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Forecasting and Planning Team  
Australian Energy Market Operator  
Level 22, 530 Collins Street  
Melbourne, Vic 3000

Submitted via: [forecasting.planning@aemo.com.au](mailto:forecasting.planning@aemo.com.au)



Jemena Limited  
ABN 95 052 167 405

Level 16, 567 Collins Street  
Melbourne, VIC 3000  
PO Box 16182  
Melbourne, VIC 3000  
T +61 3 9173 7000  
F +61 3 9173 7516  
[www.jemena.com.au](http://www.jemena.com.au)

## **Re: Draft 2025 Inputs, Assumptions and Scenarios Report consultation**

Dear Mr Turley,

Jemena welcomes the opportunity to respond to the consultation on the Australian Energy Market Operator's (AEMO) *Draft 2025 Inputs, Assumptions and Scenarios Report*. As an owner and operator of a diverse portfolio of energy assets throughout the northern and east coasts of Australia, Jemena is uniquely positioned to provide a comprehensive response across the various energy networks that will be required to get Australia to net-zero by 2050.

Jemena owns and operates a diverse portfolio of energy assets throughout northern and east coast Australia. With more than \$12 billion of major gas and electricity infrastructure, we deliver energy to millions of households, institutions, and industries every day.

Our assets include the Jemena Gas Network in New South Wales, the Jemena Electricity Network in northwest Melbourne and gas transmission pipelines such as the Eastern Gas Pipeline, Darling Downs Pipeline, Queensland Gas Pipeline and the Northern Gas Pipeline. In addition, our group includes Zinfra, an energy services business, which provides project management, construction, operations and maintenance services for the electricity and gas sectors.

For this reason, we are uniquely placed to understand the planning and operating of the energy system 'as a whole', and how the electricity and gas sectors can support the objective of delivering low carbon, reliable and resource efficient energy services, at least possible cost for society.

AEMO's decision to further explore its scenarios in greater granularity by identifying key drivers of change in the electricity sector, such as emerging commercial loads, the pace of electrification, and uptake of consumer energy resources is a positive and progressive step forward. Jemena is particularly keen on supporting AEMO in better understanding future data centre load growth, where we are seeing a significant rise in interest on our electricity distribution network. This has meant an uptick in the planning and work required to support a more integrated, renewable energy-driven distribution network.

However, Jemena believes the energy transition will be most successful, and least cost, if the energy system is considered as a whole. To this end, displacing increasing amounts of natural gas with renewable gas alternatives is the most reliable and lowest cost pathway for existing gas infrastructure to support a net-zero Australia. As AEMO recalibrates its scenarios for the 2026 ISP, Jemena encourages it to deepen its consultation on renewable gases which can play an important role by reducing the need to build new infrastructure through leveraging existing networks.

## Key points

- Data centre growth is a rapidly accelerating area of load growth for the Jemena Electricity Network. The inclusion of this segment through the 'emerging commercial load' parameter is a welcomed change.
- AEMO, through its use of CSIRO and ClimateWorks' multisectoral modelling, is underappreciating the role biomethane can have in decarbonising Australia's energy grid. Jemena suggests further stakeholder consultation on the inputs and assumptions around this emerging industry and would be happy to provide further empirical evidence on its experience to date with Australia's first biomethane production plant<sup>1</sup>.

For more information regarding Jemena's submission or to arrange a discussion please contact Joeb Northey, Policy Manager via [joeb.northey@jemena.com.au](mailto:joeb.northey@jemena.com.au).

Yours sincerely,

*Karl Edwards*

A/g Executive General Manager of Networks, Karl Edwards

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<sup>1</sup> [Malabar Biomethane Injection Plant](#)

## Appendix A Consultation questions

### What has changed since the 2023 IASR

Question	Jemena's response
<p>Since the 2023 IASR publication, what changes (such as environment, social, policy) do you consider most impact scenario development for the 2025 IASR scenarios?</p>	<p>There are two key trends that Jemena has noticed accelerating since the 2023 IASR. These are the continual development and maturing of a domestic renewable gas market, and substantial data centre growth on our electricity distribution network.</p> <p><b>Data centres</b></p> <p>Jemena is concerned that AEMO's scenarios are under appreciating the pace and scale of electricity load that is expected to come from data centres over the next decade. It is encouraging to see however, that for the first time AEMO will be calling out data centre loads as a key parameter in its forecasting. Jemena will have more to say as part of the Electricity Forecasting Methodology consultation – <b>but does wish to extend an offer to AEMO for a confidential briefing on what we are seeing in terms of data centre load growth on the Jemena Electricity Network in Victoria.</b></p> <p><b>Renewable gas market</b></p> <p>Since the 2023 IASR was published, and the CSIRO/ClimateWorks' multi-sectoral modelling that was undertaken as part of it, Jemena has commissioned the Malabar Biomethane Demonstration Project. This project is first-of-its-kind in Australia, demonstrating the potential to harness stored renewable energy (in gaseous form) at waste facilities to inject into existing gas network infrastructure. This carbon neutral gas can be key to reducing the impact on strained gas supply levels in the coming years, and support hard-to-electrify industries in their decarbonisation pathways.</p> <p>Governments and ancillary bodies have started to appreciate the role low-carbon fuels will play in achieving Australia's emission reduction targets.</p> <ul style="list-style-type: none"><li>• In FY24, the Commonwealth Government announced the Hydrogen Headstart program, hydrogen production tax credits, and a round of consultations into low-carbon liquid fuel production tax credits and 'green metals' (which will require some form of low-carbon gas).</li><li>• The Climate Change Authority recommended at the end of 2023 that the National Greenhouse Gas Emission Reporting scheme should enable recognition of Scope 1 emission reductions from the use of biomethane through shared infrastructure.</li><li>• The NSW government has recently announced a consultation into a Renewable Fuel Strategy that focuses on emission reductions in hard-to-abate industries. The Strategy is a comprehensive roadmap that is seeking to support supply, strengthen demand, and accelerate decarbonisation across the state's economy through renewable gases and liquid fuels. A key part of this will be to leverage existing infrastructure to support lowest cost decarbonisation.</li></ul>

## AEMO’s proposed scenarios for the 2025 IASR

Question	Jemena’s response
Is AEMO’s proposal as described above a suitable evolution of each scenario’s parameters that will effectively support AEMO’s functions in planning the transition?	Jemena is pleased to see emerging commercial load growth as a key additional variable to the IASR process.
What additional changes should be considered?	<p>As a first mover in the biomethane space, Jemena has a wealth of knowledge on the commercial requirements for successful projects, and the potential emission reduction benefits across its network. On quick inspection of the inputs and assumptions made in the multi-sectoral modelling Jemena believes CSIRO and ClimateWorks have underappreciated the economics of biomethane. This has in turn underappreciated its role as a pathway for decarbonisation of industrials, and other hard-to-electrify users.</p> <p>Jemena recommends AEMO, CSIRO, and Climateworks initially look to several recent studies on the levelised-cost of energy for biomethane in Australia, including:</p> <ul style="list-style-type: none"> <li>• GHD - Technical and Economic Assessment of the Potential of Renewable Gas<sup>2</sup></li> <li>• Future Fuels CRC - A summary of the FFCRC RP1.2-04 Viable Case Studies Report<sup>3</sup></li> <li>• Boston Consulting Group – The Role of Gas Infrastructure in Australia’s Energy Transition<sup>4</sup></li> <li>• ARENA - Bioenergy Roadmap<sup>5</sup></li> </ul> <p>Additionally, Jemena would welcome the opportunity to work more closely with AEMO in helping it understand the positive role of gas network infrastructure in providing low-emission pathways to the Australian energy sector.</p>

<sup>2</sup> This report is not public, but GHD estimated a biomethane LCOE in the range of \$6.3 - \$17.6/GJ (if secondary biogenic CO<sub>2</sub> and digestate markets were operational in Australia).

<sup>3</sup> [RP1.2-04-BiomethaneViability\\_summary.pdf \(futurefuelscrc.com\)](#)

<sup>4</sup> [The role of gas infrastructure in the energy transition \(jemena.com.au\)](#)

<sup>5</sup> [australia-bioenergy-roadmap-report.pdf \(arena.gov.au\)](#)