50 Camberwell Road Hawthorn East VIC 3123

Clean Energy Investor Group

18 July 2024

Mr. Ashwin Raj
Project Leader
Australian Energy Market Commission
Lodged online on the AEMC website

Dear Mr Raj,

Response to AEMC's consultation paper on Better integrating gas into the ISP (Electricity)

The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the AEMC's consultation paper Better integrating gas into the ISP published in June 2024.

CEIG represents domestic and global renewable energy developers and investors, with more than 16GW of installed renewable energy capacity across more than 76 power stations and a combined portfolio value of around $38 billion. CEIG members' project pipeline is estimated to be more than 46GW across Australia. CEIG strongly advocates for an efficient transition to a clean energy future on behalf of the investors who will provide the low-cost capital required for this transition.

Key Points

- **CEIG supports consideration of factors aimed at improving the ISP's relevance in an evolving energy landscape.**
- **CEIG urges decision-makers to enhance regulatory processes** for a more conducive investment environment, emphasising the importance of timely assessments and frameworks for ISP implementation.
- CEIG is pleased to see **greater consideration on delivering emission reductions and consideration of CER in the 2024 ISP.**

Better integrating gas into the ISP

- **CEIG supports analysing the costs and feasibility of gas infrastructure in principle but emphasises the need to prioritise utility-scale storage** and other measures, with adding additional gas capacity considered as a last-resort option.

- CEIG believes **the case of new gas plant capacity seems to be overstated in the 2024 ISP**.
- CEIG stresses that a push for **increased reliance on gas peakers complicates forecasting revenue for storage** and risks increasing uncertainty for renewable energy investors.
- **AEMO needs to specify the techno-physical requirements of the 100% renewable power system**, as has been done internationally, and CEIG believes **this should be prioritised over improving the integration of gas into the ISP.**

Improving consideration of demand-side factors in the ISP

- **CEIG supports the proposal to amend the NER, requiring AEMO to expand its analysis of the uptake and availability of orchestrated CER and distributed resources.**

Better integrating community sentiment into the ISP

- **CEIG supports the proposed rule changes to the NER, specifically for AEMO to consider known community concerns or sensitive locations, and for TNSPs to collaborate in sharing relevant community sentiment information with AEMO during the joint ISP planning process.**

Futureproofing through robust data

- CEIG emphasises the need for AEMO to **improve weather data modelling by analysing any major renewable energy droughts that may have occurred over a 30 to 50-year historical profile to address uncertainties in energy demand forecasting and weather prediction**.
- Advancements in weather data modelling will support more informed decision-making and **may result in reduced dependence on gas backup by proactively addressing potential vulnerabilities in renewable energy generation.**

GENERAL COMMENTS

The release of the Australian Energy Market Operator's (AEMO) 2024 Integrated System Plan (ISP) is a significant milestone for Australia's renewable energy investors. It offers a comprehensive roadmap that strengthens investor confidence and highlights the transformative potential of clean energy investments.

CEIG commends AEMO for reaffirming renewable energy as the most cost-effective solution to meet Australia's increasing electricity needs while also aligning with ambitious climate targets.

Despite these indicators, CEIG recognises the challenges outlined in the ISP, particularly the delays in planning and environmental assessments that impede investment in renewable energy. CEIG calls on decision-makers to improve these regulatory processes to create a more conducive investment environment. Timely assessments and supportive regulatory frameworks are crucial for the successful implementation of the ISP.

The ISP stands as Australia's most thorough plan for its energy grid, offering crucial clarity and direction. CEIG urges Ministers to promptly enact its recommendations to ensure Australia fulfills its Paris Agreement obligations and expedites its transition towards a low-carbon economy.

To provide clarity to investors, CEIG has previously called for an assessment of the likelihood of new build gas and the level of participation from coordinated consumer energy resources (CER)[1]. To this end, CEIG recommended incorporating a value of emission reductions in the Final 2024 ISP and giving greater attention to the growing pipeline of utility-scale energy storage projects in the NEM. Therefore, CEIG is pleased to see that the Final 2024 ISP includes an emission reduction value of $3.3 billion and places greater emphasis on for delivering emission reductions and a greater consideration of CER[2].

CEIG understands that the AEMC is proposing to expand the consideration of gas market data, CER, and earlier consideration of community sentiment in the ISP to improve support for the energy transition. CEIG values the consideration of these factors aimed at improving the ISP's relevance in an evolving energy landscape.

Better integrating gas into the ISP

CEIG agrees in principle with the proposal to analyse the costs associated with gas infrastructure investments and consider the commercial feasibility and availability of gas developments. However, we believe that more attention should be given to the developing pipeline of utility-scale storage and other measures, with additional gas capacity being considered as a last-resort measure.

CEIG agrees with the AEMO's assessment that project assessment and approval delays are hindering the transition to a sustainable energy future. However, the focus should be on addressing these issues and prioritising utility scale storage over immediately resorting to gas. The final 2024 ISP strongly emphasises the urgency of accelerating the deployment of new solar and wind generation capacity.

To meet our emission reduction goals, achieve our renewable energy targets, and uphold our Paris Agreement commitment to limit warming to 1.5 degrees, we cannot rely on gas.

Sense check the need for a material amount of new gas capacity

CEIG anticipates that improving the way gas is modelled in the ISP will reduce requirements for new peaking gas capacity, since infrastructure and resource limitations will be better captured. This appeared to be the case between the draft and final versions of the 2024 ISP where there was an improvement in modelling approach and a fall in peaking gas powered generation.

[1] CEIG (Feb-24) Response to Draft 2024 Integrated System Plan
[2] AEMO (Jun-24) Integrated System Plan

Furthermore, CEIG recognises that the ISP does not predict a need for significant new gas capacity until 2033-34, when majority of coal generation has exited the market. At that point, gas is expected to be used as a strategic reserve for power system reliability and security. AEMO also suggests that deep storage may be another alternative[3].

CEIG commissioned Baringa to model a practical and commercially credible scenario for decarbonising the National Electricity Market (NEM) in line with staying below 1.5°C[4]. This model, validated by investors, revealed no need for additional gas capacity beyond the ISP Step Change scenario. In the 1.5°C scenario, fast-ramping turbines and storage are required to operate 5-15% of the year. Although fast-ramping turbines are modelled as a mix of existing gas plants and new green dispatchable technologies, other technologies, such as renewable hydrogen, could replace gas as costs decrease. Therefore, CEIG recommends that if new gas capacity is added, it should be designed for future conversion to lower emissions technology, such as renewable hydrogen.

Reliance on gas increases uncertainty for renewable energy investors

A push for increased reliance on gas peakers complicates forecasting revenue for storage. Existing gas plants can compete with batteries in the energy and ancillary services market without the needing to recover investment costs since their capital expenditure is already depreciated. On the other hand, most storage investors need to repay their large upfront capital expenditure and will therefore require a reliable revenue stream so they can secure adequate financing terms.

Gas is high in carbon and must play a rapidly diminishing role in the power system to make way for advanced inverter-connected generation and batteries.

AEMO's lack of progress in identifying the technical specifications needed for services in a low-carbon power system, coupled with an increasing reliance on new gas plants for power system reliability, is hindering the clean energy transition and limiting opportunities for new technologies to enter the market.

AEMO needs to specify the techno-physical requirements of the 100% renewable power system, as has been done internationally in countries such as Ireland and the UK, to enable participants to develop the necessary services and capabilities to meet those specifications[5]. CEIG believes this should be prioritised over further integrating gas into the ISP.

Improving consideration of demand-side factors in the ISP

CEIG notes that the Final 2024 ISP explicitly recognises CER as a significant resource in the transition and acknowledges its contributions[6]. This includes adding 'distributed networks' where renewable resources are connected and valuing consumer batteries as a cost-saving alternative to additional grid-scale investments.

[3] CEIG (Feb-24) Response to Draft 2024 Integrated System Plan

[4] CEIG & Baringa (Apri-24) Accelerating our energy transition with a credible 1.5°C scenario

[5] CEIG & Nexa Advisory (Mar-24) Energy Storage Financeability in Australia

[6] AEMO (Jun-24) Integrated System Plan

Harnessing solar and battery energy storage systems (BESS) to manage energy demand will further reduce the need for costly upgrades to the electricity grid[7]. Coupled with CER, this will lower electricity bills for all consumers.

Thus, CEIG supports the proposal to amend the NER, requiring AEMO to expand its analysis of the uptake and availability of orchestrated CER and distributed resources. We believe this change would improve the robustness of AEMO's forecasts and analysis. This will assist governments in better understanding and supporting the expansion of CER by providing access to this specific data.

Better integrating community sentiment into the ISP

CEIG has witnessed how social licence concerns can delay project assessment and approval timelines. Insufficient community engagement can create uncertainty about a project's future, making it difficult to secure funding or attract investors due to perceived risks. This, in turn, delays the energy transition.

Governments have a responsibility to collaborate with communities, establish standards for effective community benefit sharing, and set minimum expectations for community engagement practices to ensure there is the necessary social acceptance. CEIG acknowledges the importance of early engagement with communities who will host energy infrastructure to foster trust-based build relationships.

CEIG recognises that the current rules do not mandate AEMO to consider community sentiment towards transmission projects in the ISP. Additionally, transmission network service providers (TNSPs) are not currently obligated to share information about community sentiment and local concerns with AEMO to inform the ISP development process.

Therefore, CEIG supports the proposed rule changes to the NER, specifically for AEMO to consider known community concerns or sensitive locations, and for TNSPs to collaborate in sharing relevant community sentiment information with AEMO during the joint ISP planning process.

Futureproofing through robust data

Given the inherent uncertainties in energy demand forecasting and weather prediction, it is crucial for AEMO to improve its weather data modelling capabilities. CEIG suggests that AEMO expands its weather data analysis to encompass any major renewable droughts that may have occurred over the past 30 to 50 years, such as in winter 2010.[8] This extended dataset would provide a more robust and comprehensive understanding of weather patterns and their potential effects on renewable energy sources, particularly

[7] Nexa Advisory (Jun-24) More NSW businesses with rooftop solar would be a 'win win' for power bills and the clean energy transition

[8] Andy Boston et al (2022) Characterisation and mitigation of renewable droughts in the Australian National Electricity Market

concerning occurrences like wind and solar droughts.

This long-term data would improve forecasting of periods with reduced wind and solar generation, crucial for planning renewable energy supply. By incorporating a wider range of historical weather data, AEMO can better evaluate and mitigate weather-related risks. This advancement in data modelling will support more informed decision-making in the development of deep storage solutions.

This would also enhance resilience to the energy grid, promoting a more reliable and sustainable energy supply in response to unpredictable yet known weather variability risks. This strategy aligns with sound planning and energy management principles, aiming to reduce dependence on gas backup by proactively addressing potential vulnerabilities in renewable energy generation.

CEIG thanks the AEMC for the opportunity to provide feedback on its consultation paper and looks forward to continued engagement on those issues. Our Acting Policy Director can be contacted at daniel.zelcer@ceig.org.au if you would like to further discuss any elements of this submission.

Yours sincerely,

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