1 May 2023

Mr Daniel Westerman
Chief Executive Officer & Managing Director
Australian Energy Market Operator

Submitted via email at ISP@aemo.com.au.

Dear Mr Westerman,

Consultation on the 2023 Independent System Plan Methodology

Fortescue Future Industries (**FFI**) are strong supporters of the Integrated System Plan (ISP), with a robust methodology, capable of navigating through the energy transition. To deliver a plan that is well-suited to meeting government's net zero and emissions reduction policies by supporting the rate of change from fossil fuel to renewable generation and helping to manage the impacts of climate change, FFI believes that the draft ISP methodology requires a more fundamental review. The methodology remains suited to modelling, and therefore planning for, a system with large amounts of fossil fuel generation that considers 'energy issues' as the primary challenge, rather than 'capacity' (i.e., energy at the right time). This thinking permeates the methodology and needs to be updated to plan for and build the energy system of the future containing a larger mix of renewable energy and energy storage.

As indicated, a holistic review of the methodology is planned for 2025, but this will influence the 2026 ISP, likely not resulting in notable changes in the system until 2031 onwards (assuming a typical five-year lead time). In the context of the increasingly rapid energy transition, and capacity interventions in the form a Capacity Investment Scheme, this approach risks misaligned timing to the more immediate need to improve modelling to support a well-planned power system which is experiencing considerable and fast-paced change.

Much like the concerns with the Inputs, Assumptions and Scenarios Report (IASR), the modelling choices in the methodology serve to understate the challenge and the need for more rapid action.

FFI's comments on the methodology are summarised:

- The proposed change to the National Electricity Objectives (NEO) to include an emissions objective appears to be treated as an afterthought, potentially set with an assumed carbon price (that was not included in the IASR). Whether this manages to produce emissions reductions (particularly in the counterfactual scenario) is not clear.
- Hydrogen development is only considered on the basis of providing energy storage for the grid. Scenarios with low hydrogen demand (everything other than Green Energy Export) have no options to increase production and don't plan for early large-scale projects before 2030.
- Transmission is scheduled to be built several years after it is needed. Figure 1 is a modified version of Figure 14 from the draft methodology, highlighting that the current methodology defers transmission development well after it is first needed.

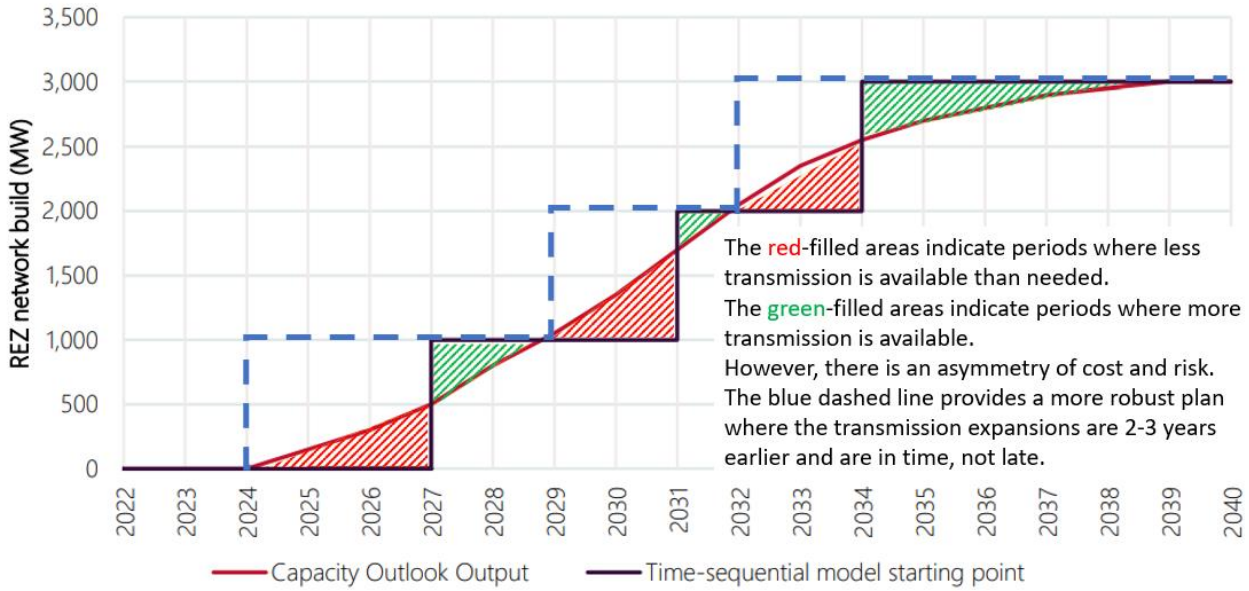

Figure 1 – modified version of Figure 14 from the draft methodology

- Emissions from fossil fuels are underestimated by assuming highest efficiency heat rates.
- The system is tested against a summer peak, not a peak imbalance meaning the size of the challenge is underestimated. Increasingly, the energy gap will present at times of reduced renewable energy output, highlighting the capacity gap at increasingly varied times.
- Short duration storage is assumed to have full capacity when most needed. This is exacerbated by perfect foresight of all data in the optimisation engine – allowing perfect scheduling when considering the capacity expansion planning.
- Distributed PV is assumed to be fully available with the distribution network expanded to manage all flows. Assume that electric vehicle charging is treated similarly. If this does not eventuate, then the planned system build out may be insufficient resulting in continued use of thermal generation.
- The benefits continue to be assessed against the cost of the system rather than acknowledging that scarcity rent costs consumers substantially. In 2021 around half the cost in the market was attributable to prices over $300MWh – theoretically around the short-run marginal cost of liquid fuels generators. This is clear evidence of *substantial* scarcity rent impacting consumers.
- Limiting demand response duration may be suitable for the current options in the NEM. Over time new technologies are expected which may deliver much more capable demand response for example green hydrogen electrolysers.

With this range of issues, combined with substantial uncertainty inherent in forecasting, the difference in market benefits between the plans is likely to be smaller than the uncertainty. In the 2022 ISP, 13 candidate development paths were assessed with the top five candidates all having a weighted net market benefit of approximately AU$29.5 billion – there was a $70 million difference in market benefits, around 0.2% difference which is essentially meaningless in the context of the uncertainty. If compared against the spend, it would be even smaller. Building the

plan that delivers the best outcomes against the NEO will likely have the fewest regrets. Building the candidate development path with larger and sooner expansion of transmission will accelerate the transition to cleaner energy sources and therefore will lower prices for consumers, reduce emissions while maintaining acceptable reliability standards.

Thank you for the opportunity to comment on the draft ISP Methodology. If you would like to discuss any of the issues raised, including more detailed feedback, please contact tom.parkinson@fmgl.com.au or me on the below details.

Yours sincerely

Nick Berry
Manager Government Relations
Nick.Berry@fmgl.com.au
FORTESCUE FUTURE INDUSTRIES