

Submission to

ENERGY SECURITY BOARD

INTEROPERABILITY POLICY FOR CONSULTATION



Stage 1: Inverter based resources

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Introduction

In October 2021, Ministers endorsed the Energy Security Board (ESB) Post-2025 Market Design recommendations and tasked the ESB with delivery of a DER Implementation Plan over the next three years to support the effective integration of DER and flexible demand.

<https://www.energy.gov.au/sites/default/files/2021-12/ESB%20Interoperability%20Policy%20-%20final%20for%20consultation%20-%20December%202021.pdf>

ESB is now consulting on matters relating to this plan, including assessment frameworks for technical standards. This consulting work is commencing with CSIP-Aus, an Australian variation of a US implementation (CSIP) of the IEEE 2030.5 standard.

CSIP-Aus is being considered for application to inverter based resources such as solar and battery systems designed to feed into the grid.

The consultation also includes questions relating to the suitability of the framework for assessing the CSIP-Aus standard, and whether this assessment framework is potentially suitable for assessing other standards that might apply to other types of DER, such as EVs and EVSEs.

The Electric Vehicle Council (EVC) is the peak body in Australia representing the interests of manufacturers and suppliers of EVSE, software service providers in the field of EV charging orchestration, and Electric Vehicle manufacturers. We also have strong membership amongst energy market participants, including retailers, DNSP, TNSP, and generators.

The EVC has a very strong interest in ensuring that uptake of electric vehicles in Australia is beneficial to the overall energy system.

EVC position on the fitness of the assessment framework for the review of technical standards associated with EV as DER.

This relates principally to question 4.1 (5) in the consultation paper,

“5. This assessment framework has been established to assist consideration of the CSIP-Aus standard for inverter based DER (solar PV and battery storage); however, it could also support consideration of other technology groups, such as EV smart charging and smart appliances. What are stakeholder views in respect of the applicability of this framework to other technologies, e.g., could the framework be applied to electric vehicle charging standards as a subsequent exercise?”

It also touches tangentially on several other questions raised, including 4.2 (9 – 15).

The view of the EVC is that the assessment framework is not suitable for application to the EV space.

This lack of suitability stems from differences in relative adoption rates of different types of DER. Australia leads the world in adoption of roof-top solar, so it makes sense for us to have a significant role in creating standards in the space. Australia is running last in the OECD for adoption of EV, so we are far less well placed to be trying set the standards.

With regard to the assessment framework, any framework for consideration of appropriate technical standards applicable to DER related to EVs or EVSE in Australia should start with three hurdle questions:

- 1) 'Is the standard under consideration supported by international standards bodies and/or a majority of global equipment manufacturers?'
- 2) 'Will the **unmodified** adoption of **all core** elements of this standard enable the key necessary DER outcomes in the EV space?'
- 3) 'Were this standard to be mandated, would it deliver a positive cost-benefit outcome, taking into account probable consumer behaviour?'

If the answer to any of the questions above is 'no', then the appropriate action at this time is to hold off implementing the standard locally. EV adoption in Australia is proceeding relatively slowly. By contrast to rooftop solar, we do not have an urgent need to regulate in this space at this time.

For the purposes of enabling EVSE as DER in the context of uni-directional EV charging, OCPP 1.6 would answer yes to the first two questions today, and other standards may emerge, or be modified in future, which would potentially answer yes to them as well (IEC63110, ISO15118, IEEE2030.5, etc).

A local variation of an implementation of a global standard (like CSIP-Aus, or the inclusion of EVSE in AS4755) would not pass these hurdle requirements.

While OCPP would comfortably answer 'yes' to the first two questions, it is less clear what the answer to the third question would be. The EVC view is that substantially more work in baselining BAU consumer behaviour is needed before a clear answer would be possible on this point.

The EVC is going to work with members and other stakeholders in the space during 2022 to seek to fill this knowledge gap.

On efforts to create unique local standards applying to EV as a DER resource.

This relates principally to question 4.2 (9) and (15) in the consultation paper.

The EVC notes in particular that several attempts have historically been made to mandate unique Australian standards addressing the EV space from a DER perspective.

These date back to 2012-2013, with draft AS4755.3.4. This standard would have required EVSE hardware to be built to a unique physical technical standard, in order to enable DRED connectivity. It was withdrawn following the first round of public comment and is considered unsuitable for the task by industry experts and market participants.

More recently, attempts have been made to bring EVSE within the purview of AS4755, relying on analyses deemed by the federal government Office of Best Practice Regulation to be flawed:

<https://obpr.pmc.gov.au/published-impact-analyses-and-reports/smart-demand-response-capabilities-selected-appliances-0>

In this case, the EVC observed that rather than addressing the deficiencies noted by the OBPR, project proponents used this flawed work as the basis for an attempt to accelerate the mandatory application of AS4755 in the EV space in South Australia.

By comparison, OCPP is the de facto global standard for remote control of EV charging equipment. It was initiated in 2009 in the Netherlands and is now at a point where it is actively in use on hundreds of thousands of pieces of charging equipment globally. OCPP is readily available as an option on EVSE designed for installation in the home, available for purchase in Australia today. It is eminently suitable for use as part of a DER orchestration approach involving EVSE, and widely is available today.

Were we to head down a pathway of creating a unique Australian standard in this space, it would take at minimum several years to result in a physical product offering to market and it is doubtful that the majority of global manufacturers of EVSE would produce an offering for such a small market, given the consumer has the alternative available of the standard GPO. This would result in:

- Higher costs for consumers electing to install EVSE,
- Reduced competition amongst organisations supplying EVSE,
- A higher proportion of consumers charging using existing uncontrolled GPOs, and
- Australia losing the ability to adopt best practice global solutions based on international standards, as and when they emerge.

On relationship to other activities

This relates principally to question 4.2 (14) in the consultation paper.

The EVC notes that section 1.2 of the consultation paper does not mention the work being undertaken by DISER as part of the Future Fuel and Vehicle Strategy around the encouragement of the uptake of smart EVSE, or the South Australian government through their announced subsidy to incentivise the uptake of smart EV charging.

The South Australian initiative in particular is likely to result in real world outcomes at scale well before the ESB roadmap for EV is delivered.

Given this, it would be prudent for the ESB to take as input into the DER implementation plan the learnings from these schemes.

The EVC would strongly recommend engagement with the DEIP Electric Vehicle Grid Integration working group, and the broader membership base of the Electric Vehicle Council, at the commencement of any consideration of selection of technical standards with respect to EV or EVSE as DER.

<https://arena.gov.au/knowledge-innovation/distributed-energy-integration-program/ev-grid-integration-workstream/>

Conclusion

The EVC considers that optimal outcomes in the DER space with respect to EV and EVSE will include the selection and application of proven internationally developed solutions, designed to work with hardware and software produced and maintained for a global market.

In selecting technical standards to apply in Australia to EV as DER, we should start with:

- 1) 'Is the standard under consideration supported by international standards bodies and/or a majority of global equipment manufacturers?'
- 2) 'Will the **unmodified** adoption of **all core** elements of this standard enable the key necessary DER outcomes in the EV space?'
- 3) 'Were this standard to be mandated, would it deliver a positive cost-benefit outcome, taking into account probable consumer behaviour?'