

NEM Wholesale Market Settings Review Initial Consultation

The NEM wholesale market settings review (the **Review**), led by an expert panel, will provide recommendations to the Energy and Climate Change Ministerial Council on how best to shape the future of the NEM to ensure it promotes investment in firmed, renewable generation and storage capacity following the conclusion of Capacity Investment Scheme (CIS) tenders in 2027.

The Panel's approach to the Review

The Panel recognises the recommendations put forward may have far-reaching and long-term implications for many stakeholders. The Panel also acknowledges the significant policy reforms and processes that have occurred or are underway in relation to energy market settings. The Panel will build upon the work already done, including by the Australian Energy Market Commission (AEMC), the Australian Energy Regulator (AER), the Australian Energy Market Operator (AEMO), the Australian Consumer and Competition Commission (ACCC), the Finkel Review, the Energy Security Board (ESB) and governments.

With this in mind, the Panel intends to place a strong emphasis on engaging with stakeholders through an open and collaborative consultation process to develop a series of actionable recommendations. Through the stakeholder engagement process the Panel is seeking the insights of states and territories, market bodies, generators, retailers, investors and electricity consumers (industrial, large and small-scale) across the NEM and beyond.

The Review will consider perspectives from other markets overseas, academic and policy literature, micro-economic and social-policy principles and other industries with similar long-lived, capital-intensive investment features. The Review will also consider previous and current work of governments and the market bodies. The Review is expected to undertake modelling and other analysis to provide a basis for comparison between different policy options and we encourage stakeholders to share their insights and knowledge to inform this process.

We encourage stakeholders to engage collaboratively with us as their contributions will be key to forming the pathway to future market settings that deliver reliable, competitively priced and secure electricity services in the long-term interests of consumers while promoting investment in firmed, renewable generation and storage capacity in the NEM.

Background

The National Competition Policy of the 1990s, also known as the Hilmer Reforms, established a vibrant and competitive electricity market. This reform process resulted in the introduction of market competition for electricity generation and energy retailing. State-owned electricity commissions disaggregated their power generation, transmission grid, distribution network and retail supply functions. In some states, these newly created businesses were gradually privatised. Economic regulation of network businesses was implemented to prevent monopolistic behaviour and pricing. At its core, the process was focused on allowing private investors to manage the risk of investing in the power sector rather than state governments.

The reforms were found to have significantly lifted the economic productivity of the sector. Electricity is a vital input into the Australian economy, and the reforms were estimated by the Parer Review to have delivered GDP benefits of \$2 billion annually.

The reforms were centred around an ‘energy-only’ market where all energy, but not capacity, is traded through a central pool. This allowed for incredibly sharp pricing signals to clear surplus capacity and price scarcity when resources were in short supply. Importantly, markets developed to price current and future capacity requirements. Electricity derivatives such as caps and swaps allowed retailers to ‘forward purchase’ electricity from generators. Such arrangements were financial and not physical in nature but achieved a similar outcome.

However, these derivatives generally only trade for three years into the future. Investors in long-lived capital-intensive electricity generation have generally argued that bankable projects require much longer-term price signals.

To overcome this, in the early 2000s governments created a range of certificated schemes such as the NSW Greenhouse Gas Abatement Scheme and the Renewable Energy Target (RET). It was the interaction between these schemes, forward derivative markets and the ‘energy-only’ spot market that drove investment in energy and capacity to keep the system reliable.

More recently, and in response to the closures of a series of ageing power stations, governments are implementing a range of contractual schemes to provide these price signals, such as the Victorian Renewable Energy Target, the NSW Electricity Infrastructure Roadmap, the CIS and the SA Firm Energy Reliability Mechanism, or are developing and investing in projects themselves.

Characteristics of the post-2030 electricity system

Based upon the AEMO Integrated System Plan (ISP), the post-2030 electricity system is expected to be dominated by firmed renewable generation and storage. Two of the ways in which the market is changing are:

- Firstly, many consumers are now also producers through their own solar PV and batteries and can inject energy into the spot market. Consumers are also now increasingly able to change their consumption in real time through automation, smart household devices and battery automation.
- Secondly, an ongoing shift towards zero emission renewable generation, driven by falling renewable energy and storage costs and increasing awareness and responses to climate change by governments and investors. This type of generation is capital intensive but with low variable/marginal costs.

Importantly, two very key features of the electricity market remain.

- Firstly, electricity is an essential service and important contributor to the competitiveness of the Australian economy.
- Secondly, the electricity market remains a large contributor of greenhouse gases and there is a need to reduce emissions.

These issues mean that the Panel's work is important for maintaining both Australia's economic competitiveness and achieving strong environmental outcomes.

Areas where the Panel would value early stakeholder input based upon an assessment of current and emerging issues

Without limiting the feedback from stakeholders, the Panel particularly welcomes early input and engagement on the following five topics:

Investment incentives

The existing 'energy-only' spot market is very efficient at delivering pricing signals for real-time operation. However, it was never intended *on its own* to be a pricing signal for investment in long-lived firmed renewable generation and storage. It is the interaction of this market with forward derivatives and policies such as the RET, state-based schemes and the CIS that have delivered longer-term pricing signals that allow projects to be banked. This Review will consider options for how to promote investment in firmed, renewable generation and storage capacity beyond the CIS.

We are interested in ideas based around the following questions:

- How might the NEM wholesale market and derivate markets most efficiently evolve to provide signals for investment in firmed, renewable generation and storage capacity?
- Is there a role for certificated schemes to promote investment in firmed, renewable generation and storage and what might these look like?
- Could the Retailer Reliability Obligation (RRO) play a role to incentivise new investment if it was expanded in the future?
- Could other capacity mechanisms efficiently attract investment in firmed, renewable generation and storage capacity?
- How can markets ensure we have sufficient capacity in place when and where we need it before existing resources retire? How do the market settings preferred by stakeholders provide sufficient confidence to consumers and governments that capacity will be delivered?
- How can the NEM wholesale market and any other markets work in tandem to ensure we have appropriate signals for the right type of resources in place when and where we need it?
- How can these market settings facilitate emissions reduction in line with the National Electricity Objective and Australia’s international commitments?

Consumer interaction with the wholesale market

How do we enable consumers—ranging from large businesses to households with rooftop solar—to benefit from and contribute to the market? Integrating new consumer energy resources (CER) such as electric vehicles (EVs), batteries and solar photovoltaic (PV) has the potential for reducing unit costs by lifting capacity utilisation of the network and generation infrastructure. Lifting capacity utilisation through more efficient use of energy at different times of the day would reduce unit costs and improve outcomes for all consumers.

- What can be done to facilitate better interaction between the demand-side, the spot market and any existing or future financial markets?
- How might the NEM wholesale market best allow for customers to engage in the market to benefit from their investment in CER, while allowing for different consumers to choose how they engage and continuing to recognise electricity is an essential service with associated accessibility issues for many consumers?

Changing nature of spot electricity prices

During the transition to a highly renewable system, energy-only spot prices have become more volatile, including many periods where electricity is negatively priced and a higher

number of extreme price periods. These provide acute signals for generators and consumers to be flexible in supply and consumption as well as for investment in storage. However, it may also make the insurance products to manage price risk more expensive.

Despite representing a small fraction of overall TWh of generation, gas prices drive a significant proportion of average wholesale electricity price outcomes. This trend is also observed across many other overseas markets. Given East Coast gas prices are heavily influenced by Asian gas prices, wholesale prices in the NEM have been and remain influenced by international events.

- How will prices at different times of the day and year change and evolve with the move towards firmed, renewable energy generation and storage?
- How might the NEM wholesale market and derivative markets allow market participants to most effectively respond to fluctuating prices and manage price risk?

Essential System Services

Many of the system services provided by large thermal generators as a by-product of their generation will not necessarily be provided in the future without new markets and pricing signals.

- What new markets and other measures might ensure they are provided?
- Which entities are best placed to determine what is needed, where and when?
- To maintain system security and strength, how can we ensure these services are procured before existing plant retires?
- How can we promote innovation in how these services can be provided at lowest cost?

Enhancing competition

Prior to the energy transition, the NEM was primarily made up of large generation units owned by governments and gentailers. The unit sizes of new firmed, renewable generation and storage are becoming increasingly smaller, and the number of energy market participants continues to grow.

- How might we harness the larger number of small resources and growing participation to ensure all markets (i.e. spot, forwards, retail etc) are increasingly competitive?

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Stakeholder Engagement Schedule and Approach

- **December 2024 to mid-February 2025:** The Panel will welcome submissions related to issues derived from the Terms of Reference and initial thoughts regarding issues outlined above. The Panel is not seeking feedback on the Terms of Reference but welcomes feedback on any issues that are relevant to addressing the Terms of Reference and this document. The purpose of this broad consultation is to allow for the discovery of as many innovative ideas as possible across the wide range of stakeholders.

We recognise that this consultation is not ideally timed given the Christmas and January holiday period. We also acknowledge that written submissions may be more challenging for stakeholders with smaller teams. As such, the Panel is seeking submissions through to mid-February 2025 and is also available to meet with stakeholders to discuss these issues.

The Panel understands some stakeholders may prefer to provide the Panel with a submission in written presentation format and follow up with an oral presentation.

- **Q1 and Q2 2025:** Consultation process
 - The Panel will release a series of short, topic-focused Issues Papers. The staggered release of Issues Papers will allow for iterative consultation to occur targeted at, but not limited to, subsets of stakeholders. This will draw out opinions on discrete topics (e.g. in relation to generators, consumers, retailers).
 - The Panel will undergo a process of direct consultation involving a series of round tables and stakeholder forums.
 - Bilateral and multilateral communication forums provide our diverse range of stakeholders with the opportunity to express their views and hear from others. These forums will also help support stakeholders who may lack the resources and capacity to provide formal, written responses and are better positioned to attend a forum virtually or in-person to directly provide their views.
- **Q3 2025:** Report with draft recommendations

- The Panel's report with draft recommendations will be released during Q3 with a window to receive feedback from stakeholders.

The Terms of Reference require the Panel to deliver a final report in December 2025 to Energy and Climate Change Ministerial Council.