

17 March 2021



Stakeholder Relations
Australian Energy Market Operator

Submitted electronically to stakeholderrelations@aemo.com.au

Dear Stakeholder Relations,

Feedback on updated Inputs, Assumptions and Scenarios

The Public Interest Advocacy Centre (PIAC) is an independent, non-profit legal centre based in New South Wales. Established in 1982, PIAC tackles systemic issues that have a significant impact upon people who are marginalised and facing disadvantage. We ensure basic rights are enjoyed across the community through litigation, public policy development, communication and training. The Energy + Water Consumers' Advocacy Program represents the interests of low-income and other residential consumers, developing policy and advocating in energy and water markets

PIAC welcomes the opportunity to respond to the Australian Energy Market Operator's (AEMO) updated inputs, assumptions and scenarios.

PIAC supports the changes AEMO has proposed, in particular those concerning emissions reduction and climate change assumptions, and the decision to remove the Diversified Technology scenario. We provide feedback on these changes, assumptions around hydrogen costs and potential for use domestically, and the new Current trajectory and Net Zero 2050 scenarios.

Gas

We support AEMO removing the Diversified Technology scenario, however we are concerned the inclusion of the low gas price sensitivity is unrealistic and risky.

As we noted in our submission to the draft IASR, lower future gas prices or an increased role of gas in the future energy system are extremely unlikely. This has been expressed by a number of diverse stakeholders.

Origin director and former boss of gas pipeline business APA, Mick McCormack, said in January 2021 the kinds of low gas prices being discussed as part of the 'gas-led recovery' are not likely, saying \$4 per gigajoule was an unrealistic goal.

A recent report by the Grattan Institute found eastern Australia "faces inexorably more expensive gas" and the "only rational approach, for governments, the energy industry, and its customers, is to begin planning for a future without natural gas, or at least with a substantially reduced role for natural gas". It notes the

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measures proposed in the federal government's 'gas-fired recovery' will "either make little to no difference to gas prices, or would require significant ongoing taxpayer subsidies to do so." The government's plans do not stipulate such an ongoing commitment, and it would not be in the interests of taxpayers, consumers or the community.

The energy minister of Australia's most populous state, Matt Kean, following the announcement of the Gas-Led Recovery Plan in 2020, said, "the business case for gas is on the clock" gas "may be useful in the short term", wind, solar, pumped hydro and batteries are "the future for New South Wales".

Given lower gas prices are unrealistic and not compatible with meeting international climate obligations or ensuring a safe climate for future generations, modelling them is risky for AEMO, consumers and the community.

Modelling lower gas prices may be perceived to legitimise proposals that are not in the long-term interests of consumers or the community. Without an understanding of the underlying assumptions, and with AEMO's credibility and perceived independence underpinning it, this could be used to bolster public support for gas extraction and supply with limited future viability in the absence of subsidies. No details of these government subsidies would accompany the modelling results.

As lower gas prices are not plausible and the rationale for their inclusion is not clear, including them undermines AEMO's credibility as an independent, expert system planner for the NEM. This erodes the usefulness of the ISP and AEMO's other forecasting and planning work.

We recommend only modelling future gas prices which are likely to occur and which align with various climate targets and commitments in each scenario.

Updated central scenario

We have some concerns with AEMO's proposed Net Zero 2050 scenario. We welcome AEMO's decision to better reflect state-level emission reduction commitments by splitting the Central scenario, however the Net Zero 2050 scenario should not change trajectories after 2030 and rather should present a consistent trajectory to 2050 from the present. Given the Net Zero 2050 scenario is intended to better reflect state policies, it should not be tethered to federal government 2030 targets like the Current Trajectory scenario.

Further we reiterate comments made in our Draft IASR submission that state governments are leading the push for decarbonisation and their policies, targets and intentions, rather than the federal government's, may be the most accurate indication of the trajectory of the energy system.

High DER with slow growth

It may be useful for AEMO to apply rapid decarbonisation through DER as a sensitivity of the Slow Growth scenario. Recent evidence from COVID-19 showed economic slow down did not correspond to a decline in DER installations or the path towards decarbonisation. Given this, a future of lower economic growth coupled with strong DER uptake and decarbonisation is plausible and worth investigating.

Hydrogen

We note some participants at the 3 March session suggested the Export Superpower scenario should incorporate higher domestic use of hydrogen, rather than just export use. PIAC does not consider this is a useful assumption as it is unlikely hydrogen will ever play a significant role in the domestic energy grid.

The economic case for hydrogen in the gas network is not strong and hydrogen is unlikely to ever become a realistic proposition for Australian households. The cost of electricity needed to create hydrogen may come down and even in an extreme case may become “too cheap to meter”, however the cost of electricity is just a single factor in determining the total cost to create, transport and ultimately use hydrogen as a fuel. In particular we highlight the following:

- The intermittency of renewable generation means any hydrogen converter powered by it may have low utilisation or require fossil fuel generation back up. Either option would push up the cost of producing each unit of hydrogen. This is exacerbated if the hydrogen converter is relying on surplus renewable generation.
- The conversion from electricity to hydrogen is not cheap. Despite decades of development, there is not yet a cheap, reliable method available.
- The distribution, transportation and storage of hydrogen (including any conversion upgrade, replacement or brand-new builds required to insert hydrogen into the gas network) all add costs.
- End-use appliances (such as burners) may require conversion, upgrade or replacement which also adds costs. It must be noted that, even though many end use appliances may be rated for up to 13% hydrogen blend, this rating is for a momentary mixture of hydrogen and natural gas rather than for a continuous hydrogen blended fuel. We note that the costs of any necessary end-use conversions, upgrades or replacements are often left out of the cost-benefit analyses for hydrogen.

Analysis from the Grattan Institute found households would save money and Australia would reduce emissions if new houses in NSW, Queensland, South Australia, and the ACT were all-electric.¹ The current trend towards electrification of traditional gas and transport loads in homes and businesses makes the widespread domestic use of hydrogen unlikely as traditional gas connections decline. The ACT Government has committed to phase out fossil-fuel-gas in the ACT by 2045 at the latest, and set a goal of no new gas mains infrastructure to new developments by 2023. While the ACT is the only jurisdictional government to make this kind of commitment, the many benefits of electrification make it likely other governments will follow suit.

We recommend keeping the Export Superpower scenario focussed on the production of hydrogen for export rather than changing it to include its use in the grid.

We welcome the opportunity to discuss these matters further with AEMO.

Yours sincerely

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¹ Grattan Institute, Flame out The future of natural gas, November 2020, 3.
<https://grattan.edu.au/wp-content/uploads/2020/11/Flame-out-Grattan-report.pdf>