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National Electricity Market Review Draft Report

APA Submission

17 September 2025



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Associate Professor Tim Nelson
Chair
Independent Expert Panel

Lodged online

17 September 2025

RE: APA Submission to National Electricity Market Wholesale Market Settings Review Draft Report

Dear Associate Professor Nelson,

Thank you for the opportunity to comment on the Independent Expert Panel's August 2025 National Electricity Market wholesale market settings review Draft Report (Draft Report). We fully support the review of the National Electricity Market's (NEM) wholesale market settings (the Review) and welcome the opportunity to contribute to these important issues.

APA is an ASX listed owner, operator, and developer of energy infrastructure assets across Australia. Through a diverse portfolio of assets, we provide energy to customers in every state and territory. As well as an extensive network of natural gas pipelines, we own or have interests in gas storage and generation facilities, electricity transmission networks, and 692 MW of renewable generation and battery storage infrastructure.

While there are many details still to finalise, we broadly support the findings and directions outlined in the Draft Report. The proposed Electricity Services Entry Mechanism (ESEM) should support the entry of new generation to support renewables during the energy market transition. ESEM contracts, if designed properly and in consultation with industry, should provide the long-term investment signals to close the 'tenor gap' identified by the Expert Panel.

Our submission below provides views on various issues raised in the Draft Report. If you have any questions about our submission, please contact John Skinner on 0435 898 022 or john.skinner2@apa.com.au.

Regards,

Natalie Lindsay
General Manager
Economic Regulation and External Policy

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1. Submission

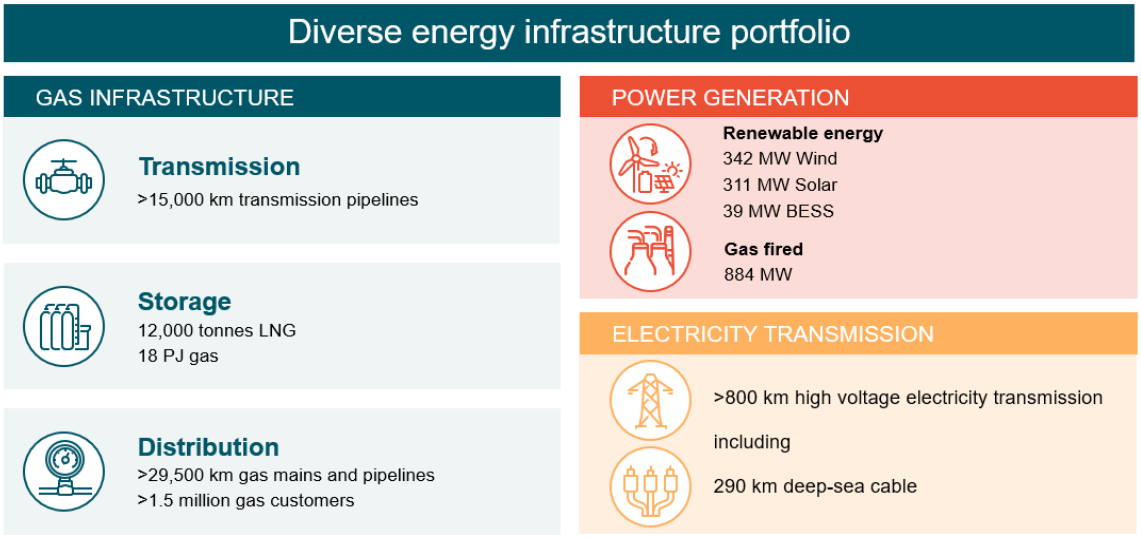
Key points

- We agree with the Expert Panel that the existing spot and derivatives markets do not deliver the long-term signals necessary to support investment in generation infrastructure and related energy services. This is referred to in the Draft Report as the 'Tenor Gap'.
- We support the development of the Electricity Services Entry Mechanism (ESEM) and the inclusion of firming as one of the proposed services.
- As the Draft Report recognises, the provision of Essential System Services (ESS) by gas powered generators could reduce whole of system costs for energy customers.
- Given their importance to the success of the ESEM, industry involvement in the design of ESEM contracts is essential.
- Clarity is needed on what criteria need to be met for a firming project to be defined as a 'new' or 'existing' project.

1.1. APA as a partner of choice in Australia's energy transition

APA is a leading ASX listed energy infrastructure business. Consistent with our purpose of securing Australia's energy future, our diverse portfolio of energy infrastructure delivers energy to customers in every Australian state and territory. For decades we have owned, operated, and maintained some of Australia's most important energy infrastructure.

Figure 1: APA's portfolio



Our 15,000 kilometres of natural gas pipelines connect sources of supply and markets across mainland Australia. We operate and maintain networks connecting 1.5 million

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Australian homes and businesses to the benefits of natural gas. We also own or have interests in gas storage facilities and GPG.

We operate and have interests in 692 MW of renewable generation and battery storage infrastructure, while our high voltage electricity transmission assets connect Victoria with South Australia, New South Wales with Queensland and Tasmania with Victoria.

APA actively supports the transition to a lower carbon future. In August 2025, we published our FY25 Climate Report 2.0, detailing our progress against our Climate Transition Plan. This plan outlines our commitments to support Australia's energy transition and pathway to net zero operations emissions by 2050.

With our extensive portfolio of assets and expertise across gas, electricity and renewables, APA is well-placed to support the energy transition towards net zero. Leveraging our extensive expertise across both electricity and gas markets, our submission below provides views on how to promote investment in firmed, renewable generation and storage capacity beyond the expiry of the Capacity Investment Scheme (CIS).

1.2. The ESEM should provide the long-term investment signals needed to support the entry of firm generation

As the Draft Report points out, existing spot and derivatives markets do not deliver the long-term signals necessary to support investment in generation infrastructure and related energy services.[1] This has been referred to by the Expert Panel as the 'tenor gap'.

We agree with this assessment. The operating profile of long duration firming generation, such as GPG, is very uncertain. Many factors will influence the utilisation of a GPG facility, including the cost of gas, unpredictable weather patterns, coal power generation outages (which may increase demand for GPG), and delays in building electricity infrastructure.

While Government policy has supported the introduction of renewable generation projects (for example through the Capacity Investment Scheme and Renewable Energy Target), there is no government policy to support the entry of firming services. The Firm Energy Reliability Mechanism (FERM) proposed in South Australia is a step in the right direction, but a national framework is needed.

The Draft Report proposes that an ESEM is established in the National Electricity Law and rules. The 'in-market' services procured by the ESEM will include bulk energy, shaping and firming services, as outlined in Table 2 (extracted below).[2]

We therefore support the development of the ESEM and the inclusion of firming as one of the proposed services. ESEM contracts, if designed properly and in consultation with industry, should provide the necessary long-term contracting for new projects.

[1] Ibid., p153
[2] Expert Panel, *Draft Report,* August 2025, p161

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Table 2. Proposed definitions of services

Name and units	Proposed definition	Examples of provider technologies (not exhaustive)
Bulk energy *Megawatt-hours*	Zero emissions electricity generation sent out from a generating unit or voluntarily scheduled resource.	Utility-scale and rooftop solar, offshore and onshore wind, run-of-river hydro, biomass, concentrated solar thermal.
Shaping *Megawatts of capacity and megawatt-hours of storage or availability*	The capability to consume or generate from a bidirectional unit or voluntarily scheduled resource, or to consume and cease to consume from a voluntarily scheduled resource.	Utility-scale and small-scale battery storage, pumped hydro, compressed air storage, industrial demand response.
Firming *Megawatts of capacity*	Capacity from a scheduled generating unit, bidirectional unit, voluntarily scheduled resource, that is capable of being dispatched continuously for the time it takes to reach the cumulative price threshold if prices are at the market price cap.[232]	Pumped hydro, long-duration batteries, compressed air storage, open cycle gas turbines, gas reciprocating engines, hydrogen turbines or engines, industrial demand response, aggregated small-scale storage, concentrated solar thermal.

1.3. The ESEM should be technology neutral and allow projects to bid for more than one service

The Draft Report recognises that certain projects can provide more than one service, and should be allowed to bid for multiple contracts under the ESEM. We agree with this approach, as this is likely to be the most efficient outcome for customers.[3]

The provision of Essential System Services (ESS) is one significant area of opportunity. As the Draft Report points out, the ESEM could enable the co-optimised deployment of assets that might otherwise be delayed or excluded under current frameworks, thereby helping reduce total system costs for customers.[4]

The Townsville Power Station case study provides a good example of the opportunities to deploy gas powered generation (GPG) in a way that reduces whole of system costs for customers.[5] With coal power stations retiring, the need for ESS will become even more acute over coming years:

- AEMO's 2024 Integrated System Plan increased its forecast of GPG requirements; the NEM is now expected to require 15GW of GPG by 2050, including for ESS.[6]
- The 2025 Electricity Statement of Opportunities recognises that the closure of synchronous generation will result in a significant need for new assets and providers of these essential system services, including for system strength (both fault current and voltage waveform stability).[7]

Optimally located GPG can provide long term benefits to the security and reliability of the grid, including increased system fault levels, regional voltage support, and system restart

[3] Expert Panel, *Draft Report,* August 2025, p161
[4] Ibid., p177
[5] Ibid., p178
[6] AEMO, *2024 Integrated System Plan,* June 2024, p69
[7] AEMO, *2025 Electricity Statement of Opportunities,* August 2025, p10

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services. GPG investment can also assist with reducing the overall cost of the energy transition by reducing the cost of electricity transmission needed to bring renewables online.

We also agree with the Expert Panel that the ESEM should be 'technology neutral', allowing competition from any technology that can provide the services in question. As well as driving innovation and lower costs, competition and a technology neutral approach will help drive the more timely delivery of critical energy infrastructure.

1.4. Industry input is essential in designing the ESEM contracts

Recommendation 6B from the Draft Report proposes that the AER convene a regular contract co-design process to support the development of ESEM contracts.[8] These contracts would allow buyers and sellers to manage their risks in the supply of bulk energy, shaping and firming. The Expert Panel expects:

- these contracts to evolve over time to reflect the ongoing evolution of technologies and consumer preferences; and
- that the AER will regularly convene (e.g. every two years) to agree on structures to be used in the proposed market making obligation for a small number of key derivative contracts in each NEM region; and
- that the panel will work with stakeholders during the second half of 2025 to run a demonstration process that will develop prototype contract structures across the bulk energy, shaping and firming ESEM services.[9]

These proposals are key to the success of the ESEM, yet both create uncertainty for potential investors. Large energy infrastructure projects are inherently complex, often involving a large number of back to back contracts between a wide range of contractual parties. These contracts are usually bespoke arrangements, reflecting the individual needs of both parties to the contract and the efficient allocation of risk between them both.

To give the ESEM the greatest chance of success, it is essential that the proposed co-design process is as thorough, open and inclusive as possible. All stakeholders must have the opportunity to participate. APA would be happy to participate in the design process given our extensive experience in energy markets.

While the ESEM contracts need to be designed in such a way that they are firm, tradeable and financeable, they need to be flexible enough to meet the needs of a wide range of contracting parties. If contracts are too rigid, they may not be suitable for some stakeholders or reflect the operational realities of some technologies.

1.5. Clarity is needed on who will bear the risks associated with firming contracts

A central challenge in designing firming contracts under the ESEM is the management of residual risk—the gap between the contracted firm capacity and the actual deliverable capacity of a generation or storage asset.

[8] Expert Panel, *Draft Report,* August 2025, p168
[9] Ibid., p232

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For example, a gas-powered generator may have a nameplate capacity of 100 MW but only be able to guarantee 70 MW as firm due to operational constraints, maintenance risks, or network limitations.

If the ESEM underwrites the full 100 MW and resells it into the market as a firm derivative, it assumes the residual risk for the 30 MW that may not be reliably delivered. This risk is compounded by the fact that firming contracts are intended to provide long-term revenue certainty and system reliability, making any shortfall in delivery a potential liability for both ESEM and downstream market participants.

It is critical to understand the basis risk in firm vs non-firm cap contracts.

Firm contracts offer guaranteed financial protection against high spot prices, regardless of underlying plant conditions. This provides strong hedging against price volatility for buyers. In contrast, non-firm contracts often include conditions—such as being subject to physical plant availability or network constraints—so the level of hedging they provide can be uncertain or partial.

Standalone GPG typically does not offer firm derivative contracts across its full capacity. On the other hand, retailers (acting on behalf of end-use customers) commonly purchase firm cap contracts to manage their exposure to very high spot prices.

If the ESEM were to purchase cap contracts from a GPG on a non-firm basis, while offering firm contracts to the market, it would be exposed to basis risk. Conversely, if the ESEM seeks to buy firm contracts from the GPG, the generator would be taking on that basis risk—and would likely need to explore options to firm up its generation to support the arrangement.

It would be helpful to understand the Expert Panel's intentions on this matter. These are often used where flexibility is needed or where parties are unwilling or unable to commit to firm obligations, but they introduce basis risk and are generally less effective as a hedge against spot market price fluctuations in the NEM.

1.6. Transitional investment pathways may be needed

The Draft Report states that 'the Panel has developed the ESEM to focus on new projects, not existing projects'.[10] In contrast to the proposed SA FERM, which would allow existing generators to bid for contracts, the proposal to focus the ESEM on 'new' projects creates uncertainty for new generation projects in the development phase.

There is an urgent need for investment to prepare for the looming retirement of coal across the NEM, particularly in southern states. However, with existing projects appearing to be excluded from the ESEM, there is a risk that project developers will be disincentivised to reach Final Investment Decision until the ESEM design is finalised, impacting the critical window for new firming capacity to replace retiring coal. This significantly increases the likelihood of a disorderly exit of coal, contrary to the intent of the Expert Panel.[11]

[10] Expert Panel, *Draft Report,* August 2025, p160
[11] Expert Panel, *Draft Report,* August 2025, p167

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Clarity is needed on what criteria need to be met for a firming project to be defined as a 'new' or 'existing' project. It may be worthwhile recommending a specific date after which new generation projects will be eligible to participate in future ESEM tender programs.

Furthermore, it may be prudent for the Expert Panel to provide advice on the ability for projects to pre-qualify or receive conditional support during the ESEM design process. The NEM is currently scheduled to lose its next coal power stations in the second half of 2027 (with the retirement of Eraring in NSW) and in mid-2028 (with the retirement of Yallourn Power Station in Victoria). It is unlikely that any projects awarded contracts under the ESEM will have been commissioned by that time.

It is also likely that any recommendations from the Expert Panel will take two to three years to implement, given the significant reform to the National Electricity Law and Rules that will be needed. The Expert Panel may wish to advise on interim arrangements to ensure that there is not an investment 'freeze' over the next two or three years while these reforms are implemented.

1.7. Impact of transmission outages on the spot market

Recommendation 4C in the Draft Report states that market bodies should work to minimise the impact of transmission network outages on the energy only spot market.[12] The Expert Panel has made this recommendation due to price spikes caused by network outages and strategic generator rebidding.

While we agree with recommendations that improve economic efficiency, price spikes caused by unexpected outages of the aging coal fleet are exactly the price signal that the energy only spot market was designed to send.

Rule changes that further undermine the investment signals conveyed by the NEM's spot market should be avoided where possible. Undermining the NEM's spot market price signals will increase the likelihood of contract holders under government support mechanisms (such as the CIS or FERM) seeking support under those contractual arrangements.

[12] Ibid., p109