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Submission: AEMC Review of the ISP Framework

The Australian Pipelines and Gas Association (APGA) represents the owners, operators, designers, constructors and service providers of Australia's pipeline infrastructure. Our members deliver more than 1,500 PJs of natural gas each year for domestic use and over 4,500 PJs for export markets, underpinned by the highest standards of safety, reliability and operational performance. For decades, this infrastructure has been a cornerstone of Australia's economic strength, providing secure, low-cost energy that has supported growth, sustained long-term trade, and enabled industry to compete globally.

APGA welcomes the opportunity to comment on the AEMC's review of the Integrated Systems Plan (ISP) Framework. APGA concurs with the AEMC that the ISP still has a useful role, and will continue to function as Australia's main energy planning and reference document in whatever future role the AEMC decides. APGA has no preference on strawperson and does not oppose the AEMC's preference of SP3.

The separate but related question of how a future ISP may consider gas, and potentially co-optimize to provide a more integrated consideration of energy in the ISP, is one that must be treated with caution.

The role of an ISP in a changing energy landscape

The purpose of the ISP as specified in the National Electricity Rules is to establish a plan for "*the long term interests of the consumers of electricity*", and the Rules limits its remit to consider gas supply chains in the preparation of the ISP. While this was expanded in 2024 following the *Better integrating gas in the ISP* rule change, consideration of gas is still focused on the perspective of the electricity sector. The ISP largely considers gas as it supports gas-powered generation of electricity, rather than considering gas and electricity supply chains separately and equally.

As the role of the ISP has expanded, the impact of this limitation has become more significant. Electricity and gas markets are separate but partially interdependent. Impacts on overall gas supply and hence price can be felt in electricity prices through gas-powered generation. Similarly, the need to price in demand for gas-powered generation in peak periods can be felt in downstream energy bills. Declines in gas demand due to electrification in certain sectors increase the demand for electricity, and not always equally. And entirely separately from electricity generation, other gas users have their own

needs that then have impacts on that electricity generation. This co-dependency is not easily reflected in the ISP because it is a document optimised for electricity, by design.¹

Gas market not suited to co-optimisation

Because of these fundamental differences, the ISP in its current form cannot be one that fully reflects an integrated energy system, but it can acknowledge those gaps.

APGA acknowledges that while the ISP can only consider gas to a limited extent, other documents, such as the GSOO and the GIOR, go much further in considering options for gas infrastructure development. These documents correctly stop short of suggesting specific projects, but APGA considers it appropriate for them to include more geographically general indications of need to support the ODP.

More so than other concepts of the electricity market which have been uncomfortably retrofitted on top of the gas market, introducing co-optimisation and actionability of gas projects in the ISP would be fundamentally incompatible with the contract-carriage form of market in which the gas ecosystem operates in Australia.

Investments in the market-carriage electricity sector are allocated through centralised planning, largely coordinated through the ISP. With the exception of the Victorian Transmission System (VTS), gas transmission infrastructure development is instead agreed bilaterally between supply and demand parties under a contract-carriage model. While recent market reforms to open access to that infrastructure have gone some way to destabilise that relationship, it can safely be said that the vast majority of gas infrastructure on the east coast is reliant on long-term contracts. This arrangement has been successful at delivering gas infrastructure when and where it is needed, and barring further regulatory interventions, will continue to do so.

APGA strongly considers that this market-led approach is the best way to efficiently and cost effectively deliver gas infrastructure. Investment is directed to where supply and demand parties have identified and agreed a commercial need, rather than through a centralised assessment of system-wide benefit. This avoids the risk of infrastructure being built ahead of demonstrated need, or in locations that do not reflect where gas users and producers actually require capacity. It also means that the parties bearing commercial risk are the same parties making the investment decision and the same parties best able to

¹ This can be felt even in how the ISP considers its constituent parts. Storage, for example, is limited in the ISP to considering 'dispatchable' storage in the form of battery systems or pumped hydro. Despite representing a considerable resource for energy in molecule form, gas storage – either in pipelines, tanks or in underground storage – does not count for that purpose, even when gas reserves for much of the year in much of the country are intended to keep gas supply flowing to GPG when it is needed. The Iona Underground Gas Storage facility in Victoria has an energy storage capacity of 6,371 GWh; when used in gas power generation, energy stored in Iona can provide over 2,100 GWh of electricity. By way of comparison, the Snowy 2.0 PHES project has an expected storage capacity of 350 GWh.

manage those risks, which is not necessarily the case under a centrally planned model. For these reasons, APGA does not consider that co-optimisation of gas and electricity infrastructure would improve on current outcomes.²

Improvements are needed in the ISP

Gas and gas infrastructure are a critical component to the electricity sector, but the interactions between them are not adequately represented largely because the ISP is focused on the electricity sector.

APGA has consistently considered that reforms are needed to how the ISP accounts for gas. Historically, AEMO forecasting for gas consumption, particularly GPG demand in the ISP, has not, in APGA's members' experience, been considered representative of actual gas market conditions. APGA considers two factors have contributed to this: low levels of engagement between the AEMO forecasting team and the incumbent gas industry outside of Victoria, and a disconnect within AEMO between its forecasting and operations functions.

Data centres provide a contemporary example of where these intersecting factors could occur in practice. GPG will likely be a significant contributor to data centre power needs in the near future, both indirectly by using grid-connected power, and directly through behind-the-meter plant. This option may become attractive when there is a delta between the time taken to construct data centres and the time taken to bring new renewable generation online, and APGA understands multiple proponents around the country are currently considering it for this reason.³ APGA considers this possibility has not been adequately captured in AEMO's scenarios, nor in overall gas demand forecasts in the GSOO.

In our submission to the 2024 rule change process on *Better integrating gas into the ISP*, APGA noted that the then-proposed gas development projections would *inform* the Optimal Development Path for electricity, rather than establishing a separate prescriptive pathway for gas. This has required AEMO to work with gas market stakeholders – those actually doing the investing – to set out how it expects the gas sector to develop. As a result, the 2025 Gas Infrastructure Options Report (GIOR) and the 2026 Gas Statement of Opportunities represented a much more robust consideration of the gas market, with overviews of expected capacity constraints and geographically general areas of investment opportunity.

APGA expects the flow-through to the ISP to improve in its next iteration. But because the ISP cannot (and should not) co-optimize electricity and gas, and because the needs of gas

² The VTS provides a sound example of the opposite, where stronger economic regulation has resulted in an environment where investment in infrastructure is both difficult and time-consuming.

³ Another sensitivity may arise in considering how behind-the-meter dispatchable resources for data centres, including GPG but also batteries, may be considered to be a 'consumer energy resource', and is therefore theoretically no different to a household battery under a Virtual Power Plant scheme.

customers are much broader than GPG, the ISP cannot fully and accurately reflect gas-electricity interactions that fall outside what is needed to service GPG what is needed to service GPG. Whether the ISP should attempt to reflect those broader interactions depends on how the AEMC sees the future role of the ISP.

Policies still impact modelling robustness

While technically out of scope for this review, the issues raised in the AEMC's recent consideration of jurisdictional policies in the ISP must be considered as relevant for this review. Improvements can be made with how the ISP manages variables through sensitivity analyses, rather than through more detailed scenarios.

Under the existing rules, AEMO can use sensitivity analysis to inform how the ODP performs under a wide range of different assumptions. This includes carrying out sensitivity analyses to test cases where jurisdictional targets may not be achieved in their stated timeframes. The AEMC's determination was that these analyses were sufficient to reflect uncertainties in the ISP, relative to AEMO's actual role and its given framework.

These sensitivity analyses do not go far enough. As we noted in our submission to that consultation, under the current settings the ISP does not and cannot adequately account for uncertainty as to when jurisdictions' emissions reduction and renewable energy targets will be met, or whether they may change in the future. Many of these targets are predicated on a pace of investment that the market has yet to match, or a perfect intersection of project and logistical externalities that even legislated targets cannot guarantee.⁴

There are broader questions about how policy contributes to the robustness of the ISP's forecasting and whether that can be adequately captured in sensitivity analyses. Returning to the example of data centres, which represent a dramatic new complication in estimating future energy consumption, even AEMO's own forecasting has shifted dramatically between the 2026 ISP (published March), accounting for 10% of total NEM demand by 2050, and the 2026 Electricity Statement of Opportunities (published August), which lifted this estimate to 13%. This is despite a stated (though not, at the time of the ES00, legislated) intent for data centres to 'bring their own renewable energy'.

In the ISP, the 'Higher Demand' sensitivity analysis tested about 39 TWh more electricity demand for data centres than Step Change and its impact on the Optimal Development Path was apparently negligible, despite requiring large proportional increases in generation and storage capacity across the NEM. This outcome is counterintuitive and, in APGA's view, warrants further explanation from AEMO of the modelling basis for that result.

⁴ The Victorian Offshore Wind Generation Target is a typical example of this in practice. The first offshore wind auction for the first 2 GW was significantly delayed, commencing in August 2026 and due to close August 2027. With the significant logistical challenges associated with offshore wind construction, it is unlikely if not impossible that the initial targets of 2GW by 2032 will be met in full and on time. The impact of this on achieving the ODP is not considered in the ISP.

Additionally, GPG is likely to play a role in supplying this static daily energy demand, which APGA also considers has not been adequately included in AEMO's assumptions.

Models for future change

APGA suggests that for the time being, rather than in pursuing SP5, there is benefit in allowing the changes to the ISP arising from the *Better integrating gas into the ISP* rule changes to take full effect. These provide additional information to the broader energy market on gas market conditions and potential investment opportunities, of which gas project proponents are already very aware. Ultimately the GIOR and the Gas Development Projections may help support gas infrastructure project proponents progress their developments, given the implicit imprimatur associated with AEMO's forecasting and planning role.

Looking to the future, the AEMC's discussion paper refers to the UK energy system and the development of the new Centralised Strategic Network Plan (CSNP), which could represent a useful model to consider for future iterations of the ISP. This approach is to coordinate of electricity, gas and hydrogen analyses and develop a single integrated optimisation model, rather than optimise for one sector (such as electricity).

Notably, the UK's gas transmission system has been effectively market-carriage in nature for several decades, rather than the contract-carriage framework that has operated on the east coast of Australia. Whether the concept of the CSNP could be carried over to the ISP, is in APGA's view unlikely while the east coast gas market remains predominantly contract-carriage, though APGA will follow the development of the CSNP with interest.

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