



Clean Energy Council submission to the Energy Security Board Interoperability Policy

The Clean Energy Council (CEC) welcomes the opportunity to provide feedback on the Energy Security Board (ESB) Interoperability Policy.

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 governance of distributed energy resources (DER) technical standards is long overdue for review and reform by the Australian Energy Market Commission (AEMC) or the Energy National Cabinet Reform Committee. There is confusion regarding roles and responsibilities, and this wastes time and adds unnecessary costs. The ESB interoperability policy threatens to add to that confusion.

Interoperability policy, guidance, regulations, and rules are already being developed by various jurisdictional governments, regulators, and distribution network service providers (DNSPs). The AEMC has not yet finalised its determination on governance of DER technical standards. The experience of the ESB's Maturity Plan shows that a lot of time and effort can be wasted when policy is developed without proper consideration of governance.

The ESB Interoperability Policy for consultation is also problematic because it blurs the roles of policy setting and specification of technical requirements in an unhelpful way.

Without a clear understanding of the governance framework within which it will sit, the interoperability policy risks adding to the confusion in a regulatory framework that is already very poorly defined. We therefore recommend delaying any decisions on the interoperability policy until the AEMC provides direction on governance of DER technical standards. If the ESB is taking on the lead role in development of interoperability policy, it would be helpful for the AEMC to say so in its Final Determination on governance of DER technical standards.

If the ESB proceeds with this policy in advance of any direction on governance from the AEMC then at the very least we strongly recommend the ESB outline how it thinks it fits into the governance framework and how and by whom it expects its policies will be adopted, interpreted, and enforced. It should outline who it anticipates would:

- Assess the economic impacts of the proposed interoperability policy,
- Be responsible for implementing the interoperability policy, and
- Be responsible for publishing an authoritative interpretation of the interoperability policy when significant differences of interpretation arise.

However, rather than duplicating the work of the AEMC on governance of DER technical standards, it would be preferable for the ESB to await the decisions of the AEMC in this matter. The ESB and the AEMC could also consider working together on a joint statement on the relationship between governance of DER technical standards and the ESB's role in interoperability policy.

1. Confusion of roles and responsibilities

Governance of DER technical standards is very problematic because there is no clarity about roles and responsibilities. The ESB consultation paper does not clarify roles and responsibilities and, if anything, it adds to the confusion. Ideally, roles and responsibilities for DER technical standards would be clarified by a top-down review process, preferably reporting to the Energy National Cabinet Reform Committee (so that all jurisdictions are within scope) or the AEMC.

Interoperability policy and DER technical standards has become a very crowded policy and regulatory space. There are many overlapping initiatives underway, including:

- A report on dynamic operating envelopes, which will soon be published by the Australian Renewable Energy Agency (ARENA) Distributed Energy Integration Program (DEIP),
- Policy frameworks by jurisdictional governments, which include policies already published by the governments of South Australia (SA) and Western Australia (WA).
- Regulatory frameworks for interoperability policy, the most advanced of which has been published by the SA Department for Energy and Mining (DEM) and commences from 1 July 2022,
- Grid connection rules, plans for dynamic connection agreements and other initiatives based on the use of IEEE 2030.5, which are being developed by DNSPs and are most advanced in SA, WA, and Queensland.

In the absence of a top-down review process, we commend the efforts of jurisdictional regulators that have included a 'Roles and Responsibilities' section in their consultation papers. For example, the table below appears in a consultation paper recently published by the SA Government.

Responsibility	Responsible party
Develop software and hardware compliant with the <i>Remote update methods</i> and <i>Export Limitation Methods</i> guidelines	Technology providers and OEMs
Develop test procedures and assess compliance with the guidelines	SA Power Networks
List compliant <i>communications software clients</i> and <i>electricity generating plant</i>	TBD
Host utility server and automated <i>dynamic exports capability test</i>	SA Power Networks
Sell customers equipment and configurations compatible with these requirements (where applicable)	Solar retailers
Install and configure customer equipment and successfully execute <i>dynamic exports capability test</i>	Solar installers
Configure site to conform with export limits defined in DNSP connection agreement (flexible or fixed export limits)	Solar installers
Installation auditing to ensure ongoing compliance with guidelines	OTR

We urge the ESB to include a similar summary of proposed roles and responsibilities for its Interoperability Policy.

2. Confusion of policy and DER technical standards

It is unhelpful when policy is blurred with DER technical standards. Product technical standards should be limited to defining product capabilities and testing protocols to demonstrate the capabilities. Policy and regulation should determine questions such as the circumstances in which the capabilities defined by standards are required, whether the services provided by the capabilities must be provided free of charge to networks or whether they are remunerated within a market framework.

3. Proposed implementation pathways

It is unclear how the ESB expects its Interoperability Policy to be implemented. We strongly urge the ESB to outline the roles and responsibilities and proposed implementation pathways for its proposed interoperability 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. However, responding to the questions should not be taken as an indication of support for the proposed approach. We urge the ESB and the AEMC to consider working together on a joint statement on roles and responsibilities and the relationship between governance of DER technical standards and the ESB's role in interoperability policy.

1. What are stakeholder views on the framing of the feature sets described in Chapter 3?

The consultation paper states it is about 'Interoperability Policy'. However, it seems to confuse interoperability with the features it is proposing. The technical features proposed for assessment include grid support DER functions, mechanisms for control, data, registration, and cyber security. These are all useful features, but it is not entirely clear how each function is relevant to interoperability and CSIP Aus. Although a consistent approach to interoperability would make it easier to provide these services, the service requirements should not be set using DER technical standards. They should be determined by governments as a matter of policy.

Similarly, minimum requirements for provision of data should be set as a matter of policy. DER technical standards can be used to ensure that the requirements can be met but should not substitute for policy.

2. What are stakeholder views on the selected groupings of functionality for the feature sets? Are these the most appropriate groupings of feature sets, or are there others that should be considered?

The ESB policy should be cognisant of (and preferably consistent with) related policies and regulatory frameworks that are being developed and implemented by jurisdictions and DNSPs.

The feature sets proposed by the ESB differ from those specified in the guidelines by the SA Office of the Technical Regulator (OTR). The OTR guidelines specify five functional use cases that must be met for a site to be considered *dynamic exports capable*:

- Registration
- Dynamic export limits
- Emergency curtailment,
- Communications fall back, and
- Monitoring.

The ESB proposes to include cybersecurity, which may be tangentially related to interoperability (dependent on the approach taken for mechanisms of control) but should sit outside of the CSIP-Aus framework.

3. What are stakeholder views on each of the proposed criterion described in Chapter 3?

The criteria are very focused on the system. They do not give adequate consideration of the impacts on business and the overall cost impacts for consumers.

It is unclear who is expected to apply these criteria. Should they be applied by Standards Australia as it develops new standards? Should they be used by jurisdictional governments before new DER technical standards receive legal effect? Would they be considered by the AEMC before a new DER technical standard is adopted in the NER?

Criterion 1 (reliability and security), Criterion 4 (market facilitation), Criterion 5 (data privacy and cyber security) and Criterion 6 (flexibility, adaptability, and innovation) all seem reasonable.

Criterion 2 (system and network costs) is notable for the absence of consideration of the impacts on business, which will ultimately be passed on to consumers.

Criterion 3 (consumer impact – equity and acceptability) omits consideration of the overall cost for consumers. The equity of distribution of costs and benefits across consumers should be considered in the context of the overall cost impact on consumers.

It is unclear whether Criterion 7 (compliance and monitoring burden) is intended to include the cost to original equipment manufacturers (OEMs) of changing their products to meet new standards. It would be helpful if this could be clarified.

4. Are there considerations that have not been captured in the assessment framework?

We are concerned that DER technical standards are not subject to cost benefit analysis, Regulatory Impact Assessment or Business Impact Assessment. This is a major gap in the assessment framework.

Electrical regulation is one of the few areas where new regulations are introduced without assessment of costs and benefits, impacts on business, and impacts on customers. This arises from a regulatory system whereby jurisdictional legislation refers to the AS/NZS 3000 standard, which itself refers to other standards, such as AS/NZS 4777. This means that when Standards Australia modifies standards, the new standard has the force of legislation and does not need to be assessed for its costs and benefits. This is very poor regulatory practice, undermining the achievement of the National Electricity Objective.

We have brought this to the attention of the AEMC as part of its consideration of the governance of DER technical standards. We would also urge the ESB to consider this issue, although it is unclear whether the AEMC or the ESB has the lead role for consideration of the costs and benefits of new interoperability policy.

5. This assessment framework has been established to assist consideration of the CSIP-Aus standard for inverter-based DER; however, it could also support consideration of other technology groups. What are stakeholder views in respect of the applicability of this framework to other technologies?

An additional assessment criterion, which would apply to the consultation paper rather than to devices, is, “Has the paper explained how the policy would be implemented and who would be responsible for monitoring compliance and enforcement”.

In the absence of information about where the proposed policy would sit within the governance framework and the proposed implementation pathways, it is difficult to judge the applicability of the framework to other technology groups. If the policy were to apply to consumer goods enabled for demand response, for example, there would be fewer compliance and enforcement mechanisms available. DER can be regulated by:

- DNSPs via customer connection agreements for inverter energy systems,
- state government legislation, which may be enforced via DNSP customer connection agreements or possibly by electrical inspectors,
- minimum eligibility requirements for rebate schemes such as the Federal Government’s Small-scale Renewable Energy Scheme (SRES) or the Victorian Government’s Solar Homes program,
- rules set by the AEMC, which may be enforced via DNSP customer connection agreements.

Demand-enabled load does not require connection approval, and the proposed mechanism for enforcement is unclear.

6. Understanding consumer needs will be important to support effective interoperability settings and secure acceptance for application of standards. What might be the implications for the way households and businesses use their DER devices and how they may choose to interact with systems and markets?

It is difficult to predict how consumers and businesses will respond to the introduction of dynamic operating envelopes and similar approaches that would be enabled by the proposed interoperability policy. This is likely to depend on whether the customer is attracted to being more deeply engaged with markets or if they are more attracted by the benefits of self-consumption and a sense of independence. This is an issue that probably needs in-depth consideration by studies of human behaviour, drawing on disciplines like behavioural economics and using data from trials and simulations involving real customers. It is a question best answered through experience rather than theory. SA Power Networks has been operating a [flexible exports trial](#) for several months. This is likely to provide the best guide to how consumers interact with flexible export limits.

7. Is there an assumption that existing fleets of devices would need to be grandfathered? If so, how long might be appropriate? Would sunset arrangements need to be considered to address potential issues of inequity?

The purpose of this question is unclear. The assumption is that new standards do not apply retrospectively. Devices are expected to meet the standard of the day at the time of installation. Standards cannot be used to declare an entire class of product obsolete (if that is what is being suggested in this question).

We support the position articulated by the ARENA DEIP, which is that:

Customers should be able to opt in or out of DOEs: Overall, the Working Group considers that where DOEs are enabled on a local network, all relevant customers should be provided the choice to opt into or out of DOEs according to their preferences.

We would be deeply concerned if the ESB is proposing that DER technical standards could or should be mandated retrospectively. Who would pay for that?

8. Is it appropriate for new standards to apply to all retailers? How would aggregators and embedded network providers be treated?

Retailers will need to demonstrate that they can respond appropriately to the conditions set by DNSPs. It would be preferable for the interoperability policy to focus on what retailers will be required to do rather than telling them how to do it.

9. How might we assess timing of industry readiness? Is it appropriate for timing to be considered as part of feature sets, rather than conformance to the entire standard, to allow gradual phasing in of functionality over time?

The first step in assessing industry readiness should be assessment of the DNSP utility server. It would be helpful for the ESB to publish an assessment of which DNSPs are establishing servers compliant with IEEE 2030.5, when they are expected to be operational and any lessons that other DNSPs could learn from the experience of first movers.

The SA government proposes to commence its new regulatory framework for dynamic operating envelopes from 1 July 2022, noting that the feasibility of that timeframe will be assessed closer to the date. The industry response to that deadline will demonstrate the level of industry readiness.

10. Is there a case for phasing in introduction of the standard (or relevant aspects of the standard) across different jurisdictions based on need? What might those considerations include?

DER technical standards should define the capability of the device or item to which they apply.

Policy should determine when aspects of the capability described by the DER technical standard are phased in, and whether the phasing in is achieved by incentive, regulation, or a combination. As a matter of policy, there could be a strong argument in favour of implementing dynamic operating envelopes in SA prior to Tasmania, for example. However, the standard should be national. State-by-state variation in DER technical standards for devices would be extremely undesirable.

11. Are there other parameters (additional to those described in Table 1) that may also be valuable for consideration of inclusion in this process?

Table 1 sets out to be a framework for an 'implementation roadmap'. A key missing piece of information is who will be expected to do the implementing. Reaching agreement on who will implement is more important at this stage than the details of exactly what will be implemented. Will the requirements be set by DNSPs? Will that be a decision for each DNSP, or will jurisdictional governments set a policy and regulatory framework within which the DNSP will be required to operate (as will be the case in SA from 1 July 2022) or will the policy covering DNSPs be set through inclusion of DER technical standards for interoperability in the NER or is there another implementation pathway that the ESB has in mind?

12. How and when is the certification and compliance mechanisms determined? What are the likely lead times to establish such a capability?

Certification and compliance mechanisms are likely to be led by DNSPs. It is unclear whether the timing will be a decision for DNSPs, if it will be set by jurisdictions (as is the case in SA) or if requirements for DNSPs and others will be set through the NER. In the absence of an implementation roadmap, it is unclear what the likely lead times will be.

13. What might be likely systems and processes required to ensure that customers can easily switch providers that conform to these new standards? How does this relate to other IT and systems upgrades identified as part of AEMO regulatory and IT systems roadmap?

Policy makers should focus on what they want from providers rather than telling providers how to do what policy makers want. If policy makers want to ensure that customers can switch, they should set that as an expectation. It would be problematic if policy makers try to tell providers how to redesign their products to ensure that customers can switch.

14. Are there any cross-cutting issues that stakeholders consider need to be raised and explored as part of this policy assessment?

Yes. Please explain how the ESB fits into the governance framework for DER technical standards and how it anticipates its interoperability policy will be implemented.

We note also that a recent report on dynamic operating envelopes by the ARENA DEIP has identified other cross-cutting issues that could be considered by the ESB, including:

- Social licence – The ARENA DEIP recommends customers should be able to opt in or out of dynamic operating envelopes because this will improve the prospects for social licence
- Dispute resolution – The ARENA DEIP recommends customers should have access to affordable dispute resolution for issues related to dynamic operating envelopes and DER generally
- Point of application – The ARENA DEIP recommends that dynamic operating envelopes should apply at the point of connection to the network

- Interval duration - The ARENA DEIP recommends that dynamic operating envelopes should operate at a 5-minute interval duration, which would align with the interval for Frequency Control Ancillary Services (FCAS) and Wholesale Demand Response markets

15. The burden of compliance with implementing the technical standards will fall in the immediate term on the vendors across the solar and storage industry. In the medium term, the upfront and operational costs for compliance will likely be passed back to customers via traders (retailers and aggregators). What are the key issues for retailers in ensuring that this can be delivered at low cost? Are there aspects of the feature sets that have significant cost implications? Is there merit in staging the introduction of functionality over time?

Staging functionality by continuous tweaking of technical standards would add significant costs to OEMs. It would be preferable to set a standard that does not need continuous tweaking and stage introduction of functionality as a matter of policy, as and when it is needed in the relevant jurisdiction or network.