

A decorative graphic in the top left corner consisting of numerous thin, parallel, wavy lines in shades of green and teal, creating a sense of movement and water.

9 February 2024

Australian Energy Market Operator (AEMO)
Submitted via forecasting.planning@aemo.com.au

Dear AEMO,

Draft 2024 Forecasting Assumptions Update

Hydro Tasmania appreciates the opportunity to provide feedback to the Australian Energy Market Operator's (AEMO's) Draft 2024 Forecasting Assumptions Update (Assumptions Update).

AEMO's efforts to consult widely and transparently with stakeholders are commended and will be important in continuing to build confidence in the breadth and balance of inputs, assumptions, and scenarios. This stakeholder confidence is essential as these assumptions and scenarios inform critical AEMO forecasts including the Electricity Statement of Opportunities (ESOO), the Gas Statement of Opportunities (GSOO), and future iterations of the Integrated System Plan (ISP).

Hydro Tasmania recognises the challenges faced by AEMO in incorporating growth rates of new technologies such as embedded energy storage (particularly home battery systems) and virtual power plants (VPPs). Update rates of these technologies can change rapidly and can be highly influenced by changes in energy policy, along with changing costs to consumers. We have provided comments on both embedded energy storage and VPPs in Attachment A.

Hydro Tasmania supports AEMO's efforts to ensure robust and transparent planning information is available to stakeholders – this is integral to underpinning the effective transition of the National Electricity Market (NEM). If you wish to discuss any aspect of this submission, please contact Jonathan Myrtle at Jonathan.Myrtle@hydro.com.au.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Alex Beckitt".

Alex Beckitt
Head of Strategic Policy

ATTACHMENT A – Hydro Tasmania’s comments on AEMO’s Draft 2024 Forecasting Assumptions Update

Embedded Energy Storage

Are the battery outlooks plausible given the emerging popularity of EVs, or is there evidence to support a view that EV growth helps or hinders investment in home batteries?

Hydro Tasmania supports AEMO’s approach to continue reviewing the relationship between electric vehicles (EVs) and home batteries in future publications, especially considering the current absence of available data. We agree with AEMO in that EV charging will not capture the rooftop PV energy of households whose vehicles are away from home during daylight hours. However, this transport pattern will not apply for all EV owners. For those whose cars remain at home during daylight hours, EVs could operate as an alternative to home batteries, thus reducing the investment case for home batteries. We consider it would be reasonable to assume a small reduction in the growth of home battery systems as EV ownership increases. Hydro Tasmania looks forward to AEMO exploring this further as more data on the relationship between the two becomes available.

Is the forecast for the low-end scenario, Progressive Change, suitable, or does it underestimate the potential for distributed batteries?

Hydro Tasmania believes the distributed battery forecasts under the Progressive Change scenario to be appropriate. There is a significant divergence between the forecasts for distributed batteries under the low-end scenario and the other two scenarios (Step Change and Green Energy Exports). However, we believe this divergence is likely to be the result of overestimating battery uptake in the Step Change and Green Energy Export scenarios, rather than the Progressive Change scenario underestimating uptake.

This divergence in uptake begins after 2025-26, primarily driven by GEM’s assumption that distributed batteries would attract a 50% rebate from 2026 under the Step Change and Green Energy Exports scenarios¹. This is a strong assumption that halves the payback period, thus causing the divergence in uptake trajectory between these two and the Progressive Change scenario. It is important to note that the inclusion of such a rebate is inconsistent with the policy inclusion criteria of the ISP, as outlined in clause 5.22.3 of the National Electricity Rules (NER).

We consider that moderating or removing this assumption of policy support for batteries would be a more robust approach, particularly in the absence of a clear indication that the Australian Government (at either state or federal level) will be introducing such a policy initiative.

¹ Table 4.1, page 31: https://aemo.com.au/-/media/files/stakeholder_consultation/consultations/nem-consultations/2023/2024-forecasting-assumptions-update-consultation-page/green-energy-markets---2023-consumer-energy-resources-projection-report.pdf?la=en

Other comments on the forecasts for distributed batteries

GEM's Projection for distributed energy resources (solar PV and stationary energy battery systems) states that *"battery uptake is assumed to follow similar rates of system uptake relative to payback as what we assess for solar systems"*. We support GEM's approach to reflect the range of safety restrictions for battery installations through keeping the level of battery uptake below that of solar systems. We also recommend that the following should also be considered in the forecasts for home batteries:

- The difference in capital cost solar only installation compared to a home battery and solar combination. For equal payback periods, we consider battery uptake to have a lower (rather than a similar) rate of system uptake relative to solar systems alone, with the higher upfront cost being a barrier to many consumers.
- Whether the payback period methodology is appropriate. Currently, the methodology used does not include ongoing operating and maintenance costs. For solar only installations, revenue should be reduced by the cost of solar inspections and cleaning whilst for solar and battery installations, the additional cost of battery inspections and cleaning should be deducted from revenue.

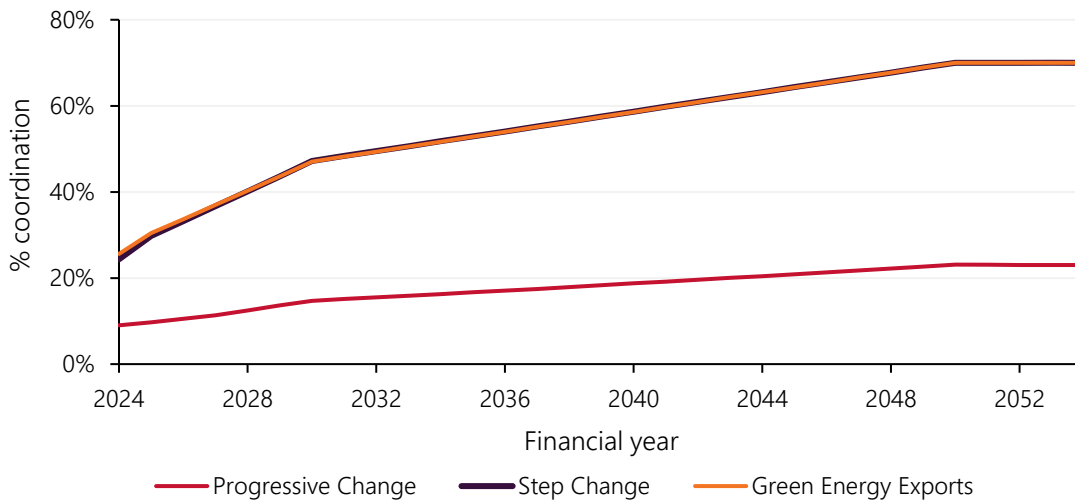
Virtual Power Plants (VPPs)

Do the proposed VPP forecasts sufficiently reflect a spread of outcomes, considering the potential for a range of consumer acceptance, and the emerging market for VPP?

From our review of the Assumptions Update, as well as previous Input, Assumptions and Scenario Reports (IASRs), AEMO appears to have provided very limited information on the methodology and basis for determining the proportion of distributed batteries that choose to participate in VPPs. This makes it difficult to effectively comment on parts of the VPP forecasts; this is especially true for the saturation point of VPP uptake across the different scenarios. Hydro Tasmania would appreciate AEMO providing more information on their methodology.

The latest assumptions see a relatively low proportion of VPP participation at the start of the forecast horizon across all scenarios. VPP participation is then forecast to rise rapidly in the Step Change and Green Energy Market scenarios and slowly in the Progressive Change scenario (Figure 1).

Figure 1. Embedded energy storage participation in VPPs by scenario (%)



The three scenarios have very different starting points for VPP capacity. The Step Change and Green Energy Exports scenarios start at ~250 MW whereas Progressive Change starts at 100 MW, all significantly higher than the current registered VPP capacity of 41 MW². In the case of the Step Change and Green Energy Exports scenarios, this is more than five times higher than current VPP capacity. Hydro Tasmania recommends that all three scenarios should have similar starting points that are better calibrated with actual registered capacity and then have scenario forecasts diverge later in the forecast horizon.

Additionally, the Step Change and Green Energy Exports scenarios show significant growth in VPP capacity between 2026-27 and 2031-32 (year-on-year growth ranging from ~30-40%). Further to general comments above relating to overall uptake of embedded energy storage, we suggest AEMO reviews underlying assumptions leading to this rapid year-on-year growth.

² Based on our review of AEMO’s registered participants (ancillary services category) as of February 2024