

**Submission
No 41**

**INFRASTRUCTURE FOR ELECTRIC AND ALTERNATIVE ENERGY SOURCE
VEHICLES IN NSW**

Organisation: Master Electricians Australia

Date Received: 2 May 2025

Inquiry into Infrastructure for Electric and Alternative Energy Source Vehicles

NSW

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02 May 2025



Master Electricians Australia (MEA) is a peak industry association representing electrical contractors and is recognised by industry, government and the community as a leading business partner, knowledge source and advocate. You can visit our website at www.masterelectricians.com.au

Electric vehicle (EV) ownership is growing and while difficult to predict, it is likely that growth will become rapid in coming years. It is essential we plan for the required charging infrastructure, whether it be during travel, or near home and workplaces.

EV batteries also offer a unique, mobile form of energy storage. With bi-directional charging, households can charge their EVs using solar-generated energy, reducing charging costs and easing grid demand. Additionally, households can store surplus energy in their EV batteries, which can later be used to power their homes or appliances, or alternatively can be exported to the grid during peak times when grid supply is struggling to meet demand.

When combined with Consumer Energy Resources (CER), bi-directional EV charging creates a powerful synergy that supports both energy independence and grid stability, ultimately helping to drive down power prices for all.

MEA welcomes this inquiry into infrastructure for electric and alternative energy source vehicles and encourages the NSW Government to provide financial support that enables households and businesses to access and benefit from bi-directional EV charging infrastructure. It is also essential that market settings encourage private sector investment in public EV charging infrastructure, with government-backed investment where the private market is not viable (such as remote areas).

Funding and location of electric vehicle chargers or infrastructure for other potential energy fuel sources

Funding

Private EV Charging Infrastructure - Recent updates to the Australian/New Zealand Standards have paved the way for bi-directional EV charging, but now we need to

focus on expanding the infrastructure and asset capacity to make this technology accessible to households. This requires targeted financial incentives from the Government to aid consumer confidence in investing in the assets.

MEA urges the NSW Government to provide grants/rebates to households and small businesses for the purchase and installation of bi-directional EV chargers. Due to delays in the development of relevant standards, there is currently limited infrastructure available, making these chargers costly for consumers. Government financial support is essential to stimulate demand, which in turn will encourage greater supply and help establish bi-directional EV chargers as a mainstream CER asset.

Public EV Charging Infrastructure - Private market investment should be incentivised with a user-pays model. For remote areas, government-funded infrastructure may be necessary, but should still be a user-pays approach.

Location

Private EV Charging Infrastructure - Private bi-directional EV chargers will be installed on the private property of households and businesses.

Specific consideration must be given to how these chargers can be effectively integrated into the car parks of multi-unit residential buildings. Government policy settings are required to support body corporates to enable installation of EV chargers in car park areas.

Public EV Charging Infrastructure - Street-located chargers will also be necessary, particularly where older buildings are unable to accommodate private chargers. In highly populated areas, these should be led by private investment and user-pays models. In more remote areas, government-funded infrastructure may be required, again on a user-pays model. Wherever possible, chargers should be linked to solar panels to enable low-cost charging in daylight hours.

Use of existing infrastructure and measures to ensure a competitive market, including 'ring fencing' policies

Use of Existing Infrastructure

Other Assets

Where installed in private dwellings and businesses, bi-directional EV chargers support both traditional and emerging energy infrastructure by allowing EV batteries to store energy from the grid or solar panels. Acting as an additional reservoir in addition to household batteries, they increase overall storage capacity, improve energy reliability, and reduce costs by enabling consumers to use stored energy during peak pricing times.

Virtual Power-Plants (VPPS)

Bi-directional EV chargers installed in buildings can be integrated into VPPs through participating retailers, such as Amber.

The Australian Renewable Energy Agency (ARENA) describes VPPs as follows:¹

“By aggregating thousands of individual home batteries, virtual power plants allow renewable energy to be injected into the grid with lightning speed to address frequency and voltage imbalances, local disruptions or disturbances and keep the network stable.

While household solar batteries are an early focus, the term ‘virtual power plant’ can refer to energy pooled from a wide range of energy assets or generators ...

Electric vehicles offer a significant opportunity ... to provide [Frequency Control Ancillary Services] support to the grid”.

¹ “What are virtual power plants and why do they matter?” ARENA [08 February 2021] < [What are virtual power plants and why do they matter? - Australian Renewable Energy Agency](#) >

Essentially, when integrated into a VPP, EV bi-directional chargers will be available for “providing backup power and discharging electricity to the grid, as well as storing excess renewable energy to help to stabilise the network”².

Ring-Fencing

Public Infrastructure

The Australian Energy Regulator (AER) has recently initiated a consultation on [ring-fencing arrangements](#) related to the installation of EV chargers on public property. We are concerned that waivers to ring-fencing can have detrimental impacts on private businesses where a competitive market is viable – for example EV chargers in highly populated areas. Where a competitive market is not so viable, such as remote areas, ring-fencing arrangements are sensible.

Private Infrastructure

The installation of private EV chargers in buildings should remain the responsibility of the private electrical industry, and ring-fencing guidelines should uphold this principle. There is a strong and capable workforce of accredited electricians ready to carry out these installations, without the need for involvement from Distribution Network Service Providers (DNSPs).

Similarly, public EV chargers in populated areas should remain the responsibility of the private electrical industry without the need for involvement of DNSPs.

Master Electricians Australia’s members are prepared and well-positioned to meet the growing consumer demand for EV chargers.

Any Other Related Matters

Ring-Fencing

Maintenance

Given the escalating risks associated with aging infrastructure, it is imperative that EV charging hardware and associated systems are subject to rigorous statutory

² *Ibid.*

maintenance requirements to ensure ongoing safety, reliability, and compliance with regulatory standards.

Conclusion

Master Electricians Australia welcomes the NSW Legislative Assembly's ***inquiry into infrastructure for electric and alternative energy source vehicles***.

We urge the NSW Government to strengthen consumer confidence and drive demand by providing financial support, such as grants, for the purchase and installation of bi-directional EV chargers in private homes and businesses and create the right policy settings for installation of EV chargers in public areas.

We look forward to the outcome of the inquiry and are happy to assist with any further questions or information.