



Integrating price-responsive resources into the NEM

Stakeholder submissions invited on AEMO rule change request to integrate price-responsive resources into the NEM

We have published a consultation paper on a rule change request from the Australian Energy Market Operator (AEMO) seeking to better integrate price-responsive resources into the National Electricity Market (NEM).

We invite submissions on AEMO's proposed request and alternative proposals by 14 September 2023.

We want feedback on the impact of unscheduled price-responsive resources on the NEM

Households and businesses are increasingly taking up consumer energy resources (CER) such as batteries, solar panels and home energy management systems. CER is expected to play a significant role in the shift to a net zero energy system. These resources are increasingly being aggregated by energy service providers (retailers and aggregators) to form Virtual Power Plants (VPPs) which are actively responding to price signals in the NEM.

There are also commercial and industrial resources such as chillers and hydrogen electrolyzers which could be price-responsive and have a significant impact on the energy market in the future.

These resources are currently not fully integrated into the planning and operation functions in the NEM. They could be more appropriately considered when determining how much energy demand needs to be met, how to meet this demand and the price at which electricity is purchased.

Network and wholesale market services could both be provided more efficiently if these resources were fully integrated. Over time, this would reduce the total cost of providing consumers with reliable electricity supply and therefore decrease prices for all consumers.

AEMO suggested that duplicating 20 percent of projected coordinated distributed energy resources (DER) storage with shallow grid-scale storage could result in additional costs of around \$1.8 billion to 2040. This would likely result in higher costs for consumers. Several studies have demonstrated substantial net benefits from effective integration of these resources, including avoided costs along the electricity supply chain, with associated reductions in consumer costs.

The consultation paper breaks down the potential benefits of better integrating these resources into AEMO's system planning and management into five categories:

- dispatch costs in the NEM — knowing when these resources can be used to reduce demand (particularly at higher cost times), improves demand forecasting and reduces the resources that AEMO dispatches to meet demand
- energy prices in the NEM — by better matching supply and demand, the cost of energy would be lower, potentially reducing spot prices
- security of supply in the NEM — by reducing the need for additional, potentially more expensive generation reserves to balance the market, system security will be achieved at lower cost
- reliability of supply — the ability to schedule these available resources could improve planning and the use of lower-cost lower-emission generation and lower intervention costs
- operation of distribution and transmission networks — longer-term accurate forecasts would

improve network investments and planning, reducing network costs to consumers. We are interested in stakeholders' views on how we have described the categories and the potential size of the issue with each.

We want feedback on AEMO's proposed mechanism

Under the AEMO proposal, energy service providers could participate using two modes:

- visibility mode — this mode is designed to integrate the intentions of price-responsive resources to improve the accuracy of short-term demand and price forecasting.
- dispatch mode — this mode is designed to integrate price-responsive resources into the NEM central dispatch and scheduling processes. Participants will be able to provide bids for their generation and load, receive and follow dispatch targets.

AEMO proposed that the mechanism is voluntary, with participation encouraged through the use of incentives. Our consultation paper explores the different types of price-responsive resources that might use this and if the mechanism would incentivise energy service providers to use it.

We want to hear other ways to integrate price-responsive resources

Energy service providers use some current arrangements to provide services with these price-responsive resources. However, the current arrangements are not designed for the operation of these resources. Our consultation paper explores if these arrangements could be amended to integrate these resources better.

Combining a few changes together could be a viable alternative to AEMO's proposed mechanism. We would like to understand from stakeholders if there are other mechanisms that could be considered, as an alternative, or to improve AEMO's proposed solution.

Submissions close on 14 September 2023

Written submissions responding to this consultation paper must be lodged with Commission by Thursday 14 September 2023 via the Commission's website, www.aemc.gov.au. Information on how to make a submission and confidentiality is provided in the consultation paper.

The consultation paper also provides the indicative timetable for the rule change request. There will be multiple opportunities for stakeholders to engage in this rule change request, including through one-on-one discussions, stakeholder forums, and other targeted engagement throughout the rule change process, with information provided through the AEMC website.

Background

Energy service providers currently use unscheduled price-responsive resources to:

- provide market services such as contingency frequency control ancillary services,
- provide network services for distribution network service providers,
- provide non-market support such as reliability and emergency reserve trader, and
- reduce retailers wholesale costs by lowering the amount of energy that they need to purchase from the market.

Where a retailer coordinates unscheduled price-responsive resources to reduce its wholesale electricity costs or to lower its hedging costs, it is using information about these resources that is not available to the market operator and other market participants.

AEMO's rule change is part of a package of reforms that we are progressing in collaboration with AEMO and the Australian Energy Regulator (AER) to realise the benefits of CER for consumers and the system. While this rule change focuses on integrating these resources into NEM market systems it should be viewed alongside the other reforms which seek to:

- Facilitate uptake, and share the benefits of CER. The Commission's Review of the regulatory framework for metering services will facilitate the uptake of CER. Our Unlocking

CER benefits through flexible trading rule change will facilitate consumers receiving offers from retailers for the value that their CER provides.

- Improve consumer protections for consumers purchasing and using CER. The AER Review of consumer protections for future energy services will provide advice on if new or different regulation is required to protect consumers with CER services.
- Ensure the secure and reliable operation of CER. The Commission's Review into CER technical standards will improve compliance with the technical standards for CER devices. This will support secure network and reliable market operation, thereby allowing greater uptake of CER and benefits for consumers.

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