covers the five-year period from 2023-24 to 2027-28, and is shown in **Figure 1**. All inputs, assumptions and modelling results remain consistent with the 2023 ESOO Central scenario. As the indicative reliability forecast (the second five years of the ESOO Central scenario) remains unaffected by the rule change, it is not included in this update to the 2023 ESOO. The expected USE results do not vary from those published in the 2023 ESOO, but are now shown compared to the extended IRM horizon. This forecast now shows expected USE above the IRM for:

- New South Wales in **2025-26, 2026-27 and 2027-28**,
- South Australia in **2023-24, 2026-27 and 2027-28**, and
- Victoria in **2023-24, 2024-25, 2025-26, 2026-27 and 2027-28**.

**Figure 1 Reliability forecast, all regions, first five years (2023-24 to 2027-28)**



<sup>1</sup> See <https://www.aemc.gov.au/rule-changes/extension-application-irm-rro>.

<sup>2</sup> See [https://aemo.com.au/-/media/files/electricity/nem/planning\\_and\\_forecasting/nem\\_esoo/2023/2023-electricity-statement-of-opportunities.pdf](https://aemo.com.au/-/media/files/electricity/nem/planning_and_forecasting/nem_esoo/2023/2023-electricity-statement-of-opportunities.pdf).

## Reliability forecast components

This section outlines any forecast reliability gaps<sup>3</sup>, and where relevant, the associated reliability forecast components consistent with NER 4A.B.2 and NER 4A.A.3. All times refer to Australian Eastern Standard Time. In the reliability forecast (the first five years), forecast reliability gaps occur in:

- New South Wales in 2025-26, 2026-27 and 2027-28,
- South Australia in 2023-24, 2026-27 and 2027-28, and
- Victoria in 2023-24, 2024-25, 2025-26, 2026-27 and 2027-28.

Reliability forecast components associated with these forecast reliability gaps are summarised in **Table 1**.

**Table 1 Forecast reliability gaps against the Interim Reliability Measure (MW)**

Region	Financial year	Reliability gap period	Likely trading intervals	Expected USE for the gap period (GWh)	Reliability gap (MW)
South Australia	2023-24	1 January 2024 – 29 February 2024	5.00 pm – 9.00 pm, working weekdays	0.11	118
	2026-27	1 December 2026 – 28 February 2027	5.00 pm – 9.00 pm, working weekdays	0.16	205
	2027-28	1 December 2027 – 29 February 2028	5.00 pm – 10.00 pm, working weekdays	0.11	96
Victoria	2023-24	1 January 2024 – 29 February 2024	3.00 pm – 9.00 pm, working weekdays	0.32	120
	2024-25	1 January 2025 – 28 February 2025	4.00 pm – 9.00 pm, working weekdays	0.27	55
	2025-26	1 January 2026 – 28 February 2026	4.00 pm – 9.00 pm, working weekdays	0.22	13
	2026-27	1 December 2026 – 28 February 2027	3.00 pm – 9.00 pm, working weekdays	0.86	738
	2027-28	1 December 2027 – 29 February 2028	3.00 pm – 9.00 pm, working weekdays	0.73	618
New South Wales	2025-26	1 December 2025 – 31 March 2026	3.00 pm – 10.00 pm, working weekdays	1.54	786
	2026-27	1 July 2026 – 31 July 2026	5.00 pm – 9.00 pm, working weekdays	0.16	796
		1 December 2026 – 31 March 2027	3.00 pm – 10.00 pm, working weekdays	1.64	796
		1 June 2027 – 30 June 2027	5.00 pm – 9.00 pm, working weekdays	0.18	796
	2027-28	1 July 2027 – 31 August 2027	5.00 pm – 10.00 pm, working weekdays	0.21	888
		1 November 2027 – 28 February 2028	2.00 pm – 11.00 pm, working weekdays	1.70	888
		1 May 2028 – 30 June 2028	4.00 pm – 10.00 pm, working weekdays	0.22	888

<sup>3</sup> Consistent with NER 4A.A.2, a forecast reliability gap will exist if expected USE exceeds 0.0006% of the total energy demanded in a region for a given financial year between 2023-24 and 2027-28. This applies NER 11.160, which prescribes the IRM as the reliability standard until 30 June 2028.

Following the 2023 ESOO, AEMO requested the AER consider making T-3 reliability instruments for Victoria and New South Wales. Based on the reliability gaps identified in this Update to the 2023 ESOO, AEMO must request the AER to consider making a further reliability instrument for South Australia for the period between 1 December 2026 and 28 February 2027.

AEMO confirms no change to the one-in-two year peak demand forecasts published in the 2023 ESOO.

## Quantifying the additional capacity required to meet the IRM

In addition to the RRO requirements which are updated in this Update to the 2023 ESOO, AEMO has also projected the additional capacity that would be required to reduce expected USE below the IRM for a variety of technologies. This extended analysis of the additional capacity required:

- Did not consider any reliability improvements that could be achieved with transmission developments, consumer energy resources (CER) orchestration or demand side participation (DSP) developments, or the impact of transmission limits on future generation development.
- Considered each region separately and did not consider the inter-regional benefits of new capacity. Actual capacity requirements may therefore be lower for some regions considering developments in neighbouring regions.
- Identified the capacity required assuming adequate transmission connectivity with fully unconstrained access to supply the major demand centres within each region. Actual capacity requirements may therefore be greater considering power system constraints.
- Considered the reliability needs of the region for the year of study in isolation, without consideration for the long-term requirements of the region and the impact of over-use of stored energy on future supply conditions. Over the longer term, longer duration storages or energy generating plant may prove more effective at mitigating reliability risks that emerge less frequently, but require prolonged dispatch.
- Did not identify an optimal development path, or recommend a particular solution.

**Table 2** shows the additional capacity required to reduce the expected USE under the relevant standards for South Australia in 2026-27 (T-3 period for RRO purposes).

Build ratios between variable renewable energy (VRE) and storages were assumed<sup>4</sup> based on analysis of the 2022 *Integrated System Plan (ISP)*, however may not be optimal in this application.

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<sup>4</sup> These ratios are 2:1 for VRE to storage in combinations 7 and 8 and 4:2:1 for wind to storage to solar in combination 9.

**Table 2 Additional capacity required, considering a variety of technology combinations (in megawatts (MW)) to reduce expected USE to IRM, South Australia 2026-27**

Combination	Technology type	IRM of 0.0006% USE
1	Firm, unlimited capacity	205 MW
2	Open cycle gas turbine (OCGT) <sup>A</sup>	212 MW
3	2 hour storage <sup>B</sup>	316 MW / 632 megawatts hours (MWh)
4	4 hour storage <sup>B</sup>	209 MW / 837 MWh
5	6 hour storage <sup>B</sup>	206 MW / 1,236 MWh
6	8 hour storage <sup>B</sup>	205 MW / 1,644 MWh
7	Wind	289 MW
	4 hour storage	144 MW / 578 MWh
8	Solar	331 MW
	4 hour storage	166 MW / 662 MWh
9	Wind	276 MW
	Solar	69 MW
	4 hour storage	138 MW / 551 MWh

A. Assuming there is sufficient gas to operate the generator throughout potential USE periods.

B. Assuming there is sufficient energy and/or water to charge/pump ahead of potential USE periods.