

13 September 2022

Dr James Taylor
Independent Engineers and Scientists
Via email: jamestaylor861@gmail.com

Dear Dr Taylor,

An open letter concerning AEMO's 2022 Integrated System Plan

Thank you for your letter to our CEO Daniel Westerman dated 22 August 2022 regarding AEMO's 2022 Integrated System Plan (ISP). We appreciate the interest you have taken in this important planning activity for the transition of the National Electricity Market and the information provided in your letter and report. Input from a range of interested parties is an important part of developing a robust plan that can be used to guide the transition that is occurring in the energy sector as it decarbonises. You and your colleagues have provided considerable analysis and information which has been helpful in understanding the basis of your concerns.

We have reviewed and considered your analysis and note that it is based on criteria and approaches which are not aligned with the standards and settings in the National Electricity Rules. Given this difference in criteria it is therefore not unexpected that the results of your analysis would differ from the analysis undertaken by AEMO for the ISP which necessarily is based on the standards and settings in the National Electricity Rules. A few examples of these differences are discussed briefly here for your reference.

Your modelling seems to take a 10 per cent probability of exceedance maximum demand for each region and then apply a 20 per cent reserve margin on top to determine the required capacity. The National Electricity Rules require an assessment of Unserved Energy with the required level to be below 0.002 percent unserved energy in each market region. This is a significant difference in approach which would be directly contributing to your assessment of insufficient capacity to meet demand.

With regard to variable renewable generators (solar and wind) your analysis appears to apply a "balance" approach with generators providing "average", "below average" or "above average" output levels (such as wind at 7 – 40 per cent output). In contrast the ISP uses historical output traces for real generators linked to actual weather conditions and applies that to future outputs while also looking for periods of coincident low solar and wind conditions to assess risks and inform long duration storage requirements.

Generation development adopted in the ISP is technology neutral. It uses generation cost models based on data developed through the CSIRO's annually updated GenCost report¹ – which in turn is based on robust modelling of local and international costs and forecasts. If and when technologies become economically

¹ CSIRO, GenCost, <https://www.csiro.au/en/research/technology-space/energy/energy-data-modelling/gencost-2021-22>

competitive, they become a part of future system models. An example of this is solar thermal technology which has well understood costs included in the GenCost data. This technology is not in the future system modelling outcome because those costs are higher than alternative technologies. If and when the cost of modular reactors for nuclear power plants become a viable economic option, and policy settings make it a possibility, such plants would feature in future system plans.

We remain confident that the ISP will meet the goals of a reliable, affordable and low emissions electricity system. The 2022 ISP has been developed with involvement from over 1,500 National Electricity Market (NEM) stakeholders through 31 forums and webinars, 198 written submissions, and continuous dialogue on every aspect. The exhaustive consultation, including feedback on the Draft ISP, has been instrumental in both confirming the ISP's direction, and testing its rigour. That rigour has stood up to market events over the past six months.

Thank you again for your interest in this important planning activity for the transition of the energy sector

I hope this is helpful,

Yours sincerely,



Jane McNamara

GM Stakeholder Engagement