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Energy Agency

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ARENA submission on the ESB EVSE Standing data - Consultation paper

This submission provides information and insight relevant to the ESB's consultation paper on EVSE Standing Data. The electrification of land transport is expected to significantly increase the demand for energy, both in total and at peak times of the day. The mobile nature of EVs presents a unique challenge to the electricity sector, where assets are predominantly stationary. Without careful management, this could materially strain existing network capacity. At the very least, standing data needs to be collected as it represents the first step in a large set of milestones required to enable proper integration of EVs to the grid.

ARENA's focus on EVs has predominantly been on accelerating the deployment of public charging infrastructure as well as supporting the effective integration of EVs into Australia's electricity system. To date, we have committed \$57.6 million towards 16 projects directly addressing EV uptake, integration and innovation. We will continue to support the sector through existing funding initiatives such as the funding round of \$127.9 million allowing fleets to transition to new vehicle technologies, and contemplated initiatives under the Government's 'Driving the Nation' policy.

We continue to support the Distributed Energy Integration Program (DEIP) to collaborate on industry needs and reforms in this area. To this point, ARENA leads the DEIP EV Grid Integration Working Stream. We support the DEIP Interoperability Steering Committee, which is exploring national standardisation of EV managed and vehicle to grid (V2G) integration and interoperability standards and protocols.

What standing data means and the importance of data collection

According to the Oxford Dictionary, standing data refers to information held on file in a computer for long-term use because it does not often change. In 2019, the Distributed Energy Integration Program (DEIP) EV Grid Integration Working Group identified that the availability of standing data for vehicles and electric vehicle supply equipment (EVSE – commonly referred to as 'chargers') and EVSE operations data was a key challenge for the energy sector.

DEIP then established a Data Availability Taskforce to identify EV standing data needs from an energy sector perspective, alongside potential collection mechanisms and delivery options for EVSE data. DEIP followed a collaborative and exploratory process to capture input from a broad range of energy and transport sector stakeholders. AEMO prepared a [report](#) to summarise the group's findings. Potential benefits of improved EV data availability include:

- Improved accuracy of uptake and impact modelling.
- More detailed system stability modelling.
- Evidence-based research to inform public policy and infrastructure planning.
- Enabling EVs to participate in energy and services markets.
- Targeted, efficient investment in charging infrastructure.

Collection, provision and protection of data comes at a cost, so appropriate benefits would need to be realised to justify any new EV-related data mechanism.

Where will data be stored?

Each of the existing Distributed Energy Resources (DER) data collection frameworks have limitations that inhibit their suitability to be extended for the purpose of collecting EVSE standing data. Aspects of existing approaches to data collection may be leveraged in a national EVSE standing data collection framework.

Utilising AEMO's existing DER Register to capture EVSE standing data – as suggested by the ESB Consultation paper - will require system infrastructure upgrades, to update AEMO's existing IT systems to receive EVSE standing data. This will require project management resources for centralised national tasks. Careful assessment of required resources for AEMO will be required.

AEMO regularly publishes public data and information collected through the DER Register on a quarterly basis, so adding EVSE data to the registry will have the benefit of already having a clear reporting pathway.

As AEMO and DNSP's are the main beneficiaries of an EVSE Register, it is anticipated AEMO and DNSPs will have to fund the majority of this project. AEMO could potentially offer in-kind Full Time Employees (FTEs) to support the project.

Expansion of existing systems to accommodate EV-related data should be considered wherever possible to keep costs to a minimum. Potential collection mechanisms:

- DNSPs collect EVSE standing data from installers as per other DER – noting that currently few EVSE installations require DNSP notification. For example, South Australia Power Networks collects data of all EVSE above 20A using the existing DNSP service and installation rules.
- The EESS has a registration database for Responsible Supplier registration and equipment registrations, and also has public search facility for certain information relating to household electrical equipment.
- C4NET's [EV Data Warehouse](#) is aimed at addressing the challenge for researchers and policy makers to simply access high quality, curated EV data.
- Installers obliged to contribute directly to a central EVSE register operated by government or industry body – noting the regulatory/legislative pathway to this is not

yet clear. [EVRoam](#) is a Government-led initiative with private sector data contribution and is an example of a centrally hosted repository of EVSE data in New Zealand.

- Installers obliged to contribute EVSE data to their relevant electrical licencing body – a similar mechanism currently operates for air conditioners in some jurisdictions.
- Detect EV charging activity from existing interval meters, store in a central register – noting that interval meter penetration rates vary significantly between jurisdictions, and currently EVSE installation does not necessarily trigger the need for an interval meter. Machine learning could be utilised to identify low-power charging activity.
- EVSE remotely register themselves via interoperation with electricity network/market – noting that this capability is still under discussion/development.
- Capture EVSE standing data alongside any future widespread incentive scheme – the Clean Energy Regulator has held a similar role for many years under the Small-scale Renewable Energy Scheme (SRES) and Large-scale Renewable Energy Target (LRET) programs.
- Sample data obtained from ARENA-funded trials could provide an interim collection mechanism.

About ARENA

The Australian Renewable Energy Agency (ARENA) was established in 2012 by the Australian Government. ARENA's function and objectives are set out in the Australian Renewable Energy Agency Act 2011.

ARENA provides financial assistance to support innovation and the commercialisation of renewable energy and enabling technologies by helping to overcome technical and commercial barriers. A key part of ARENA's role is to collect, store and disseminate knowledge gained from the projects and activities it supports for use by the wider industry and Australia's energy market institutions.

Please contact Adrian Salinas, Knowledge Sharing Manager (adrian.salinas@arena.gov.au) if you would like to discuss any aspect of ARENA's submission.

Yours sincerely

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