

**Daniel Westerman**  
CEO  
Australian Energy Market Operator  
Lodged via email to: ISP@AEMO.com.au

13 February 2026

Dear Daniel Westerman,

### **Windlab's submission on the draft 2026 Integrated System Plan**

Windlab welcomes the opportunity to provide feedback on the draft 2026 Integrated System Plan (ISP) published in December 2025. As always, we are in awe of the quality and quantity of work that goes into producing the ISP and commend AEMO on both the report, and the model and data publications that are released alongside it.

#### **About Windlab**

Windlab is an Australian clean energy company, operating exclusively in the Australian market. Born from the CSIRO, Windlab has over 20 years of experience in developing renewable energy projects in Australia and is a member of the Clean Energy Investor Group (CEIG) and the Clean Energy Council (CEC). Those organisations are also providing responses, which Windlab is supportive of.

This submission contains some general comments first, followed by observations on specific Renewable Energy Zones (REZs) with responses to the consultation questions provided as an attachment.

#### **Overarching comments**

Social licence

- In our view, the ISP is not capturing social licence impacts well enough, particularly for more densely populated REZs with a significant number of smaller landholdings (the Hunter-Central Coast N9 REZ in NSW stands out in particular). This results in an unrealistic quantity of renewable development in these regions which may have a material impact on the value of transmission and the Optimal Development Path (ODP).
  - While this is admittedly a very challenging dynamic to capture in a market model, using average land parcel size as a proxy methodology to capture these real-world costs seems like a sensible solution that would provide greater alignment between modelling outcomes and real-world project development opportunities. This could then be implemented as a varying penalty price in the model to increase costs in areas that are harder to develop and drive model build into areas that are more aligned with the real-world development pipeline.
  - Windlab proposes that a scaled penalty factor methodology be more appropriate to capture the relative difficulty of project development in different REZs (i.e. REZs that have more challenging social licence constraints would have a higher penalty factor, based on the average land parcel size methodology proposed). This could be an entirely new constraint or an adjustment to one of the several different REZ-specific inputs, including the REZ resource limit violation penalty factor and locational cost factor assumptions, contained in the ISP *Inputs and Assumptions Workbook*. As an
-

aside, we would question some of the assumptions in the latter category as currently reported: non-pumped hydro energy storage in Broken Hill has a cost of land and development value of 17%, compared to the very similar South West NSW REZ at 124%, which is the highest in the state.

- Section 3.9.2 of the draft ISP suggests that resource limits for NSW have been revised based on EnergyCo feedback regarding connection interest. Windlab notes that Transgrid's 2025 *Transmission Annual Planning Report* and the New South Wales Major Projects Planning Portal also identify the distribution of wind project development interests across NSW REZs and suggests that these additional data sources be used to inform REZ resource limits.

#### Project pipeline

- Along similar lines, sense-checking model build results against prospective projects might be a practical way to further align the ISP outlook with development reality. It is uncommon for a significant wind project (>400MW) to progress from inception to commercial operations in under a decade. As such, the projects currently in the planning system will determine what is built over the next 10+ years. Areas with a large number of highly progressed projects, such as South West NSW (REZ N5), are much more likely to see new capacity than areas which are the opposite, such as Hunter-Central Coast (REZ N9).
- To facilitate the above assessment, AEMO's Generation Information publication should also report which REZ (if any) projects are located in. This would provide a useful basis for understanding REZ prospectivity in relation to modelled outcomes and help raise red flags when there is a significant discrepancy with the development pipeline.

#### Minimum project size

- In the current market environment, it is very challenging to make financing work on a wind project under ~200 MW, with original equipment manufacturers generally pricing turbine, supply and install contracts to reward economies of scale. In the last three calendar years, only 2 out of 14 wind farms to reach financial close in Australia were sized below this 200 MW threshold. As such, it would be more realistic if there was a limit on the minimum development build in any REZ to avoid arbitrary small amounts of one-off wind build in fringe REZs (i.e. Tumut N7 REZ, Cooma-Monaro N8 REZ, Barcaldine Q5 REZ and North East Tasmania T1 REZ).

### Comments on specific REZs

#### New South Wales

- As discussed above, in Windlab's view there is far too much onshore wind capacity built in the Hunter-Central Coast REZ (N9). Developing 1+ GW of wind (all build volumes in this submission+ refer to the Step Change ODP) in that region is implausible given the sparse pipeline of onshore wind projects (which in itself reflects land constraints and poor wind quality). Additionally, this area is already seeing rapid urban development which will only make it more challenging to connect future renewable projects.
- Likewise, the credibility of the New England REZ (N2) build pathway is debatable given the long-running challenges with community sentiment, and mediocre wind and solar resources in that area. Sensitivity testing ODP outcomes, including QNI Connect, if there is a more limited buildout seems prudent.
- On the other hand, the outlook for the South West NSW REZ (N5) dramatically underutilises wind. The majority of capacity that received South West REZ access rights from EnergyCo in 2025 are wind farms, with only a single solar project being successful. This should be a strong signal that the

modelled outcomes in the ISP – which favour solar in both the South West and Wagga Wagga REZs – are not well aligned with on-the-ground reality. Windlab has long advocated that the wind resource in the region is of a much higher quality than assumed by the ISP (where it is rated as C), and suggests that the extensive development pipeline and access rights results support that position.

- Given current and foreseeable transmission bottlenecks, it is near-impossible for 500 MW of solar and 1000+ MW of wind to connect in the Broken Hill REZ (N4) purely via local augmentations. Significant additional transmission would need to be developed further downstream to bring power to NSW's main load centre in Sydney/Newcastle/Wollongong (either via the South West REZ, or directly into Central West Orana REZ). If the scale of transmission expansion required to realise this capacity build was properly represented in the model, then additional development in South West REZ seems a much more attractive opportunity. Alternatively, there is another REZ which would seem more prospective...
- The South Cobar REZ (N13), which is much closer to Sydney than Broken Hill, seems more plausible as a development location if there is going to be a large dedicated new transmission project into western NSW. Have any transmission augmentation projects to South Cobar been considered as part of the ODP? Windlab proposes that AEMO and Transgrid should work together to further detail and cost transmission options to this region as a prudent hedge against potential underbuild in other NSW REZs (as discussed previously).
- Additionally, our view is that while there are some high-quality sites in the Broken Hill REZ (N4) along a ridgeline (captured by the wind high traces), the overall wind medium resource in South Cobar is probably better than in Broken Hill. Certainly there is not so much discrepancy as to justify building renewable capacity ~500 km further west. Furthermore, the wind medium build limit of 1.5 GW in South Cobar looks very conservative given the characteristics and current land use of this REZ, like South West REZ, are very well aligned with renewable energy development.
- Finally on Broken Hill, based on the *Inputs and Assumptions Workbook*, the marginal loss factor (MLF) assumptions for new REZ build are based on proxies from Broken Hill Solar Farm and Silverton Wind Farm. These facilities already have some of the lowest MLFs in the NEM. From a project development perspective, it would be nearly impossible to reach financial close at these levels, let alone at even worse MLF values which would surely accompany any new development in such a remote and congested region.
- While it probably has limited impact, our view is that connecting a 200 MW wind farm into the Marulan Distribution network (DN3) would be extremely challenging given land and community constraints and is misaligned with the real-world project development pipeline.

## Queensland

- Related to our earlier points regarding landholder costs in NSW, the inclusion of a more nuanced approach in Queensland might better align ISP modelling with the development pipeline and anticipated real world build. This would likely result in modelled build from the more populated coastal REZs (such as Q4 Isaac, Q5 Fitzroy, and Q10 Collinsville) shifting towards less populated interior REZs (such as Q5 Barcaldine and Q9 Banana).
- Development and curtailment outcomes in the North Queensland Renewable Energy Hub REZ (Q2) seem to be overly optimistic (Appendix A3). Any additional projects attempting to connect in this region will certainly face significant technical curtailment due to grid bottlenecks south of Townsville, given the removal of SuperGrid North from the ODP. This is likely to limit new projects connecting to well below the forecast 2000+ MW without additional transmission upgrades.

- We have similar concerns about build outcomes for the Far North Queensland (Q1) and Northern Queensland (Q3) REZs. Without additional backbone transmission between Townsville and Gladstone, it will be very challenging for any projects to reach financial close in these areas, even with the addition of CopperString. As such, Windlab recommends AEMO consider additional transmission opportunities in that region to ensure North Queensland wind development opportunities can be fully realised.

#### South Australia

- Windlab is highly supportive of the Northern Transmission project which would unlock a significant region of high development potential with a very strong wind resource. The recent formal declaration of the *Whyalla West Release Area* on 22 January 2026 under section 10(1) of the *Hydrogen and Renewable Energy Act 2023*, which comprises of the majority of the S5 zone, demonstrates strong market and government alignment for new renewable energy build in this REZ.
- Has there been any consideration of a step-change in the Northern South Australia (REZ S5) region load due to electrification efforts which seem likely to go ahead at Whyalla Steelworks?
- Has AEMO considered any additional transmission options into southeast SA from Victoria? (Further discussion in the following section).

#### Victoria

- There seem to be significant headwinds facing offshore wind development in Australia. Has AEMO done any scenario analysis to look at alternative pathways to maintain supply reliability in Victoria? Would additional transmission be required in scenarios where offshore wind development underachieves against the Victorian Government's 9 GW target?
- Connected to the above point, has there been any consideration of transmission augmentation through the Victorian South West REZ (V5) into southeast SA? This would unlock development in S1 REZ which has a strong wind resource and faces less hurdles from a development perspective.
- Given these challenges, and those faced by some NSW REZs (as discussed in the NSW section), has AEMO considered additional augmentation options or stages for VNI West? Unlocking additional capacity in South West NSW seems like a highly prospective option, especially compared to more remote – Broken Hill – and expensive – offshore Victoria – REZs.
- Appendix A3 reports offshore wind build in the South West REZ (page 107) as well as onshore wind build in Southern Ocean V9 REZ. This is misaligned with the 2025 *Inputs and Assumptions Workbook*. Is this a typo, as V5 looks to be a purely onshore REZ?

Further detailed responses to AEMO's consultation questions are also provided in the following section.

Thank you for the opportunity to help shape the 2026 ISP. If you have any questions, please don't hesitate to reach out directly.

Kind regards,

**Tom Willcock**

Senior Manager, Markets

[www.windlab.com](http://www.windlab.com)

 [tom.willcock@windlab.com](mailto:tom.willcock@windlab.com)

 L1, 60 Marcus Clarke Street, Canberra City, ACT, 2601

## Responses to consultation questions

1. *AEMO has proposed an ODP that represents a mix of investments that help deliver a reliable, secure, and least-cost power system while also meeting government policy targets.*

*Do stakeholders agree with AEMO's optimal development path selection in the Draft 2026 ISP? If yes, what gives you that confidence? If not, what should be further considered, and why?*

Windlab is broadly supportive of the ODP. There seems to be a growing view in the industry that some of the key assumptions, including coal closure timing and policy achievement, are unrealistic and distorting outcomes. While we share some of these concerns, our view is that the ODP is still generally fit-for-purpose in providing a least-cost guide for transmission development through the transition. However, as discussed in the previous sections, with more realistic consideration of REZ buildouts there are likely to be additional transmission projects that should receive further consideration.

2. *In the Draft 2026 ISP, AEMO has proposed some changes to actionable transmission projects including:*

- *11 actionable projects to remain for delivery over the next decade,*
- *three projects to move to 'committed or anticipated' status,*
- *one project to move to 'future' status to align with the timing of other projects that influence its benefits (Central Queensland to Southern Queensland Expansion aligned with Borumba Pumped Hydro), and*
- *two projects under review due to uncertainty in input assumptions and the influence of recent policies (Northern Transmission Project and QNI Connect).*

*Do you agree with the proposed timing and treatment of actionable projects in this draft?*

Again, we are broadly supportive of the above and appreciate the consistency over time from the ISP. Some specific comments:

- QNI Connect – if New England REZ development underdelivers, there will be a material impact on the net market benefits of QNI. This seems like a plausible outcome that should be sensitivity tested.
- Sydney Ring South – as mentioned previously, we think the ISP underrates the prospects for wind development in southern and western NSW and overrates other REZs north of Sydney. If wind resource and REZ prospectivity were better captured, this would likely increase the benefits of the 500 kV option for Sydney Ring South (which already looks very close to the ODP). Additionally, southwest Sydney seems to have emerged as the prime location for data centre development in Australia. Does this impact the net market benefits of Sydney Ring South?
- Northern Transmission Project – as noted in previous sections, Windlab strongly endorses this project which unlocks a significant region of high development potential with a very strong wind resource. The recent formal gazettal of the *Whyalla West Release Area*, which comprises the majority of the REZ S5 area, demonstrates strong market and government alignment on new renewable energy build which would be maximised by the delivery of the Northern Transmission Project. Windlab notes that the project's Project Assessment Conclusions Report is to be published imminently and looks forward to the outcomes of this report being captured in the final 2026 ISP.
- Gippsland Offshore Wind Transmission – each phase should be assessed on its own merits to maintain offramps if Government policy changes with respect to the 9 GW offshore wind target.

3. *For the Draft 2026 ISP, the tested sensitivities were on constrained delivery of the ODP, variations on the gas development projection, and the pace of coal closures. The effect of demand-side factors*

*was also tested by assessing the impact of reduced energy efficiency measures, and no further CER coordination.*

*What other sensitivities should be considered to further test the robustness of the candidate development paths, and why? What other sensitivities are relevant to testing robustness of investment decisions, why?*

Policy assumptions, particularly the Victorian offshore wind target of 9 GW, should be sensitivity tested noting the lack of a track record for this technology in Australia to date. Given the magnitude of the policy commitment on a technology which has not yet been deployed in Australia, providing sensitivity analysis for replacement transmission and generation build out is prudent (and would help assuage some concerns held by market participants discussed in response to question 1). Also suggest that, based on recent market developments, the faster coal retirements sensitivity is probably not necessary.

- 4. For the first time, AEMO has assessed opportunities for investment in distribution networks across the NEM, that are consistent with the efficient development of the power system, to support operation of consumer energy resources. This recognises the key role of distribution networks in supporting the integration of consumer energy resources. See Appendix A9 for more information.*

*Does the ODP appropriately identify and leverage distribution investment opportunities?*

There will certainly be capacity connected via distribution networks, but it's very challenging to model where and when. Windlab is broadly supportive of the consideration of utility solar build into distribution networks but notes the limited potential for onshore wind build in these regions given the strong market tailwinds away from small onshore wind projects <200MW. There seems to be a slight risk that including the Dubbo distribution network may double count plausible capacity development in the Central West Orana REZ. We also think it's unlikely that the Marulan distribution network will see any additional wind build due to inherent land use and social licence challenges.

- 5. For the first time in the Draft 2026 ISP, AEMO has incorporated combinations of gas investments that may be developed by the gas industry. These gas development projections influence the availability of gas to support the power system in the future, and (potentially) the mix of investments required in the ODP.*

*Do the gas development projections reflect an appropriate level of investment to support the gas sector, including gas-powered generation in the NEM?*

No comment.

- 6. The Addendum to the 2025 Inputs Assumptions and Scenarios Report (IASR) provides further explanation in response to the AER's Transparency Review. This includes further explanation of forecast components including policies affecting consumer demand, data centres, hydrogen production, biomethane and community batteries.*

*Do stakeholders have feedback on the Addendum to the 2025 IASR?*

No comment.