



Australian Energy Market Commission
GPO Box 2603
Sydney NSW 2000

By email: aemc@aemc.gov.au

14 September 2023

To Whom It May Concern,

Re: Rheem & CET response to Integrating price-responsive resources into the NEM consultation paper

Thank you for the opportunity to provide feedback to the Integrating price-responsive resources into the NEM Consultation Paper (**Consultation Paper**).

This 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 Consultation Paper due to our involvement in the EDGE program and, as a result, have some direct experience relevant to the proposed schedule light arrangements.

As the largest Australian manufacturer of water heaters with products in over 4 million Australian homes, Rheem offers a wide range of traditional and renewable energy water heater models to the domestic water heating market under the Rheem, Solahart, Vulcan, Aquamax & Everhot brands. Under our Solahart brand, we are the third-largest supplier of solar photovoltaic (PV) systems in the country. Over the last four years, we have also commenced manufacturing and installing smart electric water heaters, controlled remotely by our technology partner, CET.

CET is an Australian technology company specialising in energy management for residential, commercial and microgrid systems. CET provides site energy management systems and has extensive experience in the integration and orchestration of systems with multiple Distributed Energy Resources (**DER**), including the integration of solar PV, batteries, water heating, electric vehicle chargers, pool pumps and A/C for the benefit of homeowners, retailers and the grid. Our references to DER should be read to include both generation and flexible load assets.

In responding to the Consultation Paper, we have restricted our comments to questions with direct and relevant experience. As this submission has been prepared using the expertise of several of Rheem and CET's personnel, I would ask that any enquiries related to the submission are directed (in the first instance) to me. I will then coordinate follow-up responses to your enquiries or further meetings with the appropriate personnel within our organisations.

We ask that this submission be considered in addition to our submission on the AEMC Flexible Trading Arrangements (FTA) rule change consultation paper, which was submitted on 16 February 2023.

Thank you for considering our feedback and please get in touch with me if you want to discuss further.



Yours sincerely,



Scott Ostini
General Manager, Energy Solutions & Transformation
Rheem Australia Pty Ltd
Scott.Ostini@rheem.com.au
M: 0438 252 906



Integrating price-responsive resources into the NEM

Question	Response
<p>Question 1: do you agree that price-responsive resources need to be integrated into the NEM? The Commission has identified five types of issues with increasing volumes of price responsive resources.</p> <ul style="list-style-type: none"> • Do you agree with this breakdown of the issues? • What do you consider the magnitude of each issue is? • How is this likely to change over time? 	<p>The primary objective of this policy should be to maximise the hosting capacity of rooftop PV in the distribution networks. This should provide the benefit of reducing wholesale prices for the benefit of all consumers, and not just those who have made investments in CER.</p> <p>We see the integration of price-responsive resources to be an essential tool to achieve this objective.</p> <p>We agree with the breakdown of the issues, however, we are unable to comment on the relative magnitude of each.</p> <p>These issues are likely to grow significantly over time under the drivers of increasing rooftop PV (a forecast 3.5 time to 69GW based on the ISP¹), and the push towards electrification.</p>
<p>Question 2: representing price-responsive resources in Scheduling processes.</p> <p>1. Is participation in this mechanism dependent on whether price-responsive resources can be separated at or behind the connection point (currently being considered through the “Unlocking CER benefits through flexible trading” rule change)? Please explain what impacts separating CER would have on traders’ participation in energy markets.</p> <p>2. Do you have views on the need to define price-responsive resources or the traders that might coordinate a large amount of such resources?</p>	<p>In theory, the potential benefits to consumers from the separation of CER behind the connection point may appear attractive in fostering competition and innovation. However, it also introduces a number of substantial consumer risks that need to be addressed.</p> <p>The separate Directions Paper on secondary metering points has already identified some of these risks. We consider that most of these issues still exist under separate control regardless of whether there is separate metering.</p>

¹ AEMO, “2022 Integrated System Plan”, June 2022



Question	Response
	<p>We currently have a number of Home Energy Management System (HEMS) customers where this is the case. We can provide examples where:</p> <ul style="list-style-type: none"> • separate aggregators are competing or in conflict for the right to allocate the customer's PV energy to different controlled DER • the customer is financially worse off because the forced export of stored PV energy too often resulted in them later paying for grid energy during the peak period that they would otherwise not have paid for; and • a battery dispatch instruction from a separate aggregator for FCAS automatically triggered a response from other household DER (such as a smart hot water system or EV charger) to use that energy, which it saw as PV exports to be utilised. <p>These issues all result in sub-optimal outcomes for the consumer, and the consumer is generally unaware of these risks when entering into these arrangements.</p> <p>We do not see a definition as being essential. However, if a definition is required we would suggest “any CER (including flexible demand) behind the meter that can respond to instructions from an aggregator either remotely or locally pre-programmed”.</p>
<p>Question 3: visibility mechanism - encouragement to participate.</p> <ol style="list-style-type: none"> 1. What are your views on the incentive mechanisms outlined in Table 3.1? 2. Are there any alternative incentives the Commission should consider? 3. Should mandatory participation in the visibility mode be considered? <ol style="list-style-type: none"> a. If so, what types of traders/ resources should be required to participate and what criteria (for example size in a region) or circumstances (observed behaviour or performance) could the requirement to participate be based on? 	<ol style="list-style-type: none"> 1. We generally support a combination of the incentive options described at points 3 and 4. That is direct payment and a requirement for Schedule Light participation. We do qualify this support to the extent that further detail is required before firm recommendations can be made. It should be noted that many of the proposed CER aggregators are not retailers or gentailers and need access to the same value-stack to realise the full benefits of market participation as assumed for incentive options 1 & 2.

Question	Response
	<ol style="list-style-type: none"> 2. We strongly encourage the AEMC to consider supporting a similar arrangement to the UK Flexibility Mechanism. The existing Demand Management Incentive Scheme (DMIS) has proven ineffective at gaining material usage of non-network solutions in the NEM. 3. Yes, Mandatory. The critical requirement should include a suitable compliance testing process to gain accreditation for aggregators to participate in the flexibility market. The technical compliance requirements should include cyber security, open standards, interoperability, minimum dispatch type, and reporting functionality. A minimum scale requirement for participation could follow that used for FCAS market participation.
<p>Question 4: assessment of visibility mode</p> <ol style="list-style-type: none"> 1. Do you think visibility mode would be effective as designed? If not, what improvements or amendments would you suggest and why? 2. Do you agree with the Commission's initial assessment of visibility mode's ability to achieve the outcomes identified? 3. If we progress with this mode, what should the Commission consider in terms of implementation of this mode? 4. Is visibility mode needed as a stepping stone to the dispatch mode? 	<ol style="list-style-type: none"> 1. Yes. 2. Yes. 3. We support the implementation of a phased approach. That is, commencing with Visibility mode to allow CER aggregators to enter the market, develop the required systems and processes and most importantly build the required scale before the market matures to a requirement for Dispatch mode. The trigger for the CER aggregator to move Dispatch mode could be either time in the market as a participant or a particular scale of CER under control. 4. Yes – as per the response above.

Question	Response
<p>Question 5: dispatch mode — incentives to participate</p> <p>1. Do you think dispatch mode would be effective as designed? If not what improvements or amendments would you suggest and why?</p> <p>2. What costs would traders incur to participate in dispatch mode?</p> <p>3. Is access to the wholesale electricity market and other markets (for example regulation FCAS and PFR) sufficient incentive to participate in dispatch mode?</p> <p>4. Are there other factors that would encourage or discourage participation in the dispatch mode?</p> <p>5. Should participation in the dispatch mode be required? If so, what types of traders/resources</p>	<p>1. Yes.</p> <p>2. IT systems and data retention costs.</p> <p>3. No – see response to question 3 above.</p> <p>4. A mechanism similar to the UK flexibility market would provide long-term certainty around access to incentive payments. This provides the ability for aggregators to invest and contract with customers on a long-term basis. For example, this would provide the capability for aggregators to provide participating customers with the additional capability to make their CER smart.</p> <p>5. Yes – after an interim period to allow the achievement of sufficient scale or experience in the market.</p>
<p>Question 6: assessment of dispatch mode</p> <p>1. Do you agree with the Commission’s initial assessment of the ability of dispatch mode to address the outcomes identified?</p> <p>2. If we progress dispatch mode, what does the Commission need to consider in terms of implementation of this mode?</p>	<p>1. Yes with the appropriate incentive mechanisms in place discussed in question 3 above.</p> <p>2. Any financial risk placed on aggregators for non-compliance with dispatch mode regulations needs to consider the immaturity of the market and the time required to achieve the required systems and benefit of diversity from scale, i.e., a stepped introduction.</p>
<p>Question 7: other issues raised in relation to the scheduled lite Mechanism</p> <p>1. Do you consider that the proposed mechanism (or a similar mechanism) should be introduced through a principles-based framework, with the details considered through AEMO’s procedures and guidelines?</p>	<p>1. While we understand the intention behind the proposal to use a principals-based frame work, there are minimum technical requirements that need to be prescriptive. For example, the requirement for cyber security, interoperability and open standards cannot be open to</p>

Question	Response
<p>2. Do you consider that the proposed mechanism (or a similar mechanism) requires changes to the NERR to protect consumers?</p>	<p>interpretation. These requirements needs to be governed by strict compliance testing.</p> <p>2. We assume that this refers to similar consumer protections for CER aggregation services that apply to energy retailers. The market for CER aggregation services is very different from those required for the provision of energy as an essential service. Less regulation should apply in the initial stage to allow innovation to develop in this market. Any customer protections should be applied as issues are identified. The one known exception to this is that CER customers need to be protected from the risk of lock-in to particular equipment vendors or providers. This principle should be included in the NERR.</p>
<p>Question 8: are there preferable alternative arrangements?</p> <p>1. Are there any alternative solutions that you think would be preferable to AEMO’s proposal and more aligned with the long-term interests of consumers? What are the costs and benefits of any proposed alternative arrangement?</p>	<p>We are concerned that there is little consideration in the Australian market to follow the successful implementation of Flexibility Services in the UK market. This market model provides long-term contractual certainty to both CER aggregators and customers. While section 3.2.2 refers to the benefits that network operators would gain from greater visibility of aggregated CER, there is no mention of them providing incentives to use those same resources as genuine non-network services.</p> <p>We are also concerned that the paper seems to dismiss international programs as related to demand response. Flexible demand should play a key role in any market for price-responsive services.</p>
<p>Question 9: assessment framework</p> <p>1. Do you agree with the proposed assessment framework? Are there additional principles that the Commission should take into account or principles included here that are not relevant?</p>	<p>The assessment framework refers to “cost to participants”. However, there does not appear to be any consideration of costs or benefits to all energy consumers. Integrating price-responsive services into the market will result in a higher hosting capacity for rooftop PV in the distribution network and</p>

Question	Response
	drive lower wholesale costs for all consumers. We would recommend that this benefit be considered in the assessment framework.
<p>Question 10: visibility model — participation, data and operations</p> <p>1. Would traders be readily able to participate and provide the data as proposed? What implementation considerations and costs would be required to participate?</p> <p>2. Is there anything the Commission could do in designing the rule that would help to minimize the costs and maximise the benefits?</p>	<p>1. Yes. IT systems and data retention costs.</p> <p>2. Consider interim arrangements providing a grace period before any penalties for non-compliance are applied.</p>
<p>Question 11: dispatch model — participation, data and operations</p> <p>1. Could price-responsive resources comply with the operational and data requirements? If not:</p> <p>a. How difficult would it be to change your systems to comply with the requirement outlined above?</p> <p>b. Does this depend on what resource is participating?</p> <p>2. Do the proposed compliance arrangements strike an appropriate balance between the reliability of the response and the barrier to participation?</p>	<p>1. Yes.</p> <p>2. Consider interim arrangements for more relaxed requirements to allow new entrants to build capability and maturity and reduce risks of unplanned costs. We recommend using a stepped implementation.</p>