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To: The Australian Energy Market Operator
Re: 2025 Gas Infrastructure Options Report Consultation

Thank you for the opportunity for the Institute for Energy Economics and Financial Analysis (IEEFA) to provide input to the 2025 Gas Infrastructure Options Report Consultation.

IEEFA is an independent energy finance think tank that examines issues related to energy markets, trends, and policies. The Institute's mission is to accelerate the transition to a diverse, sustainable, and profitable energy economy.

IEEFA is supportive of the Australian Energy Market Operator's (AEMO) inclusion of the analysis of gas development projects in the Integrated Systems Plan (ISP) given the role of gas in power generation. This inclusion should provide greater clarity on gas demand and supply scenarios.

Kind regards,

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Consultation questions

Gas infrastructure costs

1. Do you have any feedback on the gas infrastructure base costs, adjustment factors and escalation indices provided by GHD?

The work undertaken by engineering consultants' group GHD demonstrates a comprehensive cost base for all parts of the gas supply chain and related infrastructure for hydrogen. IEEFA also notes that the database has a similar objective to the Transmission Cost Database (TCD) that has been used for electricity infrastructure costs for the ISP. However, it does not include the separation costs for carbon capture and storage (CCS) when the CO_2 is separated from the fossil gas. It also does not specify CCS injection costs, or assumptions underpinning CCS cost estimates. Most CCS projects globally fail to achieve injection targets,[1] which in practice increases the cost per tonne sequestered. In considering the financial viability of CCS, and therefore its likely adoption in Australia, it is important to account for the potential for underutilisation to increase CCS costs, and to therefore affect the uptake of CCS.

2. Do you have any feedback on the methodology for the gas infrastructure base costs and forecasts provided by GHD?

No. IEEFA is supportive of the methodology approach taken.

3. Do you agree with the proposed forecasting approach of applying a single set of cost escalation indices for gas infrastructure components across all ISP scenarios?

Yes. Encompassing the infrastructure cost components under an index provides clear guidance on the broad trajectory of possible project costs.

Gas development projections

4. Do you have any feedback on AEMO's use of GHD's component costs in costing gas infrastructure options?

No. The example using an LNG regasification terminal on page 19 of the Draft Gas Infrastructure Options Report provides a comprehensive coverage of the component costs for a gas infrastructure project.

5. AEMO has proposed to limit sources of new natural gas supply to known contingent (2C) resources provided via the Gas BB and GSOO surveys. Should other sources of new gas be included?

The use of 2P (proven and probable) reserves as well as contingent resources (2C) is sufficient for Australian gas supply, but if LNG import terminals are an option, then some reference to the

[1] IEEFA. Why carbon capture and storage is not the solution. 10 July 2024.

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outlook for global LNG supply and demand conditions may be warranted to assess the viability of gas imports to the eastern Australia market.

6. Of the list of gas infrastructure options mentioned in Section 3.2.2 and provided in Appendix A2, are there any options that should not be included, or any further options that should be considered?

Some projects should not be included because they have been superseded by other projects or have been abandoned but not formally withdrawn. For example, the Western Slopes Pipeline in Appendix A2 on page 33 has been replaced by the Hunter Gas Pipeline proposed by Santos.[2] The main purpose of this pipeline is to connect to Santos's Narrabri gas project in NSW. As it reads on page 33, there could be two active gas pipeline projects in the Gunnedah Basin. It would also be helpful to disclose the operator of the project, the possible timing of the project and more detail on the stage of the project and the approvals required.

Application of gas development projections for fuel limitations in the ISP

7. Will AEMO's proposed gas supply and pipeline zone limitations be effective in limiting fuel availability for GPG?

IEEFA has not studied this issue in any great detail.

8. Considering the purpose of the assessment, is it reasonable to apply priority to residential, commercial, and industrial customers ahead of GPG?

There are a number of issues to consider in terms of alternatives to gas for energy supply for each customer group, including the ability to manage supply interruptions, the impacts of supply interruptions, and the costs likely to be incurred by parties affected by supply interruptions.

Residential users have no alternatives to gas (assuming they have gas appliances), and supply interruptions will likely have moderate to severe impacts (small for each household, but large in aggregate). Depending on their timing and severity, supply interruptions could also affect the operation of gas distribution networks, with severe interruptions potentially requiring costly and time-consuming remedial works.

Most major industrial users reliant on gas are unlikely to have alternatives in the event of supply interruptions, but many users will be able to manage interruptions to minimise the impacts (such as by reducing or ceasing production). However, some major industrial gas users will have severe impacts where it is not feasible or cost-effective to reduce or cease operations, such as brickmakers (given unanticipated interruptions can seriously damage brick kilns, which are not able to be switched off at short notice).

There may also be cases where the National Electricity Market (NEM) does not have cost-effective alternatives, with hydro or diesel generation likely to be the key back-ups if gas generation is required but not available. The impacts of supply interruptions where gas is the

[2] Australian Financial Review. Santos buys gas pipeline to 'inject new supply into NSW'. 11 August 2022.

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backstop source of generation could either be higher prices due to the dispatch of more expensive generation sources, or potentially rolling blackouts in the event of severe interruptions to gas supply. The consequences of such events could range from a minor to severe, depending on the availability of other sources of generation. That said, the impact on any individual gas generator is likely to be relatively small, in part because gas-fired power plants have inherent flexibility that allow them to manage supply interruptions fairly easily.

9. Are there any supply zones missing? Are there any supply zones that will be unrealistically represented by the proposed constraints to gas supply?

No.