



Clean Energy Council submission to the CSIRO-CutlerMerz Methodology Study of the Value of Distributed Energy Resources

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback to the CSIRO-CutlerMerz methodology study on the value of distributed energy resources (DER).

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 supports the proposal by the AER to develop an agreed approach to the valuation of DER for use in assessing the relative merits of proposed expenditure by distribution network service providers (DNSPs) on integration of DER.

Our high-level observations and recommendations include:

- Reforms to the energy system should aim to benefit all of society. We therefore support an 'all of society' approach to system boundaries for the analysis.
- We strongly support the proposal to develop guidance for networks to follow in assessing the hosting capacity of their networks.
- Benefits of DER for reducing electricity bills should be acknowledged, being careful to avoid double-counting.
- Government subsidies for DER should be treated as external funding.
- Customer preferences should not be overlooked.

We have also provided some feedback on the details of assumptions, methodologies and scenarios.

We would be happy to discuss these issues in further detail with representatives of CSIRO and CutlerMerz.

Energy reforms should aim to benefit all of society

Reforms to the energy system benefit all of society. It is not sufficient to consider the costs and benefits to DER owners. Nor is it sufficient to consider costs and benefits for distribution network service providers (DNSPs). It is not even sufficient to consider costs and benefits for all the electricity system. Australian citizens have the same long-term interests as Australian consumers of electricity. Costs and benefits to all of society should be the basis of the assessment of the value of DER. Alternatively, the assessment should be undertaken using both the 'all of society' approach and the 'total electric system resource' approach so that the implications of this crucial assumption are transparent.

Policy makers should not overlook the impact of electricity generation on our climate by drawing system boundaries that make greenhouse gas emissions 'out of scope'.

Assessment of hosting capacity would be very beneficial

The CEC strongly supports the proposal to develop guidance for networks to follow in assessing the hosting capacity of their networks. This would greatly assist with planning for new generation and would reduce costs to investors and, ultimately, to all electricity consumers.

The way that DNSPs determine network hosting capacity is opaque and varies from one network to another. The relevant information is held by DNSPs. While some data is publicly available (e.g. through the Energy Networks Australia (ENA) Network Opportunity Maps), the data is generally not presented in a way that enables planning of investments based on available hosting capacity.

AER guidance on how networks should analyse hosting capacity and how to communicate those findings to stakeholders would be of great assistance to investors, planners and regulators.

Electricity bill reduction should be acknowledged

A significant benefit of DER is that additional zero marginal cost electricity generation reduces wholesale electricity prices, which will reduce customer electricity bills (to the extent that the wholesale price reductions are passed through). We understand that this benefit can be quantified as avoided generation short run marginal costs and capacity investments and it can also be quantified in the form of reduced costs to customers. We also understand that counting all these benefits would result in double-counting and the proposed approach is to quantify only the avoided generation costs. We would urge CSIRO and CutlerMerz to report the value of the benefits both ways, even if only one of the values is ultimately used for the purposes of calculations.

By reporting the benefits of DER integration as reduced generator costs instead of reduced costs for customers there is a risk that audiences will interpret that to mean that DER provides no tangible electricity bill benefits to non-solar customers and merely adds risks and lost revenue for incumbent generators. This is very unhelpful framing of the benefits of DER and will leave this methodology open to misinterpretation, whether wilful or through misunderstanding. We would prefer the benefits of DER to be framed from the perspective of the customer, rather than from the perspective of other generators that will compete with DER

Further clarification of the value of avoided greenhouse gas emissions will be needed

The draft report notes that the Australian Energy Regulator (AER) will not consider the value of avoided greenhouse gas emissions unless there is a tax or levy associated with it. This will result in the value of avoided greenhouse gas emissions varying by state and territory.

It would be preferable if there were an agreed value for avoided greenhouse gas emissions that can be applied nationally. Even if the National Electricity Rules currently prevent the AER from considering climate change unless there is a tax or levy associated with emissions, an agreed value that can be applied nationally would be helpful in undertaking a sensitivity analysis so that there is transparency

regarding the impact on investment in DER integration that would result from ignoring greenhouse gas emissions.

It is unclear how jurisdictional carbon prices will be determined under the proposed approach. The report seems to suggest that the AER can impute a value of the jurisdictional carbon price based on existing jurisdictional energy and climate change policies. If so, it would be helpful to clarify whether it will be necessary for the jurisdictional policy to include an explicit carbon price or whether the AER intends to derive the effective carbon price based on policies designed for other purposes (e.g. renewable energy targets or energy efficiency targets such as the Victorian Energy Saver scheme). It could be simpler and more transparent to allow jurisdictions to nominate a shadow price to be used for the purpose of the AER assessment on DNSP expenditure for DER integration.

Government subsidies for DER and DER integration should be treated as external funding

Government subsidies for DER and integration of DER into the distribution network should be treated as external funding. This would be consistent with the approach used by the AER in its consideration of the Regulatory Investment Test for Transmission (RIT-T).

Customer preferences should not be overlooked

The proposed methodology gives no consideration to customer preferences. This is contrary to the 'New Reg' approach, which is a joint initiative between the AER, Energy Networks Australia (ENA) and Energy Consumers Australia (ECA) whose goal is to "ensure that customers' preferences drive energy network businesses proposals and regulatory outcomes". Customer surveys conducted by DNSPs (e.g. by SA Power Networks) have indicated a strong consumer willingness to pay for network augmentation to enable additional DER integration. The report should address whether a consumer surplus arises from the fact that surveys have shown that customers are willing to pay more than they are currently charged for DER integration.

In view of the AER's stated preference for considering what customers want, it is surprising that the questions of customer preferences and willingness to pay for DER integration does not arise in the proposed methodology.

Attribution must not load all costs on DER integration

Investments to enable DER integration will deliver wider benefits for improved network management, safety and other electricity system improvements that are in the long-term interests of electricity consumers. Costs of DER integration must be attributed in a fair and reasonable manner. For example, investment to improve visibility of the low voltage network should not be attributed entirely to DER integration when there are benefits that extend beyond the integration of DER.

Consider verification of the shorthand method

We support the proposed use of a shorthand method, which would save DNSPs the significant cost of undertaking electricity market modelling. Prior to amending the National Electricity Rules (NER), the AER might wish to consider undertaking market modelling for the purposes of demonstrating any likely difference between results of analysis undertaken using the shorthand method versus electricity market modelling.

Sources of assumptions require further clarification

The Australian Energy Market Operator (AEMO) Integrated System Plan (ISP) is proposed as the primary source of assumptions. We request clarification regarding which scenario (e.g. Central or Step Change scenarios?) and which development paths will be selected. Alternatively, it might be preferable to use both the Central and Step Change scenarios (for the purpose of sensitivity analysis), rather than selecting a single scenario.

CSIRO and AEMO projections differ

We note there are some differences between the CSIRO projections cited in the draft report and AEMO projections. CSIRO forecasts that over 40% of customers in Australia will use on-site DER by 2027, providing 29 gigawatts (GW) of solar PV and 34 gigawatt hours (GWh) of behind the meter batteries. This represents a higher estimate of PV generation and a lower estimate of battery capacity compared with the AEMO Step Change least cost scenario (DP4), even if WA is included.