

21 November 2024

Australian Energy Market Operator

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Integrated System Plan (ISP) Methodology Issues paper

AusNet welcomes the opportunity to provide this submission to the Australian Energy Market Operator (AEMO) consultation on the ISP methodology issues paper.

AusNet is the largest diversified energy network business in Victoria—we own and operate three core regulated networks: electricity distribution, gas distribution and the state-wide electricity transmission network, delivering energy to more than 6 million Victorian households, businesses, and industrial users.

This submission has been written on behalf of AusNet's distribution network which has over 800,000 customers across 80,000 square kilometres covering eastern and north-eastern Victoria, and in Melbourne's north and east, with 93% being in regional and rural areas.

AusNet is committed to supporting the Victorian and Federal Governments in the energy transition. Our submission specifically responds to consultation question 6 in the issues paper, on behalf of our distribution business, which seeks views on AEMO's proposed inclusion of distribution network capabilities and their impact on customer energy resources (CER) within the ISP model and potential further enhancements that could be made.

In summary AusNet encourages AEMO to:

- Recognise the significant role that distribution networks can and are playing to enable energy transition outcomes at scale to support Australia's energy transition;
- Include the projects that fall under AusNet's Connections Enablement Program in its 2026 ISP as an input, details of which are publicly available; and
- Refine its modelling of the distribution network, especially at the 66kV sub-transmission level based on available information publicly available or provided by distribution network service providers (DNSPs) and consider co-optimisation of distribution network capacity and CER.

Distribution networks are playing a key role to support Australia's energy transition

In August 2024, the Energy Networks Association (ENA) published its "The Time is Now: Getting smarter with the grid" report¹. This report showed that under the "All Levers Pulled" scenario, \$7 billion of annual benefits could be delivered to consumers by 2030 through distribution-connected resources playing a more significant role in the energy transition.

This would allow the energy system to still deliver the consumer cost benefits and emissions reductions that are built into the current energy transition plans if the build of large-scale generation is prolonged beyond original timelines.

AusNet encourages AEMO to consider the modelling and conclusions from the report and commit reflecting this in full or in part in the 2026 ISP.

¹ See <https://www.energynetworks.com.au/assets/uploads/The-Time-is-Now-Report-ENA-LEK-August-2024.pdf>

Continue to improve modelling of renewable generation connected to or enabled by distribution network, especially at the 66kV sub-transmission level and include AusNet’s connections enablement projects

Distribution networks manage the sub-transmission (66kV) network—the highest voltage part of the distribution network connected to terminal stations. We are seeing increasing connection requests for renewable generation and storage in this part of the network, as a close alternative to transmission network connections. However, many parts of the sub-transmission network are constrained, which means generators face prohibitive costs to connect, often stalling any further connections in that area. This is because under the current framework for generator connections, if a generator requests a connection and the network is constrained in that area, they are responsible for the cost of augmenting that part of the network. In the sub-transmission network, that could include a requirement to replace a feeder, which could cost millions of dollars.

Additionally, recently the National Electricity Objective (NEO) was updated to include an objective of reaching national and state government targets for emissions reductions, or related target such as renewable generation. This recognises the important value of fast and efficient renewable generation connections, to allow Net Zero targets to be met on time.

Figure 1 below summarises the areas of AusNet’s distribution network where we are getting the most generator and battery connection requests, and where development is stalled due to network constraints and prohibitive costs for these proponents to connect. These are typically areas with good wind or solar resources, where customer density is low. Because of this low customer density and relatively lower need for electricity, these parts of the network have lower capacity than for example in urban areas.

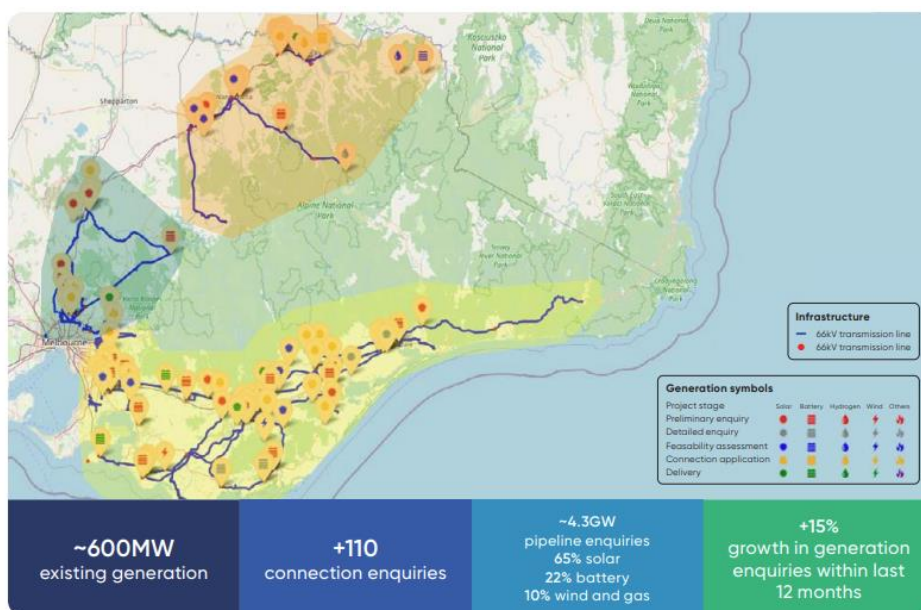


Figure 1 – Summary of AusNet areas with high generator connection requests

The details of AusNet’s connections enablement program are publicly available and are summarised in its Draft Regulatory Proposal as part of its 2026-31 electricity distribution price review process. This can be found [here](#). Our final Revenue Proposal will be submitted to the Australian Energy Regulator (AER) by 31 January 2025. AusNet has also published regulatory investment test for distribution (RIT-D) documents for its key connections enablement projects which can be found [here](#).

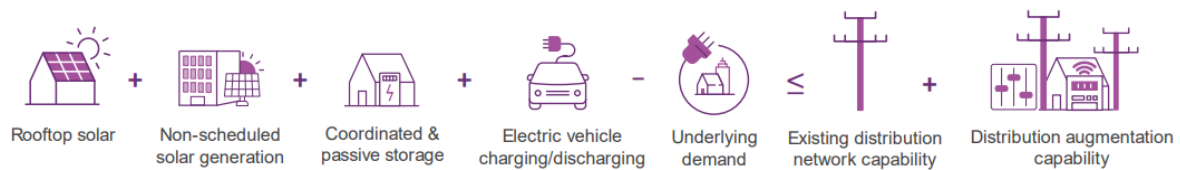
AusNet recommends that AEMO review these materials and include these projects in its 2026 ISP modelling as an input.

Modelling distribution network capabilities and opportunities for CER and other distributed resources

AusNet commends AEMO for responding to the direction from Energy Ministers to analyse how distribution network service provider (DNSP) investments, programs and annual plans may impact CER and distributed resources development, and therefore the optimal development path (ODP) of the ISP.

AEMO has committed to considering DNSP inputs through the Network Expansion Options Report and AusNet recommends this focus on the 66kV network and related augmentations as outlined in draft or final regulatory proposals submitted to the AER. This should include demand driven augmentation and augmentation driven by enablement of renewable generation.

As noted in Section 5.1 of the issues paper, AEMO advises it will use the equation shown in Figure 2 in its modelling.



Note: Other distributed resources may also be included in the left-hand side of this equation.

$$\begin{aligned}
 & Gen_{PV} + Gen_{NSG} + (Discharge_{Coord\ st.} - Charge_{Coord\ st.}) + (Discharge_{Passive\ st.} - Charge_{Passive\ st.}) \\
 & + (Discharge_{Passive\ EV} - Charge_{Passive\ EV}) + (Discharge_{V2G} - Charge_{V2G}) \\
 & - Underlying\ demand \leq Distribution\ Existing\ Capability \\
 & + Distribution\ Augmentation\ Capability
 \end{aligned}$$

Figure 2 – AEMO representation of distribution network capabilities and opportunities for CER and other distributed resources to be applied for each sub-region in the ISP model

The *Distribution Augmentation Capability* parameter shown on the right-hand side (RHS) of the equation is to be derived from indicative cost curves for distribution augmentation. AusNet encourages AEMO to leverage detailed information for sub-regions from the relevant DNSP if they are prepared to provide this. AEMO should also consider a scenario where the *Distribution Augmentation Capability* parameter is included on the left-hand side (LHS) of the equation so that this can be co-optimised with the other CER parameters to inform its overall ODP. It is likely that this will contribute to a lower ODP in some scenarios.

AusNet also recommends AEMO engage with the Centre for New Energy Technologies (C4Net) to understand the modelling developed in their Enhanced System Planning Project.

Conclusion

In closing we commend AEMO for enhancing its biannual ISP to include more robust distribution network and distributed CER modelling. This is a positive step to ensuring the ISP considers all credible development pathways aligned to Australia's energy transition.

Please do not hesitate to contact Dasun De Silva, Manager Sub-Transmission Planning about this submission via dasun.desilva@ausnetservices.com.au.

Yours sincerely,

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