



21 November 2024

Australian Energy Market Operator
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Submitted online at: ISP@aemo.com.au

Dear AEMO

Submission: Integrated System Plan Methodology Issues Paper

CS Energy welcomes the opportunity to provide a submission in response to the Australian Energy Market Operator's (AEMO's) 23 October 2024 Issues Paper (Paper) on the Integrated System Plan (ISP) Methodology.

About CS Energy

CS Energy is a Queensland-owned and based energy company that provides power to some of the state's biggest industries and employers. We generate and sell electricity in the wholesale and retail markets, and we employ almost 700 people who live and work in the regions where we operate.

CS Energy owns thermal power generation assets, and we are building a more diverse portfolio that includes renewable energy, battery storage, hydrogen-ready gas fired generation and pumped hydro.

We also have a renewable energy offtakes portfolio of almost 300 megawatts, which we supply to our large commercial and industrial customers in Queensland. CS Energy's vision is to lead Queensland's energy transformation to create a better future.

Overview

CS Energy supports the broad steps proposed in the Paper to improve the quality of AEMO's ISP methodology. A general observation is that AEMO should conduct and report sensitivity analyses of forecasts where timelines are seen subject to events that are, for example, at least likely with moderate consequences or are unlikely with major consequences. This will assist in building understanding that the ISP is not so much a firm masterplan as an assessment of possibilities providing a guide for the transformation.

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Comments on Section 4 Integrating Gas in the ISP

CS Energy supports AEMO's proposed approach to better integrating gas into the ISP. Given gas is sold into a wide range of customers, it would be unrealistic to simply co-optimize up-stream gas production, transmission and storage investment with growth in gas demand for electricity generation. AEMO's approach therefore will provide industry and government with robust information about the outlook for gas supply to the electricity sector. Given gas-fired generation will be increasingly essential to maintaining reliability and security, industry and government decision-makers then can consider and implement effective responses to any forecast gaps in gas supply to the generation sector.

Specific observations in relation to better integrating gas are:

- AEMO should provide information about its methodology to apply risk to its gas production development projections
- the proposed use of scenario analyses is welcome; in particular, it might provide the market context for the marginal cost of supply
- AEMO could find it difficult to capture data on projects less mature than those captured through the *National Gas Rules*' requirements for facility developers to provide information on new projects. It might be worth AEMO assessing the benefit and practicality of introducing earlier timing for developers' reporting obligations for the Gas Statement of Opportunities (**GSOO**). CS Energy notes that Gas Bulletin Board compliance requires reporting at an earlier stage of development than the GSOO.

Comments on Paper Section 5 Improving Demand-Side Modelling

CS Energy supports AEMO's proposed inclusion of distribution network capabilities and assessing their impact on Consumer Energy Resources (**CER**) uptake in the ISP model.

To enhance the ISP's analysis, AEMO also should consider different operational models used to manage existing distribution capacity as it can limit or facilitate CER uptake and the ability of CER to provide grid-related services. For example, compared to the more widespread static limits, dynamic operating envelopes would facilitate more efficient use of existing network capacity by varying CER exports and imports dynamically depending on network conditions.

However, distribution network capability is not the only factor that affects CER uptake and CER's active participation through aggregation such as virtual power plants (**VPPs**). Other key factors include:

- Financial factors such as costs of CER and financial incentives. For example, financial incentives are likely necessary to convince consumers to allow battery orchestration through VPPs or change their charging pattern for electric vehicles (**EVs**) to serve the needs of the grid. For example, only 24% of consumers surveyed by Project EDGE expressed a high level of interest in participating in a VPP.¹ Research from the University of Melbourne also suggests that, without an incentive, only 16.5% of EV owners would consider changing their charging time to between 10am and 2pm (i.e. when rooftop PV output is at its peak).²

¹ AEMO, [Project EDGE Final Report](#), October 2023.

² University of Melbourne, [Electric Vehicle Charging Consumer Survey: Insights Report](#), October 2021.

- Non-technical factors such as consumer perceptions. Project EDGE found that while 62% of consumers surveyed were positive about VPPs, this did not translate into an interest in joining a VPP with 47% of consumers having little to no interest. This survey also found that only 24% of consumers trust operators of VPPs to manage their CER. This demonstrates the potential challenge in convincing consumers with CER to participate in VPPs and provide grid-related services.
- Supply chain, workforce and physical constraints, including access to sufficient materials/skilled workforces and available rooftop space for solar PV (and its characteristics such as shading and orientation).

Incorporating the above factors would improve the robustness of the ISP's analysis. Further, CER and distribution-related investments (including incentives) should also be co-optimised with utility-scale generation/storage and transmission investments. Unlike gas, the relationship between energy generated by CER and transmission network connected plant – they serve the one and only market - means that such co-optimisation is sensible. In particular, it would assist in identifying a least-cost approach from a whole-of-system perspective to meet demand and maintain grid security.

Comments on Paper Section 6 Assessing Actionability of Transmission Projects

CS Energy agrees that identifying the actionable window for transmission projects by the timing that provides the most value for customers does not necessarily provide the most plausible timing for those projects. In that regard, AEMO's observations about project proponents' knowledge and experience of planning approvals processes and stakeholder engagement are highly relevant. AEMO's proposal to apply the project delivery dates nominated publicly by project developers therefore makes sense.

CS Energy suggests that delays to project delivery against transmission developers' nominated timings are to be expected reasonably frequently. The risk of such delays, based perhaps on the historical rates of delay (against developers' timeframes) to large transmission projects, adjusted for the growing demand for development resources and public objections to developments, should be factored into AEMO's main transmission timing forecasts or assessed through sensitivity analyses.

If you would like to discuss this submission, please contact Don Woodrow, Market Policy Manager, on 0407 296 047 or dwoodrow@csenergy.com.au.

Yours sincerely



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