



1 March 2021

Nicola Falcon
General Manager, Forecasting
Australian Energy Market Operator (AEMO)

Submitted via email: ISP@aemo.com.au

Dear Ms Falcon,

AEMO'S INTEGRATED SYSTEM PLAN (ISP) METHODOLOGY – ISSUES PAPER

Origin Energy Limited (Origin) welcomes the opportunity to provide feedback on the ISP methodology issues paper. We provide some comments below aimed at improving the transparency and robustness of the modelling process and cost-benefit analysis.

Modelling methodology

- **Sub-regional forecasts:** Origin generally supports the modelling approach proposed by AEMO, including the adoption of a sub-regional topology. This should improve intra-regional forecasts to the extent that AEMO can robustly project sub-regional inputs. To improve transparency, we suggest that the methodology document should clearly set out the approach for forecasting these sub-regional inputs.
- **Renewable capacity:** Given that longer generation commissioning times are likely to be a feature of the NEM going forward (e.g., due to a prolonged hold point test periods), this uncertainty should be reflected in the modelling. For example, AEMO proposes to use a fixed capacity number for each financial year for renewable energy. A monthly renewable capacity outlook or a derating on renewable capacity based on projections of delivered energy adjusted for longer commissioning times may be more appropriate.
- **Hydrogen modelling:** We generally support the hydrogen-related inputs and assumptions proposed by AEMO and understand that, at this point in time, modelling simplifications may be required given the limited amount of information available on likely demand and production. We suggest that AEMO use a separate optimisation model to determine hydrogen demand and location. A separate tool may be more appropriate given the likely differences in hydrogen production and drivers compared to the electricity system. To the extent this is not feasible, AEMO should treat hydrogen-related variables as exogenous to the capacity outlook model to better reflect likely NEM outcomes.
- **Clamping projections:** We understand that with a higher penetration of renewables located close to interconnectors, there may be an increase in counter-price flows leading to more frequent clamping events. The modelling should forecast and incorporate these events so as not to overestimate the benefits of increased interconnection.

Cost-benefit analysis

- **Least worst regret:** We continue to be concerned about the proposal to use 'least worst regret' as an additional tool in the cost-benefit analysis, given its potential to lead to overbuild of the transmission network. It is unclear that this additional analysis is required given that the ISP can now include committed government policy such as the NSW Roadmap in its modelling. This should appropriately capture generation build that is likely to occur over the coming decades. Further conservatism to capture additional uncertainty may increase the risk of transmission overbuild/stranding.

- **TOOT analysis:** We support the inclusion of the take one out at a time (TOOT) analysis. It will provide additional transparency on the benefits of each project and ensure the optimal development path is robust.

Should you have any questions or wish to discuss this submission further, please contact Sarah-Jane Derby at Sarah-Jane.Derby@originenergy.com.au or by phone, on (02) 8345 5101.

Yours sincerely



Steve Reid
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