



Clean Energy Council submission to the Australian Energy Regulator Issues Paper: Connection Guideline review: Static zero limits for micro embedded generators

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Australian Energy Regulator (AER) Issues Paper on static zero limits for micro embedded generators.

The CEC 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 accredited designers and installers of solar and battery systems, 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 stated position of the AER, based on its initial consultation, that "the imposition of a static zero limit should be a rare event that happens in exceptional circumstances only".

We note that Ministers have agreed to include emissions reduction in the National Energy Objectives (NEO). This should be acknowledged as a material consideration. It could, for example, affect methodologies for cost-benefit analysis if we are to properly account for the emission reduction benefits of zero emissions generation displacing fossil fuels.

We support the AER proposal that customers subject to a static zero export limitation should have access to information including:

- A clear explanation of the methodology, data and calculations used to determine that the best technical, economic and social outcome was for a static zero export limit to apply in a specific part of the network,
- Access to independent technical expertise to review the distributor's analysis, and
- How to access dispute resolution processes.

In addition, the CEC would also recommend customers be provided with:

- A description of what action the distribution network service provider (DNSP) has taken to address the problem,
- A description of any additional steps that could be taken, but haven't and an explanation why not,
- Customer access to data (including local, real time voltage data from their own meters) to enable verification or challenge of some of the DNSPs assertions, and
- Information as to whether the DNSP was approved for augmentation expenditure for the relevant feeder and, if so, why the expenditure will not be used for that purpose.

Network visibility will be a crucial component in the development of a framework to demonstrate why DNSPs decide to impose static zero export limits in some parts of their network and not others. The Australian Energy Market Commission (AEMC) review of metering services is an important opportunity to enable network visibility by providing DNSPs with access to power quality data from smart meters.

The success of this AER initiative relies on success by the AEMC in its efforts to improve network visibility through its review of metering services.

The AER should establish a process for review and appeals regarding DNSP decisions to impose a static zero export limit.

Dynamic operating envelopes (DOEs) are the long-term solution to addressing the issue of how to allow new exports when the line is unable to accommodate more uncontrolled exports. Customers on a static export connection agreement should be allowed to 'opt in' to a dynamic connection agreement.

We would be happy to discuss these issues in further detail with representatives of the AER. We look forward to contributing further to the development and implementation of this important area for energy policy.

Responses to Questions Raised in the Consultation Paper

In the remainder of this submission, we respond to the questions raised in the consultation paper.

1. Under what limited circumstances should distributors be able to impose static zero export limits?

The issues noted in the Issues Paper are voltage management and reverse power flow.

The work by the Victorian Government indicates that rooftop solar exports make only a small contribution to voltage issues

Distribution Network Service Providers (DNSPs) that cite voltage management or reverse power flow as the reason for zero export limits they should be required to demonstrate what other steps have been taken and whether the other options have been exhausted. Energy Consumers Australia (ECA) has commissioned Renew to study the costs of various voltage management options (see attachment 1) and studies such as this should underpin assessment of options. In the example outlined in 'Case study 1' for example, the customer who is refused approval to export should also be given an explanation as to what steps have been taken to adjust voltage, and why there are no other steps that can be taken except to limit exports to zero. Social license will be strengthened if customers have access to information to demonstrate that the DNSP has taken all prudent steps to adjust voltage levels and is not just blaming solar for network management issues.

Voltage management issues can be addressed by a range of measures (see Attachment 1). Reverse power flow can be addressed with community batteries and/or tariffs to encourage electricity consumption during daylight hours, when solar energy is abundant. DOEs are also part of the longer-term solution.

The AER should establish a process for review and appeals regarding DNSP decisions to impose a static zero export limit.

We note that Ministers have agreed to include Australia's emissions reduction goals in the National Energy Objectives. This should be acknowledged as a material consideration for the purposes of this Issues Paper.

2. Under what circumstances should we take into account equity issues when considering the application of static zero limits?

As noted in the Issues Paper, "pre-existing rooftop solar systems are covered by the original connection contracts between customers and their distributors". There is a legacy of contracts entered into over the years, and these cannot be unilaterally amended.

DOEs are the long-term solution to addressing the issue of how to allow new exports when the line is unable to accommodate more uncontrolled exports. Customers on a static export connection agreement should be allowed to 'opt in' to a dynamic connection agreement.

3a. What are your views on networks using a 'standard approach' to decide on whether to impose a zero-export constraint for each individual application?

The Issues Paper suggests an approach by DNSPs that involves collection of data including voltage, load and solar output profiles. The data should also include what the DNSP has done in terms of voltage management. It will be important to be able to show customers that DNSPs are not simply assuming that all voltage management issues are caused by solar exports and that they have taken reasonable and prudent steps (such as transformer tap changes) prior to limiting exports.

The Issues Paper acknowledges that only the DNSPs in Victoria have full operational coverage, which is attributed to 100% smart meter coverage. The key barrier is lack of access to the data available from smart meters, not 100% coverage. DNSPs do not require 100% smart meter rollout on their low voltage (LV) networks for visibility. A proportion lower than 100% could suffice. However, the DNSPs need

access to the power quality data from the smart meters installed in their network. The Australian Energy Market Commission (AEMC) is reviewing the regulatory framework for metering services and CEC has called on the AEMC to ensure that DNSPs will have access to the data. The AER policy should not proceed on the assumption that the AEMC will be unable to address the issue of DNSP access to data from smart meters.

The CEC has also called on the AEMC to amend the framework for metering services to enable customers (and their authorised agents) to access local, real time voltage data from their own meters. Among other benefits, this would provide customers with the information they need to be able to verify or challenge assertions by DNSPs regarding voltage management issues.

If a 'standard approach' is adopted, it should be:

- Based on DNSPs having visibility of their own network (assuming the AEMC amends the framework for metering services to allow this)
- Able to be verified by customers (and their authorised agents) using local, real time voltage data from their own meters.
- Transparent, with analysis published for each feeder
- Subject to independent review and an appeal process.

3b. If you consider a 'standard approach' to be inappropriate, what depth of analysis or study should networks be required to do in the limited circumstance where a static zero export limit may need to be imposed? What would be the likely costs of this level of study? Should the costs of the study be charged on a requester or treated as a general network administration cost?

The ability of DNSPs to efficiently analyse the hosting capacity of their LV networks will be determined, to a significant degree, by the visibility of the LV network and the data available to the DNSP. The CEC is calling on the AEMC to ensure that power quality data from smart meters is available to DNSPs to assist with efficient network management. If this happens, the cost of analysis should be significantly reduced. It is difficult to answer this question without knowing whether networks will in future have access to power quality data from smart meters. It would make sense for the AER to await the Final Determination of the AEMC review of metering services, rather than assuming that power quality data will not be made available to DNSPs.

4a. What information should the distributor provide the connection applicant when a distributor proposes a static zero export limit and how should that information be provided?

We support the AER proposal that customers subject to a static zero export limitation should have access to information including:

- A clear explanation of the methodology, data and calculations used to determine that the best technical, economic and social outcome was for a static zero export limit to apply in a specific part of the network,
- Access to independent technical expertise to review the distributor's analysis, and
- How to access dispute resolution processes.

In addition, the CEC recommends customers be provided with:

- A description of what action the DNSP has taken to address the problem,
- A description of any additional steps that could be taken, but haven't and an explanation why not,
- Customer access to data (including local, real time voltage data from their own meters) to enable verification or challenge of some of the DNSPs assertions, and
- Information as to whether the DNSP was approved for augmentation expenditure for the relevant feeder and, if so, why the expenditure will not be used for that purpose.

4b. What's the best way to communicate the steps to inform customers' investment decisions? For example:

- **What type of information should customers be provided with, when should it be provided and by whom?**
- **Who is best placed to provide effective customer education before a customer makes an investment decision?**

The retailer and designer of a customer's DER system will be best placed to advise the customer on the implications of a static zero export limit on the appropriate design of the system, and the implications for the likely financial costs and benefits of the proposed investment.

The retailer (or their designer) would require access to information about which feeders have a static zero export limit.

5. Are there exceptional circumstances where it would be appropriate for a distributor to impose a static zero limit where it has already been funded under revenue determinations to augment the network?

It is difficult to understand why this would be justified unless it's a matter of timing. If so, there would need to be a process for relaxing the zero-export limit after the network is augmented.

6a. What conditions must be met in the limited circumstance that a static zero export limit is applied? Do you consider the above controls adequate?

We support the proposed approach. We note that there would be a need to review cost-benefit methodologies to take account of the emission reduction benefits of DER exports, in line with the recent inclusion of emission reduction goals in the NEO.

6b. In the limited circumstance that they are imposed, should static zero limits be subject to regular review? If so, what length should the period be?

Yes, they should be regularly reviewed.

The review period should not exceed the duration of a regulatory determination. It would make sense to do it towards the end of the determination period, so that DNSPs have had enough time for any augmentation that was approved in the regulatory determination.

7. At locations where it is not prudent nor efficient to augment the local network to increase the rooftop solar hosting capacity, should customers bear the cost for network augmentation if they wish to avoid export limitation?

The AER paper cites costs for transformer and substation upgrades. There are other steps that can be taken that are cheaper. Include these (maybe attach the Renew study as an appendix).

Demand on the network will grow as consumers adopt electric vehicles. Augmentation required for increased exports will be like augmentation for increased imports. The AER will need to make sure solar customers are not paying for upgrades that will be needed for EVs anyway.

Need information to be available regarding augmentation plans for increased load or other augmentation (e.g. putting overhead lines underground) and the anticipated timing and impact of the planned investments. For some customers, if their feeder is about to be upgraded for EVs and if that will allow them to avoid a static zero export limit, it might make sense to delay their DER investment until after the network has been augmented.

We also need DNSPs to support tariff reform to encourage EV charging and use of other electric appliances during daylight hours.

8. Do you consider that the above charging practice is reasonable? If not, what do you consider is a reasonable charging practice?

In the context of increasing demand (driven by EV charging) there will be some business as usual (BAU) augmentation built into future regulatory determinations. The BAU augmentation should be used as the baseline, rather than a 'no growth' assumption. This should include the post-2025 regulatory determination period when EV uptake is expected to increase.