Clean Energy Council submission to the Australian Energy Regulator Consultation Paper: Export tariff guidelines for distribution network export tariffs

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Australian Energy Regulator (AER) Consultation Paper on export tariff guidelines for distribution network export tariffs.

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.

We welcome the development of AER guidance to assist distribution network service providers (DNSPs) in their expenditure proposals and provide clarity regarding assessment of export related expenditure.

We welcome the AER's indication that it would approve export charges only where DNSPs are able to demonstrate that supporting additional solar exports is increasing the costs of operating the network. Owners of distributed energy resources (DER) must not be required to fund legacy remediation issues. Twenty years after the standards changed, some distribution networks have still not caught up from the shift from the old 240V standard to the current 230V. DER owners should not be expected to foot the bill for long-overdue network upgrades, such as the change from the 240V standard to the 230V standard.

The AER should advise stakeholders whether and how it intends to act on the Energy Security Board (ESB) recommendation that the AER and jurisdictional regulators should coordinate on regulation of voltage management so that benefits and costs can be aligned across decision makers. This work should be undertaken as a crucial first step toward the implementation of the export charging framework.

The AER should publish a guide to the regulation of voltage management on low voltage (LV) networks in Australia. CEC has been unable to locate any publications of this nature. This is an area that has long been neglected by regulators. It can no longer continue to be neglected, when understanding the details of voltage management is key to the development of export charging proposals.

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

Distribution network service providers must provide the evidence

The CEC welcomes and strongly supports the following statement in the Consultation Paper (p.7):

> "We envisage that, in order to obtain our approval for two-way pricing options, distributors will need to demonstrate that supporting additional solar exports is increasing the costs of operating the network. Under this approach, consumers would pay export charges only if their exports (either generally or at particular times of the day) would contribute to increased network costs."

We believe this will be crucial to building the credibility and social licence for export charging proposals. It is crucial that owners of distributed energy resources should not be required to fund legacy remediation issues that DNSPs should have addressed long ago, such as the failure of some DNSPs to adjust transformers following the change from the 240V standard to the 230V standard.

The highest priority for the AER should be to ensure that there is sufficient, publicly available data to enable stakeholders to distinguish between legacy network management problems and the marginal impacts for the regulation of voltage management caused by DER exports.

We support the AER proposal that distributors should provide:

- Evidence of current and future network investment requirements to warrant the introduction of two-way pricing, and
- Evidence of no-cost or low-cost solutions, to address issues created by exports, that have been implemented or considered before proposing export tariffs.

SUMMARY OF RECOMMENDATIONS

1. The AER should advise stakeholders whether and how it intends to act on the ESB recommendation that the AER and jurisdictional regulators should coordinate on regulation of voltage management so that benefits and costs can be aligned across decision makers.
2. The AER should publish a guide to the regulation of voltage management on LV networks in Australia.
3. DNSPs must be prevented from funding legacy remediation issues using export charges.
4. There should be verification of minimum legal compliance with regulations for voltage management before commencement of a 'user pays' approach to the changes on the margin caused by exports from DER.
5. DNSPs should be required to publish the information needed to distinguish between expenditure to address legacy voltage management issues versus those caused at the margin by electricity exports.
6. DNSPs should be required to publish sufficient information to enable stakeholders to verify that export tariff proposals are only based on costs specifically associated with investments to enable exports and not for network augmentation that would have been required for growth in consumption services.
7. DNSPs should be prevented from allocating residual costs to export charges.
8. Mandatory reassignment of existing DER customers to an export tariff will risk the social licence for this reform and should not be permitted before 2030.
9. The AER should update its energy price comparison website so that customers can compare all generally available electricity plans, including export tariffs and other details such as GreenPower options, solar feed-in tariffs, discounts and incentives, and key terms and conditions.

RESPONSES TO QUESTIONS RAISED IN THE CONSULTATION PAPER

1. **Are there additional steps distributors can take or consider when engaging with their customers on export tariffs? Please explain them.**

The CEC welcomes the AER's statement that in developing export charging proposals, DNSPs should:

- Sincerely partner with consumers and retailers to develop tariff options that reward customers,
- Engage on two-way pricing in detail, and
- Demonstrate that they have engaged on the need for two-way pricing, the pace of transition to two-way pricing, the levels of cost-reflectivity of two-way prices, and cost-allocation between consumption and export charges.

As already noted, the CEC welcomes the AER's intention to require DNSPs to demonstrate that supporting additional solar exports is increasing the costs of operating the network. This should be demonstrated to stakeholders by DNSPs and should not just be a requirement for information provision by DNSPs to the AER. We agree with the AER's stated intention that, "any two-way pricing will have to be justified to reflect specific network circumstances and may differ across distributors".

DNSPs should be required to publish the information needed to distinguish between expenditure to address legacy voltage management issues versus those caused at the margin by electricity exports. It is important to ensure that the ability of stakeholders to meaningfully engage is not hampered by the unavailability of crucial information, such as the steps take to address legacy voltage management issues.

2. **What are the drivers of the costs of expanding network export capacity?**

Voltage management underpins provision of hosting capacity and export services. Voltage management on LV networks is a key driver of the cost of the provision of 'export services' and 'hosting capacity'. We agree with the AER's summary of drivers of costs, namely voltage constraints, thermal constraints and low voltage visibility needs. Voltage constraints arise well before thermal constraints are experienced. Low voltage visibility constraints could (and should) be addressed through the AEMC's ongoing review of the regulatory framework for metering services. The AER should therefore focus primarily on its consideration of voltage management and that is the primary issue considered in this submission.

The AEMC has essentially established a national, pricing-based approach to voltage management which is to be overlaid on a state and territory regulatory approach. It is unclear how the division of regulatory responsibilities will work in practice. There should be verification of minimum legal compliance with regulations for voltage management before commencement of a 'user pays' approach to the changes on the margin caused by exports from DER.

The governance of regulation of voltage management and hosting capacity needs to be clarified. The Energy Security Board (ESB) Data Strategy[1] has identified gaps and failures in regulation of energy data, with some sensible recommendations to improve customer outcomes, market transparency and network management. It has identified transparency of DER and the low voltage network as the biggest data gaps and proposes a review by the AER and requirements for greater transparency by DNSPs in local network performance and hosting capacity, emerging constraints, and voltage management issues.

The ESB report notes that responsibility for decision making, regulation and monitoring of voltage management is usually split across two regulators – the AER and the jurisdictional regulator – and this causes problems. It proposed that the AER and jurisdictional regulators should coordinate on regulation of voltage management so that benefits and costs can be aligned across decision makers. The CEC

[1] See https://esb-post2025-market-design.aemc.gov.au/32572/1630275857-esb-data-strategy-july-2021.pdf

supports the ESB recommendations. We urge the AER to explain whether and how it intends to act on the ESB recommendations.

Governance of voltage management is currently highly fragmented and dysfunctional in the National Electricity Market (NEM). The only states that appear to have a functional regulatory framework for voltage management are Western Australia (which is outside the AEMC's control) and Victoria (aided by the fact that it rolled our smart meters before the AEMC's *Power of Choice* reforms).

Regulation of export services through the National Electricity Rules (NER) while leaving the regulation of voltage management in the hands of state and territory governments risks perpetuating the dysfunctional governance arrangements.

Networks should first be required to meet their regulatory obligations regarding voltage management before a user-pays approach is introduced. In most jurisdictions, there is a regulatory requirement for DNSPs to manage voltage within standards. A report commissioned by the ESB[2] and undertaken by University of New South Wales[3], found that "even in the absence of solar PV, there is a significant level of high voltage across all DNSPs in all NEM states" and "many sites experience higher voltages during the night when solar PV is not operational". The ESB notes that this "appears to point to a material level of technical non-compliance, but this may depend on how the data is viewed and how the respective standards are applied in each jurisdiction".

Table 1 (below) summarises the governance of regulation of voltage management in Australian states and territories.

Table 1 – Governance of regulation of voltage management

Jurisdiction	Regulator	Regulatory head of power
Australian Capital Territory (ACT)	Independent Competition and Regulatory Commission (ICRC)	Independent Competition and Regulatory Commission Act 1997 and Utilities Act 2000
New South Wales (NSW)	Department of Planning, Industry and Environment (DPIE)	No regulations for voltage management have been made under the Electricity Supply Act 1995
Northern Territory (NT)	Utilities Commission	Electricity Reform Act 2000 and Utilities Commission Act 2000
Queensland	Queensland Competition Authority (QCA)	Electricity Act 1994 and Electricity Regulation 2006
South Australia (SA)	Essential Services Commission of South Australia (ESCoSA)	Essential Services Commission Act 2002 and Electricity Act 1996
Tasmania	Office of the Tasmanian Economic Regulator (OTTER)	Electricity Supply Industry Act 1995 and Tasmanian Electricity Code 2015
Victoria	Essential Services Commission (ESC)	Electricity Safety Act 1998, Electricity Safety (General) Regulations 2019 and Electricity Distribution Code 2020
Western Australia (WA)	Economic Regulatory Authority (ERA)	Electricity Act 1945, Electricity Industry Act 2004 and Electricity Networks Access Code 2004

[2] Energy Security Board, May 2020, *ESB cover note on the UNSW Voltage Report*, available here
[3] Bruce, A., Heslop, S., Heywood, P., MacGill, I., Passey, R., Stringer, N. and Yidiz, B., May 2020, *Voltage Analysis of the LV Distribution Network in the Australian National Electricity Market,* available here

The CEC has searched the web sites of all the regulators in search of a report on their approach to regulation of voltage management. There appear to be remarkably few references to regulation of voltage management. Refer to Attachment 1 for further details. A notable exception is Victoria's Essential Services Commission (ESC), which requires DNSPs to report on how the information from smart meters is being used to enhance the management and operation of the distribution system. The ESC's reporting framework requires:

- Reporting for all feeders,
- Feeder segmentation according to 'voltage control' sections, referencing the distributor's zone substation On-Line Tap Changer as the key voltage regulation device,
- Time bands of 10am-4pm, 4pm-10pm, 10pm-4am and 4am-10am,
- Seasonal bands of Dec-Feb, Mar-May, Jun-Aug and Sept-Nov, and
- An explanation of the methodology used for data sampling.

The ESC's reporting framework appears to be the most comprehensive in Australia. Information for each DNSP is published in the latest Distribution Annual Planning Reports (see Table 4 in Attachment 1 for details).

Outside of Victoria, some states regulators (e.g. the Office of the Tasmanian Economic Regulator) record the number of customer complaints due to voltage issues. See Table 4 in Attachment 1 for further details.

3. Is the efficient cost of providing an export service different to the efficient cost of a consumption service? If yes, how are these costs different?

The CEC welcomes the AER's statement that DNSPs should be able to demonstrate cost-allocation between consumption and export charges. DNSPs should demonstrate the costs attributable to voltage management on LV networks due to DER exports and how that is differentiated from the costs attributable to provision of consumption services. It will be important to demonstrate that DER owners are not being charged for network augmentation driven by changes in consumption.

The SA Power Networks rule change proposal to the Australian Energy Market Commission (AEMC) on export charging suggested that costs allocated to the export component of a tariff should only be the small portion of network revenues specifically associated with investments to enable exports – i.e. those costs that wouldn't have otherwise been required if the network was used only for downstream supply. This is an important point. DNSPs should be required to publish sufficient information to enable stakeholders to verify that export tariff proposals are only based on costs specifically associated with investments to enable exports and not for network augmentation that would have been required for growth in consumption services.

Clearly, DNSPs should be prevented from reallocating existing costs from consumption charges to export charges. They should also be prohibited from allocating residual costs to export charges. We strongly support the AER's suggestion that DNSPs consider the overlap between cost drivers when calculating costs to reflect in export charges and for consumption charges to avoid double counting or misallocation of costs.

We support the AER's position that export charges "should predominantly, or solely, reflect only the incremental cost of providing additional export capacity". Export charges must not be used to recover network costs associated with consumption services or long-overdue network upgrades for remediation of legacy issues.

4. **What can distributors do in practice to demonstrate they have considered customer impact analysis when setting tariffs? For instance, how should distributors explain or quantify a negative customer impact analysis? Please give examples.**

When considering the impact of new tariffs on customers it will be important to distinguish between mandatory reassignment of existing DER customers versus tariffs applied to new connections. When tariffs are applied to new connections, it is possible to model the impacts of the new tariff and optimise the design of the DER system to maximise the customer benefits. It will not be possible to do that if there is mandatory reassignment of existing DER customers to an export tariff. Mandatory reassignment of existing DER customers to an export tariff will risk the social licence for this reform and should not be permitted before 2030. It would be wise to avoid any mandatory reassignment of existing DER customers.

Currently no on-line tool exists that would enable customers to evaluate the benefits and costs of 'opting in' to an export tariff regime. The AER should update its energy price comparison website so that customers can compare all generally available electricity plans, including export tariffs and other details such as GreenPower options, solar feed-in tariffs, discounts and incentives, and key terms and conditions.

5. **Are there other matters not listed in this section that stakeholders consider should be included in the Guidelines? Please list them in order of importance and explain why they should be included in the Guidelines.**

The overview paper should also outline:

- Where it exists, the regulatory framework for voltage management that governs the DNSP presenting its Tariff Structure Statement (TSS),
- Where there is no jurisdictional regulatory framework for voltage management, a description of the approach taken by the DNSP,
- Evidence of the extent to which voltage is managed within the bounds set by regulation (or by self-regulation where no regulations yet exist),
- Evidence of the incremental cost of providing additional export capacity, using compliance with all regulatory frameworks for voltage management as a minimum baseline requirement, and
- Details of the how voltage management issues and the costs of addressing them vary across the different geographic areas serviced by the DNSP.

6. **How should distributors define basic export level thresholds? What matters should be taken into account when defining basic export level thresholds?**

Basic export level thresholds should reflect the conditions of the feeder to which the DER is connected. Smearing costs across all exporting customers would blunt the price signal and reduce the incentive for customers in the worst affected areas to invest in alternatives, such as a battery.

Attachment 1 – Governance of regulation of voltage management

Table 2 – Jurisdictional regulations for voltage management

Jurisdiction	Regulations/Legislations
ACT	• Independent Competition and Regulatory Commission Act 1997-Section 4A 4 B provides general information about distribution but provides no information about voltage management. • Utilities Act 2000 – this document has details about distribution but nothing about voltage management.
NSW	• No regulations have been made under the Electricity Supply Act 1995
NT	• Electricity Reform Act 2000-pg 60 has some information about voltage a bit and document in general has details about distribution • Utilities Commission Act 2000- no information about voltage management
Queensland	• Electricity Act 1994-In general document has information about voltage and distribution in great details • Electricity Regulation 2006 -In general document has information about voltage and distribution in great details
SA	• Essential Services Commission Act 2002-no information about voltage management • Electricity Act 1996-has information about voltage on page 4 and distribution throughout the document
Tasmania	• Electricity Supply Industry Act 1995-3A has information about both voltage management and distribution throughout the document in details • Tasmanian Electricity Code 2015- distribution-has information about both voltage management and distribution throughout the document in details
Victoria	• Electricity Safety Act 1998-has detailed information about voltage management and distribution throughout document. • Electricity Safety (General) Regulations 2019- has detailed information about voltage management and distribution throughout document • Electricity Distribution Code 2020- has detailed information about voltage management and distribution throughout document
WA	• Electricity Industry Act 2004-has some information about voltage management on page 3 and distribution throughout the document • Electricity Networks Access Code 2004-has detailed information about voltage and distribution throughout the document

Table 3 – Ministers responsible for regulation of voltage management

Jurisdiction	Responsibility
ACT	Attorney-General - Justice and Community Safety Directorate Minister for City Services - Transport Canberra and City Services Directorate Treasurer - Chief Minister, Treasury and Economic Development Directorate Minister for the Environment and Heritage - Environment, Planning and Sustainable Development Directorate Minister for Climate Change and Sustainability - Environment, Planning and Sustainable Development Directorate
NSW	Minister for Energy and Environment
NT	Minister for Renewables, Energy and Essential Services is responsible for provisions about supply and service provision under licence
Queensland	Minister for Natural Resources, Mines and Energy
SA	Minister for Energy and Mining
Tasmania	Minister for Energy
Victoria	Minister for Energy, Environment and Climate Change
WA	Minister for Energy

Table 4 – Reporting by jurisdictional regulators regarding voltage management

Jurisdiction	Compliance Reports
ACT	link - Reports on investigations into pricing but not much on voltage management
NSW	No compliance reports on voltage management available from DPIE
NT	link and link - Power System Performance Review reports have some details about voltage management
Queensland	link - Some compliance reporting but not much on voltage management
SA	link and link - Some compliance reporting but not much on voltage management
Tasmania	link, link and link- Detailed information available about voltage compliance under performance reports and Network Reliability Review
Victoria	link - Distributor audit reports have general compliance information but not necessarily voltage management Information for each DNSP is published in the latest Distribution Annual Planning Reports. AusNet: https://dapr.ausnetservices.com.au/ (Link to the left 'Show Voltage Data Averages') Jemena: https://jemena.com.au/electricity/network-information/network-planning (Link at bottom 'Advanced Metering Infrastructure (AMI) voltage report') CP/PC: https://spaces.hightail.com/space/UaPnYI6yeV (Several CSV files) UE: https://www.unitedenergy.com.au/industry/mdocuments-library/ (Network planning reports > Distribution Voltage Information Template)
WA	link and link- There is some methodology reporting under electricity access which has some details about low-voltage management (e.g Western Power Network) https://www.erawa.com.au/cproot/21282/2/AA4-Access-Arrangement---Amended-for-Pricing-Corrections-clean-PDF---June-2020.PDF https://www.erawa.com.au/cproot/20193/2/ERA-Approved---Appendix-C.2---Distribution-Low-Voltage-Connection-Scheme.pdf