Clean Energy Council submission to the Australian Energy Market Commission Approach Paper:

2020 Economic Regulatory Framework Review

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Australian Energy Market Commission (AEMC) Approach Paper on the 2020 Economic Regulatory Framework Review.

The Clean Energy Council is the peak body for the clean energy industry in Australia. We represent and work with Australia's leading renewable energy and energy storage businesses, as well as rooftop solar installers, to further the development of clean energy in Australia. We are committed to accelerating the transformation of Australia's energy system to one that is smarter and cleaner.

The CEC recommends the AEMC consider the following issues as potential areas for the forthcoming review:

- Regulatory barriers to the deployment of community batteries in the National Electricity Market (NEM),
- Voltage management on low voltage (LV) distribution networks in the NEM,
- The role and rollout of smart meters,
- The framework for investment by DNSPs in communications infrastructure, and
- Governance of DER technical standards.

These issues are outlined below. We would be very happy to discuss these issues in further detail with the AEMC. We look forward to contributing further to this review.

Regulatory barriers to the deployment of community batteries in the NEM

The Government of Western Australia (WA) has been successful in enabling the use of community-scale battery storage on distribution networks. Six community battery systems with a storage capacity of around 500 kWh have already been installed in WA and we understand that there are plans to deploy many more. The rollout of community batteries is a key action of the Distributed Energy Resources (DER) Roadmap, which was released by the WA Energy Minister, Bill Johnston MLA, in April 2020. The community batteries improve power quality, help upgrade the electricity network and can be used as a 'Powerbank' that is available as a subscription service for solar customers who would like to store their excess solar generation without the need to purchase their own household battery system. Integrating batteries into local communities improves the ability of the distribution network service provider (DNSP) to balance neighbourhood load profiles during the day and allows more homes to install solar panels.

The rules of the NEM appear to be the main barrier to the deployment of community batteries in most Australian states. We therefore urge the AEMC to consider:

- What are the potential benefits of community batteries on distribution networks?
- Why is this only happening in Australian jurisdictions outside of the NEM and what are the regulatory barriers preventing this business model in the NEM?
- What reforms would be required to enable use of community batteries in states other than WA?

Voltage management on low voltage (LV) distribution networks in the NEM

Recently, the Energy Security Board (ESB) commissioned the University of New South Wales (UNSW) to publish a report on voltage analysis of the LV distribution network in the Australian NEM. Although the purpose of the research was not to assess compliance by DNSPs, the findings do raise concerns about likely compliance.

Network voltages are high in all networks studied, with the highest voltages found in the networks of Essential Energy and SA Power Networks. Voltages are high across much of the day including overnight when load is generally less. They also vary seasonally.

Although PV exports are certainly associated with higher voltages, the analysis demonstrates that DNSPs have been running their networks at high voltages and this cannot simply be blamed on PV exports. The study also shows that PV exports tend to reduce the observed voltage range at consumer sites, increasing the lower voltages more than they increase the upper voltages, which would suggest opportunities to move voltage taps down. 53% of sites experience some inverter tripping, with 1% average curtailment across all sites studied and 6% curtailment across affected sites. Data from 24 clear sky days were analysed. The financial impact for customers is $3-12 p.a. on average and as much as $225-900 p.a. for the worst affected customers.

Options to address the issues range from 'do nothing', improvements to voltage visibility and management to reduce voltage impacts ranging from relatively simple operational changes through to more significant network investment, and a possible end point of DER orchestration.

Responsibility for regulation of voltage rests with states and territories but it has national implications. This points to a problem of governance and coordination. At the national level, the AEMC is considering proposals for DER access and pricing, for example, that are based on the erroneous premise that solar PV exports are the main cause of voltage management issues on distribution networks. However, the UNSW analysis indicates that states and territories first need to review compliance with voltage management regulations before it would make sense to consider pricing and access reforms intended, in part, to address perceived issues of voltage management caused by PV exports.

We therefore urge the AEMC to consider whether it has any role in supporting compliance with voltage management standards on the LV distribution network, whether there is a need to ensure states and territories are fulfilling their obligations as regulators of voltage on the LV distribution network and whether this should be considered prior to the AEMC embarking on rule change proposals for DER

access and pricing that might be based on a false premise regarding the main underlying causes of high voltage on LV distribution networks.

The role and rollout of smart meters

The role of smart meters has recently leapt to prominence following publication of a proposal by the Australian Energy Market Operator (AEMO) and the Government of South Australia (SA) to require changes to the regulation of smart meters to enable their use for remote curtailment of DER. The CEC has not yet finalised its response to that proposal. However, the proposal raises broader issues regarding the progress of the *Power of Choice* reform agenda. Uptake of smart meters has been much slower than originally anticipated and appears to be driven primarily by mandating the installation of smart meters with DER or for new connections. Poor uptake of smart meters is a barrier to broader reform, e.g. tariff reform.

The AEMC should consider whether the *Power of Choice* approach to the rollout of smart meters is satisfactory and, if not, what changes should be made.

The framework for investment by DNSPs in communications infrastructure

Recent proposals by AEMO regarding remote curtailment of DER to support system security have raised questions about the variety of potential communication technologies that could be used for that purpose. Decisions will be required to select the appropriate communication technology. Decisions are needed on the required level of communication performance (e.g. reliability of curtailment, latency etc) which will affect technology choices. There does not appear to be a framework for investment in communications infrastructure and we understand that this is not part of DNSPs' regulatory proposals for the period to 2025.

We recommend the AEMC consider whether any rules changes are required to set outcomes and responsibility for investment by DNSPs in communications infrastructure.

Governance of DER technical standards

Governance of standards is an ongoing challenge. DER is evolving rapidly and the current system for developing standards struggles to keep pace with technology. Interpretation of standards is also problematic. It is unclear who has authority to clarify or interpret standards where there is genuine ambiguity and disagreement over interpretation.

We note that the ESB is undertaking a review of governance of DER technical standards, which could resolve the issue of how DER technical standards are interpreted and clarified in future. We have included governance of DER standards in this submission for completeness, and this is not intended as a criticism of the scope or adequacy of the work being undertaken by the ESB.