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DCCEEW

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National Electricity Market (NEM) wholesale market settings review

Introduction

The EVC welcomes the opportunity to submit to this consultation.

The NEM Review provides a unique and important opportunity to influence a strong and supportive EV framework as part of the energy transition. The reality is that EVs aren't just cars anymore—they can be portable energy assets with enormous potential.

But right now, our market design tends to think of EVs as just another CER when in reality we know doing that means we're missing its unique potential value to the grid.

The NEM review panel has consulted widely for the preparation of this draft report. The EVC appreciates the openness of the process through various webinars and media.

The need for a review of the wholesale market settings comes about from the installation of large amounts of consumer energy resources (CER – behind the meter) and distributed energy resources (DER- both in front of and behind the meter) across the NEM, and a desire for more. Suggestions of measures to close the so-called Tenor gap are good and will likely serve the market well long term.

The language used to signpost the direction of travel in the transition matters to ensure; all stakeholders understand what's possible, what's realistic and what is required to complete the task in the most efficient manner.

CER integration into the market

When considering EVs as part of the CER integration into the market, we share the following observations for consideration:

It is implied in the draft report (paper) that DER such as aggregates of batteries, including vehicle to grid (V2G), should be integrated into the market. "Their invisibility affects the

dispatch process, complicating forecasting and undermining efficient price formation, at an extra cost to consumers." P52.

"The Panel considers these portfolios could be scheduled by registering them as VSRs [Voluntarily scheduled resource] and requiring them to participate in active mode once the aggregate size surpasses a threshold, such as 5 MW. Similar requirements would apply to portfolios of small generation units." P95.

While it may be desirable for efficient price formation, consumers have expressed a need for a simple relationship with their electricity retailer and want more choice. Increasing participation, under the current market arrangements, in virtual power plants (VPPs) and Home Energy Management Systems (HEMS) may not be realised in the near future - that means that there will always be large numbers of CER that will not be visible to the market, which is okay as CER is relatively forecastable and can be made more forecastable with the correct tariff structures and relative prices available. There are ancillary markets in place to keep the system secure, when the market forecast is inaccurate.

There is cost in integrating all CER in the market just as there are costs in ancillary markets when CER is not integrated. Both options present two different extremes as consumers will benefit from a mix of both.

Mandates for control or integration of CER with the market undermines trust in the energy sector and runs the risk of impeding adoption or forcing consumers off the network, slowing the transition and jeopardising climate targets.

Incentives required

EVs are a vehicle first and CER second. People buy a car as a means of transport, and any additional benefits that their vehicle may present are seen as supplemental to its first purpose. The fact that EVs can benefit the electricity market and pass on some of that benefit to the consumer must not get in the way of using the vehicle for its primary purpose.

Assuming the markets (eg. Frequency Control Ancillary Services (FCAS), demand response, wholesale spot, firming, shaping etc.) are all available to VPPs and HEMS to make consumer participation attractive, incentives will be required to support VPP and HEMS operators to integrate their platforms with the market. Incentives will also be required to encourage consumers to agree to hand over management of their CER to the VPP and HEMS operators.

Mandates are not appropriate as the energy market has regularly reported low levels of social licence and mistrust reigns off the back of media reporting on; consumers being moved onto demand tariffs without warning,[1] poor returns for consumers on VPPs and higher than necessary electricity prices over the past decade or so.[2] [3]

VPPs incorporating dynamic network connections, meaning subject to export and import envelopes, could be problematic to EV uptake. The consumer needing to charge quickly for some reason, will not be amenable to having their connection capacity reduced by the

[1] Consumer backlash sparks crackdown on complex and punishing power tariffs - ABC News
[2] "This is not what I was sold:" VPPs have a trust problem. Can industry fix it? - One Step Off The Grid
[3] Regulated electricity network prices are higher than necessary | IEEFA

market to meet some efficiency goal, so it will be imperative to structure market mechanisms with EVs fully in mind, or accommodate for them separately.

Tariffs

In the interim between now and when most CER, including EVs, can be visible to and integrated with the market, clever tariff design and attractive pricing can soften the blow of ancillary markets. Time-of-use tariffs (ToU) with very cheap pricing middle of the day (~0-10c/kWh), low prices off-peak (~20c/kWh) and moderate peak prices (~40c/kWh) are a double-edged sword. They both encourage consumers to be more predictable with their consumption and generation, as well as incentivise them to keep consumption out of off-peak time and target consumption to solar hours where possible.

Two-way pricing will become equally important as energy arbitrage of Vehicle to Grid (V2G) and small batteries becomes more prevalent. Two-way prices offering export reward at peak time which are inextricably linked to export charges for excess solar, should not be in place where there are alternative tariffs available without the export charge. This will only dis-incentivise V2G participation.

The EVC supports the recommendation to better align network ToU windows with the price signals coming from the wholesale market.

Language matters

The EVC understands that when the authors of this paper say DER needs to be integrated into the market, they don't mean *ALL* DER. "For clarity, the Panel's recommendation for visibility does not apply to 'passive' CER – for example solar and batteries that are operated to optimise a household's electricity bill in response to a simple retail price, or to maximise household consumption." [4] However, more care should be taken with the language used around this point. It should be made clear from the start and throughout, what exactly is meant when talking about CER or DER, and in that description, where EVs are accounted for or not and at what level.

Some CER, like EVs plugged into a basic power point, will never be visible to the market. Governments, AEMC, AEMO, regulators and other important stakeholders make policy and regulatory decisions based on papers like this, and they have real world implications to investment confidence, network augmentation plans and electricity prices. Market forecasts that describe a market architecture where all CER or all DER will be integrated with or visible to the market is ambitious and unlikely – especially where EVs are involved, as there is no credible evidence to suggest EV users will be comfortable with 100% EV load control.

Conclusion

There are costs to integrating with the market just as there are costs of not integrating with the market. Either way, the market can continue to operate in a secure and stable fashion.

[4] National Electricity Market wholesale market settings review p95

The more pressing task is to ensure VPPs and HEMS can be exposed to as many markets as possible to improve the value that can be shared with consumers.

Incentives are required to support VPPs/HEMS into the market and consumers into VPPs/HEMS.

If you have any questions on this submission, please contact Michael, at office@evc.org.au.

Thank you for your consideration of our submission.

Yours sincerely,

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