Your ref: EPR0099

14 August 2025

Project Leader,
Australian Energy Market Commission

Submitted via website: https://www.aemc.gov.au/contact-us/lodge-submission

Dear Project Leader,

Submission: Review of the Wholesale Demand Response Mechanism

CS Energy welcomes the opportunity to provide a submission to the Australian Energy Market Commission's (**AEMC's**) *Draft Report – Review of the Wholesale Demand Response Mechanism*, released for consultation on 10 July 2025.

About CS Energy

CS Energy is a Queensland-owned and based energy company that provides power to some of the state's biggest industries and employers. We generate and sell electricity in the wholesale and retail markets, and we employ almost 700 people who live and work in the regions where we operate.

CS Energy owns thermal power generation assets, and we are building a more diverse portfolio that includes renewable energy, battery storage, gas fired generation and pumped hydro.

We also have a renewable energy offtakes portfolio of almost 300 megawatts, which we supply to our large commercial and industrial customers in Queensland.

Overall views

CS Energy considers the continuation of the Wholesale Demand Response Mechanism (**WDRM**) to be unjustifiable. To date, the WDRM has provided minimal operational benefits, with participation well below what was initially forecast. The analysis and justification provided by the AEMC to continue the WDRM lacks transparency and coherence.

Considering recent developments in Consumer Energy Resources (**CER**) policy, namely the Integrating Price Responsive Resources (**IPRR**) rule change, it is increasingly difficult to see the WDRM playing a substantial role in the future, particularly given its complexity.

The NEM Review Panel, led by Tim Nelson, has highlighted some barriers to participation being "complexity in establishing accurate baseline methodologies and ongoing

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compliance, lack of awareness from commercial and industrial (**C&I**) users and a perceived lack of revenue opportunities compared to the costs and risks of participation".

CS Energy recommends that the WDRM be phased out and considers that the AEMC's and the Australian Energy Market Operator's (**AEMO**) resources would be better placed towards operationalising the IPRR rule change.

Limited Participation

It is worth reiterating that, to date, there have only been two participants in the WDRM. In 2020, the AEMC completed some forward-looking analysis into the expected effectiveness of the WDRM. The (at the time, conservative) baseline level of participation was 150 MW. Thus far, less than half of that (~74 MW) participation has eventuated.

The AEMC acknowledges this shortcoming in the draft report yet assumes there is ample room for growth in participation; growth significant enough to warrant the continuation of the mechanism. This assumption is underpinned by the potential demand response growth stemming from the emergence of *data centres*.

While prospective, the growth of data centres and the feasibility of using these assets for demand response remain, at this stage, uncertain. Data centre businesses are not typically designed with demand response in mind, and the commercial and operational risks associated with demand response makes it unappealing to many.

If a data centre were to be taken offline (or reduce load) on short notice, it would either need to shut down entirely, switch to a back-up power source or employ some form of *load migration*. Shutting down entirely clearly lacks commercial viability and shifting the load to a back-up source, such as long duration storage, is a considerable risk at present. The CEO of Arcjet, David Mytton, also highlights that "migration of anything other than ephemeral loads immediately hits the problem of data gravity and becomes prohibitively expensive (and time consuming) to transfer data out".[1]

Whether or not data centre growth will come to fruition, and whether this will translate to a tangible impact on the electricity market is a contentious topic. A white paper published by Stanford University's Amory Lovins categorises data centres' electricity demand as 'highly speculative' and insinuates it could be much lower than anticipated.

A prominent feature countering data centres' electricity demand is the efficiency gains observed in this technology. Lovins states that Nvidia, a leader in the artificial intelligence industry, has reported that their latest chips have "become 45,000 times more efficient since 2016 and expects "orders-of-magnitude further gains". Nvidia's 2024 data chips are 31 times more energy efficient than their 2020 model.[2] If the efficiency of this technology continues to grow at these observed rates, the viability of data centres as a form of demand response may likely diminish.

Overstated Benefits

While the WDRM facilitates participation by non-Financially Responsible Market Participants (**FRMP**), the AEMC may be overstating the significance of this feature. CS Energy considers that industry consultation may be beneficial to assist in understanding if challenges exist with contracting with a FRMP to facilitate similar services through other,

[1] David Mytton, *Why don't data centers participate in demand response?* February 2023
[2] Amory Lovins, Artificial Intelligence Meets Natural Stupidity: Managing the Risks, May 2025

more effective mechanisms (such as the IPRR). Likewise, the limited WDRM participation thus far indicates that there may be little demand from non-FRMP entities to provide these services.

Another issue fuelling the redundancy of the WDRM is the baselining methodology. As CER penetration grows, so too will load volatility. This will undoubtedly make it more difficult to predict baselines, ultimately making the WDRM less accurate and effective in facilitating demand side services. CS Energy considers a logical solution would be for market bodies to support a transition towards the IPRR rule change.

Analysis Transparency

CS Energy appreciates the AEMC's pursuit of empirical evidence to justify the continuation of the WDRM. However, it is difficult to evaluate the validity of the commission's analysis without transparency around the model's assumptions and composition. Based solely on the information provided in the draft report, CS Energy struggles to share the commission's optimism surrounding the mechanism's benefits.

While the AEMC states that the mechanism delivered approximately $4.32 million (~$1.3 million/year) in dispatch efficiency benefits, these would appear insubstantial given the resources dedicated to the scheme's implementation. In fact, when accounting for operational *and* implementation costs, the WDRM has come at a net loss. This point is compounded by the fact that distributed network service provider costs are not accounted for in the AEMC's analysis and that several retailers have suggested that retail cost estimates are far too conservative.

If you would like to discuss this submission, please contact Hunter Finlay, Policy & Regulation Graduate, at hfinlay@csenergy.com.au.

Yours sincerely

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