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Mr John Pierce  
Chairman  
Australian Energy Market Commission  
PO Box A2449  
SYDNEY SOUTH NSW 1235

Submitted online via: [www.aemc.gov.au](http://www.aemc.gov.au)

Dear Mr Pierce

### **Register of distributed energy resources rule change**

The Australian Energy Regulator (AER) welcomes the opportunity to provide a submission on the Council of Australian Governments (COAG) Energy Council's proposed rule change in relation to a register of distributed energy resources.

The AER agrees that the proposed distributed energy resources (DER) register could provide a range of benefits. However, there are also significant challenges in terms of how a DER register can be implemented and operated.

#### Potential Benefits of a DER Register

As identified in the AEMC consultation paper, a DER register may provide greater visibility of DER on the network. The information that forms part of the register might include location, capacity and technical characteristics of DER assets.

Increasing penetration of DER behind the meter over time and in multiple locations will challenge the Australian Energy Market Operators' ability to perform its forecasting and planning functions. A DER register should provide greater visibility for the AEMO to assess available DER. In terms of specific areas of network planning, a register may contribute to network businesses using efficient non-network solutions to defer or avoid network investment.

Moreover, network businesses may purchase services from DER assets on the customer side of the connection point rather than invest in DER assets positioned

directly on the network. This is consistent with the conclusions of the AEMC's Distribution Market Model review—that end use customers should be given the opportunity and incentives to optimise their own DER assets. To facilitate efficient use of customer side DER assets, network businesses will require information on their location and technical characteristics.

While a DER register may not be the only means by which network businesses may identify and engage customer side DER assets, we expect that it may be a useful source of such information. A register may complement, or be complemented by, new and emerging markets for energy storage and frequency control services characterised by aggregators, innovative energy retailers and engaged customers. These types of service exchanges are increasingly common amongst the large customer segment and are beginning to reach the small customer segment. The AER is supportive of these trends towards more dynamic interactions between network providers and customers. These interactions can optimise not only individual DER assets but the networks themselves.

The AER considers there may also be incremental benefits of a DER register in terms of tariff reassignment to more cost reflective tariffs. The AER's tariff structure statement decisions state that an appropriate trigger for reassigning a customer from a legacy network tariff to a cost reflective tariff is when there is a change in the customer's connection. This sends efficient price signals to the customer (or more accurately, the customer's retailer) at the time they are considering a change. Better information on when customers install DER could provide an additional or expanded trigger for moving customers to cost reflective tariffs. This may assist the customer to make efficient investment decisions around the choice, timing and capacity of DER they choose to invest in.<sup>1</sup>

#### Challenges with a DER Register

Despite the benefits identified above, there are some challenges with the implementation of a DER register.

#### *Compliance*

Key among these challenges is how compliance will be managed. The rule change request notes that there are existing processes for capturing DER information, such as through the DNSP connection process. However, it does state that, using Queensland as an example, it is estimated that only 30% of all battery systems on the distribution networks are being detected through the connection process.

The AER is responsible for monitoring, investigating and enforcing compliance with obligations under the NEL/NER. In investigating possible breaches of the NEL/NER the AER may exercise search warrants or compulsorily require the production of information or documents. The enforcement action available to the AER includes:

- Issuing infringement notices;
- Accepting voluntary or court enforceable undertakings; and
- Instituting proceedings.

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<sup>1</sup> For further information on this topic see AER, *Final Decision – Tariff Structure Statements – Ausgrid, Endeavour and Essential Energy*, February 2017, pp 60-64

The rule change request proposes that the owners of DER should be obliged to provide information on their DER system to their DNSP. Even if the level of compliance with such an obligation is better than what is currently experienced in Queensland, it must be expected that there will still be a degree of non-compliance with these rules. We consider that monitoring this compliance and taking enforcement action would be a large task that would impose a heavy burden on the AER. Among other things, the AER's enforcement tools are better adapted to less frequent but more significant breaches than high numbers of breaches with a lower impact. If new rules were made, it would be more appropriate to design an incentive regime to encourage compliance, rather than imposing a direct obligation.

Further, if there was a low level of compliance with any new rules this would erode the benefits of introducing the rules and alter the cost-benefit analysis.

The compliance challenges are likely to remain unclear until there is further clarity on the process for collecting information from DER owners, and who bears the relevant obligations. Questions on these points include:

- whether the retailer should be involved, given the retailer has the primary relationship with the end customer;
- could the retailer collect information on behalf of the DNSP;
- what would be the mechanism for information being provided to AEMO, if it maintains the registry;
- how this process would change in the event data was collected on a real time basis.

One way of overcoming some of the monitoring and compliance challenges associated with a DER register would be for AEMO to undertake compliance monitoring in this regard. This could align with the role AEMO currently has in monitoring metering compliance; metering outcomes might even help identify stray DER.

#### *Technological advances*

The AER understands that the current preference is that any DER register would contain only static data. The AER considers the technological advancement and energy market transformation that is being observed at present creates risk for the introduction of a DER register based on static data.

At a general level, future DER technology is likely to be smaller, cheaper and more distributed. This will make it less amenable to being captured in a static database. At a more specific level, the following advancements are likely and would also make a static database less comprehensive:

- Future DER technology will be remotely configured and programmable. Inverters could even be updated overnight, as an example from Hawaii shows.<sup>2</sup>
- Future DER technology will be able to be installed by the home owner, without an electrician. Google Nest and Orison Storage are two examples of this technology. This means DER can be readily transferred from home to home.

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<sup>2</sup> <https://enphase.com/en-au/blog/%E2%80%98something-astounding-just-happened%E2%80%99-enphase%E2%80%99s-grid-stabilizing-collaboration-hawaiian-electric>

Advances in technology are offering more opportunities for aggregating or coordinating DER through market mechanisms. The aggregator could be a retailer or a separate provider that offers specialised aggregation services. The aggregator may also use a trading platform, such as the Greensync “deX” platform that was launched last year. If the National Energy Guarantee is introduced it may create additional incentives for aggregation to occur and for retailers to obtain supply through aggregators.

Where these services are provided by an aggregator – whether or not through a trading platform – this coordination requires that the operating and capacity parameters of the DER be known and registered with the aggregator or trading platform. Rather than impose an obligation on the individual customer that is less likely to use the DER, it may be more appropriate for any obligation to be borne by the DER aggregator. This may help to reduce the overall costs of implementing a DER registry.

### Related Projects

The consultation paper lists related AEMC projects and other sources of DER data.

In addition the following projects and sources of data are also relevant:

- NEM Data Strategy – in the consultation paper published on 20 March 2018, the Energy Security Board identifies the overarching objective guiding the design and development of the strategy as being to facilitate access to data that supports the outcomes of the Finkel review.
- ARENA Advancing Renewables Program – ARENA is allocating \$12.5m funding to activities focussed on DER. The scope includes projects that increase the visibility, predictability or control of DER.
- DNSP demand side engagement - DNSPs are required under clauses 5.13.1(e) – (i) of the NER to prepare a demand side engagement strategy. This demand side engagement should also provide information on DER.

This suggests there are other work streams underway and sources of data that may contribute to the visibility of DER even in the absence of rule changes.

If you would like to discuss any aspects of our proposal, please contact Richard Khoe on (02) 9230 3830.

Yours sincerely



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Australian Energy Regulator