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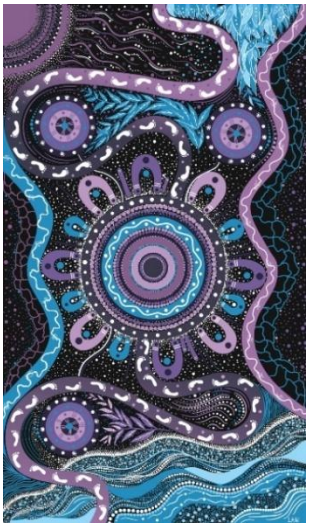
AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Draft Power System Modelling Strategy Consultation

November 2026



Public



We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.

AEMO is proud to have launched its Innovate Reconciliation Action Plan (RAP) in June 2026. Pictured left and featuring on the cover of the Innovate RAP is Wiradjuri artist Lani Balzan's 'Journey of unity: AEMO's Reconciliation Path', a visual representation of our ongoing journey towards reconciliation – a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.

Important notice

Purpose

The purpose of this consultation paper is to seek stakeholder feedback on AEMO's draft Power System Modelling Strategy and supporting five-year roadmap before the Strategy is finalised.

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1 Introduction

AEMO is developing its first Power System Modelling Strategy to establish a longer-term direction for power system modelling capability across the NEM & WEM.

This consultation paper accompanies the draft Strategy and five-year roadmap. It summarises the key themes raised through consultation on the September 2026 Approach Paper, explains how that feedback has informed the draft Strategy, and identifies the areas where AEMO is seeking further stakeholder input before finalising the Strategy.

1.1 How feedback has informed the draft

In addition to inviting stakeholder feedback through written submissions on the Approach Paper, AEMO hosted a webinar during the consultation period on 30 September 2026, and undertook targeted engagement with industry, including a dedicated workshop with the Clean Energy Council (CEC) Connections Practitioners Forum (CPF) on 26 October 2026.

Connections Practitioners Forum workshop

The CPF discussion provided an opportunity to explore practical modelling challenges with industry participants and to test how the proposed strategic direction aligns with issues experienced in practice.

The discussion reinforced several themes already emerging through consultation, including the importance of fit-for-purpose modelling requirements, greater clarity and consistency, reducing unnecessary modelling effort and duplication, improving interoperability, and continuing meaningful industry involvement as modelling practices evolve. It also raised a number of more detailed matters relating to modelling guidelines, validation requirements, connection processes, model accessibility and confidentiality.

Industry webinar

Feedback received through the webinar broadly reinforced the themes raised through written submissions. Stakeholders particularly highlighted the need to balance model fidelity and technical assurance with usability, cost and efficiency, including avoiding modelling effort or duplication that does not materially improve the quality of an engineering assessment.

Table 1 Approach Paper – stakeholder feedback key themes

Key feedback theme	What we heard	How this has informed the draft Strategy
Fit-for-purpose modelling	Modelling requirements should balance fidelity and technical assurance with usability, efficiency and the engineering question being considered.	The draft Strategy supports modelling approaches and levels of fidelity proportionate to the engineering need, including opportunities to reduce unnecessary duplication.
Models and data	Stronger ownership, governance, version control, validation and accessibility of models and data are needed.	The draft Strategy strengthens the focus on model and data governance, lifecycle management, quality and accessibility.
Interoperability	Greater interoperability and reduced dependence on individual software platforms would improve efficiency and portability.	The draft Strategy includes greater interoperability and vendor-agnostic approaches as an area for further development, while recognising specialised

Key feedback theme	What we heard	How this has informed the draft Strategy
		platforms and validated OEM models are likely to continue to be needed.
Automation and emerging techniques	Automation could improve repetitive modelling activities where appropriate, while engineering judgement should remain central to assurance and decision-making.	The roadmap proposes staged investigation of automation, artificial intelligence and machine learning where these can reliably support engineering workflows.
Changing system needs	Modelling needs must continue to evolve alongside new technologies and changing power system characteristics.	The draft Strategy includes initiatives intended to build modelling capability for emerging technologies and evolving system needs.
Industry collaboration	Ongoing industry involvement will be important as modelling practices evolve, including opportunities for technical dialogue with network service providers, applicants, consultants, OEMs and software vendors.	AEMO proposes to tailor industry involvement to individual initiatives, including technical workshops, design engagement, testing and leverage established industry forums.
Technical and connection matters	Stakeholders also raised detailed issues relating to connection processes, modelling guidelines, study methodologies and technical requirements.	Where these matters are outside the scope of a long-term Strategy, they will inform relevant AEMO work programs, including future consideration through the Power System Modelling Guidelines where appropriate.

Key takeaway

Stakeholders broadly support AEMO developing a Power System Modelling Strategy. Feedback to date points less to wholesale redesign and more to targeted improvements that make modelling more consistent, interoperable, accessible and efficient, while maintaining the technical rigour needed for secure power system operation. There are key trade-offs in the strategy relating to model format, model completeness and software independent models that require more careful consideration.

2 Consultation approach

The accompanying draft Power System Modelling Strategy was developed by EPRI with AEMO's input and sets out a proposed longer-term direction and roadmap for improving power system modelling capability.

Rather than repeating the Strategy in this paper, AEMO is seeking feedback on whether its proposed direction, priorities and sequencing respond to the issues stakeholders experience and position modelling capability to meet future system needs.

In considering the draft Strategy, AEMO particularly welcomes views on:

- whether the proposed strategic priorities address the most material modelling challenges
- whether the roadmap priorities and sequencing are appropriate
- whether important stakeholder needs or dependencies are missing, and
- where greater clarity is needed before the Strategy is finalised.

2.1.1 Strategic direction

The draft Strategy proposes a coordinated, longer-term approach to improving the modelling capabilities, data, tools, governance and industry practices needed to support secure power system operation as the energy system evolves.

Feedback on the Approach Paper broadly reinforced the need for improvement but did not point to a wholesale replacement of existing modelling frameworks. Instead, stakeholders identified opportunities to make modelling more consistent, interoperable, accessible and efficient, while maintaining appropriate engineering assurance.

The draft Strategy therefore focuses on:

- strengthening the governance, quality, accessibility and lifecycle management of models and data
- applying modelling tools and levels of fidelity that are proportionate to the engineering question
- improving interoperability and reducing unnecessary dependence on individual software platforms
- developing more efficient methods for increasingly complex and computationally intensive studies
- using automation, artificial intelligence and machine learning where these can safely support engineering workflows
- improving modelling capability for emerging technologies and changing power system needs, and
- supporting effective industry collaboration as modelling practices, requirements and technologies evolve.

These priorities are intended to provide a common direction for future investment and development. The Strategy does not replace the detailed technical requirements, modelling standards or connection processes established through other instruments and work programs.

2.1.2 Proposed initiatives

The draft roadmap translates the Strategy's longer-term direction into a program of proposed initiatives. These initiatives range from foundational improvements to model and data governance through to the investigation and development of new modelling methods, tools and capabilities.

Feedback on the Approach Paper has informed the roadmap in several areas:

- **Model and data governance:** clearer ownership, version control, validation, accessibility and lifecycle management of models and data.
- **Fit-for-purpose modelling and computational capability:** more efficient modelling approaches that apply a level of fidelity proportionate to the engineering question and avoid unnecessary duplication.
- **Interoperability and portability:** further work on interoperable and vendor-agnostic approaches, while recognising that validated OEM models and specialised platforms will continue to be required for some applications.
- **Automation and emerging techniques:** staged investigation of automation, artificial intelligence and machine learning, with engineering judgement and assurance retained for decisions affecting compliance and power system security.
- **Changing system needs:** modelling capability that can respond to emerging technologies and evolving power system needs.

Some feedback related more directly to detailed connection processes, assessment criteria or future revisions to the Power System Modelling Guidelines. These matters have not necessarily resulted in separate Strategy initiatives but will, where appropriate, be considered through relevant AEMO work programs.

2.1.3 Roadmap and sequencing

The proposed roadmap sequences initiatives over five years, recognising that some longer-term capabilities depend on foundational improvements being established first. In particular, stronger governance and model and data management will support later initiatives concerning automation, interoperability, advanced modelling methods and emerging technologies.

The proposed sequencing has been informed by:

- the urgency and materiality of the problem being addressed
- expected benefits for power system security, modelling quality and industry efficiency
- dependencies between initiatives
- the maturity of relevant methods and technologies
- implementation complexity and resource requirements, and
- the need for industry involvement, testing or further technical development.

Some initiatives are therefore proposed to commence with investigation, design or industry collaboration before AEMO determines a detailed implementation pathway. Inclusion in the roadmap does not predetermine a particular technology, platform or delivery solution.

2.1.4 Implementation and collaboration

Delivery of the Strategy will require collaboration across AEMO and industry. Different initiatives are likely to involve different stakeholders, including network service providers, generators, developers, original equipment manufacturers, consultants, software vendors, research organisations and market bodies.

AEMO proposes to tailor engagement to the nature and maturity of each initiative which may include:

- targeted technical workshops or working groups
- engagement with users, OEMs and software vendors during initiative design
- testing, benchmarking or pilot activities
- consultation through established technical and industry forums, and
- formal consultation where changes to guidelines, requirements or other instruments are proposed.

AEMO will also need to consider intellectual property, cyber security, confidentiality and access arrangements when developing initiatives involving detailed models, model data or OEM information.

The final Strategy will establish the longer-term direction and roadmap. Detailed design, implementation and engagement arrangements for individual initiatives will be developed progressively, taking account of technical evidence, industry input, delivery dependencies and available resources.

2.2 Consultation questions

Table 2 below outlines the key questions on which AEMO is seeking detailed industry feedback. AEMO also welcomes feedback on any other aspect of the draft Strategy and roadmap. Stakeholders may respond to some or all of the questions, depending on their areas of interest and expertise.

Table 2 Key consultation questions

Question	Section
1. Strategic direction Does the draft Strategy focus on the right priorities to improve Australia's power system modelling capability? What, if anything, is missing or should be reframed?	Executive summary – Vision for power system modelling, and Section 2 – Strategic decisions
2. Proposed initiatives Do the proposed initiatives appropriately respond to the modelling challenges and stakeholder needs identified through consultation? Are there initiatives that should be changed, added, combined or deprioritised?	Section 3 – Roadmap for each modelling focus area
3. Roadmap and sequencing Does the proposed sequencing appropriately reflect the urgency, value and	Executive summary – Roadmap from current state to future state,

Question	Section
dependencies of the initiatives? Where would you prioritise differently, and why?	and Section 3 – Roadmap for each modelling focus area
4. Implementation and collaboration What should AEMO consider when implementing the Strategy, including how AEMO should work with industry, OEMs, software vendors and other stakeholders?	Executive summary – Roadmap implementation, and Section 3 – Roadmap for each modelling focus area

2.3 Making a submission

Stakeholders are invited to provide written submissions in PDF format to modelling@aemo.com.au by 7 December 2026.

Submissions may address some or all of the consultation questions above, and AEMO also welcomes feedback on any other aspect of the draft Strategy and roadmap.

Before making a submission, please read and take note of AEMO's consultation submission guidelines. Unless identified as confidential, submissions may be published on AEMO's website. If a submission contains confidential or commercially sensitive information, please clearly identify the relevant information and the basis for the confidentiality claim at the time of submission.

Following consultation, AEMO will consider stakeholder feedback in finalising the Power System Modelling Strategy and supporting roadmap.