2026 Integrated System Plan Consumer Panel Report on the Draft 2026 Integrated System Plan

12 February 2026

Document 1 of 2:
Draft 2026 Integrated System Plan Parts A to C and selected attachments.

The 2026 Integrated System Plan (ISP) Consumer Panel members are:

- Mark Henley (Chair)
- Jarra Hicks
- Bev Hughson
- Craig Memery.

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Acknowledgement of country

The 2026 Integrated System Plan Consumer Panel acknowledges 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.

Key themes

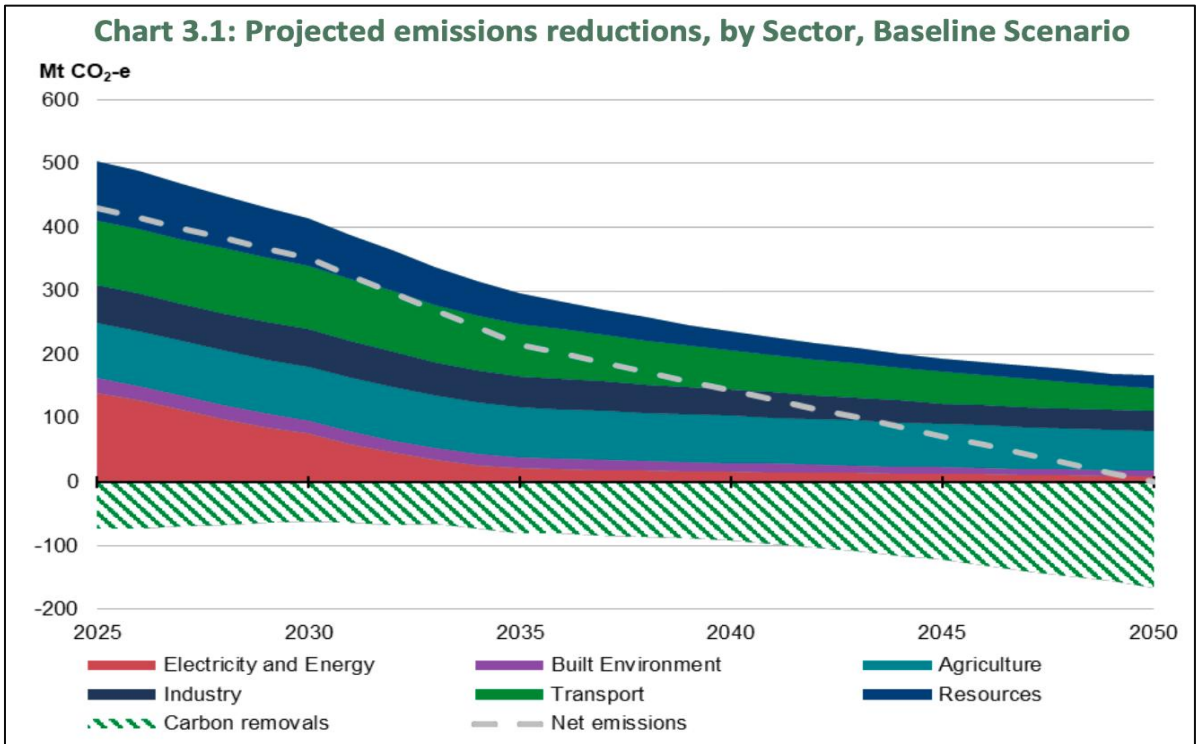
This third Integrated System Plan (ISP) Consumer Panel report on a draft ISP continues the approach of considering both broader themes and specific detail. In the five years since the first panel was appointed, changes in energy markets, policies and the ISP have been palpable. Note that this is the first ISP to include a Demand Side Factors Statement (DSF); the Panel has provided a separate statement on the DSF and incorporated related recommendations in this report.

A summary of the key themes identified by or arising from the Draft 2026 ISP is below. We must not forget that, sitting behind these issues, the ISP's fundamental purpose is to set out the most cost-efficient path to reducing emissions from electricity production.

The importance of moving as quickly as possible on this task is not only about saving costs in the long run; it is also because the reduction in emissions from electricity production will underpin reductions in other sectors of the economy as we move the country towards net zero in 2050.

Recent Treasury modelling for the Australian economy illustrates this point, as shown in the figure below, with the electricity and energy sectors being 'first movers' in emissions reductions.

Figure 1 Forecast emission reductions by sector to 2050 (Treasury modelling)



Note: For interpretability, agriculture and land have been split in the above figure. Emissions reductions from land-use change have been incorporated within carbon removals. Carbon removals refer to removing carbon dioxide from the atmosphere and storing it in land-based ecosystems, such as forests and soils.
Source: Treasury modelling.

Source: The Australian Treasury, *Australia's Net Zero Transformation,* September 2025, p 15.

Several key themes recurred through the Panel's deliberation, debates and engagement with AEMO and other stakeholders.

1. **The ISP narrative is ever more important.**

Each ISP gathers additional detail, expectation and complexity. There are few people in Australia who fully understand the breadth and depth of the ISP, yet it impacts all energy consumers. Clear messaging about future energy markets and changes through an ISP lens is crucial. The summary statements — particularly on pages 5, 6 and 7 of the Executive Summary — need to reach a wide range of Australian audiences.

2. **Telling the ISP's story for a broad audience.**

Communications about the ISP, and the Optimal Development Path (ODP) in particular, for a broad audience are increasingly important and challenging. Efforts will also help reduce significant mistrust in energy markets, including communications about the 'Voldemort[1]' question that shall not be asked: "What will need to happen for electricity prices to go down significantly and stay down?" We recognise that AEMO may not be able to answer this question directly, but it should have it in mind when designing the 2026 ISP communications strategy and briefings.

3. **Cost of living and energy costs continue to be real.**

Cost of living is still 'live' for many consumers and is an unavoidably key context for all energy matters, including the ISP. There is little AEMO can do to fix it, but it needs to be aware of the realities and alert to where ODP and transition costs are optimised.

4. **Diverging costs of energy projects.**

Transmission project costs and timelines have continued to rise substantially over the timeframe of five ISPs, including the 2026 ISP, while the costs — both on a per MW and per MWh basis — of solar, batteries and CER continue to fall. The ODP in this ISP puts forward 1,350km less investment in transmission than the 2024 ISP, in part for these reasons.

5. **Which gas, when, where, how much?**

There is a role for gas in electricity generation to be a backup to variable renewable generation and battery storage, particularly during variable renewable energy (VRE) lulls. What is less clear is the cost of providing what is likely to be infrequently used but crucial back-up generation and who will invest in additional gas infrastructure and storage. AEMO's gas development models envisage a major role for regasification via two terminals (one each in NSW and Victoria) to supply additional gas, although this exposes the East Coast Gas Market to international gas prices and there is community opposition to regasification plants to overcome, particularly in Victoria.

Renewable hydrogen may provide a viable substitute for niche natural gas applications in the longer term, but the economics and logistics create insurmountable barriers for its use at scale in electricity generation and most industrial applications. The availability of biogas at commercial levels required by the ISP is challenging. Achieving net zero by 2050 will be complicated if natural gas is still being used, requiring potentially unreliable carbon offsets or carbon capture technologies that currently show little promise of viability.

[1] Lord Voldemort is a fictional character from the Harry Potter series of novels written by J K Rowling. The 'dark lord' is referred to as "He who shall not be named". That is the connection here; we assert that the question "what will it take for electricity process come down and stay down?" is one that consumers are regularly asking and very few are prepared to honestly seek to answer.

6. **What's the story with falling coordinated CER?**

The 2024 ISP indicated more electricity supply out to 2050 from 'coordinated CER' than the Draft 2026 ISP. Even more recent data from AEMO (December 2025) is indicating rapid take up of home batteries, along with continuing investment in photovoltaics (PV) and some rise in electric vehicles with vehicle-to-grid (V2G) opportunities. Recent relevant reports including the *ACCC Inquiry into the National Electricity Market* (June 2025) and AEMO's *Quarterly Dynamics Report* (December 2025) indicate greater participation in virtual power plants (VPPs) than current 2026 ISP modelling. VPP activity and uptake is difficult to predict in terms of how many people participate, whether their participation will be long term, and the extent to which retailers deploy VPPs as part of their day-to-day market interaction. There are other ways to facilitate consumer participation in coordination to be responsive to system needs, and we should not limit our thinking to only VPPs with energy retailers as the market intermediaries.

7. **Energy efficiency benefits remain elusive to capture.**

Intuitively there are clear benefits for consumers from improved energy efficiency. While there have been benefits from more energy-efficient appliances and practices over many decades resulting from innovation and supported by programs like the Greenhouse and Energy Minimum Standards Act 2012 (GEMS Act), energy-efficiency improvements for housing remain untapped. Governments, developers and builders could do so much more to dramatically enhance the energy efficiency of Australia's housing stock, including new builds. The Panel continues to regard energy efficiency as an important tool for reducing energy costs and emissions and proposes running a sensitivity that considers the impacts of higher levels of energy efficiency.

8. **Get on with it!**

While timely consumer input into key processes, for example, RiT-Ts, and building social licence for projects is crucial, action is needed from many parties to achieve the ODP — promptly. On page 20 of the Draft 2026 ISP, AEMO says: "To deliver the ODP, continued coordinated action is needed from industry, governments and market bodies, including in their engagement with communities". We agree. The ISP provides 'guidance' to industry; what is less clear is who will take responsibility for coordinating the coordinated action.

9. **Distributed ≠ Distribution.**

Distributed energy is much more than the interaction of CER and distribution networks. The Demand Side Factors Statement is an important development with a substantial amount of work achieved in the 12 months since the relevant rule change. There is room to improve for the 2028 ISP, including further exploration of non-network distributed energy opportunities, and through electrification, EVs, energy efficiency, mid-scale generation and demand-side storage delivered by aggregators, community energy enterprises and retailers.

10. **VPPs and extent of consumer buy in.**

With the rapid, recent take up of home batteries there are growing opportunities for 'orchestration'/coordination including through household involvement with virtual power plants (VPPs). The story about the extent of consumer buy in for VPPs remains hazy and closely related to behavioural factors and trust. The opportunities of orchestration, including through involvement in VPPs needs to be actively followed over the next few years and efforts made to support consumers to participate in this space and to innovate new solutions that meet their needs along with system needs.

11. **We need to talk about curtailment.**

Naturally, there is a desire to maximise utilisation and minimise downtime of energy generators, however, having surplus coincident generation that goes unused is a necessary and normal aspect of a renewables-and-storage-based energy system. The efficient level of curtailment — above which measures reducing curtailment are productive, and below which they are inefficient — grows exponentially to the portion of energy supplied by VRE. Energy storage and shifting flexible loads allow otherwise curtailed energy to be productively used, but simply alleviating constraints on export in one part of the energy network without regard for the upstream impacts runs the risk of merely shifting some — and at times, all — curtailment from one part of the system to another with no net gain.

At best, shifting curtailment comes with diminishing returns and limited emissions benefit; at worst, it can drive up costs for all users. This is not just a theoretical or future issue; it is happening today. Rather than avoiding minimum system load events by curtailing some household generation when it threatens the secure operation of the energy system, AEMO uses directions frameworks. The resulting compensation — paid by all energy users — cost potentially thousands of times more than the value of feed-in-tariffs being protected for some households. We are concerned that a demand side focus on increasing exports may result in similarly costly and ineffective measures.

We suggest AEMO focuses on identifying and applying the efficient level of curtailment at all levels of the NEM systems, markets and networks for the ISP, particularly in the Demand Side Factors statement.

12. **Electricity Demand**

The Demand for grid electricity is rising but not across the board (underlying demand versus operational demand); near doubling of demand is uncertain.

The Draft ISP is unambiguous that electricity consumption is rising substantially. However, this story is not quite so clear cut. Investment in CER means that while more electricity is being used, the electricity being delivered by the grid to households and small businesses is not rising. The increase in electricity demand is mostly coming from major industrial users, including data centres. Broad underlying demand is near doubling, while operational demand growth is reduced by CER, despite likely rapid industrial growth. While the predicted demand growth is plausible, there continues to be uncertainty attached to the timing and quantum. This changes answers to questions about who should pay for the increased investment in major generation and network projects required to meet increased demand. Clarity is required when discussing demand as to whether it is operational demand or underlying demand that is being considered. Both need attention.

13. **Interaction between ISP and Policy remains vexed.**

That the ISP is required to consider all national and jurisdictional governments' policy continues to be challenging. We anticipate that this requirement will be considered as part of the AEMC's ISP review during 2026 and 2027.

14. **How do we have confidence that (what once appeared to be) cost-effective projects are still optimal?**

Growing costs for major projects diminish the net value for customers, and sometimes there are projects that were once expected to have a net benefit for consumers where benefit reduces over time and may end up being net deficit for consumers. For example, Project Energy Connect and Humelink. A process is needed to test whether committed and anticipated projects continue to be of benefit to consumers and whether they should remain in the ODP.

The ISP should not be used to supplant good regulatory processes nor consumer and stakeholder scrutiny of projects.

The Panel observes that some stakeholders are focused on ensuring certain projects are listed in the ISP, with an implicit view that this avoids any further scrutiny. A project's inclusion in the ISP should never be regarded as a substitute for rigorous assessment through established regulatory, approval and consultation processes.

15. **Community energy – build data into modelling.**

Through engagement in preparation for this report, the Panel heard considerable commentary about the potential for community energy and other mid-scale projects, for example, led by local governments, to support consumers and improve market outcomes. Community energy storage projects coupled with the potential for mid-scale (100kW-30MW) generation and storage is relatively nascent, while exhibiting considerable potential to support coordination of CER and increase trust in energy markets and social licence. Community energy data should increasingly be built into future ISP modelling and be more visible in the ISP.

16. **Coordination and collaboration – set priorities and identify opportunities.**

One of the most important statements is made in the Draft 2026 ISP's Executive Summary:

> *"To deliver the ODP, continued coordinated action is needed from industry, governments and market bodies, including in their engagement with communities."*

A clear focus on the ODP's implementation is important. The ISP is more of a 'directions' plan than an 'implementation' plan. It correctly focuses on what is needed more than the details of how to get there; it is not AEMO's role to provide these details. Having made the call for "continued coordinated action", AEMO could usefully suggest some priorities for coordinated action and identify opportunities for collaboration.

17. **The imperatives of social licence and communications.**

The social aspects of the energy transition are as integral to its success as the technical ones: we need significant household participation in orchestration such as VPPS and V2G, and energy efficiency, and we need community support to build transmission and renewable energy zones (REZs). At this point, it is imperative to recognise the need to invest in and put additional effort into increasing consumer and community understanding and participation in the energy transition through coordinated communications — a 'national narrative' around the energy transition — and tailored engagement and support. This is something that must be done at multiple levels at once – with communities and households, for projects, and in a national narrative.

Recommendations

Recommendations (one-page summary)

The Consumer Panel's recommendations (including Demand Side Factors (DSF) recommendations) can be summarised as follows:

- **Accelerate and resource CER Roadmap delivery**, including extra focus on community energy, mid-scale generation/storage in distribution networks, and improved visibility of non-scheduled generation.
- **Define and consult on "who does what" to deliver the ODP** (collaboration, coordination and accountability), including how consumer participation will be secured.
- **Embed social licence in planning and delivery** at three levels (transition-wide, infrastructure projects, and CER participation), including social context/social impact approaches for transmission and REZ planning.
- **Keep project "actionability" under review** as costs, timing and constraints change (including for committed projects where warranted), so decisions remain in consumers' interests.
- **Strengthen ISP communications and framing** (including positioning as "the national roadmap for the energy system") and provide clear, audience-ready explanations of key conclusions.
- **Clarify demand-forecast risk and "least regrets" actions**, addressing both under- and over-forecasting and the implications for who pays for investment.
- **Move toward optimising demand-side actions as outputs** (not just inputs) and **run a higher energy-efficiency sensitivity** for the final 2026 ISP.
- **Support distribution upgrades as a system investment** (including making them actionable where appropriate) with sub-region detail to guide private investment and whole-of-system benefits.
- **Be explicit about batteries' full value** (beyond "firming"), how they are optimised in modelling, and how non-energy revenues affect costs/benefits and trade-offs (including versus syncons and gas).
- **Address gas-market and GPG development barriers**: explain the urgency, assess impacts of regulatory/policy changes on gas cost/availability, and test competition/substitution with long-duration batteries (12+ hours).
- **Confirm QNI implications**: proceed with further investigation and, if relevant, confirm total NEM-wide transition costs with and without QNI including emissions/emissions-budget impacts.
- **Increase transparency on consumer cost impacts**, including the additional cost of extending coal-fired generation life by 11 years.
    .1. In forecasting and optimisation, further test competition/substitution between growing grid-scale battery capability and gas for reliability and system-security services.

The following recommendations are consolidated from this document and the accompanying report which considers the Demand Side Factors (DSF) statement.

Table 1 The ISP Consumer Panel's key recommendations for the final 2026 and future ISPS

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
33	ISP implementation	Increase attention, resourcing and pace to achieve the CER Roadmap recommendations actions and identify areas that require additional attention within the CER Roadmap (for example community energy, mid-scale generation and storage in the distribution network), and on improving AEMO's visibility of non-scheduled generation. (See also Nelson Review reforms about the visibility of consumer energy resources.)	DEECCW, Commonwealth and jurisdictional governments, AEMO, relevant industry associations
33	Communications/gas	Explain to key stakeholders, including governments, the importance of addressing the current gaps in the gas market and to support the role of gas in providing firming and system security services before the exit of coal generation in the early 2030s.	AEMO
34	Communications	Ensure AEMO's call for action is not interpreted as a call for inattention to changing circumstances, for example, substantial changes in costs and benefits related to actionable – and even committed – projects. When circumstances change such that the viability, timing, costs and/or benefits may no longer make that project in the consumer interest, actionability needs to be revisited, as AEMO has done with two projects in this ISP	AEMO
35	Communications	Change the ISP's front-page byline from "A roadmap for the energy transition" to "**The national** roadmap for the energy **system**".	AEMO
39	REZ (Appendix 8)[2]	Consider undertaking social context analysis and/or social impact assessment processes as part of its role in transmission and REZ planning.	AEMO and project proponents
39	Social licence	Retain a focus on all three aspects of social licence in its analysis (energy transition, infrastructure projects, CER).	AEMO
39	Implementation	Elaborate and consult on what the collaboration and coordination required to deliver the ODP, build social licence and secure consumer participation would look like.	AEMO
43	Demand forecasting	That in the final 2026 ISP, AEMO discuss the risks of both under and over forecasting demand and the 'least regrets' responses.	AEMO

[2] Appendix 8 "Social Licence" of the 2026 draft ISP: https://www.aemo.com.au/-/media/files/major-publications/isp/draft-2026/a8-social-licence.pdf?rev=86b8b4dbf37f45938d73489b8784e092&sc_lang=en

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
47	Government policy and the ISP	Proactively engage with regulators and the energy ministers to provide more stringent requirements on policies based on a requirement for supporting business cases in line with Productivity Commission recommendations.	AEMO with government and market bodies
48	Demand-side investments	Consider how to include specific demand-side investments as outputs of the optimisation process rather than rely on 'static' input forecasts.[3] For example, as part of the ISP's modelled ODP outputs, AEMO could include the optimal level of energy efficiency alongside the optimal levels of generation, storage and network as part of its least-cost solution.	AEMO
55	Queensland-New South Wales Interconnector (QNI)	Proceed with its proposal for further investigation of QNI, and, if relevant, confirm the total NEM-wide costs of the transition with and without QNI, including the impact on emissions and emissions budget.	AEMO
58	Coal-generation costs	Make clear the additional cost to consumers caused by extending the life of coal-fired power stations by 11 years.	AEMO
63	Batteries	The Panel recommends that the 2026 ISP expressly describes the range of features batteries can provide including the following from the Panel's IASR report: • Demand Firming • Temporal Diversity • Flexibility and lower risk • Short lead time and fast deployment	AEMO
64	Batteries	When exploring the counterfactual, modelling and subsequent descriptions. AEMO will need to be overt about how the role of batteries is optimised. While many of the functions and services of batteries lie outside of focus of the ISP, the impact of these other revenue streams should be considered in the costs and benefits attributed to batteries.	AEMO
64	Batteries	Given the role that grid scale batteries will play in in the future energy system, and the associated revenue streams that effect the investment case for batteries, the 2026 final ISP needs to fully consider the costs and	AEMO

[3] The Panel recognises that the level of energy efficiency inputs varies across the scenarios but they remain static input forecasts within each scenario.

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
		benefits of batteries in the trade-offs between batteries, synchronous condensers and gas.	
69	Gas and storage	Explicitly consider gas supply and storage requirements forecasts in the transition in the context of current and future technological developments in the capacity of grid-scale batteries to provide long-duration storage (12-hours+).	AEMO
69	Gas	AEMO, together with the other energy regulators and governments, work more expeditiously to develop an appropriate incentive framework to encourage the development of the gas-powered generation (GPG) market in the NEM.	AEMO, energy regulators and governments
71	BESS forecasts	In forecasts and optimisation modelling further consider the potential competition between the growing size and capacity of grid-sized batteries (BESS) and gas generation to ensure the efficient, lowest cost delivery of reliability and security of supply services.	AEMO
71	Gas	The Final 2026 ISP consider the impact of recent developments in the regulation of the east coast gas market, including the proposed gas reservation policy on the cost and availability of gas, including whether the domestic reservation policy disconnects the wholesale price of domestic gas supply from the international LNG market prices.	AEMO and other planners
71	Gas sensitivity	The Final ISP include a sensitivity analysis on the impact of much reduced industrial demand for gas due to closure of major industries such as fertilizer production, made more likely if the gap between Australian domestic gas prices and US natural gas prices expands.	AEMO
75	Gas pricing	AEMO undertakes further assessment of the impact of its proposed options on domestic gas pricing prior to the final 2026 ISP.	AEMO
75	Gas sensitivity	AEMO include a sensitivity analysis on the impact of delays in the two proposed regassification terminals and/or cancellation or significant delay of the Corio Bay regasification development.	AEMO

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
75	Gas options	AEMO work with other regulators, the industry and consumers to further explore the costs of the different options and the feasibility of attracting investment in the various components of each gas option.	AEMO, regulators and Industry
75	Corio Bay	AEMO engage with key consumer stakeholders regarding potential community opposition to the Corio Bay development.	AEMO
77	Gas supply and Nelson Review	AEMO consider and report on the impact of each of these policies on gas supply, gas costs and investor behaviour and whether the Nelson Review proposal regarding gas supply to the market addresses the issues raised herein.	AEMO
80	CER responsiveness	AEMO keeps a wide view of ways CER responsiveness could be delivered, and by whom, beyond retailer-led VPPs.	AEMO
80	Distribution upgrades	Investment in distribution upgrades is supported, which will in turn leverage an additional 2GW of private investment. The Panel recommends it is made actionable, to support both consumer value from their existing assets as well as unlocking whole-of-system benefits.	AEMO
80	Subregions	The potential for 2GW additional grid-scale investment be broken down into subregions, to help direct investment consideration.	AEMO
81	Energy efficiency (and demand side factors)	AEMO to undertake a sensitivity test for higher energy efficiency of the final 2026 ISP. (Also refer our response to question 5 from the draft 2026 ISP consultation questions, page 23)	AEMO
82	Language: community and neighbourhood batteries	For 'language,' use 'network batteries' instead of 'community batteries', unless the battery is owned by and/or directly benefitting a specific community of involved consumers.	AEMO
83	Use by date for net benefit calculations	Apply a 'use by' date to projections about net consumer benefit for any modelled project so that when there are project delays, that benefit to consumers can be re-assessed. As real costs become better known and timing and other unforeseen constraints emerge, modelled benefits are quickly eroded or disproven.	AEMO

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
84	Actionable state for renewable projects	That priority grid scale storage, distribution upgrades and renewable generation projects are afforded 'Actionable' status.	AEMO
84	CER roadmap	Increase attention, resourcing and pace to achieve the CER Roadmap recommendations and actions and identify areas that require additional attention within the CER Roadmap (e.g. community energy, mid-scale generation and storage in the distribution network), and that improve AEMO's visibility of non-scheduled generation (see also Nelson Review reforms re 'Visibility of consumer energy resources'). Support this process as an ISP development opportunity (resourced in line with its level of importance in delivering the ODP).	AEMO / DCCEEW
88	Community energy	Increase the visibility of mid-scale generation and storage within the ISP (and refer to it as such, because 'unscheduled generation' does not mean anything to anyone outside the market operators!)	AEMO
88	Community energy	Recognise mid-scale generation and storage as an area of future potential and be sensitive to this within modelling.	AEMO
88	Community energy	That AEMO works with consumers, community energy organisations, DNSPs, state and federal governments – including with the federal government's DCCEEW led CER Roadmap program – to identify current barriers facing community energy and mid-scale projects across policy, regulation, market, financial and support area and how they can be overcome. That AEMO action any relevant recommendations within their remit coming out of this process.	AEMO
88	Community Energy	Ensure the 2GW estimated capacity in the distribution network to accommodate grid-scale generation and storage becomes a National Community Energy Target, backed up with a suitable suite of incentives and assistance to enable consumers to more actively participate in the energy transition.	AEMO
DSF 6	DSF statement - nomenclature	Rename the Demand Side Factors statement so its meaning is more obvious to the general public. Something like the plan for 'Supporting Consumer Participation'. (The 'DSF' statement should be a guide to the demand side, more than distribution networks.)	AEMO

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
DSF 7	DSF statement - nomenclature	This first DSF statement is also a statement of Distribution Network factors; future DSFs need to more overtly consider other demand side factors.	AEMO
DSF 11	DSF ODP	In the final 2026 DSF statement, identify and explain opportunities to 'leverage' distribution investment savings for all consumers – CER and non-CER households (e.g. in new augex reductions for network businesses, with savings reducing distribution use of system [DUOS] charges).	AEMO
DSF 12	DSF curtailment	Explain assumptions about battery investment and price volatility, over time, noting battery investment is impacted by reducing volatility (from having more batteries).	AEMO
DSF12	DSF curtailment	Clarify what AEMO considers to be efficient curtailment levels with differing levels of CER / DER (Figure 8[4] in DSF), and how upstream curtailment has been accounted for when increasing export levels.	AEMO
DSF 16	DSF ODP	Update modelling, including sensitivity analysis, to reflect rapid take up of CER, particularly home batteries and rooftop PV, and factor this into carbon disclosure project (CDP) analysis.	AEMO
DSF 16	DSF data	Apply updated data from the draft *2026 Forecasting Assumptions Update* supporting materials to key demand side factors, including EV projections, distributed PV and batteries/VPP forecasts and GEM (Greenhouse and Energy Minimum Standards) projections for distributed energy resources (DER), including non-scheduled generation.	AEMO
DSF 16	DSF sensitivities	Undertake a sensitivity analysis of the impacts on the 2026 ODP of applying more recent data from the *Draft 2026 Forecasting Assumptions Update* supporting materials. Specifically test the impacts of a more rapid take up of CER, specifically rooftop PV and home batteries, than considered in the 2025 IASR.	AEMO
Recommendations for 2028 (and beyond)			

[4] a9-demand-side-factors-statement.pdf page 29

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
39	Social licence and Attachment 8	In future planning for new transmission lines and REZ areas, trial conducting key informant interviews with representatives from local government, local land services and local Aboriginal registered parties to verify, fill gaps and add granularity to existing land use data.	AEMO
51	Cost Benefit Guideline	Before commencing work on the 2028 ISP, AEMO to seek a review of the AER's Cost Benefit Guideline to see whether it is appropriate for assessing options in the ISP, noting that, in the context of the ISP, the counterfactual development path is barely credible and demand-side actions are not included as an option to address the 'no transmission' development path.	AEMO and AER
78	Batteries	AEMO and the other market bodies, consider that: • ISPs up to and including the 2026 ISP will have provided sufficient guidance for the development of the future transmission system. • from 2028, an ISP limited to actioning network projects is no longer fit for purpose to meet consumer or climate needs as enshrined in the National Electricity Objective (NEO) and National Gas Objective (NGO) Objectives. • future system planning must guide a co-optimised plan for storage, generation, the demand side and networks – the 2028 ISP needs to be refocused as a genuine whole-of-system plan.	AEMO and other market bodies
DSF 20	DSF VPP	That AEMO progressively improves its data base regarding consumers' VPP take up and VPP impacts on energy markets for the 2028 DSF and beyond.	AEMO
DSF 20	DSF scenarios	Add a distributed energy scenario to the 2026 ISP scenarios, utilising updated DSF data and related inputs.	AEMO
DSF 21	DSF energy efficiency	Undertake enhanced modelling of energy efficiency opportunities for the 2028 ISP, including which energy efficiency options give best (most cost-effective) outcomes for the energy system and consumers for the 2028 DSF.	AEMO
DSF 21	DSF energy efficiency	Include discussion in the 2028 DSF about what needs to be done to enable much better take up of energy efficiency than is currently forecast.	DEECCW, Commonwealth and jurisdictional

Page	Topic	Recommendations for 2026 ISP (including 'DSF')	Who is responsible
			governments, AEMO, relevant industry associations

Contents

Tables

Figures

About the Panel

The ISP Consumer Panel is an advisory body set up under the National Electricity Rules (NER) put in place since the 2020 ISP. The Panel's role is to bring a consumer-focused perspective to the ISP development process, having regard to consumers' long-term. AEMO appointed the 2026 ISP Consumer Panel in May 2024:

- **Mark Henley (chair)**, a long-term advocate for vulnerable people and communities, with more than 40 years' experience working with community and consumer-based organisation in South Australia and at a national level.
- **Dr Jarra Hicks**, a founding Director of Community Power Agency, a not-for-profit that works to foster a fair and fast transition to renewable energy that involves and benefits everyday Australians.
- **Bev Hughson**, an advocate focused on promoting consumers' interests who has 30+ years' experience working in the gas and electricity industries.
- **Craig Memery**, an energy specialist and consumer advocate with the Justice and Equity Centre's Energy and Water Consumer Advocacy Program.

The 2022 ISP Consumer Panel (the 2022 Panel) described their approach to advocating for consumers' long-term interests:

> *"…to ensure the ISP adequately accounts for the risks of over- or under-investment when the future, inevitably, doesn't turn out the way it was modelled today. If there is over-investment, consumers will pay more than they need to for electricity, and we know the affordability of electricity is already a major issue for many consumers. If there is under-investment, there will be an increased risk of power outages due to reduced reliability or security of supply, or failure to meet emissions reductions targets due to an inability to connect new renewable generation."*

The 2026 Panel endorses this approach.

2026 ISP Consumer Panel

In addition, the Panel sees its role as helping to achieve a future where electricity contributes to a thriving and equitable society in the context of a healthy and sustainable environment. As part of this, the Panel plays a role in advocating for active consumer participation options and equitable outcomes for all consumers from the increased role of consumer and distributed energy resources. The Panel seeks to take a holistic, long-term and systemic perspective through consideration of the impacts of possible future energy pathways on consumer wellbeing including social, environmental and economic factors.

Under Clause 5.22.7 of the National Electricity Rules (NER), the Panel is required to publish two main reports:

- A report on the *Draft 2026 Integrated System Plan* (ISP) by 12 February 2026.

AEMO must publish the Panel's reports on its website and have regard to them but is not obliged to give effect to any recommendations in the Panel's reports.

While appointed and funded by AEMO, the ISP Consumer Panel is independent of AEMO or any other body. Panel members consider and provide input on a range of issues associated with the ISP process and seek to represent a breadth of consumer perspectives. When the Panel has different views to AEMO, these are discussed and documented, with both the Panel and AEMO providing reasoning. Panel members aim to reach consensus on views expressed.

In addition to these two required reports, the Panel considers it has a role in the ongoing ISP development process and is supported by AEMO in this regard. The Panel engages closely with AEMO through formal and informal submissions and other activities. These submissions are listed on AEMO's webpage.https://www.aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2026-integrated-system-plan-isp/2026-isp-consumer-panel

Responses to Draft 2026 ISP Consultation Questions

In this section, the Panel briefly responses to the six consultation questions posed in the Draft 2026 ISP. Further details on most aspects of these summary responses are provided later in this document. The Panel has submitted comments on AEMO's Appendix 9 document on demand side factors (DSF) in a separate document.

Consultation question 1:

AEMO has proposed an ODP that represents a mix of investments that help deliver a reliable, secure and least-cost power system while also meeting government policy targets.

Do stakeholders agree with AEMO's optimal development path selection in the Draft 2026 ISP? If yes, what gives you that confidence? If not, what should be further considered, and why?

The Panel's answer is 'mostly yes' with some questions/ clarifications:

- Reduced levels of coordinated CER/VPPs compared with 2024. The Panel recommends that this information is updated in line with the *2025 IASR Addendum* published by AEMO in December 2025[5] and the *Draft 2026 Forecasting Assumptions Update*.[6]
- Expansion of gas: has AEMO modelled viability of waste to energy and renewable biogas to meet future gas needs, instead of expansion of or development of new gas fields?
- What if the future has dramatically more energy efficiency? The Panel considers it is reasonable to assume there will be future breakthroughs in energy efficiency, as there have been before, for example, LEDs, heat pumps, space heating and cooling.
- Unpacking the counterfactual scenario as a basis for determining the relative value of the candidate development paths (CDPs) and the Optimal Development Path (ODP).

The Panel also asks what reliability standard is appropriate for the final ISP? The AEMC's *Draft 2026 Reliability Standard and Settings Review (RSSR)* report[7] has signalled a departure from the long-standing 0.002% unserved energy (USE) to a higher level, potentially 0.003 or 0.004%. The Panel recommends AEMO applies the most up-to-date figure from the RSSR process for the final 2026 ISP. At this time, that may indicate 0.003% USE.

If there is uncertainty about the Final Reliability Standard and Settings Review (RSSR) at the latest point in time, AEMO can apply the Standard to the modelling, a sensitivity should be undertaken so the highest and lowest potential outcomes from the 2026 RSSR are considered.

[5] See AEMO, https://www.aemo.com.au/-/media/files/major-publications/isp/draft-2026/addendum-to-the-2025-inputs-assumptions-and-scenarios-report.pdf?rev=00798523a25e42078034d1878c337f19&sc_lang=en

[6] See AEMO, *Draft 2026 Forecasting Assumptions Update,* December 2025. https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2025/draft-2026-fau/draft-2026-forecasting-assumptions-update.pdf?rev=eb147bbbe8c147dcb8a64f7a8b94e329&sc_lang=en

[7] See: Reliability Panel AEMC, Draft Report, 2026 Reliability Standard and Settings Review, November 2025 :https://www.aemc.gov.au/sites/default/files/2025-11/2026%20RSSR%20-%20Draft%20Report%20-%20Clean%20%282%29.pdf

A further question is whether current trends will mean even less transmission and more batteries, for example, small, medium and large EVs will be more of a feature of the final 2026 ISP's ODP and future ISPs.

The perennial question of policy changes and their relationship with the ISP outcomes also continues and the Panel ponders - 'what if AEMO could consider viable futures that pushed current policy commitments where there are expected consumer and environmental benefits?' For example, modelling high uptake of energy efficiency, expansion of CER to renters and low-income homes, support for community and mid-scale development, retail demand response market, and the potential for increased decentralised, nodal electricity grid/market management.

The above options, when explored, still fit within the key 'first tier' policies (renewables and carbon targets) and use mature technologies but push the boundaries of what is currently being pursued by other 'second tier' policies. This approach may lead to a very different scenario that might offer more meaning to options in ODP selection and could help inform and amend policy directions and programs in consumer's interests.

Consultation question 2

In the Draft 2026 ISP, AEMO has proposed some changes to actionable transmission projects including:

- **11 actionable projects to remain for delivery over the next decade**
- **three projects to move to 'committed or anticipated' status**
- **one project to move to 'future' status to align with the timing of other projects that influence its benefits (Central Queensland to Southern Queensland Expansion aligned with Borumba Pumped Hydro) and**
- **two projects under review due to uncertainty in input assumptions and the influence of recent policies (Northern Transmission Project and Queensland-New South Wales Interconnector (QNI Connect).**

Do you agree with the proposed timing and treatment of actionable projects in this draft?

From a process perspective and within AEMO's remit for the 2026 ISP, the Panel agrees with the proposed treatment of actionable projects and strongly supports AEMO's intention to revisit some projects. When considering consumers' long-term interests and those in the wider framework, there is much to be gleaned from analysing and learning from already-committed projects. For example:

- Humelink, though necessary for Snowy Hydro to access the market for its long-delayed and inaccurately costed Snowy Hydro 2.0 pumped hydro project, is unlikely to be of value to consumers in terms of net value and certainly not in terms of opportunity cost. In the Panel's view, the capital cost of a substantive portion of Humelink should be treated as a connection asset and funded accordingly by Snowy Hydro.
- More than $1.5 billion of Project EnergyConnect's (PEC) numerous and substantial cost blowouts/underestimates on the NSW side have occurred **since** the project was committed, highlighting:
  - the risk of ISP transmission cost assumptions remaining overoptimistic in the face of reality
  - the vulnerability and, if the proponent, Transgrid, is successful in clawing these costs from consumers, the outright ineffectiveness of the regulatory frameworks consumers rely on to ensure ISP projects ultimately benefit them.
- Despite ElectraNet's portion of PEC being built on time and budget, factors beyond ElectraNet's control on the NSW side mean that by the time South Australian consumers benefit from the interconnector being energised, they will have

been paying for associated project costs for an estimated five years. This highlights that the ISP's modelled benefits are vulnerable to risks such as implementation delays that consumers or proponents are unable to manage.

The Panel would like to see modelling that addresses NEM reliability and security with a much lower focus on interconnectors and a stronger focus on batteries and distributed generation. We opine that the 2026 ISP will prove to be an 'inflection point' in the ISP's focus, shifting from being mainly a transmission plan to being a whole-of-system plan with greater attention being given to firming, shaping and storage.

Consultation question 3

For the Draft 2026 ISP, the tested sensitivities were on constrained delivery of the ODP, variations on the gas development projection, and the pace of coal closures. The effect of demand-side factors was also tested by assessing the impact of reduced energy efficiency measures, and no further CER coordination.

What other sensitivities should be considered to further test the robustness of the candidate development paths, and why? What other sensitivities are relevant to testing robustness of investment decisions, why?

The Panel has identified priority areas for sensitivities:

18. Utilising very recent, new data about battery take-up rates and Virtual Power Plant (VPP) participation to explore the extent of impact on the ODP from higher levels of home battery take up and VPP sign up.
19. Retesting the likely extent of coordinated CER, which is projected to decline in the draft 2026 ISP compared to 2024 modelling.
20. Encouraging higher levels and better coordinated approaches to energy efficiency measures because of the considerable potential to save energy and money for consumers. The Demand Side Factors statement includes modelling results showing a potential $12 billion cost to consumers by 2050 because of a failure to adequately implement energy efficiency measures across Australia. There is also a story to tell about the anticipated considerable benefit of a more coordinated approach to energy efficiency.
21. Considering the effects of significantly lower or higher underlying demand than forecast. Uncertainty abounds for energy system planners, governments and investors about further demand suggests that more consideration needs to be given to the impacts of both higher and lower demand than is forecast beyond the scenario descriptions. The Panel expects a higher-demand situation would be heavily driven by a small group of commercial and industrial businesses, for example, data centres, mining and desalination. Sensitivity testing would assume that these industrial sectors would drive a high-demand growth scenario.
22. A sensitivity to test more mid-scale, non-scheduled generation in the 100 kW to 30 MW range, and additional storage capacity in the distribution network. This could be an area of significant development over coming years so establishing some baseline perspectives in 2026 would have long-term value.

Consultation question 4

For the first time, AEMO has assessed opportunities for investment in distribution networks across the NEM that are consistent with the efficient development of the power system to support operation of consumer energy resources. This recognises the key role of distribution networks in supporting the integration of consumer energy resources. See Appendix A9 for more information.

Does the ODP appropriately identify and leverage distribution investment opportunities?

The Panel has produced a companion report to this 'main' report that gives a more detailed response to the Demand Side Factors (DSF) statement. In summary, the DSF – though we suggest an alternative name for it – is an excellent development in the ISP lexicon.

Regarding the distribution investment question, more detail would be useful, including how much generation and storage would be accommodated. It would also be useful to detail which subregion of the distribution network would best accommodate this.

Future DSF statements should extend beyond the analysis of capacity in the distribution network, useful and innovative as that is, to include and/or expand on demand side factors such as electrification, energy efficiency, mid-scale generation and storage/community energy. The Panel specifically mentions including energy efficiency opportunities as an aspect of future statements.

Consultation question 5

For the first time in the Draft 2026 ISP, AEMO has incorporated combinations of gas investments that may be developed by the gas industry. These gas-development projections influence the availability of gas to support the power system in the future, and, potentially, the mix of investments required in the ODP.

Do the gas-development projections reflect an appropriate level of investment to support the gas sector, including gas-powered generation (GPG) in the NEM?

There are uncertainties about the future of gas supply and demand during the transition period. The Panel appreciates AEMO's attempt to address the requirements in the 2024 ISP review to expand on the feasibility of gas supply to support the GPG demand forecast in the ISP and in the annual Gas Statement of Opportunities (GSOO) processes.

Traditional gas supply sources in the NEM region, particularly in the south-east, are declining with minimal plans to support new gas sources to supply south-east markets. As a result, the south-east coast is increasingly reliant on gas from Queensland and gas prices for domestic users are increasingly linked to international events and LNG export contract prices.

The recently announced gas reservation policy, while still in development, is due to come into effect in 2027 and may help stabilise the supply and price of gas to the domestic market, particularly if supported by a suite of other regulatory reforms. Nevertheless, the Panel remains somewhat sceptical about AEMO's apparent reliance on regasification as a source of additional gas from 2026-27, particularly given the extensive delays on the Port Kembla project and the community opposition to the Corio Bay terminal project.

The Panel believes AEMO should conduct a sensitivity test on this assumption, although noting that the 2026-27 date is only specified in Option 3 of the proposed three gas development options plans.

The Panel would like to see the final 2026 ISP discuss these supply challenges and to also consider the impact of the gas industry reforms on prices for domestic consumers. Understanding the costs of gas supply and prices for consumers is essential to understanding the private sector's willingness to invest in additional new gas supply and infrastructure.

The Panel has also indicated above its concerns with the overall gas demand forecasts that underpin the assumptions on gas availability and prices for GPG. The overall forecast growth in overall gas demand is very dependent on industrial use, particularly for energy-intensive industries such as fertiliser production and steel production. There is a constant threat that these industries will close, particularly in the face of relatively high prices for gas. The Panel believes AEMO should conduct a sensitivity analysis of the impact of reduced industrial demand, noting that while notionally this will 'free up' gas for GPG use, it may also impact on investors' willingness to invest in long-term gas supply.

The impact of additional gas supply on environmental/carbon abatement targets must also be considered in the ISP. The Panel notes, for example, that the counterfactual development path (which restricts additional transmission development) used in the ISP to assess net market benefits of other development paths, requires gas supply to be backed up by carbon capture and storage. More generally, the continued reliance on gas supply to 2050 means the industry will have to look at purchases of local and international carbon offsets, the price of which in future decades is uncertain but likely to rise.

The Panel considers the challenges of gas for electricity generation in some detail later in this report, under the heading 'Gas to back renewables', and makes several recommendations to AEMO regarding the further developments of gas development modelling. The section also stresses the importance of early action on addressing the barriers to this development.

Consultation question 6

The Addendum to the 2025 Inputs Assumptions and Scenarios Report (IASR) provides further explanation in response to the AER's Transparency Review. This includes further explanation of forecast components including policies affecting consumer demand, data centres, hydrogen production, biomethane and community batteries.

Do stakeholders have feedback on the Addendum to the 2025 IASR?

While the Addendum to the 2025 Inputs Assumptions and Scenarios Report (IASR) is open for consultation alongside the draft 2026 ISP documents, the Panel will not be submitting separately to that consultation. However, the Panel comments below on some of AEMO's response to the AER's Transparency Review.

The Panel notes that the AER's Transparency Review generally reflects a growing refinement of IASR data and data gathering which is appropriate and reflects the diligence of the modelling team and relevant colleagues and the ongoing exploration of improvements to deal with the ever-growing complexities and uncertainties of energy markets.

Regarding data centres, the AER said:

> *"We expect AEMO to further explain how the data centre demand forecasts were derived and consult on the forecasts before using them in the draft 2026 ISP."*

AEMO's response was thorough and provided details about efforts they have undertaken to consult on demand forecasting methodology, both for the IASR and Electricity Statement of Opportunities (ESOO).

For off-grid hydrogen, the Panel thought that the following comment was reasonable:

> *"Given the nascent stage of the green hydrogen industry in Australia, there is a limited number of existing or committed projects which can be used to inform the development or position of some of AEMO's hydrogen-related assumptions."*

The Panel also thought AEMO's approach for biomethane forecasts to be reasonable.

For community battery forecasts, the AER states its expectation that AEMO will more clearly identify where the forecasts for community batteries are included, noting that for the IASR, forecasts of community batteries are included in the large commercial battery sector. AEMO's response included:[8]

> *"The number and size of community batteries included in the forecast are those identified in the results of the funding rounds of the Community Batteries for Household Solar program. The total number of community batteries included in the forecast was 447 across the NEM and WEM, with a total installed capacity of 39 MW and 101 MWh of storage capacity. The forecasts include additional batteries in the large commercial sector, based on the observed installation rates in that sector, but do not specifically identify community batteries within those additional batteries."*

The Panel encourages future IASR processes to separately identify community batteries as a category on its own and to also work with community energy organisations to improve identification of community batteries. Note that at the end of this report, the Panel draws a distinction between community batteries owned by not-for-profit communities who receive the benefits and neighbourhood batteries managed and owned by commercial interests, even though they are sometimes referred to as community batteries. The neighbourhood battery category should remain in the large commercial battery sector for IASR purposes.

The discussion about electricity price elasticities and AEMO's update of demand elasticities for the business sector is also noted. The Panel considers that price elasticities change over time and so AEMO could usefully explore both short-term and longer-term elasticities for both household and business sectors – some businesses have greater price elasticity than others. Demand elasticities are generally inelastic in the short term with degrees of demand elasticities becoming more elastic over time.

AEMO's response to hydrogen pipeline cost assumptions is also reasonable.

The Panel also observes that AEMO regularly hosts Forecasting Reference Group (FRG) meetings. The group runs as an open forum, and attendees represent much of the relevant expertise across Australia. To our observation they are very engaged with the range of forecasting issues that AEMO considers. Details of this important group can be found at https://www.aemo.com.au/consultations/industry-forums-and-working-groups/list-of-industry-forums-and-working-groups/forecasting-reference-group-frg

[8] AEMO, 2025 Inputs, Assumptions and Scenarios Report, Addendum, December 2025, p. 15. https://www.aemo.com.au/-/media/files/major-publications/isp/draft-2026/addendum-to-the-2025-inputs-assumptions-and-scenarios-report.pdf?rev=00798523a25e42078034d1878c337f19&sc_lang=en

Context

This section considers factors with a focus on broader contextual matters that influence both ISP's development and how it is interpreted, particularly by consumers.

What's happening for consumers?

Energy markets globally are continuing to experience rapid change and uncertainty. Australian energy consumers are experiencing rapid changes because of:

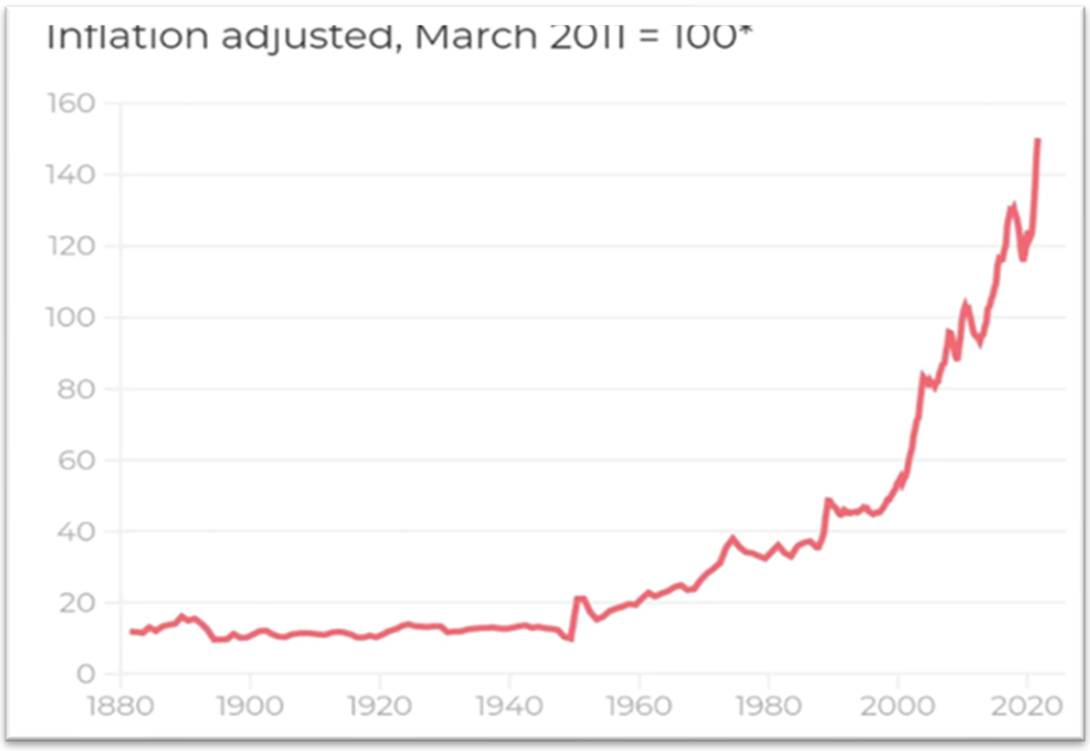
- Continuing trends of installing PV, increasing uptake of batteries and EVs
- Continuing gap-creating equity issues for renters, low-income households and apartment dwellers locked out of participating in CER
- Rising cost-of-living pressures and increasing electricity costs
- More frequent severe weather events and deepening concern about climate change and its impacts on lives and livelihoods
- The ISP's and energy policies' lack of focus on consumer and community-driven mid-scale projects. For example, projects run by community-based enterprises, farmers, small and medium businesses, present enormous opportunities for addressing energy and consumer needs and priorities, as well as contributing to the broader energy transition
- Government policies, targets and derisking.

Many of these points are explored in greater detail in the body of this submission but aspects are considered in some further detail here.

Cost of living pressures rise, and increased electricity costs

A recurring problem for many Australian households is the ongoing cost of living pressure. This is starkly illustrated by the following graph which shows a long-term indexed trend in Australian house prices. Housing is now relatively much more expensive than at any time in our history.

Figure 2 Australian house price index



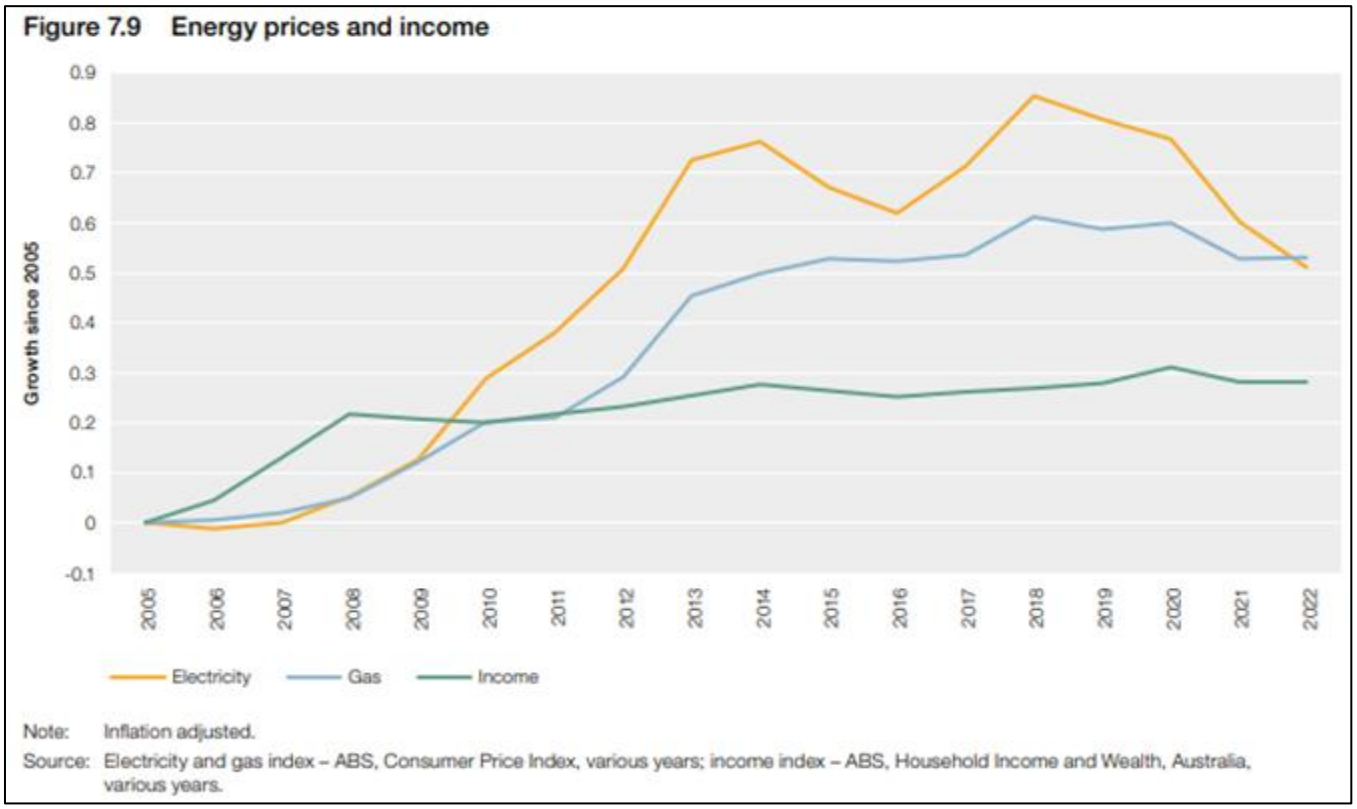
Source: Composite chart generated using Co-pilot (AI) from the following data sources:
Stapledon, N. (2012). "Long Term Housing Prices in Australia and Some Economic Perspectives". UNSW Australian School of Business Research Paper No. 2012 ECON 22. [Available via UNSW]
Australian Bureau of Statistics (ABS), 6416.0 Residential Property Price Indexes: Eight Capital Cities
Reserve Bank of Australia (RBA), "House Prices and Household Debt: A Historical Perspective" (2021)
CoreLogic, "Australian Home Value Index" (Recent years)

The Australian Institute of Health and Welfare reported in October 2025[9] that 31% of Australians were renters and a further 35% were homeowners with a mortgage.

While for energy prices, Australian Bureau of Statistics indexes data below shows that, in general, electricity prices have been rising faster than income for a decade and a half.

[9] See: Australian Institute of Health and Welfare, *Home Ownership and housing tenure,* 16 October 2025. https://www.aihw.gov.au/reports/australias-welfare/home-ownership-and-housing-tenure

Figure 3 Australian electricity and gas price changes compared to household income (indexed)



Source: 1Australian Bureau of Statistics Electricity and gas price index, various years and ABS Household Income and Wealth various years

The combined impact of this data is on one of the crucial aspects of human survival – Maslow's hierarchy of needs level 1: physiological needs = housing + energy – are more expensive than for decades, probably the most-expensive ever, in real terms.

This is why energy costs matter, really matter, to a significant number of households. About a third of renters are unable to afford enough energy to adequately warm (and cool) their homes or to eliminate mould from their housing.

While a growing number of mainly homeowners – now about 40% of the population – can invest in CER to offset energy costs, about 60% are unable to afford or access CER.

The Panel continues to raise cost of living/cost of energy concerns, not because it is AMEO's role to fix the problem, but because AEMO, along with governments and other energy industry stakeholders have a responsibility to do all that they can to keep energy costs as restrained as possible. This is not straightforward because investment is also needed to 'get on with it' to enable the energy transition.

In preparing this submission, the Panel has regularly pondered the question: 'What will it take for electricity prices to go down and stay down?' This is the 'Voldemort question' – a reference to Harry Potter stories which feature the evil wizard as "he who must not be named". The energy costs question is also a question that 'must not be named' yet is the question for which many households and small businesses want a believable answer.

Energy affordability is a focus of the Panel's response to the draft 2026 ISP.

It is important to note there are factors external to the ISP which exacerbate ISP projects' impacts on households. The ISP's overall cost, as recovered mostly from consumers via a combination of NEM and jurisdictional arrangements, is skewed towards being recovered from households – particularly households without CER.

There are also perceived and actual inefficiencies arising from the absence of co-optimisation between the supply and demand sides, as stated on page eight of the Draft 2026 ISP: "The ODP only optimises grid-scale (or 'supply side') investments", noting "Smaller investments are also left to individual participants in the energy market, from single households through to distribution network operators".

Anticipated developments external to the ISP may exacerbate this further; for example, if the current push by some stakeholders to substantially increase inflexible fixed network charges for all households is successful. The Panel rejects this proposal as harmful to people and the energy transition. Under this change:

- Households without solar or batteries with low loads, who use energy efficiently and/or frugally (and/or are dual fuel), would find themselves paying substantively more to fix problems of peak demand and coincident export to which they do not contribute. This group includes many of the lowest decile of consumers by consumption: about 1 million households (about 1 in 10 electricity users in the NEM) who use an average of around 5kWh/day, and face unavoidable bill increases of hundreds of dollars per year. Many households in the second and third-lowest decile – about 2 million households who use an average of around 10kWh/day, will pay around $100 more per year.
- Households investing substantially in CER and DER may feel they are 'paying twice', both for their own energy resources and the energy system they are using less of as a result.

The proposal sends the wrong signals to consumers and provides no incentive for people to respond to system needs.

Those who use less energy from the grid at peak times, including the above, will cross-subsidise those typically better-off households with swimming pools, large cooled and/or heated homes, and EVs who will typically make a lower contribution than the actual cost of meeting their demand and consumption from the grid.

While these matters are largely beyond AEMO's control, in the Panel's view it is important for AEMO to be aware of these impacts and their effects on the perception and consumer social licence of the energy transition and – by association – the ISP.

There are opportunities for AEMO to consider and comment on these matters in the policy-level discussions and processes.

Government policies, targets and derisking

The Draft 2026 ISP's Executive Summary notes that "Government targets are derisking Australia's transition".[10]

The Panel agrees there are a limited number of jurisdictional policies which reduce the overall amount of risk in the 'transition', such as the Long-Term Energy Service Agreement contracts (LTESAs) in the NSW Electricity Infrastructure Roadmap,[11] which reduce risks for investors and consumers concurrently.

There are also measures that add no cost or risk to consumers, such as the Federal Government's Capacity Investment Scheme (CIS) contracts where the government is the counterparty – rather than consumers – and the Rewiring the Nation fund. These are helping derisk investment without placing risk or cost on consumers. However, some government policies, such as Victoria's offshore wind targets, and Snowy 2.0, add substantial transmission costs for consumers to reduce risk and cost for investors.

[10] See, Draft 2026 ISP, p 6.

[11] See: https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2025/draft-2026-fau/draft-2026-forecasting-assumptions-update.pdf?rev=eb147bbbe8c147dcb8a64f7a8b94e329&sc_lang=en

In the Panel's view, it is incorrect, or at least an overgeneralisation, to say government targets are "derisking Australia's energy transition". It would be more accurate to say government targets are derisking "investment in new renewable energy, storage and transmission infrastructure", and more balanced to also identify some of these risks – and costs – that are shifted to consumers.

Engagement with consumers and the challenges of engagement

As the ISP becomes more complex and there is increasing pressure on consumer advocates to respond to a range of processes and reviews, the Panel has maintained a keen interest in approaches to garner consumer views about key aspects of the ISP and the Demand Side Factors statement, post the IASR engagement activities. To achieve this we have:

- Provided updates in the ISP newsletter, which is distributed by AEMO, and sought feedback and comment.
- Sought perspectives from contacts and colleagues – a largely informal process.
- Co-hosted, with AEMO, an in-person workshop in Sydney on 5 February 2026, with focus on the Demand Side Factors statement. (Notes from this workshop are provided in Appendix 1). We also co-hosted another workshop in Melbourne in February 2025 on the Draft 2025 Inputs, Assumptions and Scenarios Report.
- Encouraged and observed verbal submissions from consumer groups.
- Endeavoured to keep abreast of relevant reports and developments.

Also, as part of considering ISP-related questions, Panel members frequently ponder the impacts of their decisions on different consumer groups.

Differences between ISP 2024 and 2026 processes

The Panel acknowledges the ongoing improvement in AEMO processes overall, from ISP to ISP.

For example:

- The Panel understands that AEMO is considering taking solar PV (and EV?) forecasts inhouse, an approach that we consider has merit.
- Reflecting policy/rules changes, AEMO has developed Demand Side Factors Information Guidelines[12] and includes a Demand Side Factor (DSF) statement in the ISP and also considers the role and costs of gas supply for gas powered generation (GPG).
- Improving robustness by using sensitivity tests to help evaluate each candidate development path (CDP) and select the Optimal Development Path (the ODP).
- Moving towards a genuinely whole-of-system plan with increased focus and data on distribution network capacity and CER.

[12] See: https://www.aemo.com.au/consultations/current-and-closed-consultations/2025-demand-side-factors-information-guidelines-consultation

- Improving engagement by providing more opportunities for engagement such as webinars and verbal submissions which increase accessibility.
- Establishing and supporting a Consumer Panel as well as a community advisory panel (Consumer and Community Reference Group), hosting a regular Consumer Forum and maintaining the Forecasting Reference Group (FRG).
- Improving scenario naming, making these more intuitive.
- Further analysing the weighted cost of capital (WACC) for different technology developments including transmission build.

However, some areas for improvement remain:

Improved engagement has not translated to linking demand-side proponents with demand-side conclusions, limiting the ability to inform understanding of consumer preferences and desires. The 'investment pathway' remains focused on large-scale supply-side investors. What about household/energy user investments? (Other comments below build on this.)

There were some improvements to the Delphi Panel approach, but the lack of transparency of attributing scenario weightings undermines this. Though the previous approach had issues, the change removes the direct, clear connection between stakeholder views and ISP outcomes.

The Panel commends AEMO's continued commitment to transparency and consultation and notes that AEMO has engaged more on this ISP than it did on previous ones. As consumer advocates, the Panel particularly appreciates efforts to present data in accessible language, the use of figures, the regular webinar sessions and the ability to submit verbal feedback.

The Panel also recognises its role and those of the Consumer and Community Advisory Group, the Consumer Forum and the Forecasting Reference Group in providing input and reviews throughout the ISP process.

The Panel has also found great value in hosting two workshops with a broader group of consumer advocates, one in February 2025 on the IASR and one in February 2026 on the DSFs. However, there remain many barriers to participation for ordinary consumers, including time and cost of living pressures as well as the fact that engaging with the ISP requires a high level of niche knowledge and interest. As consumer advocates, the Panel has done its best to represent peoples' interests and provide feedback from a diversity of consumer experiences. However, we recognise there is more to be done in this area and will provide suggestions to the 2028 ISP Panel.

Responses to the Draft 2026 ISP Overview Document

This section's subheadings are taken directly from the Draft 2026 ISP overview document.

Executive Summary/overview

In this section the Panel responds directly to some points made in the Executive Summary of the draft 2026 ISP and to topics that arose from our consideration of the Executive Summary.

Coordinated action

The need for coordinated action is a crucial message in the draft 2026 ISP's Executive Summary. Areas for coordinated action include:

- Orchestration, VPPs and related third-party lead coordination approaches
- Energy Efficiency
- System Security
- Consistency.

The Panel would like to see all market bodies and Energy Ministers 'sing from the same song sheet' about the necessity for the transition and contribution of renewables. More effort needs to be made to engage everyday people to understand the imperatives of the energy transition, and the benefits and opportunities for consumers.

Consideration needs to be given to a communications and engagement plan, with input from key market bodies and governments, to ensure consistency and be delivered by trusted voices with local purchase, and ideally, local presence. Importantly, this communications and engagement needs to bridge gaps that currently prohibit consumers from understanding their options and roles in the energy transition.

Engagement

Coordination to ensure that quality engagement is taking place across the planning process for transmission and renewable energy zones (REZs). This needs to ensure that the correct party is delivering engagement at the correct time, and that there is communication between parties to convey important information and to learn from activities to date. Importantly, for communities this must deliver an experience of genuine, early engagement in a process of trust and relationship building.

Policy

There is still room for better coordination of policy between Commonwealth and the jurisdictions. There are both overlaps of policy and importantly, some major policy gaps across jurisdictions which would support consumers and the ODP, for example, programs to support renters and apartment dwellers to participate in solar and batteries such as solar gardens, community batteries, and programs to support mid-scale community-owned renewable energy and storage in the distribution network.

Research and development

There is much research and development being undertaken on storage technologies as well as other aspects of the energy market, for example, dynamic management and VPPs. The Panel suggests there may be a mechanism to better map the range of emerging results and trial them. There are existing programs such as the Demand Management Innovation Allowance Mechanism (DMIAM) which can further support technology innovation especially if coordinated with other programs.[13]

Recommendations

Increase attention, resourcing and pace to achieve the Consumer Energy Resources Roadmap (CER Roadmap) recommendations and actions,[14] and identify areas that require additional attention within the CER Roadmap (for example, community energy, mid-scale generation and storage in the distribution network), and on improving visibility to AEMO of non-scheduled generation (see also Nelson Review reforms that emphasises the importance of 'visibility' in the operation of the market to support CER resources"[15]).

Explain to key stakeholders, including governments, the importance of addressing the current gaps in the gas market to support the role of gas in providing firming and system security services before the exit of coal generation in the early 2030s.

Encouraging jurisdictions to address unintended inequities that may undermine social licence for renewable energy zone build out is also important, for example:

- Areas hosting new transmission lines while the distribution network in the same area is such that consumers experience poor service and/or significant constraints.
- While the NSW Roadmap has been an important policy for the energy transition, NSW households carry a disproportionately high portion of the cost of REZ infrastructure and market derisking costs due to the compounding effect of:
  - Connecting generators and batteries being exempted from REZ transmission costs
  - Transmission connected and other large users being exempted from transmission and all other roadmap costs, and
  - A flawed cost apportionment approach at a distribution level resulting in a weighting of costs towards households – and no ability or requirement for the regulator to correct this imbalance.

AEMO could help to address this issue by encouraging jurisdictions to adopt consistent, sustainable and equitable cost recovery approaches for projects progressed through jurisdictional schemes, such as the Hunter Transmission Project and New England REZ.

[13] For example, exploring synergies between the DMIAM and the Clean Energy Innovation Fund and ARENA's Future Made in Australia Fund, and various jurisdictional funds to support innovation in the energy industry.

[14] For details of the CER Roadmap see https://www.energy.gov.au/sites/default/files/2024-07/national-consumer-energy-resources-roadmap.pdf

[15] See: Nelson et al, *National Electricity Market wholesale market settings review, Final Report,* December 2025, https://www.energy.gov.au/energy-and-climate-change-ministerial-council/working-groups/electricity-working-group/nem-wholesale-market-settings-reviewThe review places great emphasis on developing visibility in the wholesale market for the benefit of AEMO but also for small consumers wishing to participate in the wholesale market directly or through aggregation such as VPPs.

Recommendation

Ensure AEMO's call for action is not interpreted as a call for inattention to changing circumstances, for example, substantial changes in costs and benefits related to actionable – and even committed – projects. When circumstances change such that the viability, timing, costs and/or benefits may no longer make that project in the consumer interest, actionability needs to be revisited, as AEMO has done with two projects in this ISP.

Part A: The ISP is a roadmap for the NEM's transition

The Draft ISP's front-page byline describes ISP as "A roadmap for the energy transition". This could be reworded to be more internally consistent and accurate:

- At a national level, the ISP has no equivalent; for system planning it is **the** roadmap.
- The transition includes the demand side, which is an input to, not guided by, the ISP's output (the ODP). There is also a separate CER Roadmap which covers demand side needs in the transition.

Part A is titled "The ISP is a roadmap for the **NEM's** transition", which is more correct, but

- Goes on to say the NEM "spans home-scale and grid-scale power systems", bringing up the same contradiction noted above
- The NEM is ambiguous, as it can describe the wholesale spot market (the design of which is out of scope of the ISP), or the national energy system.

The Panel suggests it would be more accurate and internally consistent to describe ISP, on the title page, Part A and wherever else the term is used, as "**The national** roadmap for the energy **system**".

Recommendation

Change the ISP's front-page byline from "A roadmap for the energy transition" to "The national roadmap for the energy system".

The transition to renewables is well underway

The Panel agrees that the transition to renewables is well underway, though significant work is still required, particularly regarding consumer investments (CER), distributed energy (DER), and coordination to achieve the various elements of the optimal development path.

This is the fifth ISP and so marks a decade since work on the ISP began. Much has changed over that decade. The Panel observes that the focus is shifting from the ISP being predominantly a transmission plan to being more integrated and more 'transition' focused. The 2026 ISP now has much stronger focus on 'firming and storage' with the Draft 2026 ISP giving more attention, than in the past, to batteries – particularly grid-scale – CER, distributed energy – with a 2026 focus on bringing distribution network businesses more fully into the ISP remit – and gas, particularly for electricity generation.

Consumers are investing significantly in energy, particularly electricity, and so are now stakeholders with multiple roles, including consumer, generator and market participant. Not only are rooftop solar and batteries a major contributor to generation, demand management and storage, they also contribute to increase consumer awareness and understanding of – and support for – the shift to renewable energy and increase the pace at which the transition can be delivered.

The Panel has been keen to identify some estimates for the value of consumer energy investment. The following is included in our report responding to the Demand Side Factors statement, a support document to this report.

The following table is a rough estimate of the total value of rooftop PV investment over recent years, showing an average of about $5 billion invested in rooftop PV each year.

Table 2 Estimates of the value of PV investment by household consumers

Year	Total PV installations in Australia	Average installation size (September)	Average installed cost per kW	Total ($m) nominal
2020	370.320	8.1	$2085.9	$6,256.85
2021	377458	8.6	$1889.0	$6,131.96
2022	315,717	8.8	$1753.8	$4,872.56
2023	333,856	9.6	$1723.1	$5,522.56
2024	319,044	9.2	$1583.2	$4,647.02
2025	317,213 (Est.)	10	$1,537.2	$4,877.15

Column 2: Data from Solar calculator (https://solarcalculator.com.au/blog/solar-energy-facts-and-statistics/) using Clean Energy Council data
Column 3: data from Australian Photovoltaic Institutehttps://pv-map.apvi.org.au/analyses
Column 4: ABS Household solar electricity generation (https://www.abs.gov.au/articles/household-solar-electricity-generation-australian-national-accounts)

For 2025, indications are that roughly 160,000 home batteries were installed, noting the support of the Commonwealth Home Battery Scheme with an average cost of $12,342.00 for a 17kWh battery average size of installed battery, being about a $2billion investment by consumers for the year.

An indicative value of CER investment in Australia for 2025 was $7 billion for rooftop PV and batteries, for just one year.

AEMO has further clarified its headline statements. For example, AEMO's chief executive officer, David Westerman, refers to the ISP setting out the least-cost investment pathway to meet consumer energy needs and government policies through to 2050.[16] We agree with AEMO that the ISP seeks to find the least-cost transition approach, but these headline statements remain implicitly qualified in light of the treatment of government policies as discussed further in this submission.

The Panel also notes the 'government policies' referred to are the policies of the day, yet the infrastructure asset lives of ISP projects – and often the lead-time to build alone, in the case of transmission – often outlive these policies, bringing risk of suboptimal development and asset stranding. This risk is exemplified by the hydrogen policy bubble which inflated and burst within less than half a decade, leaving a 2022 ISP with hydrogen demand assumptions unrelated to technical viability or market-based evidence.

This experience shows how policies – and the projected infrastructure needed to realise them – can be a lot more volatile than the conditions underpinning purely evidence-based decisions.

The Panel recognises that AEMO must include in the ISP all the policies set out on the AEMC's Target Statement for Greenhouse gas emissions and has limited discretion to include others. This puts AEMO in the difficult position, with little discretion to accept or reject policies, and respond to changes in the initial policies included in the IASR even when their policies are materially altered as it prepares the Final ISP, for example when:

- Less meritorious policies are discontinued – as with hydrogen – and
- Defensible policies are changed, as may happen with a change of government.

[16] See, CEO Preface, AEMO *2026 Draft ISP*, p 3.

While AEMO is bound to include the policies in the Target Statement, it must do so in the absence of independent assessment of the impacts of those policies gives the impression of the ISP lacking independence and, for some stakeholders, 'value add'.

The Panel agrees with AEMO CEO's preface regarding the momentum underway, and that slower progress adds cost. However, it is important to remain realistic about timing. Previous lead-time estimates have proven overly optimistic considering supply chain and social license matters, particularly for transmission.

The supply-side/demand-side balance in the ISP remains an issue. AEMO continues to make steady progress in acknowledging the role of CER in the energy transition, but there continues to be gaps.

For example, on pages six and seven of the Draft ISP, AEMO describes renewables being supported by other technologies, with an excellent summary of the progress being made on supply side solutions to support bringing more renewables into the system.

Notably absent though is any mention of demand flexibility, which offers both load reductions at times of high spot prices – which typically coincide with lower renewable availability – and improved renewable penetration by providing additional load to avoid curtailment during times of high coincident renewable generation, when prices tend to be low and, increasingly, negative.

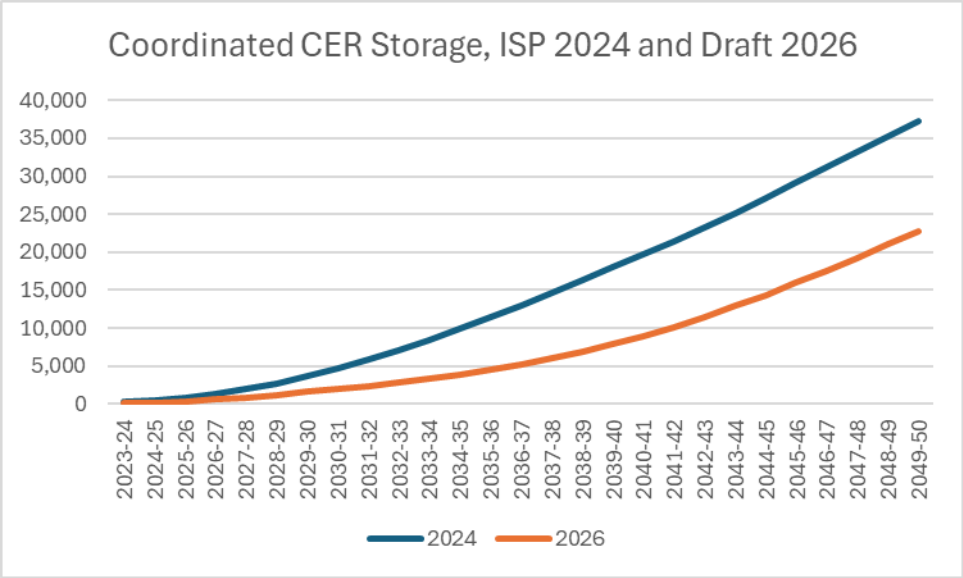
Similarly, though less dynamically, energy efficiency supports renewables penetration in the energy system. As zero marginal cost renewable energy often displaces fossil fuel energy – at least, at times when there is not a surplus of renewables and the grid is in a secure operating state –- reducing the load reduces emissions and tends to proportionately decrease carbon intensive generation.

The Panel recommends AEMO notes the important role of demand response and energy efficiency in supporting renewables alongside the technologies noted on page seven.

Figure 1 of the Draft 2026 ISP shows NEM capacity by source of electricity on an annual basis through to 2050.

Of considerable interest to the Panel is the forecast role of 'Coordinated CER storage'. The following chart compares 2024 ISP forecasts with Draft 2026 ISP forecast for coordinated storage.

Figure 4 Comparison of AEMO forecasts for coordinated CER, 2024 ISP and Draft 2026 ISP



Source: AEMO 2024 ISP and 2026 Draft ISP data

The lower forecasts for 2026 compared to the 2024 ISP are significant and worthy of further testing.

Over less than a year, the Australian Government has introduced a home battery subsidy that has been heavily subscribed. The hope of energy market bodies and DNSPs has been that an increased number of batteries would lead to a growing level of coordinated CER, for example, through home battery owners signing up to VPPs and similar dispatchable battery generation.

While the transition to renewables is well underway, work still needed on several aspects of implementation of the transition, including orchestration, energy efficiency, communications and behavioural responses to aspects of the transition topics.

The social aspects of the energy transition are as integral as the technical ones: significant household participation in orchestration (such as VPPS, V2G) and energy efficiency to implement the ODP is needed, as well as community support to build transmission and REZs. At this point, it is imperative to recognise the need to invest in and put additional effort into increasing consumer and community understanding and participation in the energy transition. This is something that must be done at multiple levels at once, in communities, with households, for projects and in a national narrative.

Social licence

The Draft ISP and Appendix 8 on Social Licence both clearly communicate the importance of social licence to the success of the energy system during the transition from fossil fuels to renewables. It is evident that AEMO is leading a sophisticated and constructive understanding of social licence, its complexities and range of influences, and is setting a culture of integrating social licence considerations into the work of the energy transition – and is encouraging others to do the same. The Appendix clearly outlines what AEMO sees as its role with regards to social licence, which is to understand trends and factors at a high, conceptual level within the ISP, and as national transmission planer, including REZ identification. The Figure on page 18 of Appendix 8 is particularly useful for understanding AEMO's role, and that of others, with regards to engagement and social licence in transmission.

It is, however, essential for AEMO to acknowledge that their presentation of 'lines on maps' for proposed new transmission lines and REZ areas can be the first time that local community members encounter these – often via the media – and that this can be the bud of concern or angst. This is probably the biggest and most tangible impact that the ISP has on social licence at a local level. Given its significance, the Panel believes that some level of targeted community engagement would be beneficial as part of its role.

AEMO already undertakes detailed mapping of various landscape features such as housing density, biodiversity, heritage, recreation, land use type features to inform the best-likely routes for transmission lines. To supplement this, for any new plans for transmission lines or REZs, it could be useful to verify existing mapping through targeted interviews with key local informants from local government, local land services and local First Nations registered parties. These meetings could be used to present AEMO's existing data and ask for any additional information that would assist in the planning process, for example, location of culturally sensitive areas, and local populations of important flora/fauna, particularly loved viewpoints. This process would not ask participants to identify appropriate corridor routes per se – as this is AEMO's role, weighing up many factors – but would ask informants to sense-check current data and add granularity to inform good planning decisions. It is important in this process not to raise community expectation that they would have direct influence over route selection.

Recommendations and responses to the Appendix 8 consultation question

AEMO to consider undertaking social context analysis and/or social impact assessment processes as part of its role in transmission and REZ planning.

Retain a focus on all three aspects of social licence in its analysis – energy transition, infrastructure projects, CER.

Elaborate and consult on what the collaboration and coordination required to deliver the ODP, build social licence and secure consumer participation would look like.

Recommendation for 2028

In future planning for new transmission lines and REZ areas, the Panel recommends that AEMO trials doing key informant interviews with representatives from local government, local land services and local Aboriginal registered parties to verify, fill gaps and add granularity to existing land-use data.

In addition, it is a standard of good engagement for project proponents to undertake a social context analysis, or social impact assessment. There are various methodologies for this, with the first stages being a desktop-based study – for example, of ABS data, local government plans, regional strategies – to identify key social features of the area. This can add important information for planning appropriate projects, modes of engagement and communications. While most of the responsibility for this would likely sit with the TNSP doing project-specific assessments, some degree of this may be useful for AEMO's purposes.

The Draft ISP repeatedly emphasises the importance of collaboration and coordination among multiple actors to build social licence for the energy transition: market bodies, governments, investors, organisations, proponents, and communities all have roles to play. A holistic approach to social licence is certainly necessary, as social sentiment is affected by many actors and influences at once, which can have real impacts on the acceptance of the energy transition at large, the acceptance of new infrastructure projects – generation, storage, transmission – and acceptance of, and participation in, CER, such as VPPs. These elements are linked through consumers' attitudes, perceptions and experiences.

AEMO is encouraged to retain a focus on all three 'levels' or aspects of social licence in its analysis: energy transition, infrastructure projects, and CER.

Energy affordability and cost of living pressures are a difficult and real context for AEMO to navigate in preparing the ISP. As the Draft ISP acknowledges, these two factors affect social licence. While the ODP identifies the transition path option with the highest net market benefit – consistent with additional tests such as 'least regrets' and sensitivity tests – for energy systems into the future, this does not guarantee that electricity bills will go down, only that they will be cheaper than they otherwise would be. Keeping consumer experience of electricity prices in mind continues to be an important consideration for the ISP.

A minor point: it would be useful for stakeholders to have some knowledge of the different land-use categories assessed by AEMO in their route planning, to give a sense of the depth and complexity considered. This could be a summary list included in Table 1 on page eight of Appendix 8.

Electricity consumption is rising

On page 34 of the Draft 2026 ISP, AEMO says: "Total (or 'underlying') electricity consumption is forecast to nearly double from the current 205 TWh to 389 TWh in 2049-50."

This is a reasonable projection, however, the Panel notes that it is only one projection out of a whole range of possible futures and that future energy use will be very different for various groups of consumers.

The table below has been produced by Bruce Mountain, director of the Victoria Energy Policy Centre, and shows the change from 2012 to 2025 in the average demand (MW) in each NEM region measured on the transmission network, based on AEMO's Operating Demand data series.

Table 3 Average operational demand (MW) by NEM region 2012-2025

	Average demand (MW)				
	NSW	QLD	SA	TAS	VIC
2012	8,330	5,886	1,598	1,212	5,827
2013	8,055	5,769	1,555	1,245	5,705
2014	7,993	5,857	1,520	1,214	5,502
2015	8,062	6,173	1,519	1,240	5,397
2016	8,118	6,436	1,466	1,181	5,300
2017	8,176	6,379	1,439	1,224	5,136
2018	8,133	6,383	1,427	1,253	5,142
2019	8,126	6,373	1,426	1,211	5,114
2020	7,832	6,257	1,372	1,214	4,965
2021	7,679	6,241	1,321	1,252	4,941
2022	7,785	6,200	1,352	1,266	5,058
2023	7,638	6,232	1,281	1,231	4,868
2024	7,756	6,452	1,308	1,229	4,958
2025	7,788	6,503	1,384	1,150	5,156
% change 2012 to 2025	-7%	10%	-13%	-5%	-12%

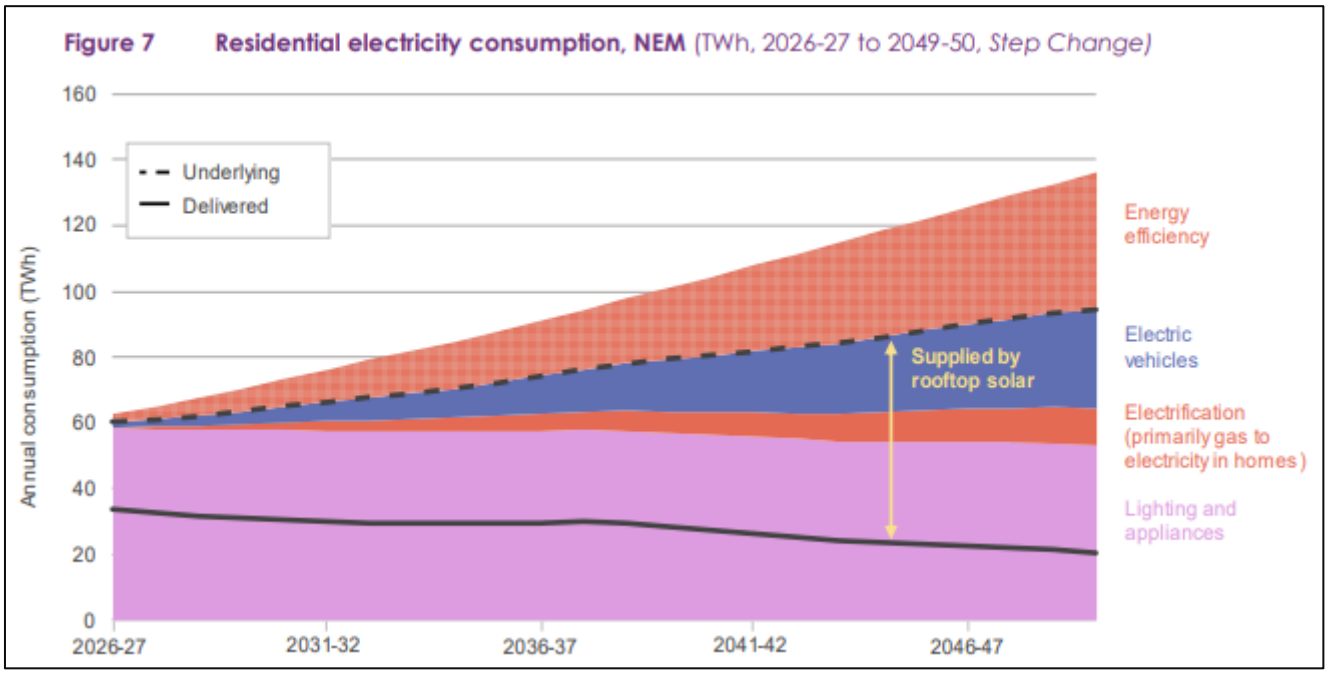
Source: See https://www.linkedin.com/posts/bruce-mountain-48516912_a-few-colleagues-have-asked-me-about-the-activity-7417922213137440768-nW5R

The clear message is that during the 13 years to 2025, average demand as measured through the transmission network fell for every NEM jurisdiction except Queensland. If this history were to be repeated, electricity delivered though the transmission network would be falling through to about 2040. The past is no longer a good predictor of the future for energy markets, and it does pose the question about possible alternative future demand scenarios.

Electricity demand over the past decade has been impacted by the rapid increase in rooftop solar for households and small-medium enterprises (SMEs), Covid, changing industrial demand improvements in appliance energy efficiency and more.

It is likely that households and many SMEs will stay near to current levels of electricity demand from the grid, even with electrification of gas use due to the continuing impact of factors listed that have been evident over the past decade or so. This is well demonstrated by the following graph from page 38 of the Draft 2026 ISP which illustrates the changes in both underlying and operational demand for residential consumers. As discussed elsewhere, this highlights the important role that energy efficiency will play in moderating future demand growth.

Figure 5 Rooftop solar is forecast to lead to a decline in residential electricity consumption from the grid



Source: AEMO, 2026 Draft ISP, p 38.

Any substantial increase in demand through the transmission network will almost certainly come from a small number of large industrial users, for example, data centres, mining and desalination – see also the figure below. This has implications for the ISP as a plan and for consideration of the 'who pays?' question. The Panel also suggests that with falling renewable energy generation and storage costs and rising transmission costs, significant future demand may be met through distributed generation rather than network build. The big increases in industrial load mean that connections and pricing policies need to be based on 'causer pays' and not leave households without CER cross-subsidising other users.

Consumer advocates are also aware of the predilection of network business to overstate forecast demand and to seek to build networks accordingly. While energy networks have moved on from the 'gold plating' of the early 2000s, the Panel contends that there is still a systemic forecast bias to overestimate demand.

The Panel agrees with AEMO that the best evidence points to a material increase in underlying energy consumption driven by electrification – appliances, industrial processes and transport – and potentially population and/or economic growth. However:

- There is a huge amount of uncertainty attached to demand forecasts over the ISP planning timeframe, as demonstrated by the rapid growth and contraction of hydrogen forecasts over the course of a couple of ISPs.
- While the likelihood of a significant increase in data centre load is arguably more plausible now than those hydrogen forecasts ever were, there remains considerable uncertainty about the magnitude and timing of these new loads, which may prove substantially higher or lower than these forecasts. The uncertainty around data centre forecasts has bedevilled planning in other jurisdictions such as the USA, and measures are being taken there to test businesses' claims about future data centre builds.
- A material amount of current and forecast load is attached to industry that relies heavily on government subsidies and shows little or no sign of becoming economically viable.

- The low level of EV take up in Australia and global developments in that space suggests a possible accelerating increase rather than a linear rate.

The resultant risk of overinvestment (or underinvestment) resulting from demand forecast inaccuracies – for a given asset, region or even NEM-wide - is material. The Panel recommends AEMO comment on the nature, magnitude and consequence of these risks in the final ISP.

Recommendation

That in the final 2026 ISP, AEMO discuss the risks of both under and over forecasting demand and the 'least regrets' responses.

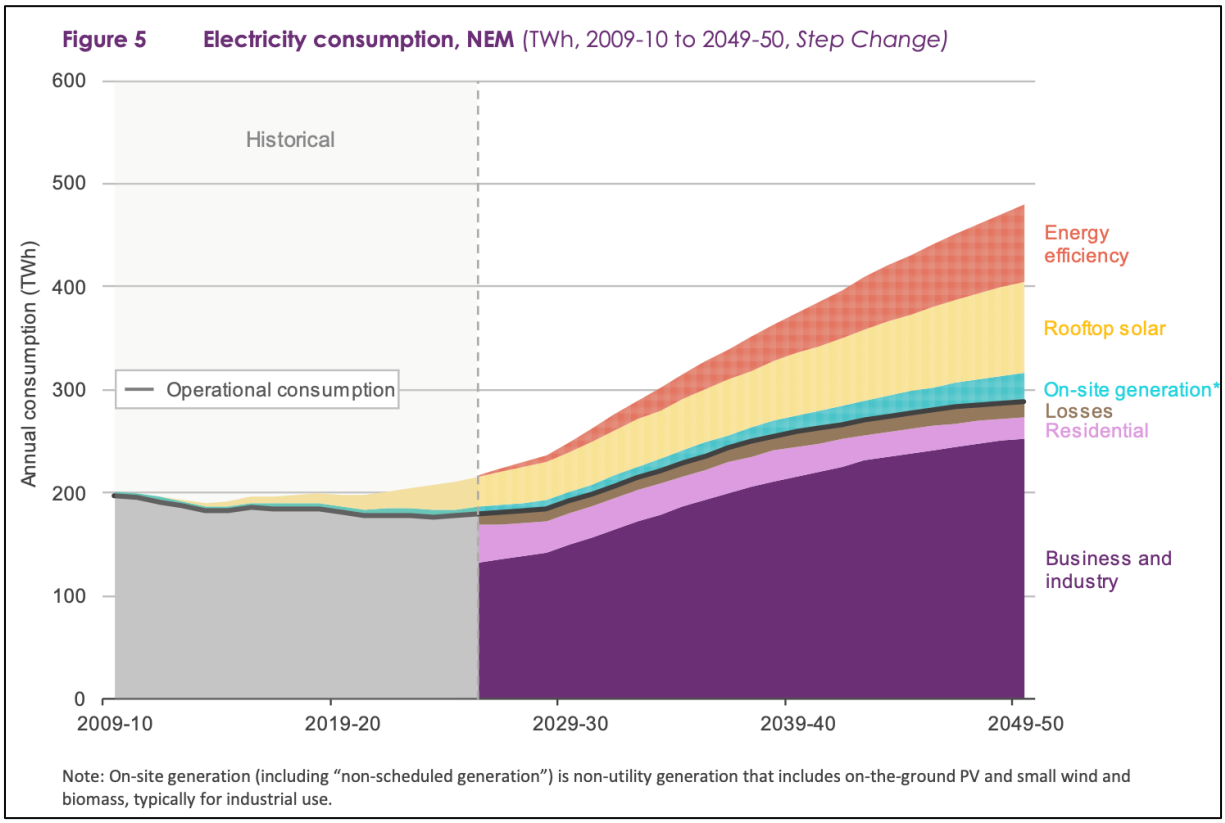
The ISP has a specific and expanded role

The 2026 Panel welcomes the expanded role of the 2026 ISP and sees great value in the increased focus and understanding of the interplay between grid-scale electricity infrastructure investment on the one hand and the expanding market for consumer energy resources (CER) and the capacity of the distribution networks to support CER where this is economically beneficial. The 2026 Draft ISP clearly demonstrates:

- The significant growth in underlying demand for electricity across the NEM reflecting the substantial growth in the electrification of households and industries and transport.
- The important and increasing role that energy efficiency plays in modifying the growth and reducing the need for expenditure on generation, storage and networks.
- The increasing gap between underlying demand and 'operational consumption', that is, operational demand refers – simplistically – to electricity delivered from grid-scale generators to the transmission grid to meet demand at the transmission system delivery point[17]. The figure below illustrates the gap revealing the increasing importance of CER generation especially roof-top solar that helps minimise the growth in demand on the transmission network.

[17] For a detailed definition, see, for instance, AEMO: https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/data-nem/operational-demand-data#:~:text=Operational%20Demand%20in%20a%20region,SNSG%20exceptions%20that%20are%20included

Figure 6 Growth in grid-based (operational) demand is driven by the business and industry



Source: AEMO, Draft 2026 ISP, p. 36.

In developing the ISP, AEMO has a statutory role to inform and direct investment in the electricity transmission grid to meet NEM-wide operational demand while maintaining reliability and security of electricity supply across the NEM and meeting the government's emissions targets, specifically, net zero emissions by 2050.

However, the ISP is more than a transmission plan for the NEM. The key output of the ISP, the Optimal Development Path (ODP), sets out the mix of grid-scale generation and storage that, over time, will contribute to Australia meeting its national and international emissions reduction targets at least cost. The ISP's transmission plan supports this objective by enabling the efficient connection of renewable energy generation – including generation in the nominated renewable energy zones or REZs – to demand centres and, thereby, capturing the benefits of geographical and temporal diversity of generation in the REZs.

However, while the ISP's transmission plan mandates action by the transmission companies,[18] AEMO has only a 'NEM guidance' role with respect to the generation, storage and distribution network requirements, as AEMO indicates in the quote below:[19]

> *"The Australian and NEM state governments have agreed through the ECMC on a governance and planning framework for the NEM with the ISP having both a **specific transmission planning role** and a **broader NEM guidance role**."* [emphasis added]

[18] That is, if AEMO identifies a transmission line as 'actionable', then the relevant transmission company must initiate a regulatory investment test process (RIT-T) that will further test the costs and benefits, and the detailed route planning for the transmission line. The AER's 2024 Cost Benefit Guideline sets out the relevant responsibilities in detail.

[19] AEMO, Draft 2026 ISP, p 39.

An essential element of the ISP is its focus on coordinating the timing of the transmission plans with the progressive build-up of the renewable energy-based system. In effect, the ISP seeks to resolve the 'chicken and egg' problem[20]; a problem that is particularly acute during a period of rapid change where the energy system is transitioning from high-carbon fossil fuels to low, more distributed renewable energy generation.

The 2026 ISP is arguably the most sophisticated and well-researched energy plan to date, as evidenced in the many reports issued by AEMO in 2025 including, for example, AEMO's *2025 ISP Methodology* report[21] and the *2025 Inputs, Assumptions and Scenarios Report* (IASR).[22] Both reports, and many others, were developed following extensive consultation with the energy industry, experts, governments and consumers, and include the provision of many data sets and workbooks.[23]

The 2026 ISP also provides evidence of AEMO's quest for continuous improvements in its assessment of the inputs to modelling and the refinement of the models themselves. The Panel particularly notes and generally supports the following developments by AEMO to apply to the 2026 ISP:

- The development of gas market development models to better assess the viability of and options for gas supply and storage to support forecast gas generation capacity.
- The new approach to identifying opportunities/capacity in the distribution networks to support growth in CER and VPPs by relieving key constraints in the networks, where it is economically reasonable to do so.
- The expansion of AEMO's multisectoral modelling capability to allow a clearer picture of the role of the electricity system to support the Federal Government's overall 'net zero by 2050' objective.
- The further disaggregation of the NEM into additional subregions to support a more accurate modelling of the capacity and demands on the network by region and the NEM. For example, in the 2024 ISP, Victoria was treated as one region. In the 2026 ISP, the technical analysis is based on three subregions allowing improved analysis of the transmission system capacity requirements.
- Ongoing enhancement of AEMO's forecasting of multiple inputs into the overall ISP model, including the analysis of current and future costs of different technologies.

The following figure illustrates both the extensive range of inputs in the 2026 ISP process and the subsequent modelling steps, the final output of which is the optimisation of generation, storage and network and the final selection of the optimal development path (ODP). see highlighted text in footnote 20.

[20] This is in response to concerns raised about how best to coordinate investment in transmission and generation. Generators do not want to build if their product cannot get to **market of is overly constrained** by the network, transmission companies will not build if there is no, or insufficient generation to take to the market (absent government subsidies).

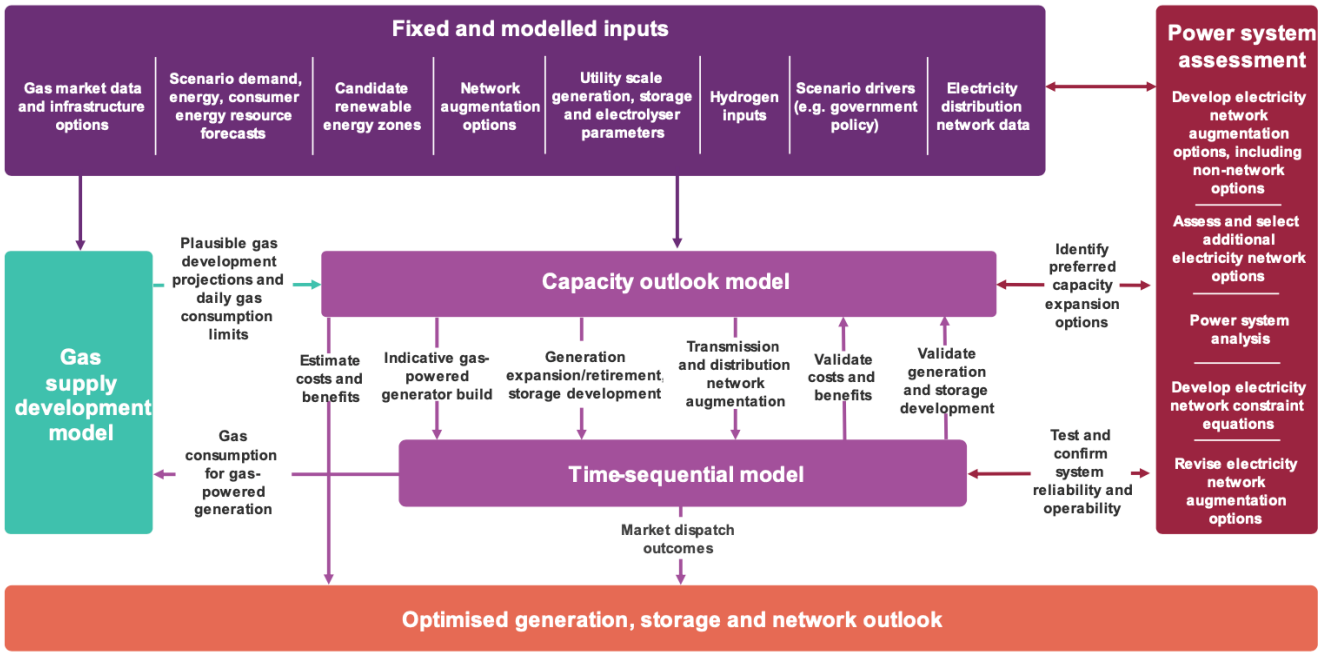
[21] See: https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2024/2026-isp-methodology/isp-methodology-june-2025.pdf?rev=e88a1f1bbeef447ba27692b785069a0a&sc_lang=en

[22] See: https://www.aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2024/2025-iasr-scenarios/final-docs/2025-inputs-assumptions-and-scenarios-report.pdf?rev=63268acd3f044adb9f5f3a32b6880c27&sc_lang=en

[23] See for example: https://www.aemo.com.au/consultations/current-and-closed-consultations/2025-iasr

Figure 7 AEMO adopts an extensive range of inputs, models and system assessments to deliver the ODP

Figure 2 Overview of the ISP modelling methodology demonstrating the relationship between electricity and gas models



Source: Draft 2026 ISP, Appendix 10, p 13 – and others.

AEMO acknowledges that its analysis of capacity in the distribution system and the gas supply development models requires further enhancement and it is working with industry and other stakeholders and consumers to enhance these areas in advance of the 2028 ISP.

The 2026 Panel supports AEMO's intentions for further enhancement of the distribution network capacity and gas supply development models in the 2028 ISP.

However, AEMO should also commit more resources to better understanding the significant opportunities for CER/DER and energy efficiency to address the challenges of transitioning the industry towards a renewable energy future.

Other areas for further development in both the final 2026 ISP and the 2028 ISP include:

(a) The role of the rapidly changing battery market

(b) AEMO's approach to the treatment of government policies

(c) Making the 'whole-of-system' transition plan a reality.

These opportunities are discussed elsewhere in this submission. However, provided below is a short commentary on the vexed questions of the treatment of government policies in the ISP and the extent to which the ISP is, or is not, a whole-of-system transition plan.

Dilemmas with the treatment of 'policies' in the ISP

The National Energy Rules (NER)) states that in preparing the ISP, AEMO **must** include as an input to the ISP modelling all the federal and jurisdictional governments' policies set out by the AEMC in the AEMC's most recent 'Targets statement for

greenhouse gas emissions'.[24] AEMO also has some discretion to include additional policies if it establishes that they are relevant to progressing emissions reductions.

The Panel is concerned that AEMO must, under the current law, adopt policies even when these lack any transparent cost-benefit analysis and there appears to be a proliferation of these programs, particularly across the jurisdictions. Consumers have no clear picture of the value of these programs or the potential cost of them. In some cases, such as EV policies, state and federal policies overlap, suggesting inefficient allocation of resources and higher costs for consumers. The Panel notes, and agrees with the recommendation in the Productivity Commission's recent inquiry report:[25]

> *"The Australian, state and territory governments should improve the transparency of emissions-reduction policies by consistently including estimates of their cost-effectiveness in impact analysis. The estimates should routinely be assessed against agreed national target-consistent values."*

In areas that are of high importance, such as CER/CER coordination, DER, and domestic gas supply for gas-powered generation (GPG), effective policies are either lacking or there is little sense of urgency in the development of specific relevant policies and/or the implementation of these policy recommendations.

While the National Energy Rules (NER) do not currently provide AEMO with an option to evaluate the costs and benefits of most of these government policies – including the impact on emissions – the Panel encourages AEMO to support implementation of the Productivity Commission's recommendation, noting similar recommendations have been made by other third parties, and the associated rule changes. [26]

Recommendation

AEMO proactively engages with regulators and the energy ministers to provide more stringent requirements on policies based on a requirement for supporting business cases in line with Productivity Commission recommendations.

Taking a 'whole-of-system' approach to the ISP — a reality check

The Panel believes, in principle, that a 'whole-of-system' ISP should include some form of optimisation of the key activities on the demand side, rather than continuing to rely on what are effectively fixed forecast inputs such as the forecasts of electricity demand by sector, CER and DER, CER coordination, electrification, efficiency, and EV market growth.[27]

The Panel acknowledges the challenges of including some of these inputs into the ISP's output of the optimisation process. A further difficulty comes with determining how any new 'optimised' demand-side outputs can be applied in practice to determining the ISP's ODP. For most demand-side actions there is a high degree of consumer discretion over how and when consumers will make an investment in a demand-side option and how they will use that option.

The Panel also acknowledges that AEMO's current approach to scenario development and sensitivity testing provides some insight into the impact, ex post, of consumers' choices on the overall electricity system. However, these scenarios do not

[24] The National Energy Laws (NEL)require AEMC to prepare the Target Statement, while the NER requires market bodies to take account of the Target Statement in preparing for example, the ISP. See: https://www.aemc.gov.au/regulation/targets-statement-emissions#:~:text=Under%20the%20National%20Energy%20Laws%2C,targets%20set%20by%20participating%20jurisdictions%3A

[25] Productivity Commission, *Investing in cheaper, cleaner energy and the net zero transformation – Inquiry report no 113*, 10 December 2025, p 3. https://assets.pc.gov.au/2025-12/net-zero.pdf?VersionId=24kY9x7Ou_YqHvzl0z25kQO11I298byU

[26] The Panel notes that the AEMC is currently reviewing this issue as. part of its combined ISP Review and the CIS rule change proposal.

[27] The Panel recognises the very substantial work that AEMO has undertaken in preparing these forecast inputs to the ISP, reflected (inter alia) through the vary extensive research and consultation processes that underpinned AEMO's Inputs, Assumptions and Scenarios report (July 2025).

provide information on the optimal level of investment given the relative costs and benefits of demand-side versus supply-side investment.

Similarly, the Panel acknowledges the challenges currently facing AEMO in capturing mid-level generation and storage embedded in the distribution network, especially the developments below 5 MW, given AEMO's lack of visibility of this market. However, recent reforms mean that AEMO will be able to capture more and better-quality data from each of the distribution networks in advance of the 2028 ISP.

Nevertheless, these sectors are critical to the decisions AEMO makes in modelling the future NEM system, and it is becoming increasingly important that AEMO goes beyond forecasting these markets as 'fixed' inputs for each scenario to the ISP modelling process. Rather, they should be seen as vital, growing, and dynamic elements of the overall energy optimisation task.

That is, the optimisation process should consider, on 'equal terms', the costs and benefits of both the supply-side investments – including transmission – and demand-side investments by consumers and third parties, for example, VPPs.

While the modelling task may differ in how it captures these important parts of the electricity system, conceptually this proposal is little different than the obligation in the two regulatory investment tests, the RIT-T and RIT-D, to consider non-network alternatives to traditional network augmentation or replacement so as to maximise – optimise – the net economic benefits to consumers of a proposed transmission or distribution project(s).

Such an approach will also allow the fuller integration of the Demand Side Factors statement with the ISP beyond the current optimisation of the investment in distribution system capacity. A useful starting point for this would be the optimisation of energy efficiency in a least-cost whole-of-system plan. Energy efficiency is an area where governments and regulators have greater power to develop and implement mandated actions that would contribute to an 'optimised efficient power system'.[28]

Recommendation

AEMO consider how it can include specific demand-side investments as outputs of the optimisation process rather than rely on 'static' input forecasts.[29] For example, as part of the ISP's modelled ODP outputs, AEMO could include the optimal level of energy efficiency alongside the optimal levels of generation, storage and network as part of its least-cost solution.

Note, such an approach will provide a better indication of the optimal level of investment than a typical scenario testing process, because the latter approach simply compares the impact of one static forecast A to another static forecast B – in this latter case, being the unlikely situation of having no energy-efficiency policies beyond the current ones. The recommended change would, therefore, provide greater support to the development of effective policy on energy efficiency that maximises the benefit to consumers over the long term.

[28] For example, building standards, vehicle efficiency standards, appliance efficiency standards.

[29] The Panel recognises that the level of energy-efficiency inputs varies across the scenarios, but they remain static input forecasts within each scenario.

AEMO identifies the optimal development path

AEMO's ODP selection process

The ODP is the final output of AEMO's forecasting and modelling process. It is designed to minimise overall NEM system costs through to 2050 consistent with the electricity industry's contribution to meeting the federal government's policy goal of economy-wide net-zero greenhouse gas (GHG) emissions by 205O.

Importantly, the plans for decarbonisation of the electricity supply industry, including the ISP, are critical enablers of decarbonisation of other sectors of the economy such as electrification of the transport industry and manufacturing.

The Federal government has recently set an ambitious interim target of keeping the national emissions to 62-70% below 2005 emissions by 2035. Given the electricity industry is an enabler of much of the other sectors' emission plans, it is imperative that governments, regulators and the electricity industry now focus on actioning these plans for reducing emissions in the electricity sector using the ISP as 'guidance' on the transition pathway.

Nevertheless, the ISP is just one part, albeit an important part, of the overall push for emission reductions in the electricity industry. As highlighted previously in this submission, while AEMO can use the ISP's 'actionable' transmission plan to drive action by the transmission companies via the RIT-T process, AEMO can only provide 'informed' guidance' on other elements of the ODP process, namely identifying optimal levels of generation and storage under various scenarios. This requires the coordinated effort of industry and the federal and state authorities, regulators, and local governments to respond effectively to the ISP guidance.

Figure 7 above sets out AEMO's modelling optimisation framework and highlights the multiple inputs to the process including gas development plans and power system requirements. It concludes with the ISP output that specifies optimal timing and levels of generation, storage and network investment required under a least cost transition path

This is a high-level chart. The initial outputs of the ISP models include multiple development paths (DPs), which generally satisfy the governments' emissions targets and AEMO's technical and operational constraints.

These DPs are then refined down to a limited number – approximately 10 – of candidate development paths (CDPs). These CDPs are then compared in detail with each other using a net-benefit approach set out in the AER's 2024 Cost Benefit Analysis Guideline[30] (CBA Guideline).

AEMO can and does use additional tests of the CDPs such as the 'no regrets' test, TOOT tests – to capture the impact of removing individual transmission projects within a CDP path – and tests of the CDP's robustness to alternative scenarios or to specific forecast assumptions using, for example, sensitivity tests.

The primary tests that AEMO uses in selecting the ODP are:

- A net benefit test which compares the net benefit of the CDP to a counterfactual DP. A comparison of one CDP with another CDP to assess the relative net benefits of each on multiple criteria listed above.
- Sensitivity tests to assess the robustness of an individual CDP to changes in the forecast outlook.

Because AEMO is bound to calculate the net benefit of a CDP using the process outlined in the AER's CBA Guideline, AEMO's economic analysis is necessarily constrained.

[30] AER, *Cost Benefit Analysis Guidelines*, Version 3, November 2024. See pp 9 – 54 for the specific ISP cost-benefit analysis guidelines.

For example, the Panel is concerned that the CBA Guideline requires AEMO to assess the net benefit of a CDP by comparing the CDP with a 'counterfactual'. The AER defines the counterfactual development path as follows:[31]

> *"The counterfactual development path is the status quo or base case that AEMO uses to compare the development paths in the ISP CBA. Specifically, AEMO estimates the market benefits of each development path by comparing it to the counterfactual development path in each scenario. This is because only costs and benefits that would not have occurred in the base case should be included in a CBA."*

The Guideline goes on to state:[32]

> *"The counterfactual development path should result in the least cost set of investments to meet power system needs in each scenario,* ***where no ISP projects in AEMO's selected development paths are built****."* [Emphasis added.]

If 'ISP projects' are assumed to only refer to transmission network projects, then the Panel observes this is only a small proportion of the total costs and benefits of the CDP. In other words, all AEMO is testing is the net benefits of a CDP against an option that has minimal new actionable or future transmission in it. It is answering a somewhat redundant question, namely what is the total net benefit of a CDP that includes transmission versus a DP that excludes any new transmission costs?

But the CDP has some 10 additional 'market benefit' items, and it is unclear what the actual costs are for each item in the two scenarios. For example, AEMO compares the net benefits of the individual items identified in the 'least-cost DP' in the Step Change scenario with the 'no transmission' counterfactual and explains the differences as follows:[33]

> *"Figure 10* [see below] *shows that the annual net market benefits of the least-cost DP in Step Change compared with the 'no transmission' counterfactual DP come primarily from avoided generator capital expenditure and fuel cost savings.*
>
> *Under the 'no transmission' counterfactual DP, flexible gas including carbon capture and storage, is required in the latter years to ensure energy supply can be met, while also meeting government policies, with lesser ability to develop renewable generation by upgrading the transmission network. To ensure that emissions targets can still be achieved, several black coal generators in New South Wales and Queensland are retired earlier which results in 6 GW of wind capacity development being brought forward into existing REZs with available capacity. Up to 7 GW of additional utility-scale storage is required as well to provide firming capacity."*

The explanation above of the source of the $25.5 billion net benefits – AEMO's calculation, page 34 of Appendix 6 – suggests that the counterfactual development path, taken across all the 10 market benefit items, is barely credible. In particular, the approach misses the potential for greater demand-side actions to 'fill the counterfactual gap'.

Therefore, the Panel asks what is the purpose of comparing an ISP CDP or ODP with a barely credible alternative when the aim of the exercise is to 'establish a whole-of-system plan for the efficient development of the power system' and when the primary economic test of net market benefits only considers transmission versus no transmission?

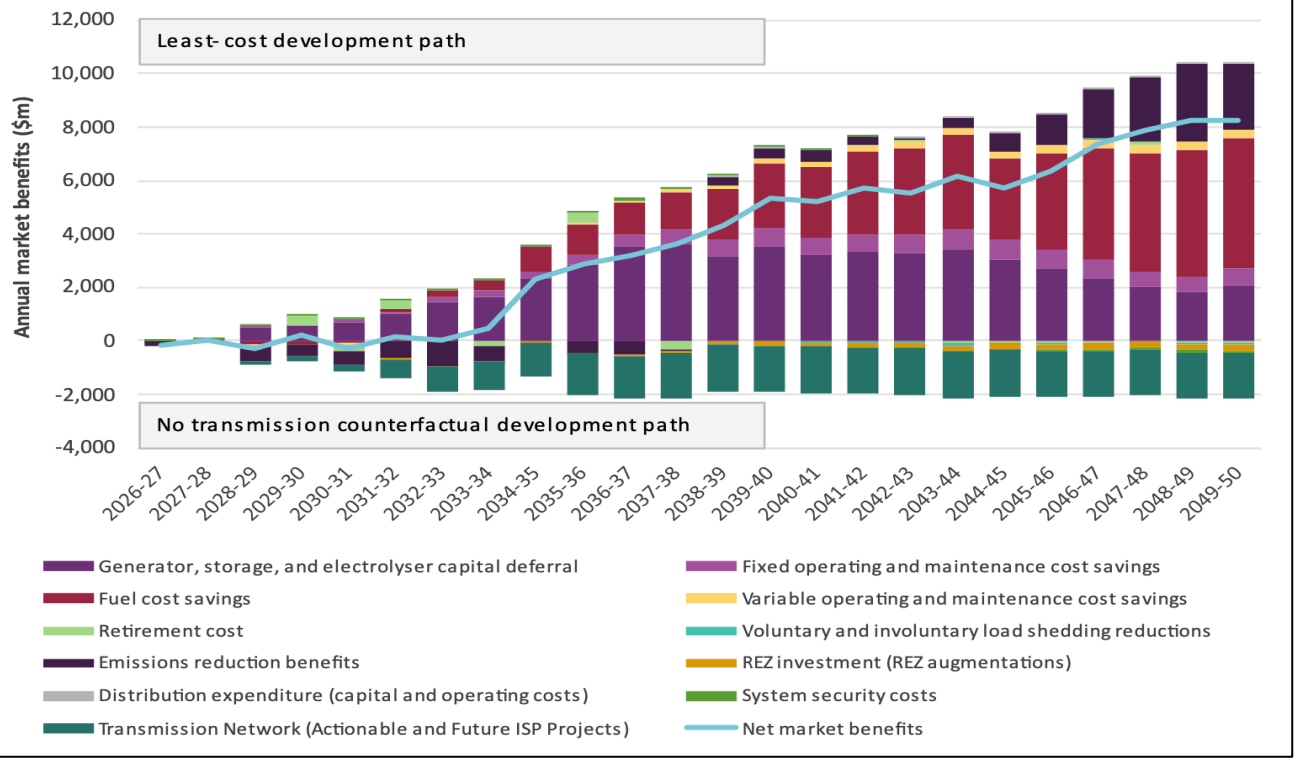
[31] Ibid, p 19.

[32] ibid

[33] AEMO, *Draft 2026 ISP*, Appendix 6, p 33.

Figure 8 The savings in transmission costs in the counterfactual DP are offset by the costs of meeting the emissions reduction targets

Figure 10 Net market benefits of the least-cost DP relative to the 'no transmission' counterfactual DP in *Step Change*



Source: AEMO, Draft 2026 ISP, p. 34.

Recommendation

Before commencing work on the 2028 ISP, AEMO to seek a review of the AER's Cost Benefit Guideline to see whether it is appropriate for assessing options in the ISP, noting that, in the context of the ISP, the counterfactual development path is barely credible and demand-side actions are not included as an option to address the 'no transmission' development path.

The assessment of alternative transmission paths

Transmission paths that were deemed 'actionable' in the 2024 ISP but have now reached the status of 'committed or anticipated' are not included in the 2026 ISP economic assessment process. The ISP modelling process assumes these projects will be built and operating at full capacity by their expected dates between 2027 and 2031.

Table 1 in Appendix 6 of the Draft 2026 ISP includes both ISP and jurisdictional transmission plans. Overall, there are seven transmission projects that have now reached committed and anticipated status, including three major interconnect projects: HumeLink, Project Marinus – Stage 1 and Project Energy Connect – Stage 2.[34]

[34] See, Draft 2026 ISP, Table 1 in Appendix 6, p 11.

In contrast, some seven projects that were actionable in the 2024 ISP remain actionable, with an additional two projects that were actionable in the 2024 ISP that are subject to further analysis to see if they remain so in the 2026 ISP. Three new projects are now identified as actionable and up to seven transmission projects are considered future projects.

The Panel believes this demonstrates the importance of a regular update of the ISP particularly when the energy environment is changing so quickly.

The Panel is interested in better understanding the two transmission projects identified by AEMO as requiring 'ongoing analysis'. These are: the Northern Transmission Project in South Australia; and the Queensland-New South Wales Interconnector (QNI Connect).

In its analysis for the Draft ISP, AEMO found that the Northern Transmission project did not pass the net market benefit test in any of the three 2026 ISP scenarios. In contrast, QNI Connect showed potential to relieve constraints between Queensland and NSW thereby allowing greater sharing of renewable energy with significant two-way energy flows.[35]

Overall, AEMO's analysis of QNI Connect demonstrated net market benefits and would be expected to proceed. However, the Queensland Government published the new *Queensland Energy Roadmap*[36] in October 2025 which included significant changes to Queensland's previous energy plans that were included in the 2024 ISP. The new Roadmap proposes postponing the closures of its coal generation fleet to the end of their technical lives or beyond, incentivises additional mid-merit gas generation, and delays the development of the Borumba pumped hydro project to beyond 2036.

Notably, AEMO's analysis of the relative market benefits of QNI Connect transmission (compared to a 'no QNI Connect' test), indicated a net present value (NPV) benefit of $1,052 million – under a Step Change scenario – relative to not progressing the project, using TOOT analysis, in the specified period.

AEMO states these benefits come in large part from avoided generator and storage capital costs and associated operating and maintenance costs if QNI Connect proceeded.[37] This is illustrated in the table below. [38]

[35] AEMO states that QNI Connect would increase transfer capacity of 1,260 MW from NSW to Queensland, and 1,700 MW in the reverse direction towards NSW.

[36] Queensland Government, *Queensland Energy Roadmap*, November 2025, https://www.treasury.qld.gov.au/policies-and-programs/energy/energy-roadmap/

[37] See Draft 2026 ISP, Appendix 6, p 108.

[38] See: AEMO, *Draft 2026 ISP*, Appendix 6, Table 60, p 108.

Table 4 QNI Connect delivers $1B NPV market benefits compared to a no QNI Connect option (Step Change)

Table 60 Relative market benefits of QNI Connect in *Step Change*

Class of market benefit	Relative market benefit (NPV, $ million)
Generator and storage capital deferral	1,644
Fixed operating and maintenance cost savings	283
Fuel cost savings	54
Variable operating and maintenance cost savings	-19
Retirement cost	18
Voluntary and involuntary load shedding reductions	10
Emissions reduction benefits	0
REZ investment (REZ augmentations)	-63
Distribution expenditure (capital and operating costs)	-2
System security costs	79
Gross market benefits	**2,004**
Transmission Network (Actionable and Future ISP Projects)	-952
Total net market benefits	**1,052**

Source: Draft 2026 ISP, Appendix 6, p.108.

The QNI Connect example also illustrates how AEMO's model trades-off investment in generation and utility-scale storage costs with transmission costs; additional transmission interconnector capacity reduces constraints on the movement of electricity supply, enabling better sharing of renewable resources between locations, including between REZs, and across jurisdictional boundaries. This, in turn, improves the efficiency of grid-based electricity supply across the NEM and reduces price volatility in each state.

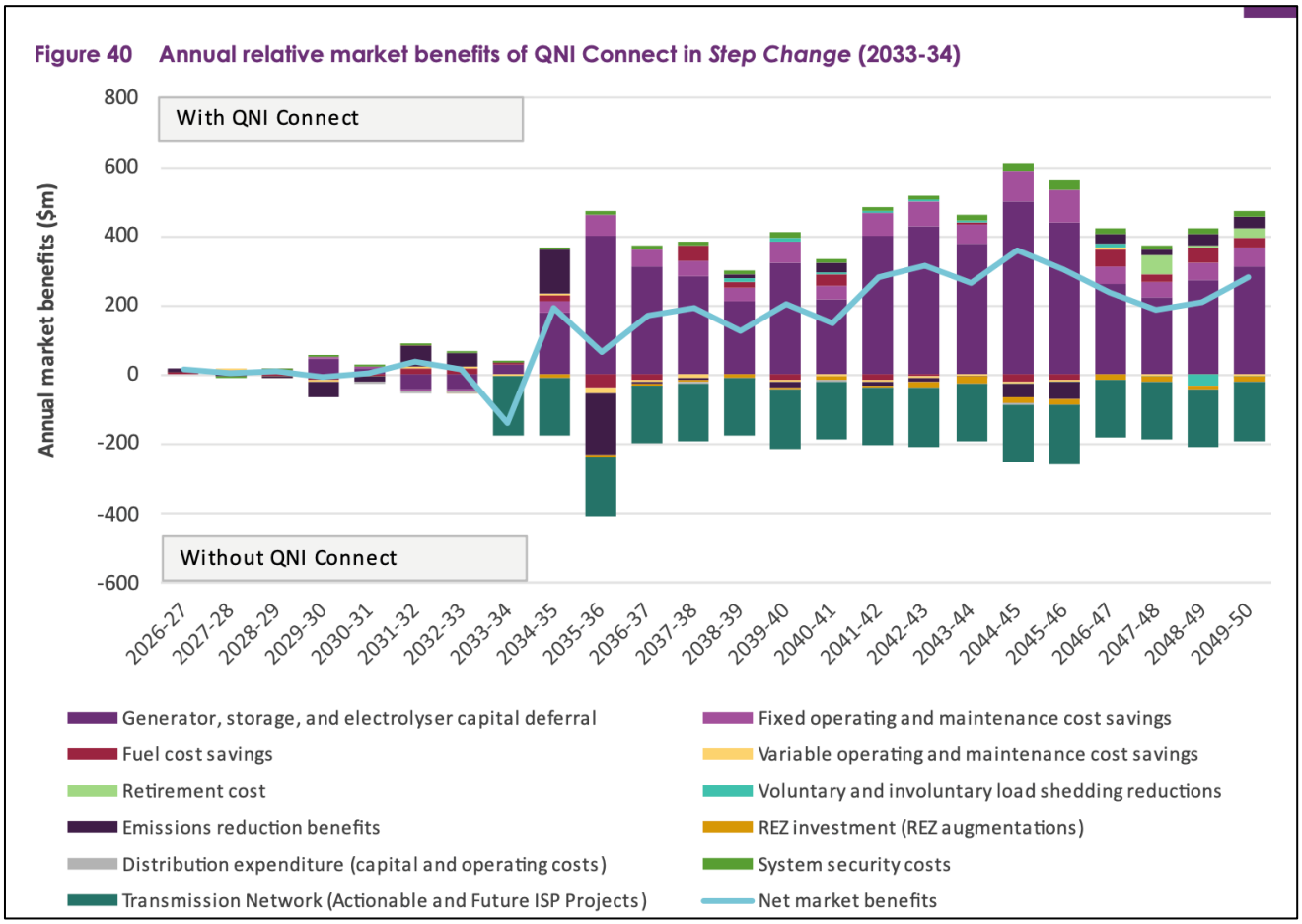
AEMO describes these effects in the context of QNI Connect as follows:[39]

> *"The benefits of an actionable QNI Connect stem from deferring nearly 1.8 GW of utility-scale solar capacity as well as 400 MW of additional storage capacity in Queensland and New South Wales. An actionable QNI Connect results in further development of higher resource wind sites in New South Wales. It also enables remaining coal capacity in Queensland and other developments to provide support to the rest of the NEM, particularly Victoria which would otherwise build around 1 GW of flexible gas and utility-scale storage in 2034-35 to firm and back up renewables."*

The figure below further illustrates the trade-offs between the construction of QNI Connect – delivered at the appropriate time (the 'actionable window')– and greater investment in generation and storage that would be required to meet the current national policy and performance targets.

[39] Draft 2026 ISP, Appendix 6, p 110.

Figure 9 QNI Connect delivers significant net benefits each year from 2035-35 to 2049-50



Source: Draft 2026 ISP, Appendix 6, p. 109.

The Panel notes that the *Queensland Energy Roadmap* does not appear to rely on or support the QNI Connect project. If it did proceed, it is likely to be built outside the period where its value is maximised. The Panel acknowledges that AEMO has included QNI Connect as an 'actionable' project in the Draft 2026 ISP, while also indicating that it will be subject to further review; AEMO is strongly encouraged to undertake this analysis before the final 2026 ISP.

The Panel is concerned that the *Queensland Energy Roadmap* will impact on the potential two-way benefits of interstate flows and place an additional burden on other jurisdictions, and other sectors of the economy, to meet the national carbon budget targets.

The Panel observes similar trade-offs in AEMO's assessment of the actionable, and somewhat controversial, project, the Victoria-NSW Interconnector West (VNI West). AEMO's analysis tests the net benefit of VNI West – if constructed at its earliest in-service date (EISD)) – compared to a 'no VNI West' option. The analysis concludes that the timely construction of VNI West contributes approximately $1.7 billion in net market benefits when compared to the 'no VNI West' option [40]

This benefit occurs despite a nearly doubling of transmission network capital costs for VNI West since the 2024 ISP.[41]

[40] AEMO Draft 2026 ISP, Appendix 6, p 81.

[41] See: AEMO, Draft 2026 ISP, Appendix 6, Table 40, p 81.

In explaining why the VNI-West project is still seen as actionable, AEMO identifies a total gross market benefit of the project of some $4.3 billion dollars of which some 75% is explained by the 'deferral of generator and storage capital'[42], compared to 'no VNI-West'. AEMO states:[43]

> *"Without VNI West, around 1.2 GW of flexible gas would be needed in Victoria as well as 3 GW of utility-scale solar capacity in Victoria and South Australia, and 3 GW of wind capacity in New South Wales later in the 2040s. The greater interconnection of the grid that VNI West provides leads to significant energy-production efficiency improvement for the entire NEM."*

Given the controversy around VNI West, including concern about its economic value, AEMO and other parties will need to more strongly present the project's overall benefits which remain positive despite the significant increase in the transmission network capital costs.

Recommendation

AEMO proceed with its proposal for further investigation of QNI Connect, and if relevant, confirm the total NEM-wide costs of the transition with and without QNI Connect, including the impact on emissions and emissions budget.

The Optimal Development Path – Candidate Development Path 4

AEMO states the ODP is selected based on the weighting of the net benefits observed in each of the ISP scenarios compared to the counterfactual DP. The ODP – Candidate Development Path 4 (CDP4) is projected to produce a net benefit of $24.2 billion on a weighted scenario basis. The individual scenario analyses produce slightly different net benefit results, for example, the highest net market benefit for the Step Change scenario only, that is, not including the weighting of the other two scenarios, is CDP2 with a $25.48 billion net market benefit.[44]

Comparing the net market benefits of the various CDPs, the modelling clearly indicates that 'faster is better'. Delaying development of the transmission to outside the optimal time frames identified by AEMO risks higher costs -- as per the VNI-West story, see above - and a more 'disorderly' transition process – the chicken and egg' problem - again!

The Slow Change scenario sees a net market benefit averaging around $12-14 billion, depending on the CDP, and the Accelerated Transition scenario sees a net market benefit of around $32-34 billion. AEMO concludes: [45]

> *"…while still more beneficial than the 'no transmission' counterfactual DP, slowing down the development of the key transmission projects to outside their actionable windows is clearly less beneficial than continuing to develop the NEM's transmission system with urgency."*

The Panel has also stressed the importance of 'just getting on with it' in previous sections of this submission and in the following section where we refer to reports on the potential costs of inaction or delayed action on energy prices to residential consumers.

[42] AEMO, *Draft 2026 ISP*, Appendix 6, Table 40, p 81.

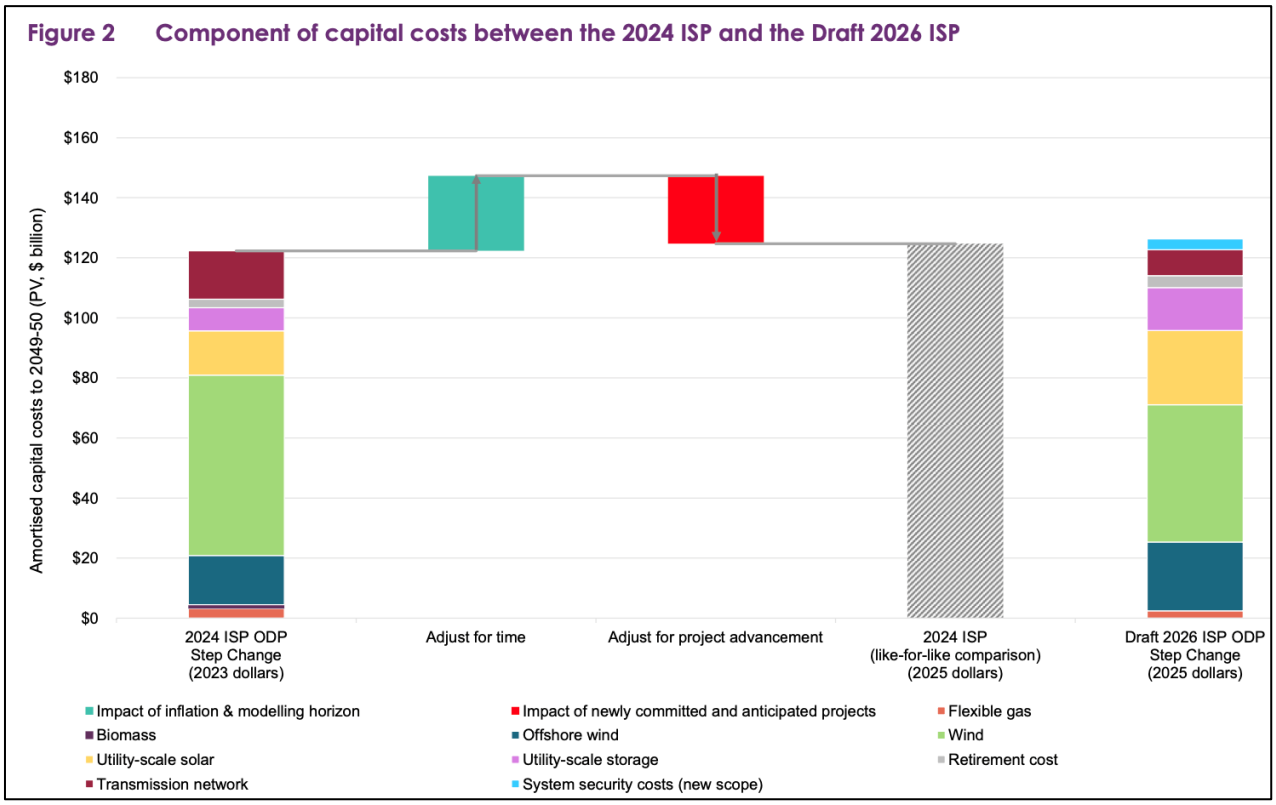
[43] AEMO, *Draft 2026 ISP, Appendix 6*, p 81.

[44] See, *AEMO Draft ISP*, Appendix 6, Table 2, p 13

[45] AEMO, 2026 Draft ISP, Appendix 6, p 59.

The figure below shows the movement in total amortised capital costs in present value terms between the 2024 ISP and the 2026 ISP. Transmission costs for actionable projects are a relatively small component of the total capital costs shown in the figure below, with a forecast of some 3000 km of new transmission (including the jurisdictional projects) and a present value of $9 billion to 2050 (7% of total capital costs). While there is still considerable and justifiable concern over the rising costs of transmission, it is important that this is seen in the context of the total capital cost of the ISP's proposed transition path.

Figure 10 Transmission capital costs represent only some 7% of total capital costs to 2050



Source: AEMO, *Draft 2026 ISP, Appendix 6*, p 14. Note: the system security costs in 2026 include new scope, namely the costs of distribution network augmentation, system security and other distributed resources – being utility-scale storage installations connected to the high voltage section of the distribution network and are assumed to be limited to 30 MW. See footnote 4, p 13 of Appendix 6.

The Panel considers that overall, AEMO has justified its selection of the ODP, and identified that it is robust to changes in the input assumptions.

The table below shows the relative sensitivity of the selected CDPs, measured in terms of weighted net market benefits. across AEMO's selection of sensitivities. It confirms that AEMO's selection of CDP4 as the preferred ODP is relatively robust to the nine sensitivities that AEMO has examined in the Draft ISP.

As noted previously in this submission, the Panel is looking to expand the suite of sensitivity tests, with a particular focus on testing 'higher energy efficiency' sensitivity, not just lower energy efficiency, and the impact of much lower industrial demand growth.

Table 5 Testing the robustness of the candidate development paths using nine sensitivity tests

Table 3 Relativity of weighted net market benefits (in $ billion) for each key CDP across the sensitivity collection

CDP	Description	*Core assumptions*	*Constrained Delivery*	*Faster Coal Retirements*	*Slower Coal Retirements*	*GDP Option 1*	*GDP Option 2*	*Underinvestment GDP*	*No Further CER Coordination*	*Lower Energy Efficiency*
Weighted net market benefits										
4	CDP2 with actionable Switching Station Near Wondalga	24.20	20.39	26.96	25.47	23.89	24.12	24.55	24.95	25.41
6	CDP4 with actionable Sydney Ring South – 500kV option (Stages 1 and 2)	24.18	20.71	26.94	25.43	23.86	24.10	24.53	24.92	25.40
16	CDP4 without actionable New England REZ Network Infrastructure Project and Queensland – New South Wales Interconnector (QNI) Connect	24.17	20.35	26.96	25.57	23.85	24.08	24.50	24.88	25.53
10	CDP4 with actionable Eastern Victoria Reinforcement program (Option 2)	24.16	20.43	26.92	25.44				24.92	25.38
2	Least-cost DP for *Step Change*	24.16	20.44	26.93	25.45	23.85	24.09	24.52	24.92	25.38
20	CDP4 without actionable Waddamana to Palmerston transfer capacity upgrade	24.12	20.34	26.89	25.42				24.87	25.34
3	Least-cost DP for *Accelerated Transition*	23.96	20.74							
Change in weighted net market benefits relative to most beneficial CDP										
4	CDP2 with actionable Switching Station Near Wondalga	0.00	-0.35	0.00	-0.10	0.00	0.00	0.00	0.00	-0.12
6	CDP4 with actionable Sydney Ring South – 500kV option (Stages 1 and 2)	-0.02	-0.03	-0.02	-0.14	-0.02	-0.02	-0.02	-0.03	-0.13
16	CDP4 without actionable New England REZ Network Infrastructure Project and Queensland – New South Wales Interconnector (QNI) Connect	-0.02	-0.39	0.00	0.00	-0.04	-0.04	-0.05	-0.07	0.00
10	CDP4 with actionable Eastern Victoria Reinforcement program (Option 2)	-0.03	-0.31	-0.04	-0.13				-0.03	-0.16
2	Least-cost DP for *Step Change*	-0.03	-0.30	-0.03	-0.12	-0.03	-0.03	-0.03	-0.03	-0.15
20	CDP4 without actionable Waddamana to Palmerston transfer capacity upgrade	-0.08	-0.40	-0.07	-0.16				-0.08	-0.20
3	Least-cost DP for *Accelerated Transition*	-0.24	0.00							

Note: Cells shaded teal represent the top-ranked CDP amongst those presented in the table for each sensitivity. Cells shaded grey indicate that the CDP was not tested for the given sensitivity.

Source: AEMO, Draft 2026 ISP, Appendix 6, p. 15.

Part B: Generation, storage and network investment in the proposed ODP

Renewables to replace coal as bulk generation

The Panel supports and welcomes the focus on renewables to replace coal as bulk generation, and the sooner the better to secure future benefits for consumers and the world in terms of limiting the worst impacts of climate change, meeting national policies and international commitments. As presented by the Climate Change Authority 2025 Annual Progress Report, November 2025[46]:

> *"Australia is at a critical juncture in its transition to a low-emissions future. Meeting our climate goals will require faster action, stronger collaboration, and a clear focus on both reducing emissions and adapting to the impacts of changing climate". Hence the need to get on with the task of delivering the ODP!"*

The Panel is disappointed that the 2026 Draft ISP delays the final closure of Australia's coal fleet by 11 years compared to the 2024 ISP, due largely to changes in Queensland Government policy to extend the operation of state-owned coal generators.

This places significant pressure on Australia's carbon budget and ability to meet our 2030 international carbon reduction commitments. The Panel also questions: what is the cost to consumers of extending the contribution of coal from 2038 to 2049 in the 2026 ISP? For example, the Climate Change Authority (December 2025) estimates that extensions of coal and slower renewables uptake could raise consumer bills by 40%. This would be present extreme difficulties for consumers and must be avoided. The Panel urges AEMO to increase transparency around such potential impacts.

Recommendation

Make clear the additional cost to consumers of extending the life of coal fired power stations by 11 years.

The Panel acknowledges that there are risks that ageing coal generators could fail could increase consumer bills significantly, as could the risk of not building enough MWs of wind and solar generation and transmission in time.

The Productivity Commission December 2025 report "Investing in cheaper, cleaner energy and the net zero transformation - Inquiry report No 113, 10 December 2025 cites a recent report by Jacobs Australia for the Climate Change Authority (December 2025): "substantial delays leading to only 49.1 GW of renewables being available in 2030, rather than 72.7GW, could raise NEM residential electricity bills by 30% and there would be a risk that ageing coal generators could fail, raising bills by a further 11 % points".

The Panel agrees with AEMO's growing consideration of increased unreliability as coal plants age, alternative modes of operating coal plants given new market conditions, and the potential for early closures. The ISP predicts unplanned coal outages 7% of time and partial loss of capacity further 17%.[47] The Panel supports taking a realistic approach to the maintenance and investment of increasingly unprofitable and unpopular assets, but raises questions:

[46] https://www.climatechangeauthority.gov.au/2025-annual-progress-report

[47] See AEMO, Draft 2026 ISP, p. 11.

- Are all coal generators treated equally? Is this an average? If so, which goal generators are at what ends of the bell curve and how might they be treated differently? Black versus brown? Queensland versus other? How does it change over time?
- How do maintenance and investment priorities and loss mitigation and prudential issues and notice for closure questions all interact?
- Is it consistent with Reliability Standards and Settings Review, Electricity Statement of Opportunities, other forecasts and assessments, etcetera?

Replacing coal with renewable generation as the main source of electricity relies on small, medium and large-scale wind, solar and hydro projects, along with battery storage. The ODP requires 120 GW of new utility-scale wind and solar farms, which represents roughly five times current capacity. Meeting 2030 targets will require building more than double what already exists. It is questionable if this is possible, from the perspective of required lead times for planning and connections approvals, labour requirements and global supply chain constraints.

It will also not be possible without significant improvements in community participation and coordination among governments, proponents and local actors to deliver positive social outcomes.

Large-scale renewable energy and storage is being coordinated through AEMO-proposed Renewable Energy Zones (REZs), which are then planned and implemented by states. REZs are designed as an efficient way to develop large-scale renewable generation alongside transmission, with 44 REZs planned across the NEM at various stages of State Government enactment. AEMO acknowledges these "depend on industry and government building social licence so that host communities participate strongly in their planning and benefits"[48].

The lived experience of people in REZ communities has varied widely to date but there is certainly a need for greater focus on delivering the kind of genuine engagement and participation that builds social licence. To date, REZ planning and establishment has focused on technical aspects of planning transmission lines, often with inadequate community engagement and local presence, and establishing markets – state-based tender programs – with negligible and vastly inadequate investment in community engagement and participation in either planning or benefits.

While individual projects are doing project-based community engagement, there is also a need to do REZ-level engagement, including consultation, participatory design processes, education, awareness raising and trust building. In addition, there is a need to coordinate this engagement and streamline project engagement to reduce 'engagement fatigue' and ensure it is beneficial for communities, as well as for government and proponents.

Communities need to be much more effectively engaged to better prepare for REZs and to be positioned to benefit from incoming job, business and other opportunities, and to help to codesign solutions to potential challenges around housing, biodiversity impacts, and resources. This requires place-based approaches to collaboration, capacity building, program delivery, etcetera. Good examples of the kinds of productive engagement needed in REZs have been trialled and delivered by organisations such as Community Power Agency, Renewable Energy Alliance and The Next Economy.

Community support for hosting utility-scale renewables has been demonstrated to be an outcome of quality processes of development, including consultation and engagement, and meaningful positive outcomes. Both things are entirely achievable but will require additional emphasis and funding directed to building social licence. The benefits of REZs listed in

[48] AEMO, Draft 2026 ISP, p 59.

the Draft 2026 ISP[49] will require more strategic and focused efforts with regards to community consultation and involvement if they are to be delivered.

Consideration of locational needs and opportunities for REZs includes many factors, but AEMO makes no reference to social factors. This is both inadequate and potentially sets proponents up to fail or certainly to undervalue proper focus on social aspects. Social context mapping and social feasibility studies are considered essential elements of quality project planning and at least some level of this should be undertaken as part of AEMO's investor data process.

The Panel also notes consumers' very significant current and ongoing role in meeting future electricity demand, both in terms of generation and storage. Consumer rooftop and other small and medium scale 'non-scheduled' generation is expected to grow from 25 GW today to 87 GW in 2050, and batteries from 5 GW today to 27 GW in 2050, alongside 120 GW of utility-scale wind and solar. People are well and truly at the heart of the energy transition. Importantly, those with consumer energy resources (CER) gain benefits for themselves, as well as providing system-level benefits that help to reduce future electricity costs for all consumers in the NEM, particularly if co-ordinated.

The Panel notes that only two offshore wind projects are identified in the Draft 2026 ISP. The Gippsland Offshore REZ is progressing under the Victorian government's Offshore Wind Policy with requests for tenders for offshore wind industry auction expected to commence in August 2026.[50] The project is expected to be fully online by 2040, delivering 9 GW of wind generation. The Hunter and Illawarra Coast REZs appear to be conceptual only at this point, given the 40% higher cost of offshore wind compared with onshore, and the additional complexities and cost of floating wind turbines necessitated by these sites compared with the fixed wind turbines possible in Gippsland.

The Panel supports the strategic colocation of hydrogen electrolysers with solar generation to act as 'solar sponges' as a strategy to avoid curtailment of solar outputs. The Panel would like to see further investigation of what other energy-intensive, flexible-load processes might also be able to play this role, to harness greater use of renewable generation.

AEMO is encouraged to consider extending the role for demand response into retail markets or at least to mid-scale neighbourhood/ community battery programs involving households, and the Panel wonders what contribution this could make to the need for coordination.

Storage to firm renewables

With each year it is more evident energy storage will be the cornerstone of a VRE-powered NEM. The following chart from AEMO's recent quarterly dynamics report highlights the shift to this future state is already well underway.

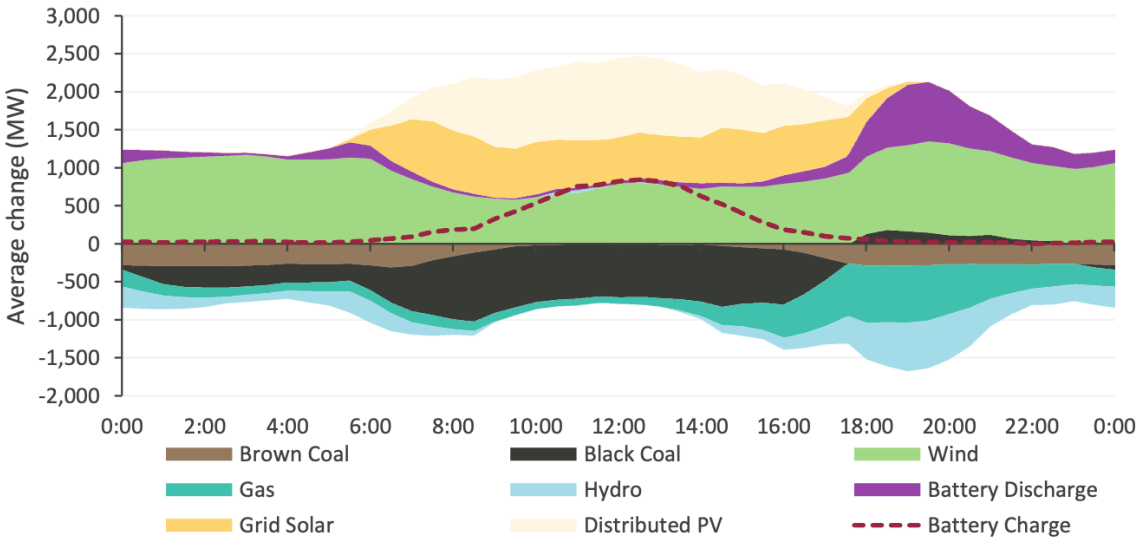
[49] See: AEMO, Draft 2026 ISP, p. 64.

[50] For details see: https://www.energy.vic.gov.au/renewable-energy/offshore-wind-energy/news-and-events#:~:text=The%20Victorian%20Government%20legislates%20offshore,Offshore%20Wind%20Enabling%20Act%20legislated

Figure 11 Batteries' charging and discharging cycles play an increasing role in managing intra-day supply and demand

Figure 29 Renewables and battery discharge displaced other sources while supporting demand across the day

NEM change in fuel mix by time of day – Q4 2025 vs Q4 2024



Source: AEMO, Quarterly Energy Dynamics Q4 2025, p 23.

As the Panel noted in response to the 2025 IASR:[51]

> *"...there are rapid developments in the technology and market opportunities for large batteries (BESS), smaller commercial and domestic batteries and the emerging market of community and virtual power plants. The manner and extent to which batteries may displace network options in the optimal development path assessments, has material implications for the ISP's conclusions."*

The Panel went on to recommend that the ISP frameworks should reflect the potential of batteries, notably their benefits over transmission-based options, particularly considering interconnectors and other non-REZ transmission:

> *"[BESS] ... are steadily dropping in price and are being rolled out at a growing rate. They are funded mostly by the private sector with some government support, and – unlike transmission solutions – consumers are only paying for the benefits they receive over the life of the battery, without carrying the cost or risk burden of regulated revenue for transmission projects irrespective of their utilisation over the 50+ life of the assets.*
>
> *Utility scale BESS do not come with the same social licence issues of transmission, or the risk associated with 50-year plus asset lives. BESS can improve utilisation of transmission and sometimes defer or avoid the need for it to be built. BESS costs and lead time continues to drop, and every few months – or every few weeks – another battery comes online, improving competition, accelerating decarbonisation, and modernising the energy system.*
>
> *Stakeholders, including the ISP Consumer Panel, have long been calling for the ISP to have regard for solutions beyond transmission. AEMO has made clear efforts to improve the consideration of BESS and other parts of future energy system, however while the ISP modelling seeks to optimise different parts of the energy system, the ISP itself,*

[51] See: https://www.aemo.com.au/-/media/files/major-publications/isp/2025/2026-isp-consumer-panel-final-2025-iasr-response.pdf?rev=915d95ccfef44529a59a98928f883364&sc_lang=en', p 58.

and the broader ISP framework, cannot make non-network, market-based options like utility BESS 'actionable', even in the case where those solutions would result in substantially lower overall costs."

... while noting the ISP mainly considers the renewable-firming role of batteries, which runs the risk of underestimating their value and application:

"[the 2024 ISP notes] "With coal retiring, renewable energy connected with transmission and distribution, firmed with storage and backed up by gas-powered generation is the lowest-cost way to supply electricity to homes and businesses as Australia transitions to a net zero economy...

Focusing only on the renewables-firming attributes of batteries undervalues the dynamic critical and complex role they will play in the future energy system, in the process overestimating the component cost of using them for firming.

Batteries also provide a range of other important services for the grid that provide consumer benefit."

The range of battery services continues to expand, including system strength and other system security services, and describing the role of batteries as 'firming' continues to be somewhat narrow.

The battery features were described in the Panel's 2025 IASR report as follows.

Demand firming

"[As energy storage devices] "batteries are as much loads as they are generators. More so, in fact: a typical BESS consumes about 1.2 MWh of energy for each MWh it produces. In addition to firming generation, batteries can help firm demand. Already in 2025, we are seeing AEMO put the capacity of batteries as a controllable load to 'firm' demand, in the response to Minimum System Load events. Directed batteries receive additional revenue for this activity."

Temporal diversity

"Importantly, batteries provide temporal diversity, both in generation and load. As the energy system approaches 100% renewable, with commensurate increase in coincident generation and longer periods where demand is exceeding generation, the value of temporal diversity will continue to increase.

Transmission on the other hand provides locational diversity. This is also valuable; however, much locational diversity has [already] been achieved through the existing and planned transmission; adding more beyond that already committed and anticipated in previous ISPs has diminishing returns and is unlikely to be necessary."

Recommendation

The Panel recommends that the 2026 ISP expressly describes the range of features batteries can provide including the following from the Panel's IASR report:

- **Demand Firming**
- **Temporal Diversity**
- **Flexability and lower risk**
- **Short lead time and fast deployment**

Flexibility and lower risk

"BESS systems are uniquely flexible. They can be generation and load. They can provide energy services and security services. They can provide backup power and be a source of reliability and resilience. They can assist in the control of voltage and frequency and, in future, are likely to be able to provide new ancillary services like synthetic inertia and system restart. They can be aggregated, or arranged, so a single battery can be shared among service providers.

The physical attributes of BESS flexibility are less commonly acknowledged. Typically, inverters can be added to an existing battery unit to increase power output (with some modifications) and batteries can be added to increase energy storage capacity. And although it is not commonly done, BESSs can be removed and reinstalled at other locations. All these aspects help derisk battery investments, making it less critical to perfect the battery specifications at the design and build stages."

Short lead time and fast deployment

"With far fewer barriers than transmission, battery systems can be rolled out in a matter of months, provided dependencies such as grid connection are confirmed."

The Panel also observed:

"Taking into account the costs and benefits of batteries and the challenges associated with transmission, it is reasonable to assume for the 2026 ISP:

- *Specific battery projects (or groups of battery projects) will prove a more cost-effective alternative to some transmission flow path augmentations*
- *Given their wider utility, BESS can be considered a more effective way to provide some security solutions such as synchronous condensers (syncons) – particularly in light of the escalating cost and limited availability of syncons – procured through market incentives such as ancillary services and non-network solution services, or required under conditions attached to connection and operation*
- *more robust assumptions around the cost benefits and functions of batteries should inform the costs of each candidate development path and scenario, to ensure the optimal development path represents an efficient co-optimisation of key elements of the energy system."*

Recommendation

When exploring the counterfactual, modelling and subsequent descriptions. AEMO will need to be overt about how the role of batteries is optimised. While many of the functions and services of batteries lie outside of focus of the ISP, the impact of these other revenue streams should be considered in the costs and benefits attributed to batteries.

Given the role that grid scale batteries will play in in the future energy system, and the associated revenue streams that effect the investment case for batteries, the 2026 final ISP needs to fully consider the costs and benefits of batteries in the trade-offs between batteries, synchronous condensers and gas.

Gas to back renewables

Note: This section is prepared on the basis that AEMO's analysis does not include the impact of the most recent Queensland Energy Roadmap, published in October 2025.[52] The Panel expects the Final 2026 ISP will address this matter. [53]

The Draft 2026 ISP emphasises the importance of gas supply for electricity generation (GPG) to improve reliability and system security in the supply of electricity as the NEM transitions towards Net Zero by 2050. For example, AEMO states: "gas generators are a critical part of the current and future supply mix".[54]

The importance of gas supply for reliability and system security in the electricity market was recognised by Department of Climate Change, Energy, the Environment and Water (see DCCEEW 2024 Review). The Review directed AEMO to undertake an investigation of the adequacy of the current gas supply availability and gas market structures to support the role that AEMO assumed for gas generation (GPG) in the 2024 ISP.

Since this review, other reports have also supported the vital role that gas generation will play in ensuring the reliability and security of electricity supply during the NEM transition to 2050.[55] These include a slew of recent reports published in December 2025 including the *Gas Market Review Report*[56].

While the importance of GPG for the reliability and security of the electricity supply system during the transition period is now widely recognised and accepted, this view must be considered in the context of the forecasts of gas supply generally.

For example, AEMO published the following chart in the *2025 Gas Statement of Opportunities* (GSOO).[57] The chart highlights the rapid decline in sources of gas, particularly in the southern states. It also highlights that despite continuing supply from

[52] See: https://www.treasury.qld.gov.au/policies-and-programs/energy/energy-roadmap/

[53] AEMO states that QNI still forms part of the proposed ODP (i.e., is included in the Draft 2026 ISP) but will be assessed 'prior to confirming their status in the final 2026 ISP', AEMO states it is also assessing its exclusion of the Northern Transmission Project. See AEMO, Draft 2026 ISP, p. 15.

[54] See 2026 Draft ISP, Appendix 10, p 6.

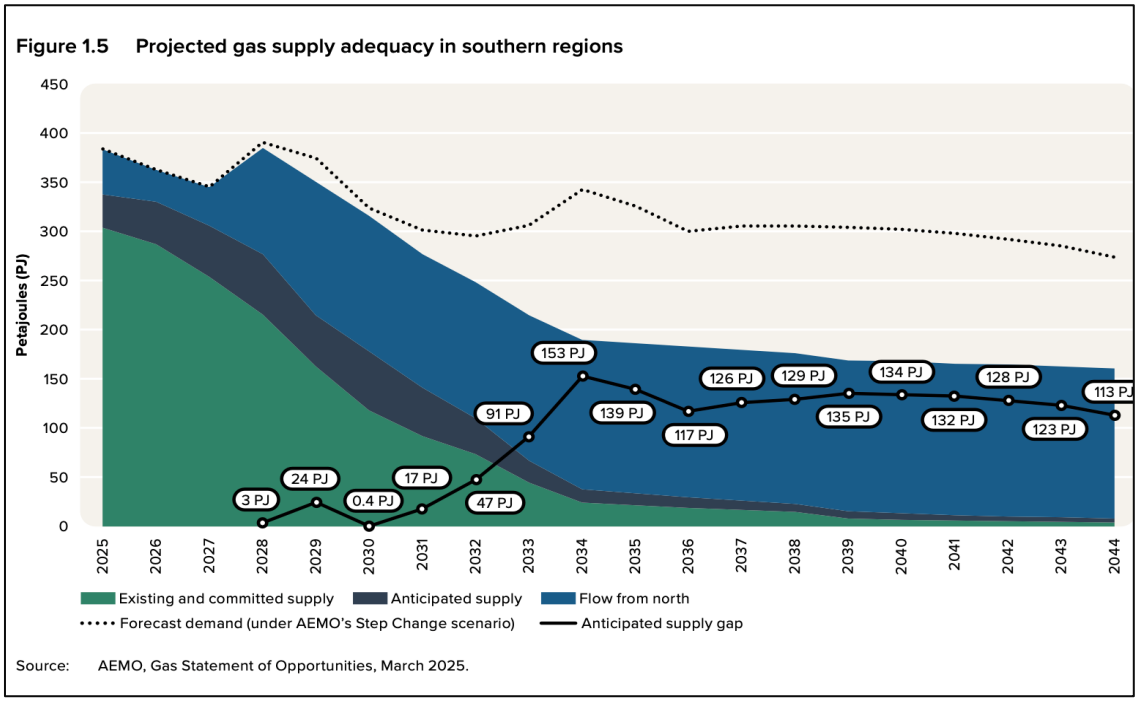
[55] References to 'gas' in this section adopt the definition of 'covered gas' in the National Gas Law (NGL) and includes natural gas, hydrogen, biomethane, synthetic methane and blends of these gases. However, the current forecasts suggest that natural gas will be the dominant source of gas until at least the 2040s where hydrogen may become economically viable.

[56] DCCEEW & DISR, *Gas Market Review Report*, December 2025; Productivity Commission, *Investing in cheaper, cleaner energy and the net zero transformation, Inquiry Report No 113*, December 2025, and Nelson et al., *National Electricity Market wholesale market settings review, Final Report*, December 2025.

[57] AEMO, *Gas Supply Statement of Opportunities*, March 2025. https://www.aemo.com.au/energy-systems/gas/gas-forecasting-and-planning/gas-statement-of-opportunities-gsoo . Note that since the production of the 2025 GSO0, AEMO reports that it has been advised by several gas producers that additional 2P gas has been identified. The Panel expects the 2026 GSOO will include any relevant changes to the supply outlook as a result of this

the north (mainly Queensland), there is a significant gap emerging post 2030 between forecast demand (including GPG) and domestic supply.[58]

Figure 12 A significant gap is emerging between forecasts of gas supply and demand for gas in the Southern states.



Source: AEMO, Gas Statement of Opportunities. March 2025

The issue of domestic gas supply and gas demand is further highlighted in the ACCC's June 2025 *Gas Inquiry Interim Report*,[59] as cited in the *Gas Market Review Report*.[60]

The Gas Market Review highlights the importance of AEMO, governments and other stakeholders addressing the shortfall of gas for domestic and export demand by the mid-2030s, particularly given the potential impact of any shortfalls of GPG on electricity supply and pricing if alternative solutions are not found in time. As stated in the Review: [61]

> *"The dotted red line in Figure 11* [see below] *demonstrates the challenging policy environment between 2027-2037 when Australia is expected to have insufficient production to meet both domestic demand and foundational export contracts.*

advice. See: https://www.aemo.com.au/-/media/files/gas/national_planning_and_forecasting/gsoo/2025/2025-gsoo-information-notice.pdf?rev=93d2aca0ca624013ae83ed085db5dd96&sc_lang=en

[58] The chart does not include gas exports. Note, AEMO's forecast of adequacy of supply for GPG is calculated as the forecast residual supply after the forecast demand for gas by all major customer groups (particularly large industrial customers) is met.

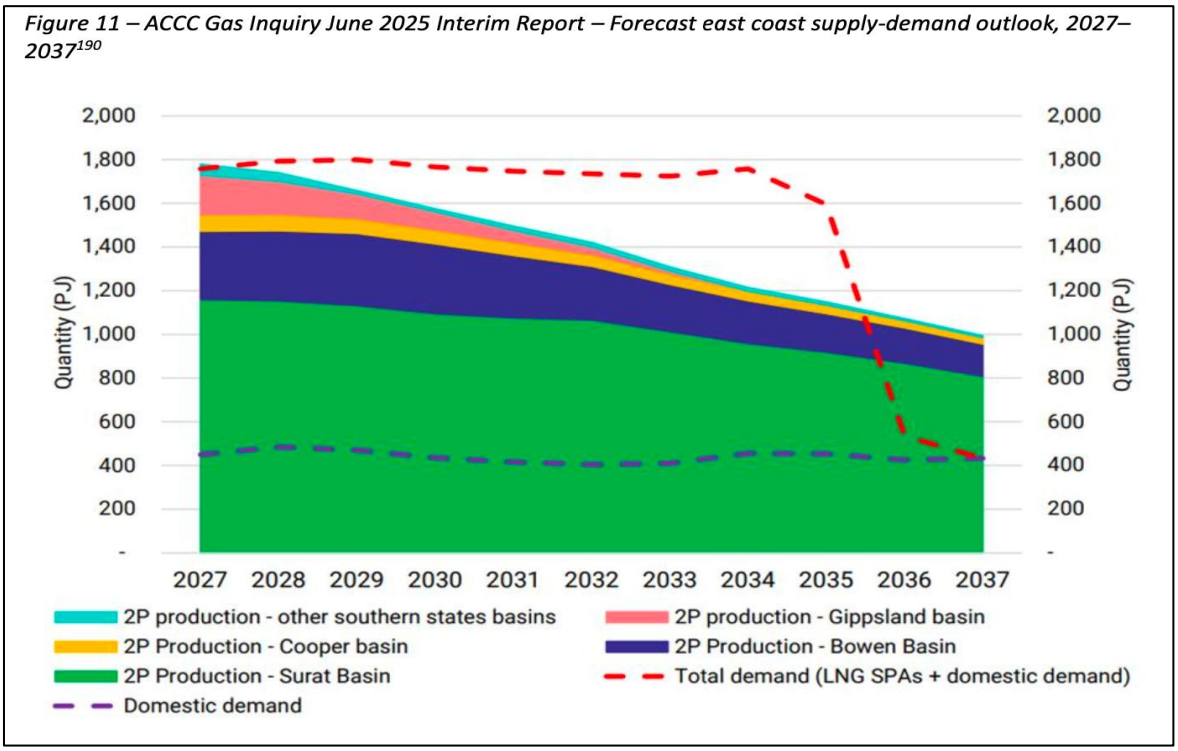
[59] ACCC, Gas Inquiry June 2025 interim report, Australian Government, p 5. https://www.accc.gov.au/system/files/gas-inquiry-interim-june-2025.pdf

[60] DCCEEW et al, *Gas Market Review report,* December 2025, p 91.https://www.dcceew.gov.au/energy/publications/gas-market-review-report

[61] Australian *Government, Gas Market Review Report*, December 2025, p 91.

Figure 13 East Coast gas production shortfalls by basin to 2036-37

Figure 11 – ACCC Gas Inquiry June 2025 Interim Report – Forecast east coast supply-demand outlook, 2027–2037[190]

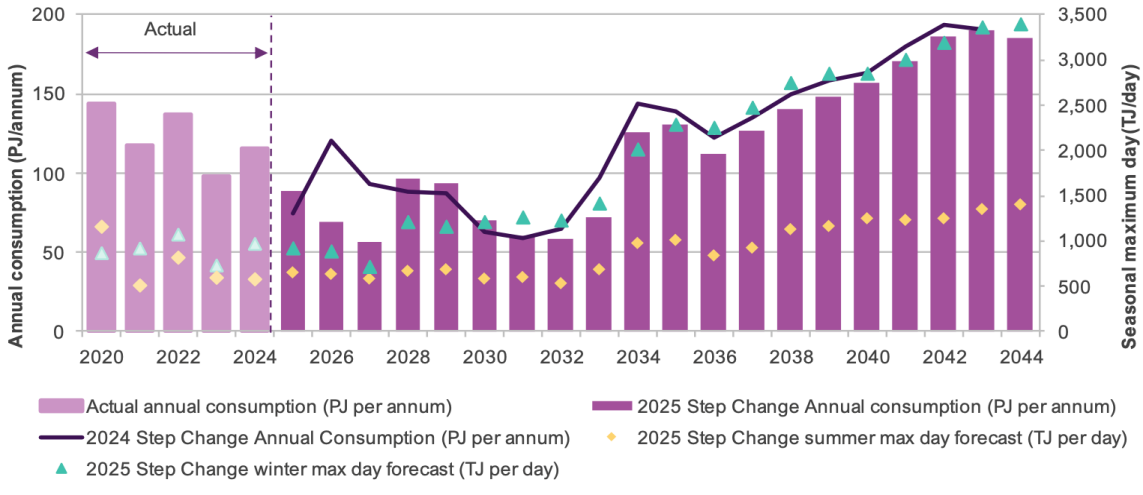


Source: Australian Government, *Gas Market Review Report*, December 2025, p .91.

As discussed above, there are considerable challenges to be overcome in the face of declining gas supply on the southern east coast regions of the NEM. The GPG market is not immune to this. As set out in the 2025 GSOO, the forecast demand for GPG in the NEM, while close to its lowest point now, is forecast to increase rapidly from around 2033 with the ongoing closure of coal generation. The figure below from the 2025 GSOO illustrates this point.

Figure 14 Gas generation demand grows rapidly after 2030 (Step Change scenario)

Figure 2 Actual and forecast NEM and Northern Territory gas generation annual consumption (PJ/y) and seasonal maximum daily demand (TJ/d), *Step Change* scenario, 2020-44



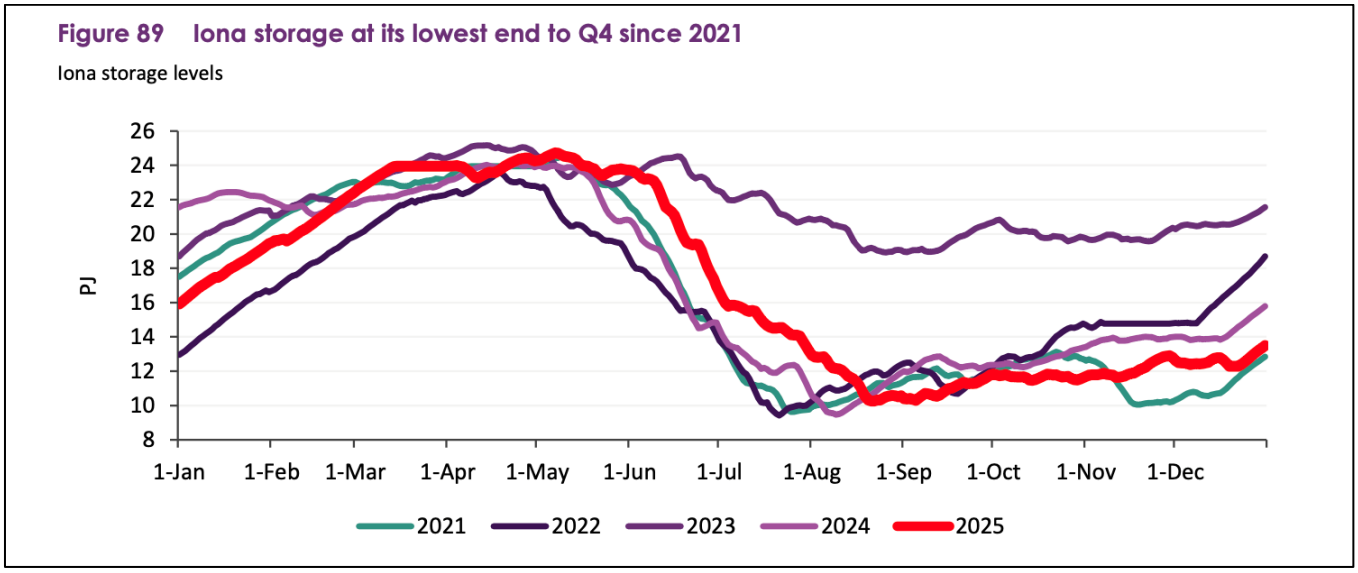
Source: AEMO, Source: 2025 Gas Statement of Opportunities, March 2025, p. 7. Note, the scenarios are from the 2024 ISP.

In addition to GPG competing with industry for declining gas production during the transition period, the role of GPG is changing as described below.

The capacity to 'store' gas near to major GPG demand centres is an essential component of planning for gas supply during the transition period. Current storage capacity is insufficient to support the future functional and operating requirements of introducing more 'flexible gas' supply via the expansion of open cycle gas turbine (OCGT) generation and the replacement of existing mid-merit combined cycle gas turbine (CCGT) generation.

AEMO's most recent *Quarterly Energy Dynamics Report*, demonstrates how the capacity available from even large gas storage sources can be exposed to the vicissitudes of climate and generation availability from variable renewable energy (VRE) sources, as illustrated in the figure below. In this instance, the rapid draw-down of the main gas storage facility in Victoria (Iona) was largely a result of the combination of cooler Victorian weather in spring and planned outages at Longford and Otway gas plants.[62]

Figure 15 Current Victorian gas storage availability declines in the winter period.



Source: AEMO, Quarterly Energy Dynamics Q4 2025, p 57.

The Panel supports AEMO's progress in addressing the issues of gas supply raised in the 2024 DCCEEW review, while also strongly agreeing with AEMO that there is more to do in modelling gas supply and storage in the final 2026 ISP, starting with the update of the 2025 GSOO due in March 2026 and including an additional assessment of the ISP forecast of grid-scale batteries and their interface with GPG development.

Importantly, AEMO's forecasting of future GPG development must be supported by the further development of the gas market rules and market structures to enable realisation of AEMO's forecast of domestic gas availability, storage and transport requirements.

The Panel is most concerned that the ISP currently has no power to direct third parties' investment in the domestic gas supply and transportation requirements identified in the ISP, the latter in contrast to the 'actionable' electricity transmission process.

[62] See, AEMO 2026, *Quarterly Energy Dynamics* Q4 2025, p 57.https://www.aemo.com.au/-/media/files/major-publications/qed/2025/qed-q4-2025.pdf?rev=b29ae0bd014c48f59a259009d246280f&sc_lang=en&hash=49B19FB5A8783BBD5BF435153C523905

As discussed in the following section, gas generation's role will also change during the transition period, challenging the economics of investment in gas generation. The inevitable intermittency of the NEM's requirement for GPG means that the current electricity spot market arrangements will increasingly be unfit for the purpose of incentivising private sector investment in the gas generation industry at any level. It is important that this 'market failure' is addressed by the appropriate parties as early as possible given the issues raised above regarding gas supply and the timetable for transition to a variable renewable energy (VRE-) based electricity supply.

The Panel notes that the existing Australian Domestic Gas Security Mechanism is due to be repealed on 1 January 2030, just as gas supply starts to decline in the southern states – see figures above – and there is no specific mechanism to replace it other than the proposed domestic gas reservation policy commencing in 2027. Similarly, the current Capacity Investment Scheme (CIS) not only excludes gas generation and storage projects, but the last CIS auction will be held in 2027. It is not clear whether gas generation or storage will be part of any future scheme aimed at developing capacity during the transition period.

In the absence of any new announcements, the Panel's working assumption is that current ISP plans for GPG and gas storage developments during the transition period will rely only on market-based signals to investors from the wholesale electricity spot and FCAS markets – including the cap market – or equivalent payments for achieving the 'targets' set in the Draft ISP.

The Panel also notes AEMO's strong concerns with the delivery of gas to support GPG as emphasised, for instance, in AEMO's *2025 Transmission Plan for System Security*. AEMO states:[63]

> *"The GSOO forecasts gas adequacy to become an increasing concern and urgent investment is required to improve gas supplies from 2029"*[64]

Similarly, the *2025 NSW Gas Infrastructure Review* states:[65]

> *"The current investment environment for all projects related to gas is challenging and highly uncertain. Many of the projects discussed in the NGIR and GSOO do not have firm timetables…"*

The *NSW Gas Infrastructure Review* (NSW Review) cited above provides a useful demonstration of the complexity of operating GPG in a manner that reliably supports the electricity market while meeting the demand for gas from other sectors.

In particular, the Review identifies constraints on the existing networks that supply gas to NSW, and the need for new or enhanced gas pipelines and storage facilities. This complexity adds further to the importance of regulators and jurisdictional planners focusing on the viability and cost of GPG to support the transition process. The NSW Review also identifies 'key uncertainties' that should be a focus of regulators and planners, including:[66]

- Unclear market signals including uncertainty around the timing of projects impacting both supply and demand for GPG.
- Financing of projects, given factors such as the opposition to gas developments and difficulty in obtaining loans when future revenue streams are uncertain.

[63] AEMO, *2025 Transition Plan for System Security*, December 2025. https://www.aemo.com.au/-/media/files/major-publications/tpss/2025-transition-plan-for-system-security.pdf?rev=0984b6183240456bbc85bfaaa12fec62&sc_lang=en

[64] AEMO, *2025 Transition Plan for System Security*, December 2025, p 76. Op cit.

[65] AEMO, *New South Wales Gas Infrastructure Review,* May 2025, p 76. https://www.aemo.com.au/-/media/files/gas/national_planning_and_forecasting/ngir/new-south-wales-gas-infrastructure-review-may-2025.pdf

[66] See AEMO, *NSW Gas Infrastructure Review*, May 2025, p 76.

- Inflation expectations, with concerns about the rising costs for construction, materials and equipment and delays in key equipment such as gas turbines and offshore drilling rigs.
- Regulatory approvals which are seen to be increasingly stringent for gas-related projects, extending the time to initiate the project and increasing risks of court challenges.

Recommendations

AEMO explicitly consider gas supply and storage requirements forecasts in the transition in the context of current and future technological developments in the capacity of grid-scale batteries to provide long-duration storage (12 hours+).

AEMO, together with the other energy regulators and governments, work more expeditiously to develop an appropriate incentive framework to encourage the development of the GPG market in the NEM.

The changing role of gas in the NEM

An important outcome of AEMO's analysis noted above is that the role of gas generation will change over the next decade or so, with an increasing emphasis on developing 'flexible' gas generation alongside expanded gas storage capacity.

That is, the future role of GPG will be focused on 'firming' electricity supply in the NEM, including supporting the provision of electricity supply during periods of VRE 'drought', and providing a range of system security services across the year. As such, it will involve the replacement or upgrade of existing mid-merit CCGT with OCGT, together with the addition of gas-storage capacity in strategic locations, mainly in NSW and Victoria.

AEMO states that GPG will adopt a more 'strategic back-up role' and that the current 4 GW of mid-merit gas generation and 8 GW of peaking generation will be progressively replaced by a 14 GW fleet of '*flexible capacity able to deliver both generation and system security services'*.[67]

As highlighted in the December 2025 final Nelson NEM Wholesale Market Settings Review (Nelson Review), while gas GPG may provide only a small fraction of overall electricity supply to the grid – operational demand – its specific role means GPG will continue to have an important influence over wholesale electricity prices.

This influence is both direct and indirect. The Nelson Review notes that: *"Gas prices therefore influence electricity prices particularly acutely outside solar hours and during VRE droughts"*. The report also noted stakeholders' comments that the price of gas generation is often used as a benchmark for market price bidding by batteries, hydro and pumped hydro.[68]

While OCGT is less efficient than CCGT, it has important characteristics including lower capital costs, it is faster to build and, above all, offers greater operational 'flexibility' as indicated above. The greater operational flexibility allows OCGT to provide several system support services, including acting as synchronous condensers – if appropriately configured – as well as supporting reliability in the NEM.

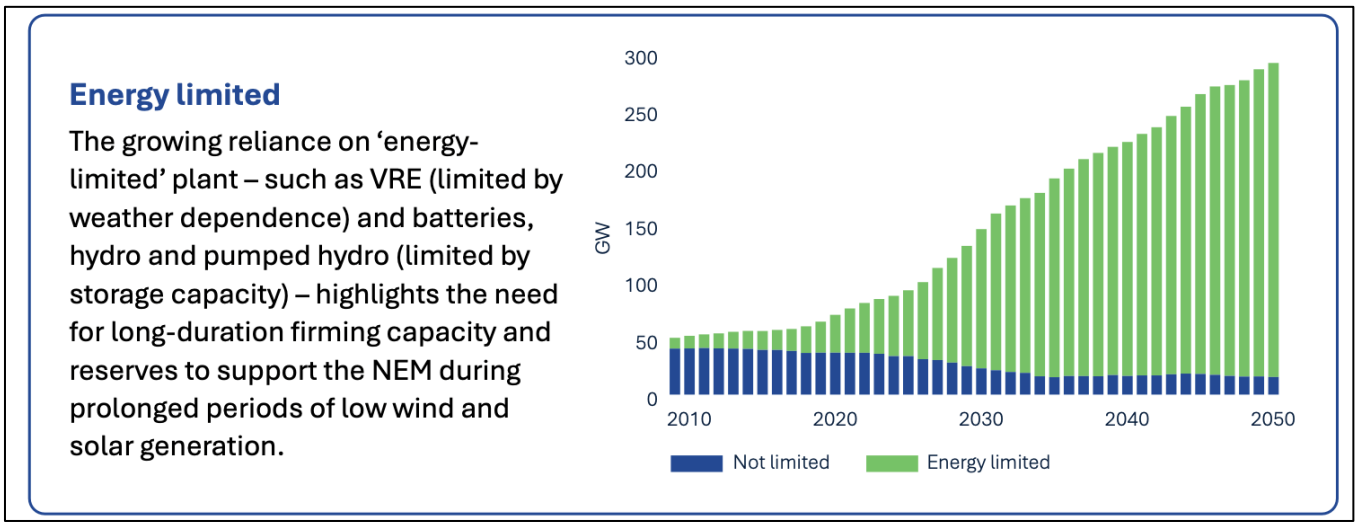
[67] AEMO, *Draft 2026 ISP*, p 13.

[68] See Nelson et al, *National electricity market wholesale market settings review, p 54*. https://www.energy.gov.au/sites/default/files/2025-12/national-electricity-market-wholesale-market-settings-review-final-report.pdf

In addition to providing system support services, AEMO's modelling suggests GPG will contribute to meeting NEM system demand largely in the winter and shoulder months when lower PV output and greater coincident periods of low wind are more likely.

The chart below from the Nelson Review illustrates the ongoing requirement for 'firming' capacity and reserves, noting that as coal exits the market, firming capacity will increasingly rely on gas generation.

Figure 16 Coal exiting the market means increased reliance on gas generation



Source: Nelson et al, National Electricity Market Wholesale Market Settings Review, Final Report, December 2026, p. 48.

However, the shaping services provided by batteries and pumped hydro will overlap, and potentially compete with, the firming services provided by gas generators, an outcome that may further impact on the financial viability of building new or expanded GPG-related infrastructure.

The degree to which this happens will depend on technology developments and the cost of long-duration batteries and hydro systems, and the cost of new gas and supporting infrastructure.

Recommendations

AEMO to further consider in their forecasts and optimisation modelling, the potential competition between the growing size and capacity of grid-sized batteries (BESS) and gas generation to ensure the efficient, lowest-cost) delivery of reliability and security of supply services.

The Final 2026 ISP consider the impact of recent developments in the regulation of the east coast gas market, including the proposed gas reservation policy on the cost and availability of gas, including whether the domestic reservation policy disconnects the wholesale price of domestic gas supply from the international LNG market prices.

The Final ISP include a sensitivity analysis on the impact of much-reduced industrial demand for gas due to closure of major industries such as fertilizer production, made more likely if the gap between Australian domestic gas prices and US natural gas prices expands.

AEMO's approach to forecasting GPG requirements

For the 2026 ISP, AEMO has developed a gas supply development model to assist it to respond to the 2024 federal government's (DCCEEW) review of the ISP. In expanding the role of and opportunities for GPG in the ISP, AEMO begins with forecasting annual and peak gas supply availability based on AEMO's 2025 GSOO forecasts. As discussed above, the 2025 GSOO forecasts predicts a risk of gas supply shortfalls in the southern NEM states from 2028 and 'structural' supply gaps emerging from 2029, requiring new gas supplies to be developed.

In addition to questions on the overall gas supply position, the changing profile of gas demand for GPG means that it is likely additional gas storage and/or pipeline expansion will be required, particularly to meet demand in the southern states during the winter and shoulder periods when electricity supply from VRE sources is lower. It is these periods of low VRE which underpin the important role of flexible gas GPG in the transition period.

This could include expansion of existing underground storage facilities or new storage, new pipelines and/or adding capacity to existing pipelines, for example, through additional, strategically located compressors. AEMO states that the types of infrastructure and supply options considered in the gas supply development model include transport options, storage options, production options and regassification options.[69]

Limits on gas supply for GPG were calculated for each of 12 distinct gas zones across the east coast gas market (ECGM). The capability of GPG operating in each zone was then assessed given gas supply, storage and pipeline capacity constraints in that zone and the residential, commercial and industrial gas demand forecast for that zone.[70] For the purposes of the ISP, the gas zones are then mapped to the ISP electricity sub-regions.

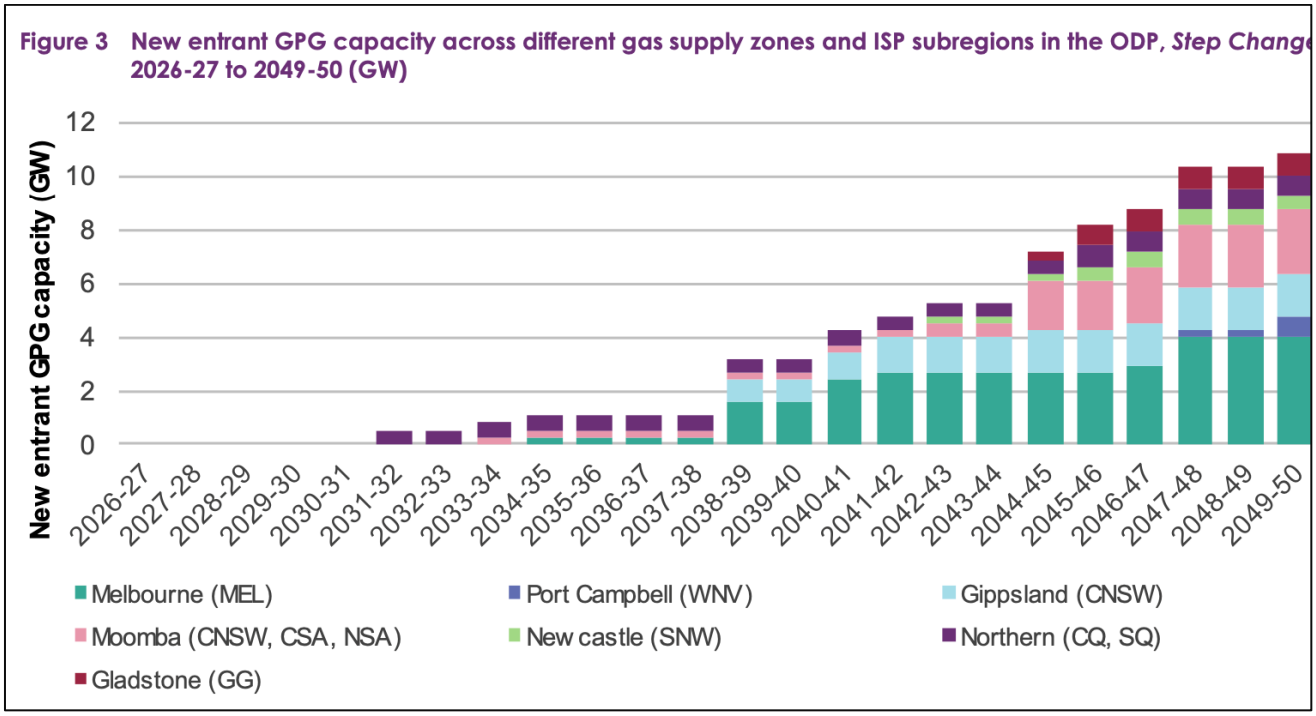
The figure below illustrates the new entrant GPG capacity across the different supply zones – mapped to the ISP electricity sub-regions – for the Step Change scenario. AEMO also identifies the retiring GPG capacity amounting to some 9 GW by

[69] See 2026 Draft ISP, Appendix 10, p 14 for details. AEMO notes that the gas supply development model considers 'the entirety of the NEM'. However, AEMO excludes the forecast of gas for LNG export demand from the Draft 2026 ISP analysis to focus on the gas supply available for domestic consumers (p 14).

[70] Ibid, p 14.

2050.[71] The need for new entrant GPG capacity expands rapidly from the mid 2030s as existing coal generation and older GPG plants retire while electricity demand and renewable energy generation increases.

Figure 17 Need for new entrant GPG capacity rapidly grows from mid 2030s in most gas supply zones



Source: AEMO, Draft 2026 ISP Appendix 10, p. 16.

AEMO set out three feasible gas supply development options, with each option being included in each of the three ISP scenarios. Each of the three development options has a particular focus, although many other components are common to all three. For example, each gas development option cites the same gas storage options but differs in the timing of their development.[72] This is illustrated in the extract below from Table 3 in AEMO's Draft Appendix 10. The relevant three options are set out in the third, fourth and fifth columns in the extract.

Table 6 Gas storage options considered in the Draft 2026 ISP (Step Change scenario)

Storage options	• Golden Beach Energy Storage Project (2027-28) • Heytesbury Underground Storage Project, Phase 2 (2041-42) • Generic underground storage – depleted field	• Golden Beach Energy Storage Project (2035-36) • Heytesbury Underground Storage Project, Phase 2 (2029-30) [B] • Generic underground storage – depleted field	• Golden Beach Energy Storage Project (2035-36) • Heytesbury Underground Storage Project, Phase 2 (2030-31) • Generic underground storage – depleted field	• Golden Beach Energy Storage Project (2033-34) • Heytesbury Underground Storage Project, Phase 2 (2033-34) • Generic underground storage – depleted field

Source: AEMO, Draft 2026 ISP, Appendix 10, Table 3, p. 18.

The focus of each of three development options are:

- Option 1: Further development of the gas supply system, including gas storage

[71] AEMO, *Draft 2026 ISP* Appendix 10, p 16.

[72] Extract from Table 3, AEMO, Draft 2026 ISP, Appendix 10, p 18. Option 1 storage options are in the second column, followed by Option 2 and then Option 3. The last column is not used as part of the ISP analysis and is titled 'under-investment'.

- Option 2: Pipeline expansion and upgrades to improve north-south gas flows
- Option 3: LNG regassification terminals and associated pipeline infrastructure.

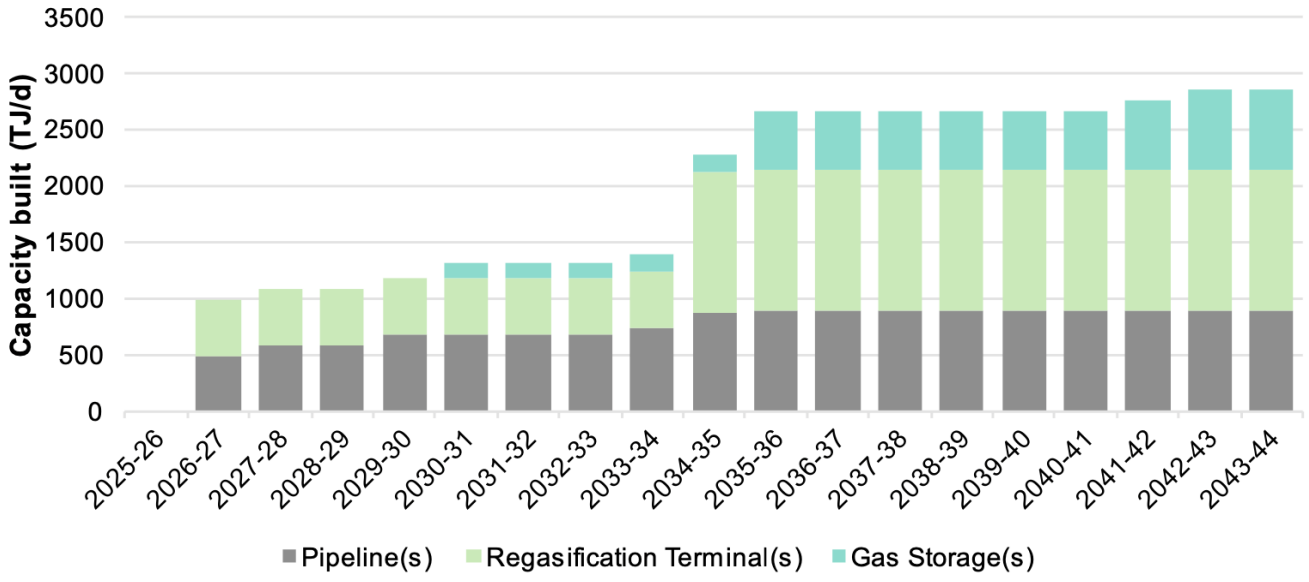
AEMO considers that all three, and other, combinations of production, storage, pipeline and regasification are feasible. However, AEMO has focused on Option 3, which features an earlier development of Golden Beach Energy storage in eastern Victoria when determining the gas limits for the ODP. AEMO also states, however, that any of the gas development options could be a 'reasonable and realistic outcome' for the gas industry.[73]

In addition to the storage requirements, Option 3 requires no major new gas pipelines to be built although it includes expansion of the two-way pipeline capacity on the Eastern Gas Pipeline (EGP) along with the completion of the Port Kembla Energy LNG Import Terminal (500 Tj/day) and its 12 km pipeline connection to the EGP by 2026-27 to enable a more-secure supply of gas to the Sydney region.

The figure below illustrates the total capacity build requirements under Option 3 in the Step Change scenario. It highlights that the main increase in capacity to support additional east coast gas market demand comes from the regasification. The increase in regasification capacity in 2034-35 reflects the expected completion of the regasification plant in Corio Bay, Victoria.

Figure 18 The importance of the regasification forecast to support additional gas supply

Figure 9 Capacity built to meet domestic demand for gas development projection Option 3, *Step Change*, 2025-26 to 2044-45 (TJ/d)



Note: The degree of utilisation of gas infrastructure will vary depending on market conditions and supply/demand requirements on a daily basis.

Source: AEMO, Draft 2026 ISP, Appendix 10, p 23.

The Panel notes, and agrees with, several qualifications AEMO has made about its current modelling approach. The Panel also agrees with AEMO highlighting that any gas development option in the Draft 2026 ISP – and perhaps, other options -

[73] See AEMO, *Draft 2026 ISP*, Appendix 10, p 22.

may well be feasible and warrant further review as well as sensitivity testing to better understand the effect of the proposed options on the ODP.

Other important limitations identified by AEMO in its current approach include:[74]

- The gas development projections presented represent potential developments rather than a preferred optimal development path for the gas sector.
- The gas development model does not assess the potential impact of each development projection on the domestic gas price, and this could impact on the preferred initial developments by the gas industry.
- AEMO has not considered cost recovery or other commercial aspects of individual gas developments in the evaluation criteria or assessment.

The Panel agrees that these are important limitations and would expect them to be a focus of the 2028 ISP's development.

The Panel also has reservations with respect to the projected growth in regasification as an important source of new gas supply. While it appears that the Port Kembla regasification terminal will commence operation in 2027,[75] there have been significant delays to the project's completion and there remains some uncertainty as to whether the expected supply of additional gas from this source (500 TJ/day) will be offered at a competitive sustainable price to consumers and GPG developers.

More significantly, while the proposed Viva Energy plans for a gas import terminal in Corio Bay near Geelong Victoria passed the environmental effects assessment in 2025, there remains significant community opposition to this development.[76]

Recommendations

AEMO undertakes further assessment of the impact of its proposed options on domestic gas pricing prior to the final 2026 ISP.

AEMO include a sensitivity analysis on the impact of delays in the two proposed regasification terminals and/or cancellation or significant delay of the Corio Bay regasification development.

AEMO work with other regulators, the industry and consumers to further explore the costs of the different options and the feasibility of attracting investment in the various components of each gas option.

AEMO engage with key consumer stakeholders regarding potential community opposition to the Corio Bay development.

Implications for GPG development in the NEM

There are many uncertainties around the future of gas supply and demand during the transition period, and the Panel appreciates AEMO's attempt to address the government requirements in its 2024 review of the ISP. The review directed

[74] See AEMO, *Draft 2026 ISP*, Appendix 10, p 23.

[75] For example, see: https://www.abc.net.au/news/2025-05-26/squadron-energy-delays-start-of-port-kembla-lng-terminal/105332468. It is understood that the terminal construction is complete but Squadron Energy does not expect to supply gas from it until 2027.

[76] See for example, https://www.geelongsustainability.org.au/project/gas-import-terminal/

AEMO to expand on the feasibility of gas supply to support AEMO's forecasts of GPG demand in the ISP and GSOO processes.

Traditional gas supply sources in the NEM region, particularly in the South-East regions, are declining with minimal plans to support new sources of gas to supply these markets. As a result, the east coast is increasingly reliant on gas delivered from Queensland gas fields that were primarily built to meet the export market. The price of gas to domestic users, therefore, is increasingly linked to international events and LNG export contract prices.

The recently announced gas reservation policy, while still in development, is due to come into effect in 2027 and may help stabilise the supply and price of gas to the domestic market, particularly if supported by a suite of other regulatory reforms. Nevertheless, the Panel remains somewhat sceptical of AEMO's apparent reliance on regasification as a source of additional gas from 2026-27, particularly given the extensive delays observed in the Port Kembla project and the community opposition to the Corio Bay regasification project.

As indicated above, the Panel believes AEMO should conduct a sensitivity test on this assumption, although noting that the 2026-27 date for the Corio Bay development is only specified in Option 3 of the gas development plans.

The Panel would like to see the final 2026 ISP further discuss these gas supply challenges and consider the impact of the recent and proposed gas industry reforms on prices to domestic consumers. Understanding the costs of gas supply and prices to consumers is essential in understanding the willingness of the private sector to invest in additional new gas supply and infrastructure.

The Panel has also indicated above its concerns with the overall gas demand forecasts that underpin the assumptions on gas availability and prices for GPG. The forecast growth in overall gas demand is very dependent on industrial use, particularly for energy-intensive industries such as fertiliser production and steel production. There is a constant threat that these industries will close particularly in the face of relatively high gas prices. The Panel suggests that AEMO conduct a sensitivity analysis of the impact of reduced industrial demand, noting that while notionally this will 'free up' gas for GPG use, it may also impact on the willingness of investors to invest in long-term gas supply.

The impact of additional gas supply on environmental/carbon abatement targets must also be considered in the ISP. The Panel notes, for example, that the counterfactual DP – used in the ISP to assess net benefits of other DPs and identify the ODP – requires gas supply to be backed up by carbon capture and storage. More generally, the continued reliance on gas supply to 2050, means the industry will have to look at purchases of local and international carbon off sets, the price of which in future decades is uncertain but likely to rise.

Beyond the issues of forecasting supply and demand, and costs and prices highlighted above – there are significant challenges to the future development of GPG, some of which are listed below:

- The growing competition from batteries. The revenue currently flowing to GPG operators/owners has significantly decreased as batteries take an increasing role in addressing intra-day electricity supply shortfalls and disruptions to supply. In comparing Quarter 4 in 2024 with Quarter 4 in 2025, AEMO highlights that battery discharge set the marginal price in the wholesale market in 25% of pricing intervals, displacing gas and hydro by 11 percentage points and 13 percentage points respectively.[77]

[77] AEMO, *Quarterly Energy Dynamics, Q4* 2025, p 19.

- The uncertainty in revenue overall, given the changing market environment. For example, the growth in the small and large-scale battery market and the changing profile of GPG with highly intermittent demand for GPG within the year and between years will impact on revenue certainty for gas producers.
- The consequential difficulty and potential cost of raising finance for long-term GPG projects and other gas-related infrastructure.
- The international competition for, and high price of, key items for the operation of GPG, such as gas turbines, with limited manufacturers leading to delays in delivery of five years or more.
- Older-style GPG plants lack the technology to provide additional system services thereby reducing the opportunity for additional system services and revenue streams. Newer GPG plants with this capability are reported to be more expensive.
- Community resistance to new GPG-related infrastructure including regasification sites, and coal-seam gas expansion.
- Regulatory and environmental approval delays, including the extent to which carbon emissions from gas production and usage can be mitigated voluntarily or be regulated.

There is already discussion on whether the current wholesale market settings are fit for purpose with respect to the investment and revenue challenges facing GPG and related-gas infrastructure. For example, AEMO states in the 2026 Draft ISP that this *"may require a new approach to traditional infrastructure underwriting to proceed:* [78]

The 2025 *Gas Market Review* report sets out several reforms including the introduction of a domestic gas reservation scheme, improving the operation of the wholesale gas market and streamlining the regulatory environment.[79]

Beyond that, the Nelson Wholesale Market Review has proposed a more radical reform to specifically address investor concerns. The Nelson Review identified a relatively large 'tenor gap' for peaking gas generation. That is, the review points to a *"disconnect between the long-lived nature of generation and storage assets, and the short term signals the market currently provides".*[80]

The Review suggests allowing peaking gas generators to participate in the proposed Electricity Services Entry Mechanism (ESEM) via a reverse-auction for long-term contracts for the provision of firming services and for the provision of essential system services (ESS). The Nelson Review's proposal was that the ESEM be "jurisdictional and technology neutral" with decisions made based on the provision of the necessary system services and environmental impacts.

[78] See, AEMO, *Draft 2026 ISP, Appendix 10*, p 32. The section highlights the risks of misalignment with h

[79] DCCEEW, Gas Market Review Report, December 2025, pp 89-90. https://www.linkedin.com/posts/bruce-mountain-48516912_a-few-colleagues-have-asked-me-about-the-activity-7417922213137440768-nW5R

[80] Nelson Review, op cit., *Electricity Wholesale Market Settings Review*, December 2025, p 63.

Recommendation

The Panel recommends AEMO consider and report on the impact of each of these policies on gas supply, gas costs and investor behaviour and whether the Nelson Review proposal regarding gas supply to the market addresses the issues raised herein.

Transmission to Connect the National Energy Market

The 2026 ISP should be the last transmission-centric one

- The 2026 Draft ISP says 6,000 km of new transmission is needed by 2050., including the ISP and jurisdictional transmission plans.
- The Panel agrees that backbone transmission infrastructure is essential for connecting Renewable Energy Zones to demand centres
- The Panel supports AEMO seeking stakeholder views on previously actionable projects.

AEMO notes that "...the 2026 ISP's Accelerated Transition scenario is less ambitious than its predecessor, reducing the potential need for transmission"[81], and the transmission cost database reflects material increases in realised transmission cost, and other factors are increasing the realised cost of transmission expansion relative to earlier forecasts. These reality checks on factors inflating the prospects of transmission in the previous ISP is welcome. History suggests the changing cost factors are more likely to reflect trends than once-off corrections, and a complete recalibration of predicted transmission costs estimates that brings them closer to revealed costs is yet to be seen.

The systemic underestimation of transmission costs has been a continued concern of all AEMO's ISP Consumer Panels:

- The 2022 Panel warned that the ISP was likely underestimating actual transmission costs, including costs associated with securing social licence, easements, environmental approvals and construction risks. The Panel highlighted the risk that these underestimates would leave consumers exposed to higher future network charges than indicated by the Draft 2022 ISP and called for more conservative assumptions and better use of emerging cost data in the Transmission Cost Database.
- The 2024 Panel acknowledged improvements in the Transmission Cost Database but raised concerns that routine under-estimating of transmission costs remained apparent and that the results were still well below the accuracy needed to give consumers confidence in the modelling. It recommended further enhancements to transmission cost estimation – including alignment with GenCost and international cost trends – and urged AEMO to explicitly recognise and test higher-cost sensitivities given recent project cost escalations and ongoing uncertainty.
- The risks raised by these panels have materialised, with committed projects like Project Energy Connect and HumeLink having experienced billions of dollars in cost blowouts and underestimations leading the 2026 Panel to observe in its ISP submission and in its report on the 2025 IASR:

  "The ISP's emphasis on network capacity development made sense at a time when transmission projects were expected to be no-regrets, low-hanging fruit. They were assumed to be relatively low cost, quick to build and

[81] AEMO, Draft 2026 ISP, p 14.

uncontroversial, while alternatives such as wide scale deployment of battery energy storage systems (BESS) were more costly and less market ready.

While those hopes and assumptions were once plausible, it is now clear that they are not.

The costs of transmission have spiralled beyond even the least optimistic predictions – both through external factors and the systematic underestimation of project cost and complexity – and may prove higher still as more recent developments flow through to updated costs.

Similar factors have revealed much longer lead times for project delivery than planned, delaying the realisation of benefits and slowing the transition. Between delays and the advent of 'early works' revenue, costs for some major transmission projects are landing on consumer bills five or more years before benefits from operation of the assets start to trickle through.

Social licence-related complications have added unforeseen costs and delays and may run the risk of undermining the efficacy of the transition as some poor project planning and implementation has exacerbated concerns of those impacted.

In short: network solutions have proven expensive and slow, and 'low-hanging fruit' has been picked."

Recommendation for 2028

AEMO and the other market bodies consider that:

- **ISPs up to and including the 2026 ISP will have provided sufficient guidance for the development of the future transmission system**
- **From 2028, an ISP limited to actioning network projects is no longer fit for purpose to meet the needs of consumers and the climate as enshrined in the NEO and NGO**
- **It is essential that future system planning guides a co-optimised plan for storage, generation, the demand side and networks, so the 2028 ISP needs to be refocused as a genuine whole-of-system plan.**

Consumer and distribution actions to reduce grid-scale investments

CER is expected to deliver more than a third of the NEM's installed generation capacity by 2050, which means that households, communities and businesses are investing and contributing significantly to Australia's energy transition. This has benefits both for CER owners and for the system as a whole where the ISP shows that CER and its coordination can save future energy consumers $7.2 billion. We believe it is important to value the investments made by households, communities and businesses, and to support and enable them to contribute in an equitable manner. The Panel welcomes this ISP's new level of data and focus on distribution networks and actions to better enable CER, where those actions have whole-of-system benefits and reduce future costs for all consumers.

Mid-scale, non-scheduled generation

Mid-scale, non-scheduled generation is largely invisible in the ISP as it currently stands. It is unclear what is included in rooftop solar, and what is bundled in with grid-scale generation. The Panel can see a significant and growing role for mid-scale 'non-scheduled generation' (100kW-30MW) and mid-scale storage, such as community and neighbourhood batteries – particularly with the inclusion of distribution-level investment and the role this plays in the ODP.

Coordination, responsive CER

Coordination of CER, sometimes referred to as 'orchestration', is a key factor of the future energy system whereby consumer assets can be leveraged to contribute to system needs at high need times.

Coordination of CER and virtual power plants (VPPs) would benefit from AEMO including more explanation on how this applies in the ISP. A starting point is the useful definition offered in Appendix 9 of the Draft 2026 ISP (The DSF statement):[82]

> *"CER coordination is a voluntary opportunity for consumers to influence the needs of the power system by maximising the benefit of their investments for all consumers. CER coordination is the dynamic management of VPP and V2G services to maximise their benefit to the power system, for example, by coordinating when and how many of these assets discharge into, or charge from, the grid. CER coordination reduces the need for utility-scale generation and storage investments through more efficient utilisation and management of existing CER."*

The Panel understands the principal value of CER coordination or orchestration – for example, via VPPs – to be the ability to harness CER to respond to system needs, such as drawing on CER batteries in times of peak demand. AEMO is encouraged to keep an open mind about the ways CER responsiveness could be facilitated and also be mindful of the range of potential actors who could play a role in delivering it. As such, it will be important for AEMO to continue to consult widely to understand trends in this space, well beyond DNSPs and energy retailers.

Recommendation

That AEMO keeps a wide view of ways that CER responsiveness could be delivered, and by whom.

Distribution upgrades and curtailment

AEMO's modelling found that modest investments in voltage management in distribution networks would enable export of an additional 4 GW from existing installed CER – through reduction of curtailment – and provide the potential to accommodate 2GW of grid-scale generation and storage in the distribution network[83].

The Panel supports investing in the distribution network to reduce curtailment where there are clear benefits for the system and all consumers by keeping curtailment levels within the range of what is efficient but questions if the DSF recommendations are consistent with this.

[82] AEMO, Draft 2026 ISP, Appendix 9, p. 34.

[83] See AEMO, Draft 2026 ISP, p 14.

Recommendation

Investment in distribution upgrades is supported which will, in turn, leverage an additional 2 GW of private investment. The Panel recommends it is made actionable to support both consumer value from their existing assets as well as unlocking whole of system benefits.

The potential for 2 GW additional grid-scale investment be broken down into subregions to help direct investment consideration.

Regarding the potential 4 GW that could be exported from existing generation and storage from changing voltage settings in the distribution network, the Panel recommends consideration of upstream and market factors in determining when this is the best approach.

Importantly, some amount of curtailment is necessary and efficient at all levels of the energy system as well as a market level. This amount of curtailment increases exponentially as Australia approaches a 100% renewable energy system, in the longer term, characterised by frequent periods of coincident renewable energy beyond what can be used or stored at the time.

The Draft 2026 ISP currently models that: "Approximately 10% of grid-scale renewable generation is forecast to be spilled or curtailed by 2050. At the same time, about 5% of CER are forecast to be curtailed, despite investment in the distribution network to harness latent rooftop solar capacity"[84] The Panel asks if and how the upstream and market factors in have been considered in determining curtailment levels for the Draft 2026 ISP and notes that networks already have incentives to improve voltage management and are undertaking measures to do so under the current regulatory regime.

The Panel encouraged AEMO to include behind the meter, community-scale and distribution-connected storage for reducing curtailment in their commentary. Unlike voltage control, batteries temporally shift surplus clean energy to be used later, reducing curtailment with both supply chain cost reductions and emissions benefits while providing other material benefits in most applications.

Energy efficiency

The Panel views that energy efficiency needs more emphasis in the ISP, given its important role in reducing future system costs by $12 billion. The Panel believes it should be referenced more throughout the section, for example, in the explainer box on pages 85 and 86 of the Draft 2026 ISP.

A current weakness observed in the Draft ISP is that lower energy efficiency was tested as a sensitivity but not for higher levels of energy efficiency. The ODP assumes current or similar energy efficiency policies are in place until 2050, whereas the sensitivity tested for only market-led energy efficiency after current policies end, which resulted in a $12 billion increase in total system costs. AEMO has modelled that this lower energy efficiency would require additional system infrastructure of "approximately 12 GW of utility solar, 6 GW of wind, 3 GW of utility-scale storage, and additional flexible gas generation is required by 2049-50 to service the higher consumer load".[85]

[84] AEMO, Draft 2026 ISP, p 63.

[85] See: AEMO, Draft 2026 ISP, Appendix 9, p 40.

Compared with European counterparts, Australia's performance is weak regarding energy efficiency, particularly of housing stock. This leaves significant scope to increase energy efficiency ambitions with the right policies and incentives. As climate change increases the severity and frequency of extreme weather events, there will be more need for better performance of houses in heating and cooling efficiency. Given the value of energy efficiency to the ODP and to consumers, the Panel encourages AEMO to test for increased energy efficiency in the future through more ambitious policies and behaviour change, which is currently not considered.

Note that additional comments about energy efficiency were made at the Demand Side Factors workshop as discussed in the companion DSF report with the workshop outcomes summary provided in Appendix 1 of that report.

Recommendation

AEMO to undertake a sensitivity test for higher energy efficiency of the final 2026 ISP. (Also refer our response to Question 5 from the draft 2026 ISP consultation questions.)

Other comments from the Panel:

- The Draft 2026 ISP affirms that the projected "growth in CER would continue to materially reduce the consumption of electricity generated by grid-scale resources, even as the consumer need for electricity rises".[86] It would be useful to remind readers of the ISP of the national grid's role and importance to all consumers in the NEM for delivering – for reliability and security of their electricity supply at the lowest long-term cost for all – including those with, and without, CER. There is a tendency among some consumers to believe that going 'off grid' would be better for everyone; it would be good to debunk this.
- Regarding the Draft 2026 ISP's reference to 'Innovations to distribution networks',[87] it would be good to acknowledge the innovation being done by community energy enterprises in this space. There is multiple 1-5 MW solar farms in operation and being developed across the NEM by community-owned enterprises, for example, Haystacks Solar Garden and Goulbourn Community Solar Farm, and other local actors, as well as community-owned batteries such as those developed by Yarra Energy Foundation and Hepburn Energy.

The Panel is concerned with AEMO's use of the term 'community batteries' to apply to batteries owned by or promoted by the distribution networks in Section 9.2 of the Draft 2026 ISP.[88]: Unless owned by and/or directly benefiting a specific community of consumers that is involved with the battery, the Panel suggests that a more accurate term for this type of mid-scale batteries is 'network batteries'. There are genuine community batteries that AEMO could add to the existing examples in Section 9.2, if desired, such as the Fitzroy North Community Battery.

Recommendation

For 'language,' use 'network batteries' instead of 'community batteries', unless the battery is owned by and/ or directly benefitting a specific community of involved consumers.

[86] AEMO, Draft 2026 ISP, p 85.

[87] See: AEMO, Draft 2026 ISP, p. 86.

[88] For example, see in AEMO, Draft 2026 ISP, Section 9.2, p 86.

In its discussion in Section 9.3 of the Draft ISP on the benefits of CER coordination, AEMO notes that coordination is essential to fully realise CER benefits. The Panel would add some additional supporting factors to enable and unlock CER and willingness for CER owners to participate in programs that allow their assets to be coordinated/ responsive to grid needs, including:

- Programs to support renters to invest and co-own CER through community-owned solar gardens and community-owned community-scale batteries, as well as incentives for landlords to install solar and share the financial benefits with tenants.
- Consumers need support and education to understand the opportunities and benefits of coordination and energy efficiency, for example, resources, subsidies, locally accessible information and advice. This can be highly confusing for most people and AEMO cannot expect most consumers to have the time to research and understand options, or to feel comfortable accepting change without access to quality, independent advice and support, especially with something as new and complicated as a VPP.
- New actors need to be encouraged to supply services to consumers, outside of traditional energy retailing models, for example, UK energy service companies, Australia Hepburn Energy's and Renewable Newstead's offerings with Flow Power.
- There is a role for community-based energy enterprises to promote the actions listed above in ways that are more in touch with, responsive to, trusted by and benefitting consumers. See, for example, Indigo Power, and Hepburn Energy.

Throughout the Draft 2026 ISP, AEMO indicates its commitment to work with stakeholders, including consumers, on reforms that drive benefits from CER The Panel encourages AEMO to continue to build on this approach and extend this collaborative and proactive approach, as they have a unique vantage point to identify actions that need addressing to achieve the ODP and drive benefits for the grid and all consumers.

Part C: Delivering the Optimal Development Path

The ODP's contribution to the National Electricity Objective (NEO)

The ODP contributes to the NEO, giving a degree of certainty for business investment in a setting of prevailing uncertainty. The ODP supports regional economic development and gives more confidence in CER investment by households and small businesses.

The ODP is crucial in flagging current and future challenges arising from the transition process and what still needs to be done. That is, the ISP flags areas where additional attention and coordination are required to shore up progress on delivering the ODP. In particular, the Panel notes the need to increase attention, resources and coordination regarding actions to improve social licence and communications for the energy transition.

The Draft 2026 ISP modelling suggests that:[89]

> *"The actionable and future transmission projects would still benefit consumers if delayed, however, those benefits would reduce and 2030 policy targets would also be delayed as coal would remain in the system longer."*

The Panel accepts that this is AEMO's conclusion for the short to medium terms but, as noted elsewhere, the cost relativities are changing and some distributed alternatives including some network expansion or upgrading are becoming cheaper.

Recommendation

The Panel suggests that a 'use by' date is applied to projections about net consumer benefit for any modelled project so that, where there are delays in a project, that benefit to consumers can be re-assessed because as real costs become better known and timing and other unforeseen constraints emerge, modelled benefits are quickly eroded or disproven.

The constrained delivery sensitivity for 'grid-scale solar', 'grid-scale wind' and 'transmission new build' are well presented with the conclusion that:[90]

> *"The Constrained Delivery sensitivity underscores the need to commence and progress actionable projects in the ODP now."*

Actionable projects currently are transmission projects. Perhaps it is time for some REZ projects and grid-scale storge projects – batteries – distribution network upgrades and renewable generation to also be afforded some form of equivalent 'actionable' status to help increase the rate at which these projects are also implemented? Importantly, also, where the ODP identifies that consumer participation is key, this should help to inform the support needed to address barriers and create enablers that assist customers to do so.

[89] AEMO, Draft 2026 ISP, p 96.

[90] AEMO, Draft 2026 ISP, p. 98.

Recommendations

That priority grid-scale storage, distribution upgrades and renewable generation projects are afforded 'actionable' status.

Increase attention, resourcing and pace to achieve the CER Roadmap recommendations and actions and identify areas that require additional attention within the CER Roadmap, for example, community energy, mid-scale generation and storage in the distribution network. This improves visibility to AEMO of non-scheduled generation – see also Nelson Review reforms re "Visibility of Consumer energy resources". AEMO is encouraged to support this process as an ISP development opportunity, resourced in line with its level of importance in delivering the ODP.

Coordinated action to deliver the ODP

This is a crucial message from the Draft 2026 ISP. Areas for coordinated action include:

- Orchestration, VPPs and related third-party lead coordination approaches.
- Energy efficiency.
- System security.
- Communications. How about all market bodies and Ministers 'sing from the same song sheet' about the necessity for the transition and contribution of renewables?
- Policy. There is still room for better coordination of policy between Commonwealth and the jurisdictions.
- Research and development. There is a considerable amount of research and development (R&D) underway regarding storage technologies as well as other aspects of the energy market. There is need for a mechanism to better map the range of emerging results and to trial them. This may include linking these new programs into existing programs such as the Demand Management Innovation Allowance Mechanism (DMIAM) which could be useful.[91]
- Encouraging jurisdictions to address unintended inequities that may undermine social licence for renewable energy zone build out.
  - For example, while the NSW Roadmap has been an important policy for the energy transition, NSW households carry a disproportionately high portion of the cost of REZ infrastructure and market derisking costs due to the compounding effect of:
    - Connecting generators and batteries being exempt from REZ transmission costs
    - transmission connected and other large users being exempt from transmission and all other roadmap costs
    - a flawed cost apportionment approach at a distribution level resulting in a weighting of costs towards households and no ability or requirement for the regulator to correct this imbalance

    AEMO could help to address these issues by encouraging jurisdictions to adopt consistent, sustainable and equitable cost-recovery approaches for jurisdictional schemes.

[91] See for example, https://www.aer.gov.au/search?search=Demand+Management+Innovation+Allowance+Mechanism

- The Panel supports AEMO's 'call for action' in the Draft ISP[92], but we note, however, that a call for action while most important, should not be interpreted as a call for inattention to changing circumstances such as substantial changes in costs and benefits related to actionable – and even committed – projects.
- The Draft ISP notes (p20) AEMO's view that there is significant progress being made in preparing for coal's retirement.[93] The Panel also strongly supports AEMO's highlighting the collaboration and concerted action required to overcome the 'acknowledged challenges, so that the proposed ODP and energy transition are delivered'.[94]

Community Energy – mid-scale

Mid-scale generation (100 kW-30 MW) and storage (50 kW-5 MW) – referred to as 'unscheduled generation' in the ISP – is currently an under-represented scale of deployment in the NEM. This is the scale in which many consumers, through community energy enterprises, seek to contribute to the energy transition. It is also the scale that makes sense for local governments, businesses and farms to deploy. This scale of deployment, which sits between rooftop and commercial generation and storage, and is connected to the distribution network, has long been a gap in federal and state energy policies, programs, regulation and incentives.

Thus, at present, the market, networks, finance, etcetera, are all not fit for purpose for mid-scale projects and, as such, they face a range of additional challenges that slow and stymie their uptake. As such, the Panel views current rates of mid-scale generation and storage as not representative of the potential for this scale of deployment and are, therefore, not a sound basis for future modelling.

Many European countries, such as Spain, France, Germany, Denmark and Scotland, have well-developed community energy sectors where actors play a unique and highly valuable role in the energy transition. These projects are different from rooftop and commercial ones and so require specific, tailored means of supporting their deployment.

Mid-scale generation is an area of great potential and interest for some consumers and is an area the Panel believes warrants further attention for its potential range of benefits. Often these projects are motivated to deliver system benefits, as well as consumer benefits:

- **Faster.** If the right conditions were in place, mid-scale projects could be faster to deploy than large-scale wind, solar and transmission. This could help further reduce the need for transmission which has been very prone to cost and time blowouts.
- **Trust.** Where driven by and benefiting local people, mid-scale projects could help to build knowledge, awareness and trust in renewables and the energy transition.
- **Education and support.** Community energy projects involve consumers and enhance their understanding of energy and provide information and support around energy issues. Such initiatives could play a role in establishing or recruiting people to VPPs.

[92] See for instance, AEMO, Draft 2026 ISP, p. 6.

[93] AEMO, Draft 2026 ISP, p. 10.

[94] Ibid, pp 21-22.

- **Social licence.** By virtue of involving people and giving them both a say and a direct benefit, mid-scale projects generally have very strong social licence. Research has shown this social licence also extends to renewable energy projects and the energy transition more generally.
- **New private investment.** Consumers who are active through community energy enterprises are keen to invest their time and money to help drive a fast – and fair – energy transition. This is currently a new and currently untapped source of funding.
- **Equity.** Because these projects do not rely on consumers having their own roof, they help to address current equity issues present in CER by opening participation up to renters and apartment dwellers.
- **Resilience and reliability.** Some consumers are motivated to participate in community energy projects to enhance the resilience and reliability of electricity supply for weak parts of the grid, especially during extreme weather events.
- **System benefits.** Community energy projects often seek to locate generation and/or storage where it might be able to provide system benefits, for example, by locating projects at strategic parts of the distribution network. Also, community batteries can provide responsive, dispatchable power without the same barriers as VPPs, although the co-benefits to the consumer-owners need to be balanced.

Because of the range of co-benefits for consumers and the system, the Panel strongly believes it is appropriate for the government to be encouraging community energy and mid-scale generation, and that AEMO has a role to play in this.

The community energy sector has considerable potential. To support the growth of this sector, what is needed is a consistent funding and support program, along with efforts to address market and regulatory barriers. This support could include:

- A community energy generation and storage target, backed up with a tailored carve-out of the Capacity Investment Scheme.
- Access to grants for cover early work, including engagement, feasibility studies and detailed design for generation and storage projects.
- Low-interest loan funds for capital costs where there is a gap in community investment.
- Access to specialised advice and expertise, for example, legal, engineering, financial, and engagement, with templates for standardised processes and models.
- Pathways to work with regulators to address market and network barriers.
- A national network/advocacy organisation to support policy advice, advocacy and peer-to-peer learning.

The ISP identifies that the distribution network – across the NEM – could accommodate 2 GW of grid-scale generation and storage because of the augmentations recommended in the DSF statement. The Panel advocates that this should become a national Community Energy Target and be rolled out with a suitable suite of incentives and assistance[95] to enable consumers to more actively participate in the energy transition. Given the level of support for households and commercial-scale renewable energy and storage, it is only fair that the mid-scale also be enabled to contribute.

[95] An example of what this support could look like has been developed by Community Power Agency and others in the Local Energy Hubs proposal: https://www.localenergyhubs.org.au/ This proposal was modelled off the highly successful Community and renewable Energy Scheme in Scotland: https://localenergy.scot/

It is worth noting, however, that Victoria has the most active and developed community energy sector because of intermittent Government support programs, however, the DSF identified this to be the most-constrained part of the NEM, even with the suggested distribution network augmentations. This would need to be addressed somehow, possibly through modelling the costs and benefits of additional distribution upgrades to allow for more mid-scale generation and storage.

The Panel strongly encourages AEMO to act on the following commitment in relation to community energy:[96]

> *"AEMO recognises that access to CER can present equity challenges across Australia, particularly for groups such as renters, apartment dwellers, those in embedded networks and lower-income households currently unable to access the full benefits. Governments, industry, market bodies like AEMO, and consumer advocates, must continue to actively work to ensure benefits are shared equitably, while creating an enabling environment to support CER growth. This includes through upgrading networks, implementing new coordination models, progressing market reforms, and supporting consumer-led initiatives such as community energy projects. AEMO, network service providers (NSPs) and market participants must work together to ensure the challenges and opportunities presented by integrating CER into a renewables-ready power system, at the world-leading rate experienced in Australia, are addressed."*

In the Panel's view, this means that if AEMO becomes aware of an issue, inadequacy, block, etcetera, that is:

a) within its remit – then it works with stakeholders to address it

b) outside its remit – then it works to communicate the issue to, work with and learn with the parties with agency over the issue.

With this in mind, the Panel makes the following recommendations.

Recommendations

That AEMO increases the visibility of mid-scale generation and storage within the ISP and refers to it as such, because 'unscheduled generation' does not mean anything to anyone outside of the market operators!

That AEMO recognises mid-scale generation and storage as an area of future potential and is sensitive to this within the modelling.

That AEMO works with consumers, community energy organisations, DNSPs, state and federal governments – including with the federal government's DCCEEW led CER Roadmap program – to identify current barriers facing community energy and mid-scale projects across policy, regulation, market, financial and support area and how they can be overcome. That AEMO action any relevant recommendations within their remit coming out of this process.

That the 2 GW estimated capacity in the distribution network to accommodate grid-scale generation and storage becomes a National Community Energy Target, backed up with a suitable suite of incentives and assistance to enable consumers to more actively participate in the energy transition.

[96] AEMO, Draft 2026 ISP, Appendix 8 pp 13-14.

Language feedback

Community batteries or neighbourhood batteries?

The Panel considers community batteries to be those where a substantial majority of the operating entity is owned by members of the batteries' geographic community and their supporters. Generally, they are not-for-profit organisations. The benefits, including profits/surplus, are returned to that same geographic community. Neighbourhood batteries is the term used where ownership is primarily with a for-profit business, for example, a retailer, and a substantial component of benefits end up with entities outside the community in question, for example, retailer shareholders. There is a place for both but where neighbourhood batteries are described as community batteries, trust from community members is likely to be undermined.

Describing storage

At several points, the Draft ISP describes storage in rated power 'GW' determined by the aggregate of nameplate inverter ratings in BESS's and generators in pumped hydro systems, for example, page 5 says "40GW of grid-scale storage and hydro". As the energy system is increasingly dependent on storage, and the more storage is built, the quantum of energy storable becomes as pertinent as – and potentially more of a constraint than – the rated power. The Panel proposes describing storage in terms of power **and** energy capacity GW **and** GWh (or MW **and** MWh).

Appendix 1. 2026 Consumer Panel advice

The following is a list of the written comments, articles and reports that the 2026 ISP Consumer Panel has contributed to prior to lodging this Report. It is presented as an indicator of the ongoing discussions between the Panel and AEMO and, in some situations, other relevant parties.

1. 10/6/2024. Considerations Paper 1 – Scenarios
2. 19/6/2024. Newsletter article June 2024
3. 8/7/2024. Response to draft Stakeholder Engagement Plan
4. 27/7/2024. Considerations paper 2 – Consumer Risk Preferences
5. 13/8/2024, Submission re IASR Scenarios Consultation Paper
6. 25/8/2024. Submission to Electricity Demand Forecasting Methodology Consultation Paper
7. 29/8/2024. Newsletter article (draft)
8. 27/9/2024. Additional Comments/Recommendations in response to AEMO's Electricity Demand Forecasting Methodology Consultation Paper.
9. 2/10/2024. 2026 ISP Stakeholder Engagement Plan submission.
10. 11/10/2024. DER/ CER stakeholder database (excel)
11. 21/10/2024. Senate Select Committee on Energy Planning and regulation in Australia
12. 19/11/2024. Discount Rates / WACC response to Oxford Economic progress report.
13. 25/11/2024. Methodology Issues paper (draft) and 3/12/2024 updated
14. 29/11/2024. Newsletter article.
15. 4/12/2024. Quick responses to Draft Scenario summaries for IASR
16. 16/2/2025. Draft IASR Submission – Stage 1
17. 25/2/2025. Draft ISP Toolkit response
18. 14/3/2025. Newsletter article
19. 31/3/2025. IASR Stage 2 submission
20. 15/4/2025. Response to Draft Methodology
21. 21/5/2025. ISP Newsletter article.
22. 23/6/2025. GIOR submission
23. 23/6/2025. ENOR submission
24. Early August Email with suggestions re sensitivities.
25. 28/8/2025. Newsletter article
26. 1/10/2025. Response to Final IASR
27. 24/10/2025. Response to Dan Collins 3 questions re CER modelling
28. 6/11/2025. Response to AEMC re CIS rule change
29. 12/11/2025. Eli's questions re how to present aggregate ISP cost data
30. 13/11/2025. Submission to AEMC re Integrated Distribution System Planning rule change, from ECA
31. 20/11/2025. Submission to AEMO re DSF
32. 21/11/2025. Newsletter article
33. 24/11/2025. AEMO review of Social Licence appendix