



AUSTRALIA

**SUBMISSION**

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# WWF Submission to the AEMO's Draft 2025 Inputs, Assumptions and Scenarios Report (IASR)

The World Wide Fund for Nature-Australia (WWF-Australia) welcomes the opportunity to make a submission to the Australian Energy Market Operator on its draft Inputs, Assumptions and Scenarios Report.

WWF-Australia is part of the WWF International Network, the world's largest independent conservation organisation. WWF's global mission is to 'stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature'. WWF-Australia has approximately two million supporters.

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We understand that the draft paper will help to establish the scenarios to be used in its forecasting and planning by AEMO in 2024-25 and 2025-26. These scenarios are used in executing AEMO's electricity and gas statutory functions in the National Electricity Market (NEM), including the Electricity Statement of Opportunities (ESOO), Gas Statement of Opportunities (GSOO) and the 2026 Integrated System Plan (ISP). We understand that the IASR are a critical way in which Australia's energy future is modelled, and in turn influences policy decision making processes.

We also understand that there are many possible futures for Australia's energy system, and the goal of scenario development is not to determine which future will occur, but to develop a discrete set of scenarios that embody and communicate key uncertainties.

***Since the 2023 IASR publication, what changes (such as environment, social, policy) do you consider most impact scenario development for the 2025 IASR scenarios?***

## 1. Australia's commitment to 1.5 degrees

The Australian Government has agreed to pursue efforts to limit global warming to 1.5 °C above pre-industrial levels. The Paris Agreement 1.5°C temperature limit is a critical threshold for the safety and wellbeing of all Australians and for our natural wonders, such as the Great Barrier Reef. Australia's obligations under the Paris Agreement require that in setting our climate targets we take account of the best available science and ensure our climate targets represent Australia's highest possible ambition<sup>1</sup>. The best available climate science shows that for Australia's new 2035 Nationally Determined Contribution to be aligned with pursuing efforts to limit temperatures to 1.5°C it must be at least 90% below 2005 levels by 2035 and net zero by 2038<sup>2</sup>.

The 2023 IASR publication and subsequent 2025 Integrated System Plan (ISP) Green Exports Scenario was the only scenario that was aligned with limiting global temperatures to 1.5 degrees Celsius. This issues paper notes that "Scenarios need not be normative, that is, describing visions of preferred futures, and do not tend to explore specific solutions (such as high adoption of a particular technology); the impact of specific uncertainties may be explored through sensitivity analysis". However, the scenarios do then form the basis

<sup>1</sup> See the Paris Agreement, Article 4(1) and Article 4(3).

<sup>2</sup> Meinshausen, M. and Nicholls, Z. (2023). Updated assessment of Australia's emission reduction targets and 1.5°C pathways. Independent expert report commissioned by WWF-Australia, [https://www.climate-resource.com/reports/wwf/20230612\\_WWF-Aus-Targets.pdf](https://www.climate-resource.com/reports/wwf/20230612_WWF-Aus-Targets.pdf)

of an implicit preferred future through the adoption of preferred pathways such as the ISP Optimised Development Pathway (ODP). The ODP of the Step Change scenario in the ISP is not 1.5 degree aligned, unless other sectors undertake deeper decarbonisation efforts. However, based on the Climate Change Authorities issues paper, the electricity sector is critical to meeting climate targets as it underpins the decarbonisation opportunities across other sectors such as transport and the built environment<sup>3</sup>.

The following processes and reports should be incorporated into the next iteration of the IASR:

- Australia's 2035 Climate Change Target (pending in late 2024/early 2025) and sectoral decarbonisation plans
- Sixth IPCC assessment report and update to the Representative Concentration Pathways, including three new RCPs; RCP1.9, RCP3.4 and RCP7
- Updated International Energy Agency scenario modelling for 1.5 degree aligned energy futures<sup>4</sup>

Given Australia's climate commitments, the IASR should focus more intently on providing more than one 1.5 degree aligned scenario. Scenarios should also be flexible noting that climate and energy policy is a fast moving space and there are limitations to using current policy commitments as a basis for forecasting. This could be best met by enhancing the Step Change scenario to also be aligned with 1.5 degrees providing greater choice between scenarios aligned with international climate commitments.

The discussion paper shows that the parameter of a 'national decarbonisation target' is consistent across all scenarios based on current policy commitments. It is not clear how this then allows for scenario modelling of greater ambition where Australia may achieve net zero before 2040 in line with 1.5 degrees. Nor does it demonstrate the cumulative commitments of state and territories already exceeding the national targets (at 69% according to the Climate Change Authority issues paper). This parameter should seek to be updated based on Australia's 2035 target once set and also reflect State and Territory based emissions reduction targets.

## 2. Modelling climate impacts on the energy system

A critical, yet challenging aspect of energy futures modelling is scenario testing the climate futures in which the energy system will take place. This goes beyond modelling how the scenario itself aligns with mitigation pathways (eg. a rapid decarbonisation pathway) but also how climate impacts under different scenarios affect the energy system. This will have implications on a range of aspects of the energy system not limited to:

- The stresses and shocks upon critical electricity infrastructure (eg. increased wind speeds and storm activities upon transmission infrastructure)
- The climate variable affecting generation output of different technologies (eg. prolonged drought impacting hydropower, heatwaves affecting energy demand and generation capacity etc.)
- The transition risks associated with rapid global transitions from fossil fuels. Often these transitions happen more quickly than projections and can accelerate through new political announcements such as the recent G7 commitment to end the use of unabated coal power plants by 2035<sup>5</sup>. Similarly, the move to establish a Fossil Fuel Free Non-Proliferation Treaty continues to gain supporters, including from Pacific states as well as Australian local jurisdictions<sup>6</sup>. Over the coming years, this will continue to grow and by COP31 many more divergent civil society organisations, governments, and businesses are expected to support such a Treaty.

Thank you for the opportunity to make a submission.

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<sup>3</sup> <https://www.climatechangeauthority.gov.au/sites/default/files/documents/2024-04/Issues%20paper%20-%20Targets%2C%20Pathways%20and%20Progress.pdf>

<sup>4</sup> <https://www.iea.org/reports/global-energy-and-climate-model/understanding-gec-model-scenarios>

<sup>5</sup> [G7 countries agree 2035 exit for unabated coal plants | World Economic Forum \(weforum.org\)](https://www.weforum.org/news/g7-countries-agree-2035-exit-for-unabated-coal-plants)

<sup>6</sup> <https://fossilfuel treaty.org/#:~:text=The%20proposed%20treaty%20would%20complement,or%20country%20is%20left%20behind.>



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