Rheem Australia Pty Ltd ABN 21 098 823 511

Australian Energy Market Operator
Attn: AEMO ISP Team
By email: forecasting.planning@aemo.com.au
Dear Sir/Madam

15 February 2023

Re: Review of the Draft 2023 Inputs, Assumptions and Scenarios Report

Thank you for the opportunity to comment on the Draft 2023 Inputs, Assumptions and Scenarios Report (IASR).

This response is a joint response on behalf of both Rheem Australia Pty Ltd (Rheem) and Combined Energy Technologies Pty Ltd (CET), as we have a complementary interest in the Review.

We support the approach being followed by AEMO in the broad scenarios selected for the IASR and the transparency enabled by this consultation process. We do have several concerns regarding the treatment and assumptions as they relate to flexible demand.

We note the IASR comment that CER includes "embedded generation and storage technologies, such as residential and commercial PV systems, battery storage, and electric vehicles (EVs). CER also refers to other resources that enable greater demand flexibility".

However, we are concerned that the modelling and assumptions do not model/prioritise flexible demand to reflect this definition. We base this view on our review of section 3.3.15 Demand side participation (DSP) in the IASR. We note our comments are hampered by the fact that there are no detailed worksheets provided for flexible demand in the Draft 2023 Inputs and Assumptions Workbook, that are included for all of the other CER categories (i.e. batteries and EVs).

The assumptions in Table 16 are for Demand Side Participation (DSP) as they relate to conventional peak demand shaving. This relationship to peak demand needs to be differentiated from flexible demand as it relates to aggregated CER that is used for the purposes of accessing new energy market revenue opportunities. This includes CER coordination to meet Dynamic Export Limits, 2 sided markets, minimum demand, wholesale arbitrage and FCAS, as well as PV self-consumption. Accordingly, we would argue the IASR would appear to have erred in not forecasting the massive potential of this resource.

We consider the opportunity presented by aggregated demand flexibility to be at least as large (if not larger) than that presented by aggregated energy storage and V2G. However, this potential is not matched by the assumptions used in the IASR.

We base our view on the relative strengths of flexible demand relative to other CER, including:

- Consumers will increasingly be incentivised to use excess daytime energy; whether this is their own rooftop PV or retail offers that offer lower prices during the middle of the day.
- An aggregated consumer will be indifferent to moving generation (via storage) for later periods to match energy demand, when compared to moving demand (via flexibility) to match the generation. Accordingly, the modelling of flexible demand should be approached in the same way as aggregated batteries and V2G.
- Most importantly, for most households, batteries and V2G are still some years away from providing a positive cost benefit. We sell both batteries and V2G enabled chargers through our Solahart brand. In comparison, demand flexibility has a very compelling cost/benefit today.
- This positive cost / benefit makes flexible demand a much more accessible way for the average household to participate in the emerging VPP markets.

Hot water, in particular, has some additional merit in that every household and most businesses in Australia use hot water. We estimate the current load nationally for electric hot water to be approximately 19GW. We expect this to grow significantly under the influence of government "electrification" policies that phase out gas appliances, the growing uptake of rooftop solar and increasing gas prices. Again, battery aggregation and V2G have a long way to go before they can match this scale.

For example, as the largest supplier of hot water products in the country, our future product strategy for our electric hot water range includes the core hardware elements to enable internet-based control by an aggregator. There will be additional costs to fully enable this capability (e.g. via an Energy Management Unit), however, we believe aggregator/retail offers will likely make this a compelling consumer value proposition. We believe that controlled, flexible EV charging will have a similarly compelling value to consumers as part of this same solution.

We also believe that flexible demand will be one of the key enablers of Dynamic Operating Envelopes and associated Dynamic Export Limits. In turn DOE/DEL and associated control of CER will increase the PV carrying capacity of the distribution network. This should result in reduced energy prices for all consumers. As a primary reference document for the whole energy industry and policy makers, we believe it is critically important that the IASR should reflect this important contribution from flexible demand to the future energy mix.

We would ask that you give due consideration to the perspective of an active market participant in the CER market. If you have any queries regarding this response or our market, please do not hesitate to contact me.

Yours Sincerely

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