23 June 2025

Submission: Draft Gas Infrastructure Options Report

The Australian Pipelines and Gas Association (APGA) represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure. APGA members ensure safe and reliable delivery of over 1,500 PJpa of gas consumed in Australia alongside over 4,500 PJpa of gas for export.

APGA welcomes the opportunity to contribute to the Australian Energy Market Operator's (AEMO) consultation on the Draft Gas Infrastructure Options Report (GIOR) for the 2026 ISP.

AEMO's approach will lead to a more granular consideration of gas infrastructure in the ISP, which it has previously been unable to do under the NEL. Changes to the NEL in 202x have expanded their remit which will likely lead to an ISP which more accurately considers gas and hence the entire NEM.

Gas supply constraint

The Draft GIOR contains some wording that could introduce uncertainty from gas market participants. Specifically, the treatment of the gas supply constraint in the draft gas supply and pipeline zones in relation to Gas Development Options. A basic gas supply constraint is present in modelling for the 2024 ISP, but in the 2026 ISP it is extended to those draft zones, applying a geographical limitation.

This is reasonable, however the GIOR implies that a gas supply constraint would then impact how the ISP would recommend GPG: "if insufficient gas is available due to these limits, the capacity outlook model may identify alternative firm capacity developments, or continue to rely on GPG for firming requirements, and leverage the use of secondary fuels" (p26).

APGA understands that it is not the intention of the GIOR to restrict the modelling of GPG in the first instance where a gas supply constraint exists. Instead, the model will first seek to close the 'supply gap' through building out Gas Infrastructure Options. Alternative firm capacity or secondary fuels would be a 'last resort' option for the model. The wording in the GIOR above does not quite reflect this order of events, nor how this would ultimately be treated in the ISP where the base case does not have a gas supply constraint.

APGA suggests AEMO provide additional clarity on this issue in this section of the GIOR. We also suggest an alternative wording (bold):

"If insufficient gas is available due to these limits, the capacity outlook model **will first seek to recommend gas infrastructure developments sufficient to solve the gas supply gap. In the event no feasible gas infrastructure developments are identified, the model** may

identify alternative firm capacity developments, or continue to rely on GPG for firming requirements, and leverage the use of secondary fuels."

Long-duration hydrogen storage

The draft GIOR does not put forward any hydrogen storage options. While the supporting report from GHD does provide costs for hydrogen options, for storage the only underground option it considers is salt cavern storage. For many reasons this is not a feasible pathway for Australia. Hence it is unlikely that the modelling for the ISP will ever recommend investment in this form of hydrogen storage, or indeed other forms of low emissions long-duration storage outside of pumped hydro (PHES).

APGA supports the Future Fuels CRC's (FFCRC) proposal to include another pathway: hydrogen energy storage in depleted gas reservoirs (HESS)[1], as an option alongside PHES.[2]

Research by the FFCRC used a market dispatch model to provide a techno-economic evaluation of different long term energy storage methods. The research considers that:

- Australia has suitable underground geological formations—particularly depleted gas reservoirs —located near the high-voltage transmission network for large-scale HESS deployment.
- HESSs incorporating DGRs in strategic locations such as Victoria and Southern Queensland may be able recover their costs within the first 20 years of operation exclusively through participation in the wholesale NEM.
- There are opportunities for HESS adjacent to existing infrastructure which could significantly enhance resilience to VRE droughts, namely Otway-Mortlake in Victoria and Roma-Kogan in Southern Queensland.

APGA recommends AEMO consider HESS for inclusion in the GIO as a gas infrastructure development option as an extension to the existing generic options in Appendix A2 (Table 5): "dedicated hydrogen pipeline", "storage pipeline", "underground storage – depleted field".

To discuss any of the above feedback further, please contact me on +61 409 489 814 or policy@apga.org.au.

Yours sincerely,

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[1] FFCRC, 2025, *RP1.1-07 Final Report: Long-Duration Energy Storage: Techno-economics and provision of reliability and resilience to the NEM*, https://www.futurefuelscrc.com/project/rp1-1-07-integrated-electricity-hydrogen-future-system-and-market-interactions-under-different-storage-considerations/

[2] Note APGA is the largest industry contributor to the Future Fuels CRC.