



ENERGY SECURITY BOARD
ELECTRIC VEHICLE SUPPLY EQUIPMENT
STANDING DATA
CONSULTATION OUTCOMES REPORT

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Anna Collyer
Chair
Australian Energy Market Commission



Clare Savage
Chair
Australian Energy Regulator



Daniel Westerman
Chief Executive Officer
Australian Energy Market Operator

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Overview

The Energy Security Board's Data Strategy identified standing data on the installation of Electric Vehicle Supply Equipment (EVSE) as one of the priority data gaps to address in supporting the energy market transition, as critical to informing energy system planning on the uptake, behaviour and demand impacts of EV charging over time. Energy Ministers requested ESB to progress work to address this priority gap November 2021.

The ESB subsequently developed and released the Electric Vehicle Supply Equipment Standing Data Consultation Paper (the Paper) on 7 December 2022¹, presenting a rationale and options for capturing 'standing data' for new EVSE installations, for stakeholder feedback.

EVSE standing data has been defined as data concerning the location and characteristics of EVSE to inform network modelling and forecasting necessary to guide planning processes of the energy sector and the planning of EV infrastructure. This excludes data associated with ongoing EV operation, which is being further considered as part of wider ESB work on CER interoperability.

The paper was shaped by 17 targeted consultation sessions with market bodies, DNSPs, jurisdictional regulators, EV and installer industry representatives. The Paper included 12 consultation questions relating to:

- Data use cases
- A draft data specification
- Data collection considerations and reporting triggers
- Data repositories (e.g., DER Register)
- Regulatory framework considerations

Written submissions were received from 15 stakeholder organisations, representing a total of 21 network businesses, energy retailers, government and industry bodies. This report presents stakeholder feedback and potential outcomes of that feedback, to guide implementation planning for the national collection of EVSE standing data.

Submissions communicate broad support for:

1. The need to collect EVSE standing data to support the primary use case of network planning, and the need for this to begin in the near term, given rates of expected uptake.
2. Capturing all hard-wired EVSE with a connection of 15A or greater
3. Acceptance that the current DER register is the only viable candidate for a national database.

Submissions also raised a range of challenges, including:

1. Data quality and process inefficiencies in the existing DERR process.
2. Limited direct incentives/requirements on EVSE installers to report data impacting compliance levels.

¹ [ESB Electric Vehicle Supply Equipment Standing Data Consultation Paper, December 2022](#)

These challenges are not unique, with the regulatory framework for installers a fundamental issue for wider CER reforms, impacting compliance of CER with performance requirements and consumer protections. These issues are being considered in the context of the AEMC CER technical standards review and in the ESB CER implementation workplan.

Recommended implementation path

In response to these findings, the ESB supports a two-phase approach:

1. **Expanding on existing frameworks** to progress action in the short term, by including EVSE standing data in the DER Register and undertaking complementary measures to improve on processes and engage installers.
2. Longer-term policy consideration of **new frameworks for installer requirements** and compliance across CER technologies, including EVSE standing data.

Expanding DERR and complementary measures

Its proposed that AEMO lead work to:

- **Extend the DER Register data collection and reporting framework** to require DNSPs to collect and provide specified standing data for all hard-wired EVSE with a connection of 15A or greater (public and private charging). This would require AEMO to:
 - Develop and proposed a rule change request for the AEMC to consider, amending NER 3.7E to extend the current scope of data that may be collected.
 - Work with stakeholders to finalise the required data specification,
 - Extend **DER Register Information Guidelines**² information guidelines to include requirement on DNSPs for EVSE data collection.
- **Review current issues in the DER Register:** AEMO has already been working with stakeholder to improve DERR data collection frameworks. This work should be expanded to promote their continuing effectiveness, and work toward more efficient and nationally consistent approaches, where cost-effective.
- **Develop National EVSE Product Database:** AEMO should work with industry to establish arrangements for a product list to streamline EVSE data collection, similar to the current CER Product listing service (eg The Clean Energy Council's *Approved Inverter List*).
- **Pursue complementary measures to support compliance, with** AEMO engaging with industry and policy bodies to consider:
 - Industry education and training using established channels
 - Incentivising the collection of accurate data from installers
 - Incentivising DNSPs to effectively verify and take corrective action in relation to data errors and non-compliance.
 - Alternative datasets to support compliance and quality testing, such as motor registry data on EV uptake and analytics on smart meter usage data to identify charging patterns.

² [DER Register Information Guidelines approved for publication \(aemo.com.au\)](https://aemo.com.au)

New frameworks for CER installers

AEMC's *Review into Consumer Energy Resources Technical Standards*³ is considering issues of improving current poor compliance with standards for CER technologies and related requirements on installers.

Their draft report (27 April 2023) provides 12 recommendations for immediate voluntary actions to improve CER compliance with requirements. These include a range of engagement, tools and training for installers, and use of supporting data from smart meters and OEM's.

Beyond this voluntary action, the AEMC's draft proposes the need for further policy work on CER frameworks to consider sustain regulatory approaches to improving compliance.

To ensure a coordinated approach, ESB proposes that requirements on EVSE installers to report on EVSE installation should be included for consideration in this process.

Structure of this report

The remainder of this report outlines in more detail stakeholder views on issues raised in the consultation paper and provides responses.

³ [AEMC review - Consumer Energy Resources technical standards | Australian Energy Regulator \(aer.gov.au\)](#)

Abbreviations and Technical Terms

AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
CEC	Clean Energy Council
CER	Consumer energy resources
CERR	Clean Energy Regulator
DER	Distributed energy resources ⁴
DNSP	Distribution Network Service Providers
ENA	Energy Networks Australia
ESB	Energy Security Board
ERAC	Electrical Regulators Authorities Council
EV	Electric Vehicle
EVSE	Electric vehicle supply equipment
NEL	National Energy Law
NEM	National Electricity Market
NER	National Electricity Rules
NMI	National Meter Identifier
OEM	Original Equipment Manufacturer
SAPN	South Australia Power Networks
SRES	Small Scale Renewable Energy Scheme

⁴ The term Consumer Energy Resources (CER) has now been adopted by the ESB and market bodies.

Summary of consultation findings

The ESB received 15 written stakeholder submissions, representing 21 entities.

- AusNet
- Clean Energy Council
- CPPALUE (Citipower, Powercor Australia, United Energy)
- Department of Energy, Environment and Climate Action (Vic)
- Electric Vehicle Council
- Energy Australia
- Energy Networks Australia
- Energy Queensland
- NSW DNSPs
- Origin (Including confidential version)
- PLUS ES
- Red/Lumo
- SAPN
- SwitchDin
- Tas Networks

All responses have been reviewed for the next stage of policy development, though not all feedback received is included here in this summary.

1. Use cases and the need for the collection of EVSE standing data

Consultation questions:	Q1) Are the key use cases for EVSE standing data adequately captured and described? Q5) What else could a national EVSE database be used for, in addition to supporting EVSE standing data?
Key references in the Paper:	<i>Chapter 2 of the Paper sets out the need for EVSE standing data based on future load modelling. The Paper includes a detailed description of 15 potential use cases for EVSE standing data for DNSPs and AEMO (primary users) and Government and research uses (secondary users)</i>

Stakeholder views

- Strong support for the need to collect EVSE standing data for the network planning use-case.
- There was solid support for the other nominated use cases, with exceptions.
- Limited support for collecting data for non-primary use-cases due to costs and data limitations.
- The ENA reported concerns that the function of metering coordinators proposed under the AEMC metering review may place commercial barriers on the ability of DNSPs to access smart meter data.

Analysis

The strong acceptance of the primary uses cases of EVSE standing data for network planning and operational use cases reflects the general acceptance that EVSE will be associated with a rapidly growing impact on generation and transmission planning and investment. The strong support from individual DNSPs and from Energy Networks Australia occurs in the context of the AEMC metering review. A number of DNSPs commented on the developing data access framework in terms of the potential difficulty for DNSPs to access smart metering data. If DNSP smart meter data access is constrained, this factor will strengthen reliance on a national EVSE standing database for network planning and modelling.

Stakeholders that engaged less positively with the primary use cases were confined to organisations that will not directly benefit from those use cases, where a perception of costs and data accuracy issues undermine the perceived cost-benefits of collection.

A number of stakeholders (DEECA and Energy Australia) called for broader consumer-based use cases relating to safety recalls, and to improve consumer outcomes in energy consumption. The Electric Vehicle Council supported the primary use cases but raised concerns that other use cases have not been adequately justified. The collection of EVSE standing data for the primary use case can be progressed while further work is undertaken to explore secondary data access arrangements. The data specification should focus on the primary use case as defined by DNSP and AEMO data needs.

Outcomes

There is strong support for the collection of EVSE standing data to support network planning and operational requirements of DNSPs and AEMO provides significant justification to proceed with implementation planning as a priority. Other use cases may warrant further consideration and stakeholder engagement in the process of implementation planning.

2. Design considerations for a national EVSE standing data collection model

Consultation question:	Q2) Are the listed considerations for data collection appropriate?
Key references in the Paper:	<i>Table 2 in Chapter 3 of the Paper proposes the considerations that should guide the development of an EVSE standing data collection model.</i>

Stakeholder views

- There was strong support for the proposed data collection considerations with some variations in emphasis among stakeholders.
- The potential to collect and verify data remotely, as opposed to requiring human data entry was a common theme among stakeholders, however specific automated data capture solutions were not identified.
- A number of stakeholders raised concerns about the potential to collect timely and accurate EVSE standing data from installers, and the absence of sufficient penalties or incentives in the current regulatory framework.
- NSW DNSPs, SAPN and the EV Council recommend that leveraging existing processes at the point of installation should be maximised, including the use of jurisdictional Safety Certificate schemes to collect data.
- Victorian DNSPs report that they have commenced initiatives to develop a capability to identify EVSE and manage charging based on smart meter data to detect 70% of customers who do not use dedicated or smart EVSE.

Analysis

Views on the necessary considerations in designing the approach to data collection aligned with stakeholder concerns about the costs of collection, compliance and enforcement. The governance and regulatory enforcement considerations are paramount considerations in designing a data specification.

A strong interest in maximising remote and digital collection of EVSE standing data aligns with an expectation that EV and EVSE standards development includes standards that could facilitate remote/digital collection of some EVSE standing data (e.g. EVSE model features and settings). Australia stands alone in considering the collection of EVSE standing data. Further, Australia's relatively small vehicle market reduces our ability to influence international standards development processes that may facilitate automated standing EVSE model data collection. No viable alternatives were identified to the collection of EVSE *installation* configuration data via automated means.

Interest in maximising vehicle registration data was not strongly associated with the primary use cases for EVSE standing data. EV registration data was seen as a valuable complementary data source, particularly in relation to understanding the characteristics of EV's on-board charge management features at the state-level, and the volumes of EVs that are not associated with a private EVSE installation.

The potential to access vehicle registration data, and for the collection of standing data from the EVSE itself should be monitored as technology and standards frameworks develop. However, these collection avenues are seen as complementary to the proposed collection of data at the time of installation. This is due to the identified need to capture information on EVSE *as-installed*.

Outcome

The proposed data collection considerations have been confirmed, however additional consideration should be given to the use of complementary data to be obtained remotely and digitally, from EVSE OEMs and vehicle registration authorities.

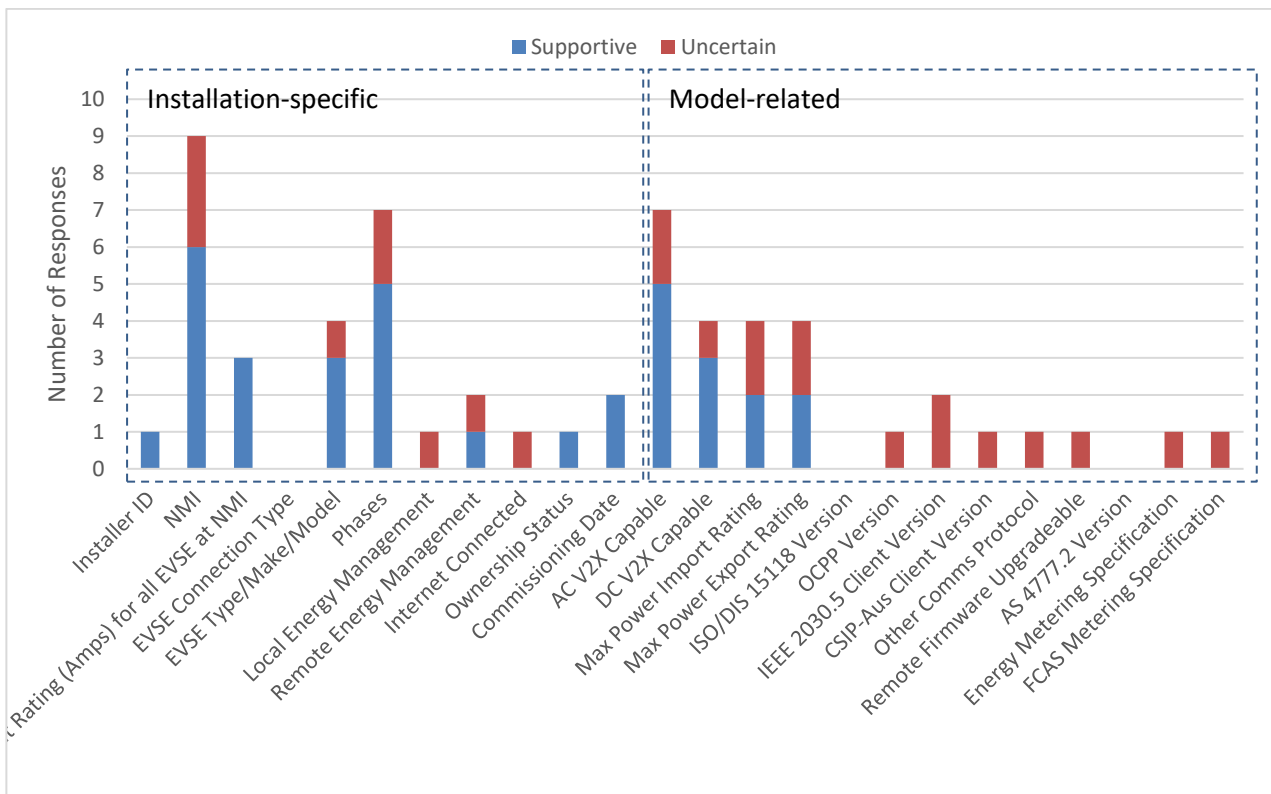
3. Data specification to support proposed use-cases

Consultation question:	Q3) What data fields should or should not be collected, and why? What is the minimum set of data required to facilitate the above use cases?
Key references in the Paper:	<i>Table 3 in Chapter 3 of the Paper sets out a proposed data specification. The approach separates 11 “installation-specific” data fields that will require collection during installation from 13 “model-specific” fields that can feasibly be obtained from a remote data source.</i>

Stakeholder views

- A number of stakeholders provided explicit support for the proposed data specification, but the balance of stakeholders provided qualified support with specific restrictions or called for further cost-benefit analysis.
- A number of stakeholders (SAPN, NSW DNSPs, Ausnet) supported a smaller data-set (see Figure 1 below).
 - SAPN supported the collection of only 6 installation-specific data fields.
 - DEECA propose the inclusion of serial numbers to support safety-based use cases, and product recalls.
 - The EVC only recognises the network planning use case and advocates that only 4 data points are necessary.
- Stakeholders (Ausgrid, SAPN, NSW DNSPs) supported the development of a national database of EVSE models to remove the requirement from installers to report EVSE model-specific characteristics.

Table 1 – Respondent support for 24 fields in the proposed data specification.



Analysis

Views on the proposed data specification aligned with stakeholder-specific interests. The dominant feedback from DNSPs was that a more restricted data set would be sufficient to support primary use cases related to network planning.

Outcome

A data specification limited to installation-specific details that will support network planning would be met with most stakeholder support. These include:

- Installer ID
- NMI
- Circuit rating (in amps) of all EVSE at NMI
- EVSE make & model
- Number of phases connected
- Commissioning date

Further work is required to determine whether EVSE serial numbers should be collected (for example to produce future product safety recalls). Broadening the data specification beyond these data points would need to be justified in terms of the incremental increase in cost and complexity for EVSE installers being offset by specific use-case benefits.

It should also be noted that entry of the “EVSE make & model” could automatically populate the 13 model-related fields if implementation was coupled with a national EVSE product white-list. The marginal cost of collecting those fields is negligible compared with installation-related data.

4. Supporting timely and accurate reporting

Consultation question:	Q4) How can timely and accurate reporting of EVSE installation data best be supported?
Key references in the Paper:	<i>The proposed data specification model minimises human error in the data collection process, by relying on a national EVSE product white-list to auto-populate model data. The Paper acknowledged the difficulties and uncertainties related to the reliance on installers collecting EVSE standing data during installation work.</i>

Stakeholder views

- A number of stakeholders raised significant concerns about the potential to collect timely and accurate EVSE standing data via installers, and the absence of sufficient penalties or incentives in the current regulatory framework to support data quality and completeness.
- NSW DNSPs, SAPN and the EV Council recommend that leveraging existing processes at the point of installation should be maximised, including the use of jurisdictional Safety Certificate schemes to strengthen data collection incentives.
- Alternate collection options were proposed, including reliance on vehicle registration and digital collection via the EVSE itself.

Analysis

Stakeholder views confirmed the Paper’s description of the challenges relating to the collection of EVSE standing data from electrician installers. The limited availability of incentives and penalties in the existing framework is a significant impediment to the consistent, reliable collection of installation-specific data. No credible alternative to collection from electrician installers has been proposed.

Outcome

Implementation planning will need to explore how best to establish a foundation of training, incentives and penalties to support accurate and timely data entry processes. This relates to broader systematic issues with CER technical standards implementation that are being experienced across a range of market-body workstreams.

Further work is needed to explore and explain the limitations of data collected from vehicle registration authorities, and remotely/digitally from either the EV or the EVSE itself, noting that these processes are not yet capable of transmitting installation-specific data of the kind required to satisfy the primary data use cases.

5. Determining EVSE to be captured

Consultation questions:	Q7) Are there any other reporting triggers that have not been considered? Q8) What other advantages and disadvantages should be considered when comparing available reporting triggers?
Key references in the Paper:	<i>Table 6 in Chapter 4 sets out the likely coverage, advantages and disadvantages of potential reporting triggers to meet the data needs of the proposed use-cases.</i>

Stakeholder views

- There was broad agreement that EVSE standing data for all hard-wired EVSE installations (private, public and commercial) 15A or above should be captured.
- Several DNSPs noted that EVSE at or below 15A could be considered akin to a typical household load and not captured.
- The CEC raises concerns about collection from EVSE installations based on existing difficulties (incomplete/inaccurate data) with reliance on installers to enter accurate data in the DER Register to date, preferring completion of the AEMC tech standards review before proceeding.

Analysis

A key outcome of the consultation process is agreement among most stakeholders that new hard-wired EVSE installations above 15A need to be captured.

Consideration of the application of current and future complementary data collection from vehicle registration authorities, and especially from EVs themselves has not displaced the need to capture new private and public EVSE installations. This reflects broad acceptance that the primary network planning use cases rely on an understanding of the spatial distribution of charging infrastructure.

Further engagement with the CEC may address concerns about the operation of the DER Register and reliance on installers, and a perception that an alternative to collection of installation details will meet network planning use-cases.

Outcome

Implementation planning can proceed on the basis that data collection for hard-wired EVSE installations above 15A has strong support of key stakeholders, apart from the CEC.

6. Expansion of the DER (CER) register

Consultation question:	Q9) Is it accepted that an expanded DER Register should be the database system for collection and sharing of EVSE standing data?
Key references in the Paper:	<i>The Paper proposes that AEMO's DER register is currently the only suitable existing national framework that could be readily extended to include EVSE standing data. Table 7 in Chapter 5 sets out the current CER databases and analysis regarding the suitability for expansion to include EVSE standing data. More details on DER register operation and issues is provided at Appendix B of the Paper.</i>

Stakeholder views

- Most submissions supported the expansion of the DER Register to include EVSE standing data.
- Many submissions emphasised significant concerns with the current operation of the DER Register (CEC, NSW DNSPs, CPPALUE). Some called for a comprehensive review to address perceived “fit for purpose” concerns, inaccuracies and a lack of incentives and/or enforcement activity (Plus ES, SwitchDin, EVC).
- Stakeholders did not raise credible alternatives to expansion of the DER Register and did not raise any new additional problematic aspects in the operation of the DER Register not covered in the Paper.

Analysis

The implementation of the DER Register in the NER introduced a technical requirement relating to the installation of embedded generation resources, requiring DNSPs to supply “DER generation information” in relation to connection points on their networks. The method of collection varies across jurisdictions, but invariably relies on electrician installers entering installation-specific data, coupled with API integration of some inverter model details into the DER Register, depending on each DNSP's digital business systems.

Stakeholder views confirm known issues in the operation of the DER Register. Significant efforts have been undertaken by AEMO in partnership with DNSPs to improve the quality of data in the DER Register, which are ongoing. Consequently, many of the issues raised by stakeholders have been, or are in the process of being addressed.

Stakeholder concerns reflect broader issues with the current regulatory framework relating to CER technical standards. These issues are explained in detail in the Consultation Paper. These issues are being explored by related initiatives, including the AEMC's CER Technical Standards Review and the ESB's CER implementation plan.

Outcome

A thorough review of the current operation of the DER Register should be considered, to identify additional opportunities to improve the current operation of the DER Register. Noting that broader legislative reforms may be considered in the longer term. In the near term, such a review could focus on opportunities to strengthen AEMO's *DER Register Information Guideline* and supporting DNSP business processes. AEMO already has work underway with some DNSPs to identify options to improve reporting quality.

No immediately viable alternative to the DER Register has been proposed to house EVSE standing data. Developing a new data management system remains likely to be a more expensive option.

7. Governance and regulatory arrangements

Consultation question:	Q6) What governance arrangements are needed to ensure the appropriate operation of a national EVSE Database?
	Q10) Is it agreed that networks could impose a requirement for EVSE standing data reporting, through an amendment to the service and installation rules?
	Q11) What preferences or issues do stakeholders have regarding the described regulatory options? If a rule change is needed to achieve EVSE standing data collection, do you consider the rule change would be likely to have a significant effect on the national electricity market?
	Q12) Is the proposed regulatory assessment framework fit for purpose?
Key references in the Paper:	<i>The Paper describes the different regulatory models to support the collection of EVSE standing data, including the key benefits and limitations of each model.</i>

Stakeholder views

- There were a variety of views regarding the overall regulatory approach (i.e., national or jurisdictional components).
- One stakeholder (EVC) preferred state-based implementation rather than extension of the existing legal mechanism that supports the DER Register in the NER.
- A number of stakeholders (Plus ES, SwitchDin, SAPN, Ausnet, ENA, Tas Networks) saw that the DER Register needed to be supported by jurisdictional regulators and other bodies.
- One stakeholder (CPPALUE) saw that the Clean Energy Regulator should be given a role of compliance and enforcement of EVSE standing data collection requirements.
- Stakeholders emphasise that the central issue for governance is data quality and completeness – linked to the ability to enforce reporting requirements on EVSE installers (SwitchDin, EV Council, Plus ES, Ausnet).
- DNSP Service and Installation Rules were seen as a potential mechanism to impose an installer reporting obligation, subject to concerns about limited enforcement resources and legal options available to DNSPs.
- The CEC's product listing service (currently limited to approved inverters, PV modules and batteries) was recommended for expansion to capture EVSE model data.

Analysis

A diversity of views on the ideal regulatory implementation model reflects broader concerns about gaps in the regulatory framework for CER data collection, as explained in the Paper.

In essence, the NER supports the imposition of requirements on DNSPs as ‘market participants’ and does not provide for obligations to be directly imposed on electrician installers. Simultaneously, the existing jurisdictional safety certification schemes which govern CER installation processes, are significantly hampered by limitations in relation to the legal powers and resources to enforce installer reporting obligations not associated with electrical safety. This means that the introduction of an EVSE standing data reporting obligation lacks a sufficient regulatory framework to create and readily enforce legal obligations. However, the clear implication of most stakeholder submissions is that the collection of EVSE standing data should not await the development of a more suitable regulatory framework.

A key issue to be considered in developing an implementation plan for an EVSE standing data reporting requirement, is the need for robust controls to minimise the risks of non-compliance that have been associated with the implementation of the DER Register to date.

There are a range of actions that may accompany the imposition of an the EVSE standing data reporting requirement, to address the risks and gaps in the existing regulatory framework. These may include:

- Effective industry-training using established industry training and communication channels
- Incentivising the collection of accurate data from installers
- Incentivising DNSPs to effectively verify and take corrective action in relation to data errors and non-compliance
- Articulating an implementation plan that combines immediate no-regrets implementation using the existing regulatory framework, while longer term legislative reform proceeds

The support of key DNSPs for the collection of EVSE standing data, and acceptance that an expanded DER Register is the preferred collection model, suggests that DNSPs may support national efforts to enhance EVSE standing data collection.

Outcome

Stakeholders acknowledge and support the commencement of EVSE standing data collection in the DER Register. Activation of a new obligation on DNSPs to supply EVSE standing data information could be enabled by a minor amendments to the NER and to AEMO’s DER Register Information Guidelines.

Stakeholders are focussed on the shortcomings in the existing regulatory frameworks. There are a variety of views about how the recognised gaps in compliance and enforcement roles ought to be addressed. The support for reliance on jurisdictional safety certification processes, is unlikely to align with the views of jurisdictional safety and technical regulators.

Contact details:

Energy Security Board

Level 15, 60 Castlereagh St

Sydney NSW 2000

E: info@esb.org.au

W: energyministers.gov.au/market-bodies/energy-security-board