

## Energy and Climate Ministerial Council

## Minimum operating standards for government-supported public electric vehicle charging infrastructure

A key barrier to the uptake of electric vehicles (EVs) is access to reliable and convenient EV charging infrastructure. Under the National Electric Vehicle Strategy, released in April 2023, the Australian Government has a lead role in developing a set of national standards for charging infrastructure. This includes developing nationally consistent operating standards for government-supported public EV charging infrastructure to provide public confidence in transitioning to EVs.

The government has collaborated with the jurisdictions towards national consistency on payment methods, accessibility, and interoperability so that EV drivers can have access to a convenient, affordable, and equitable national charging network, complementing the work and priorities identified by the EV Grid Integration working group.

Once the minimum operating standards are implemented, a review of these standards will be scheduled annually by the National Electric Vehicle Action Plan Implementation Group to reflect technological and regulatory progress. A public consultation process will be run as part of this review.

Consideration has been given to the following:

- Existing projects and programs underway will not be required to retrospectively apply these standards if they were not included in the original funding agreement.
- Each jurisdiction retains the right to vary particular requirements for unique sites where compliance with the standard is prohibitive and/or impractical; this will be applied to individual sites on a case-by-case basis.
- Cybersecurity and related standards will be considered by the Consumer Energy Resources (CER) Working Group.
- Alternating Current (AC) charging sites may be exempt from certain requirements as their size, capacity, location and/or ownership may mean some of these standards are prohibitive to adopt.
- Existing guidelines provided by industry, such as Guideline AP-G98-22 (Guidelines for Low and Zero Emission Vehicle Charging Infrastructure Installation) by Austroads.

Category	Outcome	Suggested Minimum Requirement for Government-supported Public EV Charging Infrastructure	Suggested Implementation Date	Comments and Future Considerations
<b>Number of charging ports</b>	All EV drivers should be able to have access to a reliable supply of charging equipment within a designated site to avoid excessive delays or competition over these resources.	At a minimum, each site hosting Direct Current (DC) chargers should have two DC charging units, with at least two plugs/ports (and two bays) each. At least one bay per site needs to meet disability accessible parking bay (DAPB) compliance with respect to parking and charging accessibility <sup>1</sup> .  The number of charging ports for Alternating Current (AC) charging sites will be determined on a site-by-site basis in the relevant funding program.	For all programs beginning from 1 Jan 2024.	Number of charging ports for AC charging sites will be determined on a site-by-site basis in the relevant program.
<b>Connector types</b>	To enable and reflect the present and future EV charging technology needs.	At least 70 percent of each DC fast charging site must include Combined Charging System (CCS) Type 2 plug connectors.	For all programs beginning from 1 Jan 2024.	CHAdEMO connectors can be installed at the site should the Charge Point Owner (Owner) provide the case to do so.
<b>Minimum availability (uptime)</b>	EV consumers should feel confident that the charging infrastructure in Australia is reliable to use.	Each plug at each site will have at least 98 percent annual uptime - calculated as follows:  $\frac{(\# \text{ of hours in available period}) - (\sum \text{Outage hours} - \sum \text{Excluded Time hours})}{(\# \text{ of hours in available period})} \times 100$  <b>Available period</b> = total number of hours the plug is available to the public (e.g., if this is limited by opening hours of the site host, the available period is limited to the standard opening hours of the site).  <b>Excluded Time</b> = includes evidenced time attributable to planned and unplanned network outage, time attributable to site inaccessibility that is the responsibility of the site owner - where this is not the Charge Point Owner (Owner).  <b>Outage</b> = time when the plug is not available to supply charging services, such as loss of communications.	For all programs beginning from 1 Jan 2024.	This will be calculated on a 12-month (annual) period.  Reported on a quarterly basis for the previous 12 months.
<b>Payment</b>	Consumers should be able to charge their vehicle and pay with	All DC charging sites must provide an option for payment that: <ul style="list-style-type: none"> <li>• supports credit and debit card transactions</li> <li>• does not require registration or app download prior to arriving at the charging station</li> </ul>	For all programs beginning from 1 Jan 2024.	Plug and Charge requirements are currently under consideration.

<sup>1</sup> In this instance, this meets the standards for disability accessible parking bay dimensions as prescribed by AS/NZS 2890.6 Cl. 2.2.2 or AS/NZS 2890.6 Cl. 2.2.1, Cl.3.2 b) 11) as applicable.

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	ease, as they would for any other service.	<ul style="list-style-type: none"> <li>does not require a payee's mobile or internet signal.</li> </ul> <p>This requirement will be strongly encouraged for AC charging sites where reasonable and practical to do so.</p> <p>Each site should also provide, where practical, an alternative method of payment such as smart phone or website applications, or over-the-phone credit or debit card payment systems.</p>		
<b>Pricing</b>	Consumers should be able to access and understand the pricing offers across the charging network in Australia.	<p>For all DC fast charging sites, the charging unit's pricing should be clearly expressed in cents per kilowatt hour and visible without the payee requiring mobile or internet signal to access the pricing.</p> <p>This requirement will be strongly encouraged for AC chargers where reasonable and practical to do so.</p>	For all programs beginning from 1 Jan 2024.	
<b>Data</b>	All drivers should be able to locate available and working charge points easily when they need to charge their vehicle.	<p>For all DC fast charging sites, the Owner will provide timely and accurate data that can publicly show the availability status of a charging station's charging bays via an online platform.</p> <p>That live charging station data can be used by the grant funding body and the Australian Government for applications that will support aggregated charger availability information to the consumer and governments.</p> <p>This requirement will be strongly encouraged for AC charging sites where reasonable and practical to do so.</p>	For all programs beginning from 1 Jan 2024.	This information requirement may include additional specifications, such as live pricing data into the future.
<b>Customer service</b>	EV consumers should have the ability to access support for their charging issues/incidents.	<p>Each DC fast charging site should clearly communicate a method of communicating/reporting issues and reaching customer support. Each Owner will maintain a support service line that is accessible to those with disabilities (e.g., hearing impairment).</p> <p>This requirement will be strongly encouraged for AC charging sites where reasonable and practical to do so.</p>	For all programs beginning from 1 Jan 2024.	
<b>Interoperability</b>	We want to enable an evolving EV charging infrastructure to support future technologies, and existing capabilities available overseas.	<p>The following Communications &amp; Security Standards are encouraged, where practical:</p> <ul style="list-style-type: none"> <li>Ocpp2.0.1 compliance (and able to be updated to newer version)</li> <li>ISO15118 compliant.</li> </ul>	For all programs beginning from 1 Jan 2024.	Plug and Charge requirements are currently under consideration.
<b>Accessibility</b>	All consumers should be able to have access and the ability to Australia's public EV charging infrastructure.	<p>In relation to disability accessible parking bay requirements, chargers must meet the relevant standards in accordance with AS/NZS 2890.6 Cl. 2.2.2 or AS/NZS 2890.6 Cl. 2.2.1, Cl.3.2 b) 11) as applicable.</p> <p>The Owner must also:</p> <ul style="list-style-type: none"> <li>demonstrate that access for people with disability has been considered, including the height and access to use screens and the usability of digital and physical infrastructure for people with various types of disabilities, in compliance with relevant guidance and standards.</li> <li>ensure that no other fees, that are not otherwise payable by all users from co-located businesses can be asked of drivers to access a location.</li> <li>ensure parking bays are clearly marked and easy to find through use of way-finding technology or signage.</li> <li>notify responsible authorities to ensure location signage is provided for charging infrastructure located on National and State Highways.</li> <li>ensure infrastructure, including cables, do not unreasonably impede footpaths, bike paths, roads, carparks, recreation space, or pedestrian and cyclist access in any way.</li> </ul>	For all programs beginning from 1 Jan 2024.	

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		<ul style="list-style-type: none"> <li>enable EV charging bays to have sufficient length and width to allow for larger EVs which have front, side and rear charging points.</li> <li>ensure that all charging stations of a capacity greater than 150kw, and in particular in regional locations, constructed from 1 Jan 2025 should include at least one 'drive-through' / pull-through charging bay, larger in dimension than minimum DAPB dimensions, to cater for all vehicles (including larger vehicles) and those towing where there is sufficient physical space.</li> </ul>		
<b>Personal safety</b>	To help ensure EV drivers have a safe experience while charging their vehicles at public stations.	<p>All relevant standards for electrical safety will be met.</p> <p>EV charger site installations should encourage consideration of:</p> <ul style="list-style-type: none"> <li>the use of CCTV to cover chargers and spaces around them</li> <li>sites that are near local amenities, shops, cafes, toilets, playgrounds, residential areas</li> <li>the EV charging areas to be well illuminated and meet standards in accordance with AS/NZS 1158.</li> </ul>	For all programs beginning from 1 Jan 2024.	

**Key definitions**

**Charge Point Operator (CPO):** An organisation which owns and/or operates charging infrastructure, including the hardware and software systems needed to manage them. The CPO may also be:

- involved in the installation of the charging infrastructure, and
- generally contracted by the Charge Point Owner (Owner) to be responsible for ensuring effective maintenance, safety, ongoing compliance, payment systems, customer information and customer support.

A CPO may also be a Charge Point Owner.

**Charge Point Owner (Owner):** An individual or organisation that owns and provides EV charging infrastructure at a public or private location (such as a shopping centre, public carpark or workplace). An Owner:

- is responsible for financing the charging infrastructure;
- dictates branding, and once complete,
- remains in possession and control of the infrastructure.

An Owner may also be a site owner and/or a Charge Point Operator.

**Charge site owner:** The land owner of the charge site (which may or may not be the Charge Point Owner / Operator). Depending on the location (public, private) the energy is purchased by the charge location owner or by the Charge Point Operator. Depending on commercial arrangement, a charge location owner may responsible for ensuring access and safety of the broader location (e.g. access and fire stairwells of a multi-story carpark).

**Charging bay:** A designated parking spot where a single EV can charge using the electric vehicle supply equipment (EVSE) of a charging station or charging unit. Vehicles other than electric vehicles (or electric vehicles that are not charging) are not allowed to use this parking spot.

**Charging infrastructure:** An overarching term which refers to the equipment (hardware and physical assets) which collectively supports EV charging, including but not limited to charging bays, Electric Vehicle Supply Equipment such as charging stations, including charging plug(s) and port(s), electrical equipment, on-site battery, renewable energy generation equipment.

**Charging station:** A term used to describe a collective bank of one or more charging bays operated by a Charge Point Operator (CPO).

**Charging unit:** A unit that supplies electricity to an Electric Vehicle. It is usually the unit that sits outside the vehicle on the wall or ground.

- Each EVSE unit may have one or more charging cords/plugs/ports.
- May refer to stand alone charging units, or modular systems (referred to as Satellites or Dispensers).

**Electric Vehicle Supply Equipment (EVSE):** The overarching term to describe the system - that includes both hardware and software - which provides electric power to an electric vehicle and recharges the vehicle's batteries. EVSE systems include the electrical conductors, related equipment, software, and communications protocols that deliver energy to the vehicle.

**Plug/connector:** A general term to describe the standard plugs used in Australia - the end of the flexible cable on the charging unit, that interfaces with the socket outlet on the EV, and is integrated into all DC fast and ultra-fast charging units.

**Port/socket:** The port on the charging unit (where a cable is not integrated), that interfaces with the users BYO cable.

**Public EV charging infrastructure:** The EV charging infrastructure is public if it is:

- intended for use by members of the general public (including those situated in public car parks, whether or not those car parks are available only to consumers of specific goods or services); and
- not intended for:
  - exclusive use in respect of a vehicle produced by a specific manufacturer;
  - use by persons engaging in specific occupations;
  - use by persons whilst at their place of employment (including visitors); or
  - exclusive use by occupiers of, or visitors to, residential premises.

## Energy and Climate Ministerial Council

**Site:** An area defined with an address, which is used to describe the specific location of a publicly accessible EVSE. A site may contain one or more charging stations, from one or more charge point operator (CPO) to support EV charging.