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23 June 2025

Mr Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator
Lodged by email: ISP@aemo.com.au

Dear Mr Westerman

Submission to Draft 2025 Electricity Network Options Report

The Centre for Independent Studies (CIS) appreciates the opportunity to provide a submission to the Australian Energy Market Operator on its Draft Electricity Network Options Report.

The CIS is a leading independent public policy think tank in Australia. It has been a strong advocate for free markets and limited government for more than 40 years. The CIS is independent and non-partisan in both its funding and research, does no commissioned research nor takes any government money to support its public policy work.

The Draft Report contains several critical problems in its approach to transmission cost estimation that should be addressed to accurately reflect the unprecedented cost increases expected over the next decade; which largely arise from the substantial transmission construction activity compressed into a very short timeframe:

- AEMO's representation of "tight" market conditions as a mere 10% uplift in costs understates likely future increases. Historical cost escalations observed to date have been an order of magnitude greater, and attempting to complete numerous projects concurrently will only exacerbate market constraints, leading to even higher cost increases.
- AEMO appears to inadequately account for increased financing costs resulting from heightened project risks. Project cost blowouts have become the norm, and transmission companies have warned that their credit rating could deteriorate should they need to raise additional funds to cover these escalating costs. Under such circumstances, investors will reasonably demand higher returns to compensate for greater risks. These elevated financing costs should be explicitly factored into cost estimates for major transmission projects.
- AEMO should apply a market rate of return to all projects, including those that may receive concessional finance, to ensure projects are assessed based on true economic costs and benefits, not masked by financing arrangements that are often taxpayer funded.
- Project costs should not vary across scenarios. Allowing costs to fluctuate by scenario unnecessarily compounds uncertainty, undermines transparency, and increases the risk of approving economically unsound projects due to selective matching of costs and benefits.

Yours sincerely

Aidan Morrison
Director, Centre for Independent Studies Energy Program

Questions 1 & 4: Mass transmission buildout increases known and unknown risks

AEMO has confirmed that, since 2024, real costs for overhead transmission line projects have increased by 25% to 55% and substation projects by 10% to 35% as a result of the following five key drivers:

- sustained supply chain pressures on materials, equipment and workforce;
- market competition driven by a high number of concurrent projects under development in the NEM;
- additional contracting costs to account for risk allocation in engineering, procurement and construction contracts in response to pressures in the current market;
- project complexity, including an increased number of projects planned for remote areas; and
- social licence and additional community and landholder engagement along proposed transmission line routes.[1]

The first three factors are a direct result of the push to build many transmission projects in many different areas all at the same time (Figure 1).[2] This increases market competition, which puts pressure on supply chains and increases the risk that necessary resources will not be available for projects in time, adding to construction costs.

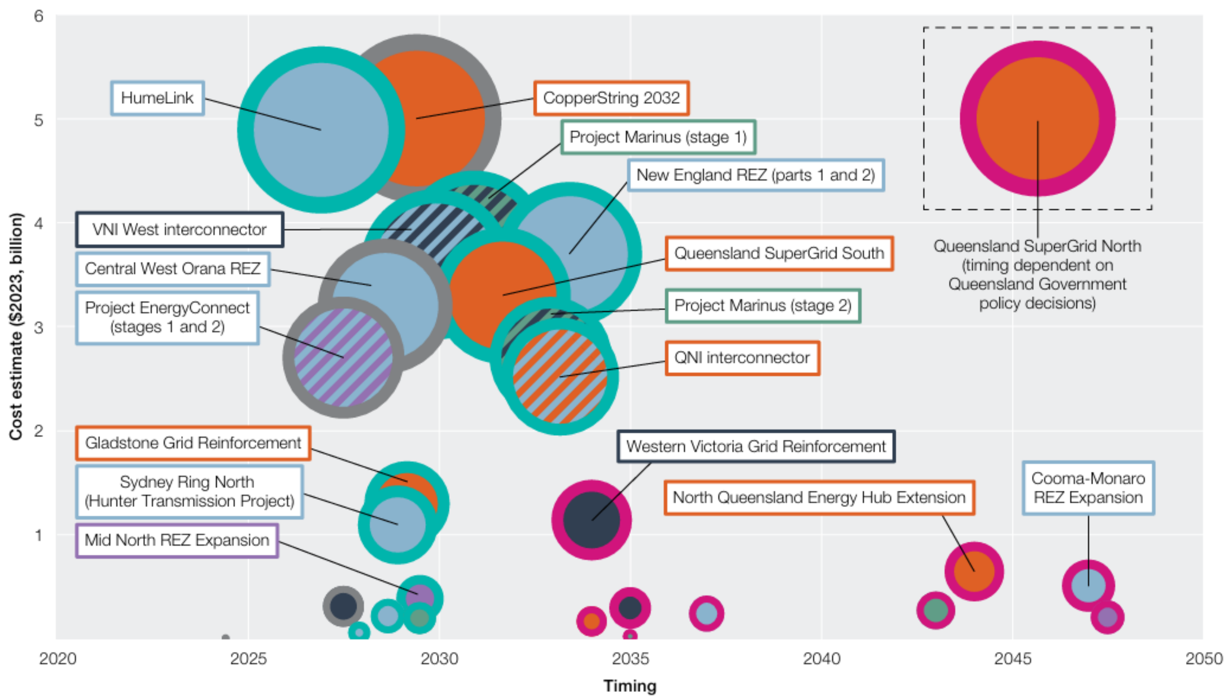

Figure 1. Most transmission projects in the 2024 ISP are scheduled for construction in the next several years.

Over the next decade, the transmission construction pipeline comprises an unprecedented number of major projects. This will cause the above key drivers – namely, supply chain pressures, market competition and additional construction costs due to increased risk – to worsen in the near term. AEMO does not appear to have fully taken this into account in forecasting future transmission project costs.

AEMO has proposed to update the Transmission Cost Database so that it can be used to reflect tight market conditions "similar to those recently observed in the NEM".[3] AEMO states that selecting a "tight" market setting for a project applies only a 10% uplift to transmission project costs.[4] CIS notes that this 10% figure is asserted by AEMO and is not explicitly endorsed by GHD in its transmission cost database update for AEMO.[5] Given the substantial cost increases observed recently – 100% or more for most major transmission projects from 2020 to 2024 (Figure 2)[6], and a further 25-50% observed over the past year[7] – a 10% uplift significantly understates future cost escalations. The estimated uplift in costs arising from tight market conditions over the next several years should be greater than the cost increases already observed, not less. This is because the unprecedented number of major transmission projects planned for simultaneous construction from now until 2035 is very likely to result in unprecedented cost escalations.

Another important factor to consider is the impact of increased risk on financing costs, which arises from unprecedented volumes of concurrent major transmission projects. Not only will construction costs increase in the near term, but the cost of capital will also increase, as investors expect higher returns for transmission investments, which are no longer as low risk as they once were.

Transmission companies are already concerned about whether they will be able to maintain their credit ratings and secure sufficient financing for major projects. Transgrid, for example, has recently sought $700 million in government underwriting for synchronous condensers after facing a $1.5 billion cost blowout on Project EnergyConnect, and wants to "get sufficient financing from the beginning so that we don't blow our credit rating up".[8] It is unclear whether Transgrid will receive regulatory approval to pass through this cost blowout to consumers. Should regulatory approval be denied, transmission companies may need to take on even more debt to fund these projects. This increased leverage would raise financing costs, as both lenders and investors would demand higher rates of return to compensate for the heightened financial risk.

Given that the ISP serves as the key blueprint for major transmission projects across the NEM, it is alarming that the ISP adopts such an optimistic outlook when determining major projects that have material consequences for consumers.

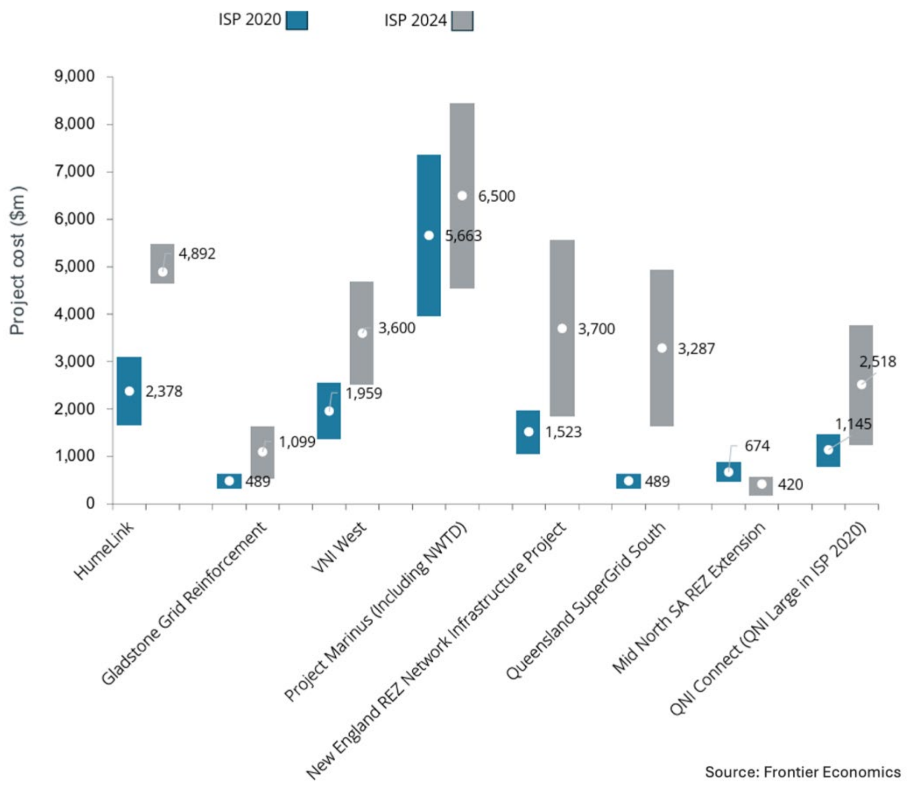

Figure 2. Comparison of 2020 ISP and 2024 ISP transmission cost estimates.

Question 3: Concessional finance

Even though the inclusion of concessional finance in the cost benefit analysis for ISP projects would align the ISP with the RIT-T methodology, this would be an alignment to a poor framework. Allowing the savings from the use of concessional finance to reduce the cost of projects distorts the true economic costs by simply redistributing expenses from consumers to the funders who are often taxpayers themselves.

For example, if the use of concessional finance in a particular project results in a $300 million present value net benefit, this may reduce the cost to consumers by $300 million, but it has increased costs to the finance providers by $300 million. Since most providers of concessional finance are taxpayer-funded bodies (e.g. CEFC), it is the taxpayer who ultimately bears this cost. The overall project does not cost any less due to this decision – the same amount has to be spent on the physical poles and wires. Such an accounting approach seems to violate the ISP's fundamental purpose of identifying projects that represent the least-cost solution for end users.

This is important for two reasons:

1. Comparison across projects – effective comparison of projects should be made on their actual economic cost and benefit, excluding the effect of financing. This is consistent with how direct funding from a Participant or an Other Party is treated in the AER rules.[9]
2. Total economic costs of the energy transition – The total costs of transmission projects should be able to be calculated as the sum of the cost of each of the individual projects. This is not possible if costs are masked by financing arrangements, as the benefit of the concessional finance – the cost to the taxpayer – would have to be independently calculated.

Instead, a market rate of return should be applied to accurately compare the net economic benefits across projects.

Moreover, CIS agrees with the objection presented in section 2.8 of the Electricity Network Options Report that the early stage of these projects means a guarantee of concessional financing is harder to prove to the standards required by the AER guidelines. CIS maintains that this is appropriate, and that the level of assurance required should not be relaxed.

CIS rejects the proposal to "rely on advice from the relevant government funding body and the AER on the appropriateness of including concessional finance for a specific ISP project, and the likelihood of an agreement being executed", as this is a much lower confidence method. Such advice can easily be changed and is not binding on the project, making it much more likely for there to be material changes to financing arrangements further in the planning process.

Further, this advice does not guarantee that the benefits of such financing will always be fully transferred to consumers. For example, Transgrid has recently received $1.92 million in funding from the CEFC for HumeLink and VNI West,[10] and more recently $550 million for HumeLink.[11] However, because the details of any concessional financing arrangements with the AER are confidential, it is not even possible to determine if the benefits of these loans are being passed on to consumers. TNSPs are not obligated to pass this benefit through unless this was specifically part of the financing terms. Moreover, there is an obvious incentive for TNSPs to retain the benefit for their shareholders. It is therefore impossible to obtain certainty of these arrangements earlier in the planning process and these indications should not be relied on to reduce costs.

The above example of CEFC funding for HumeLink is instructive. This project has experienced major cost and financing changes over its lifetime. AEMO should clarify what its understanding of project financing was for the 2020 and 2022 ISP, and whether AEMO has guaranteed the level of concessional financing *and* the amount that would eventually be passed on to consumers.

Question 5: Scenario-specific transmission project cost forecasts

Forecast transmission project costs should remain constant across scenarios. AEMO's proposal to vary transmission costs according to scenarios is inconsistent with established RIT-T practice. Specifically, both the RIT-T instrument (§6)[12] and the RIT-T Application Guidelines (§3.9.2)[13] stipulate that the project cost must be the probability-weighted present value of the direct costs under a range of assumptions. The list of scenario variables in §22 of AER's RIT-T instrument deliberately omits project capital cost to avoid double-counting cost uncertainty already captured in the probability-weighted figure. Scenarios, as defined in the AER's Instrument and Guidelines, are intended to capture external market conditions – such as demand growth, fuel prices, and policy settings – that affect the estimated benefits of the project.

Allowing both the costs and benefits of transmission projects to vary according to scenarios unnecessarily compounds uncertainty, undermines transparency, and raises the risk of approving uneconomic projects. Specifically, this could obscure the true economic viability of a project by aligning higher costs with scenarios showing greater benefits and lower costs with scenarios showing fewer benefits. Such matching of costs to benefits could create the artificial appearance of net economic benefits across all scenarios, when a probability-weighted cost figure might have resulted in the project being found uneconomic in some scenarios. CIS submits that holding project costs constant, as per established practice, ensures that scenario analysis transparently and clearly reveals under which conditions a project truly delivers net economic benefits.

Furthermore, successive ISPs have consistently underestimated actual costs of major transmission projects (Figure 2). Allowing scenario-specific cost variations would exacerbate this problem, further entrenching cost underestimation and benefit overestimation in the 2026 ISP. Forecast transmission project costs should reflect the significant cost increases which are likely to occur in the near term, as outlined above, and these updated estimates should be held constant across scenarios. This is especially important for projects planned for the next several years, as the scenarios do not to diverge sufficiently over this time horizon to justify scenario-specific cost estimates.

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[1] AEMO. 2025. 'Draft 2025 Electricity Network Options Report'. p 5. https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2025/2025-electricity-network-options-report/draft-2025-electricity-network-options-report.pdf.

[2] AER. 2024. 'State of the energy market: 2024'. p 118. https://www.aer.gov.au/system/files/2024-11/State%20of%20the%20energy%20market%202024.pdf.

[3] AEMO, p 36.

[4] AEMO, p 45.

[5] GHD. 2025. 'ISP Transmission Cost Database Tool: 2025 Update'. https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2025/2025-electricity-network-options-report/ghd-2025-transmission-cost-database-update-final-report.

[6] Frontier Economics. 2024. 'Report 1 – Developing a base case to assess the relative costs of nuclear power in the NEM'. https://www.frontier-economics.com.au/wp-content/uploads/2024/11/Report-1-Base-case-report-Nov-14-2024_v2.pdf.

[7] GHD. p 45.

[8] Macdonald-Smith, Angela. 2025. 'Transgrid seeks government support for vital $700m grid investment'. https://www.afr.com/companies/energy/transgrid-seeks-government-support-for-vital-700m-grid-investment-20250314-p5ljly.

[9] AER. 2024. 'Cost Benefit Analysis Guidelines – Version 3'. p. 79. https://www.aer.gov.au/system/files/2025-05/AER%20-%20Cost%20Benefit%20Analysis%20guidelines%20-%202024%20-%20Version%203.pdf.

[10] CEFC. 2024. 'CEFC caps year with record investment in clean energy "superhighway"'. https://www.cefc.com.au/media/media-release/cefc-caps-year-with-record-investment-in-clean-energy-superhighway/.

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[12] AER. 2024. 'Regulatory Investment Test for Transmission: Application guidelines'. https://www.aer.gov.au/system/files/2025-05/AER%20-%20Regulatory%20Investment%20Test%20for%20Transmission%20application%20guidelines%20-%202024%20-%20Version%206..pdf.

[13] Ibid.