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INFRASTRUCTURE FOR ELECTRIC AND ALTERNATIVE ENERGY SOURCE VEHICLES IN NSW

Organisation: Electrical Trades Union of Australia (NSW & ACT Branch)

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Electrical Trades Union
NSW & ACT BRANCH

Submission

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Legislative Assembly Committee on Transport and Infrastructure

Inquiry into Infrastructure for electric and alternative energy source vehicles in NSW

ELECTRICAL TRADES UNION OF AUSTRALIA
NEW SOUTH WALES & ACT BRANCH
SECRETARY ALLEN HICKS
Communications • Electrical • Electronic • Energy • Allied Services

About the ETU

The Electrical Trades Union NSW & ACT Branch ('the ETU') is the principal union for electrical and electrotechnology tradespeople and apprentices in NSW & the ACT, representing over seventeen-thousand workers. Our union has been proudly advocating for members in NSW since 1902, and looking at the future demand for electrical skills in the 21st Century economy we are only just getting started.

ETU members are involved in a wide scope of the works being considered by this inquiry, including the installation, maintenance, and decommissioning of electric vehicle charging stations, as well as any ancillary work on the power network required to get chargers onto the grid. Our members make up a key pillar of the licensed electrical workforce, and a well organised majority of tradespeople at NSW's electricity networks.

Acknowledgement of Country

In the spirit of reconciliation, the ETU acknowledges the Traditional Custodians of country throughout NSW and their connections to land, sea and community. We pay our respect to their Elders past and present and extend that respect to all First Nations peoples today. This submission was prepared on Gadigal land.

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Overview

In early 2024, battery electric & hybrid (conventional & PHEV) vehicles made up approximately 3.7% of light vehicle registrations in NSW. The 2 vehicle fuel types that require external charging – battery electric (BEV) and plug-in hybrid (PHEV) – have grown to make up almost 1 in 10 new car sales last year nationwide. The NSW Government currently has a target of increasing electric vehicles to 50% of new care sales by 2030-31 under the Electric Vehicle Strategy.

The vast majority of new electric vehicles are being sold in inner-metro areas. This is down to several factors like disposable incomes, tastes, and how people use their cars. Anxieties around range and refuelling are critical barriers to uptake that can be easily addressed with good public policy.

Many electric vehicle owners will have some ability to charge their car at home, either directly through a Level 1 charger plugged into a household wall socket, or with a dedicated Level 2 wall-mounted charging unit. Focussing government attention towards maximising the number of publicly accessible EV charging stations are available is essential for several reasons:

- People living in homes without off-street parking need alternative options to be readily available if they are to consider buying an EV.
- EV owners without off-street parking will sometimes run cables from their homes to kerbside vehicles. This is a public safety risk. Even efforts to promote doing so in a safer and more responsible manner by Inner West Council were quickly abandoned.
- Many older homes may not be able to safely accommodate anything beyond the slowest level 1 chargers without costly wiring upgrades.
- Concentrating on delivering visible EV charging infrastructure in public places that people frequent will be more effective in shifting public attitudes and increasing acceptance of EVs as viable options.
- Expecting people to plug their cars in when they get home from work as the default behaviour will place significant additional stress on the electricity grid in the early evening period.
- There are generally more layers of controls, oversight, and accountability that apply to companies that may be contracted for a public charger rollout vs the independent contractor who comes by to connect a wall-mounted charger in your home.

Prioritising the rollout of high-quality public charging infrastructure is one of the most effective ways to promote faster and more equitable electric vehicle uptake in NSW. Perhaps more importantly, it is also critical to improving the experience of owning an EV and making sure that once people switch to an EV they don’t go back.

Current Policy

To their credit, the NSW Government has rolled out a suite of well-targeted investments in public charging infrastructure aimed at addressing barriers to EV uptake and reaching 2030 targets:

- $140 million in grants for EV fast charging will help to address concerns around charging times & range anxiety. Targeting major roads & highways also makes the transition in refuelling behaviours more seamless for new EV users.
- $20 million in grants for regional destinations to attract visitors & customers with EVs. Building out a network of chargers in regional tourist locations will also reduce range concerns in prospective new EV owners.
- $10 million each towards grants programs for chargers in apartment buildings & on kerbsides will make owning an EV more accessible for people living in apartments or houses without off-street parking.

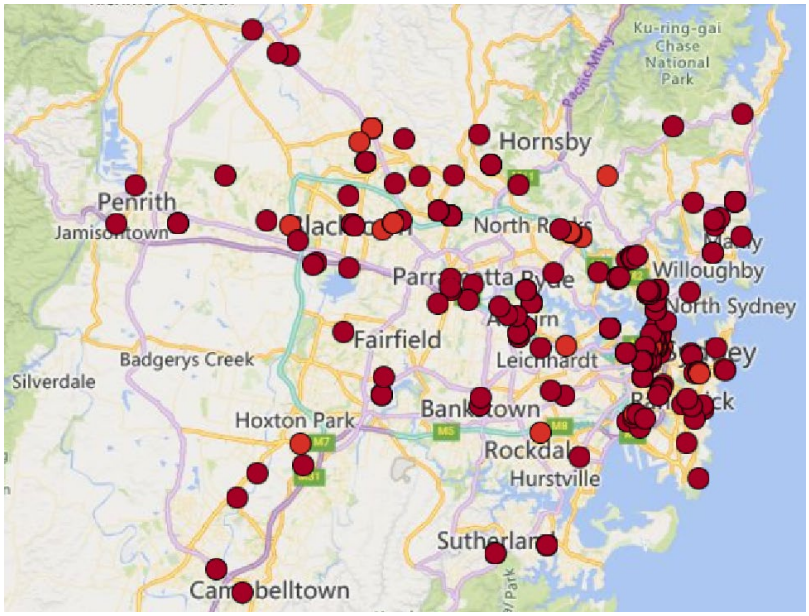
This has been complemented by a half a billion dollar Driving the Nation Fund administered by the Commonwealth Government. Driving the Nation includes funding packages for developing a fast-charging network on national highways, supporting innovation in public EV charging and heavy vehicle decarbonisation, and helping automotive dealerships to transition.

Minimum operating standards for government-supported public electric vehicle charging infrastructure have been in place since 2024. These standards are an important step in sending signals to the market about the sorts of features we expect on the Australian market as standard, and which ones we won't accept at all. Minimum standards for payment methods, pricing, data, and customer service are not yet compulsory for AC charging sites and should be expanded. It is also necessary to find a way to apply these standards to public charging infrastructure across the board, irrespective of government support.

Whilst the NSW Government does have a public mapping tool available to help drivers find their nearest EV charger, it is incredibly out of date. The Government FuelCheck app, which provides accurate data on fuel prices every 30 minutes, is unable to provide EV drivers with a map that has charging stations built in the last 6 months.

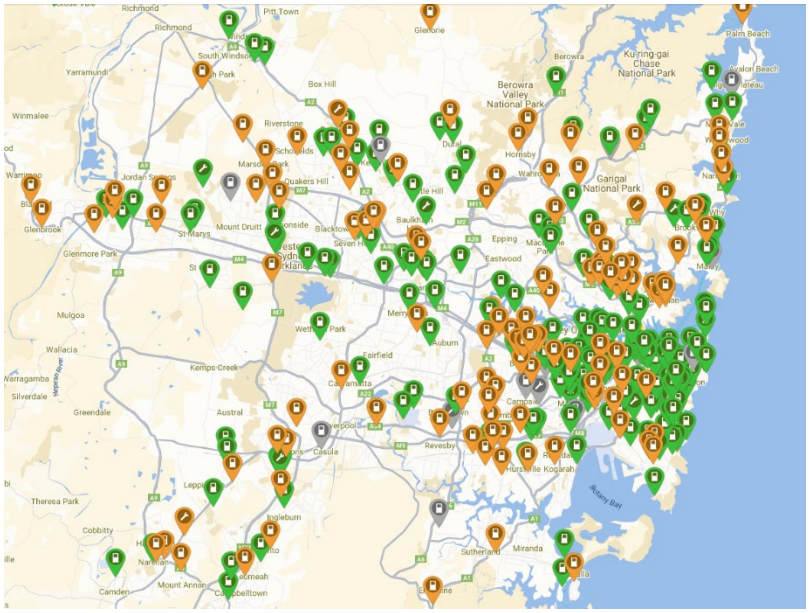
This is a screenshot of Sydney on the "*NSW Electric Vehicle Charging Map"* available on the Transport for NSW website.

It relies on a dataset from 2019 – when EVs only made up 0.6% of new car sales.



This is a screenshot of the same area on the PlugShare website. Dozens more public chargers will continue to appear as you zoom.

Information is so up-to-date that some chargers will even show when they are in use or undergoing maintenance on this map.



The Current Market

5 years ago, most public EV chargers in NSW were owned by overseas charging network companies – namely Tesla and Charge Point. As the market has matured, locally-owned EV charging networks have been increasing in number and market share around NSW. These Australian firms, many founded here in NSW, have performed so well that some such as Jolt and Evie Networks are now expanding internationally into North America.

There is also a growing number of local councils, community organisations, and businesses that are choosing to install public chargers independently of any network and collect the usage revenue themselves.

EV charging networks will not employ a significant in-house permanent staff of licensed electrical tradespeople for the purposes installing, maintaining, and repairing EV

chargers. Almost all will instead rely on an "installer network" of licensed and accredited electrical contractors who they call on when work is required. Even local councils, who often have in-house trades & public works teams, will generally outsource the installation & maintenance of EV charging assets. Tesla is the only private charging network provider with an ETU member on the payroll.

There is no State or Commonwealth government-owned EV charging provider available to motorists in NSW. Instead of taking a direct role in building and operating public EV charging infrastructure, the preferred approach to date has been to support private efforts with grants & public investments.

DNSPs & Ring-Fencing

There have been limited partnerships between Distribution Network Service Providers (DNSPs) and companies like Jolt or AGL to roll out public charging stations kerbside, on power poles, and at substations. Ausgrid have spun off a separate business, Plus ES, that is able to legally offer EV charging services under the National Electricity Rules

DNSPs are monopolies, for most residents in NSW they are privatised ones too. Ring-fencing obligations are placed on DNSPs by the Australian Energy Regulator requiring them to carry out their monopoly business under a separate entity to elements of their business that offer other related electricity services in a contestable market. They aim to prevent DNSPs from engaging in uncompetitive behaviour by discriminating against competitors or subsidising their own competitive operations with monopoly revenue.

Most ETU members employed as field workers at DNSPs are subject to staff sharing exemptions under the ring-fencing guidelines, so these rules amount to little more than a requirement to change polo shirt and stick a different magnetised logo on their truck in-between jobs.

Our Union's National Division has long expressed scepticism at ring-fencing's overall benefit to consumers, owing to many of our members' experiences with ring-fencing driving inefficiencies in the field. ETU members at DNSPs have regularly reported having to stop work in the field to wait for another contractor (or change into a different uniform themselves) because part of a task was deemed contestable work.

There are no rules preventing private equity or venture capital firms from subsidising other charging networks and allowing them to run at a loss for competitive gain. Questions should be asked as to whether consumers are truly better off under a framework that prevents DNSPs from using their scale & natural advantages to deliver socially productive services like EV charging directly themselves.

A Future Rollout

Where To Build Charging Infrastructure

The NSW Government's Electric Vehicle Strategy is already channelling investments into the highest priority areas for growth of new public chargers (fast charging, regional access, kerbside & apartment charging). More consideration should be given to where charging infrastructure can be built in a way that can have positive effects elsewhere like power prices and grid stability.

Depending on how people choose to charge their EV, transitioning to a mostly electric fleet in the coming decade has the potential to be a significant burden on the power network. The need to smooth afternoon peaks in power demand as commuters get home from work and solar panels stop producing energy has driven major policies like the Energy Security Corporation & home battery incentives. If every driver was to form the habit of plugging their vehicle in as soon as they get home from work each day, we run the risk of making this problem worse.

There needs to be a greater emphasis on getting EV chargers installed in the places people park during the day while the sun is shining. Focussing on these locations and targeting this behaviour also lends itself more to level 1 & 2 chargers which are generally much easier to install without requiring network upgrades or augmentations.

Maximising Public Ownership

Pursuing this strategy also lends itself to the NSW Government commencing a mass-rollout of publicly owned charging stations, given how many existing parking spaces are already owned by the State:

- Public Sector Workplaces

The NSW Government is the largest employer in the country. 1 in 10 employed people in NSW work for the public sector. Many of these workplaces will offer parking for employees or fleet vehicles. Some, such as hospitals, tourism venues, and TAFE facilities will also own parking space for visitors/users of those services.

- Commuter Parking

Transport for NSW owns several commuter carparks at public transportation hubs across Sydney with thousands of parking spaces. The Sydney Olympic Park Authority also owns multiple large carparks near major event venues, parklands, and sports facilities.

- Schools

Two thirds of public schools in NSW have substantial solar energy systems installed. Schools Infrastructure is currently exploring a Smart Energy Schools Pilot looking for

ways to benefit from excess power generated during the day. Providing charging stations for teachers & visitors on-site could be a helpful way of putting this excess to good use.

Leveraging the sheer volume of available parking spaces owned by the State creates a level of scale that can deliver other benefits. For example, chargers could be bundled together under a common power purchasing agreement to support renewable energy generation projects, or into a colossal virtual power plant along with solar installations on public buildings & State-owned energy storage assets. The newly established Energy Security Corporation should be leveraged in any efforts to support a mass rollout of publicly owned EV chargers at public facilities.

As EVs continue to grow as a share of new vehicles sold, the amount of revenue collected by the Commonwealth Government from fuel excise will decline. Consolidating a substantial footprint of EV charging facilities that are directly owned by the State provides an insurance policy against any future loss of revenue distributions from the Commonwealth.

Skills & Workforce

All installations, maintenance, and decommissioning of physical electric vehicle charging infrastructure is licensed electrical work required to be completed by a qualified electrician. Australia has been experiencing a skills shortage in electricians for over 25 years. Jobs and Skills Australia's (JSA) March Quarter 2025 Occupation Shortage Report[1] has shown that, of the 12 largest employing occupation groups in Australia, electricians are the 3rd most undersupplied behind nurses & childcare workers. JSA's 2023 *Clean Energy Generation*[2] report estimated that Australia becoming a renewable energy superpower would require training 42,000 more electricians by 2030.

The chronic and ongoing undersupply of highly trained, licensed electricians threatens to compromise our ability to roll out mass electrification initiatives like public EV charging. Additionally, the longer we allow these shortages to persist, the greater the risk of business sentiment shifting towards deregulation as a solution to productivity bottlenecks – this would be a dangerous path with catastrophic outcomes for workers and consumers.

Apprenticeship Ratios

If we are going to meet the demand for electrical skills in the coming decade domestically, every participant in the industry needs to do their part to train the next

[1] https://www.jobsandskills.gov.au/download/19774/occupation-shortage-report-march-2025/3253/occupation-shortage-report-march-2025/pdf
[2] https://www.jobsandskills.gov.au/download/19313/clean-energy-generation/2385/clean-energy-generation/pdf

generation of tradespeople. Applying requirements for apprentice to tradesperson ratios on any government procurement, finance, grants, or other funding is the most effective way that the NSW Government can contribute to entrenching high & consistent training rates as standard practice across the economy. The ETU NSW & ACT Branch applies minimum apprenticeship ratios of 1 apprentice to every 4 tradespeople in many of our enterprise agreements.

Facilitating the universalisation of apprenticeship ratios requires additional efforts to open up bottlenecks in the apprenticeship system, and eliminate the friction points that cause apprentices to drop out.

Expanding VET Capacity

It is growing increasingly common for electrical apprentices to have to delay their training because they can't get a spot at TAFE to commence or continue their training. There have been some efforts to reinvest in restoring TAFE by the current Government, including announcements for landmark Centres of Excellence. These centres of excellence will provide a much-needed boost to the quality of training on offer with more modern and advanced equipment available for training on – however they are all proposed on existing TAFE sites currently training trades so will do little to materially expand capacity or reach currently underserved markets.

The ETU has made joint approaches with NECA to the NSW Government on multiple occasions seeking support for proposals to develop industry-led Renewable Energy Training Centres. Industry-led, not-for-profit RTOs (e.g. Electrogroup Training in QLD, Centre for U in VIC, PEER training in SA) provide a reputable option for the rapid expansion of specialist training capacity without watering down standards or accountability. These industry-led RTOs also generally produce much higher apprenticeship completion rates than TAFEs and other private RTOs.

Group Training

Not all employers will have the scope or consistency of work to always support a 20% ratio of apprentices over the long-term. Electrical apprentices are required to complete a broad scope of on-the-job training over their 4 years to ensure they have all the experience and competencies required to obtain a license. Specialist contractors that may operate exclusively in sectors like solar, fire & security, or EV infrastructure, cannot provide all the requisite experience an apprentice needs. Contractors in sectors like construction also can't be certain that they will have sufficient work consistently over the full 4-year period to maintain the employment of indentured apprentices.

Rather than allowing this to serve as an excuse for a significant number of employers to simply not take on apprentices, or watering down training requirements to make it "easier", Group Training Organisations (GTOs) should be promoted as a solution. GTOs

employ apprentices directly and place them with host employers for a portion of their training.

For apprentices, they provide wraparound supports to help ensure that apprentices complete their training, the ability to rotate through industries and try different things, and the peace of mind of job security. For employers, they allow the flexibility to quickly scale up & down with the volume of work on offer, reduced administrative burdens, and the ability to consistently maintain apprentices were you may not otherwise offer sufficient scope.

For Governments, GTOs provide a central, simplified avenue for recruitment into apprenticeships that can effectively break down some of the barriers to meeting our skills needs that currently exist. They are a pathway to entering the trade that is much more heavily utilised by women, and the wraparound supports & job security they provide boost completion rates. Electrogroup Training and NECA Training are both industry-led GTOs in NSW that are endorsed as reputable in the ETU's Sydney construction industry enterprise agreements.

Future Skills Guarantee

NSW Labor took wholesale procurement reform to the 2023 election and has continued to engage with industry and unions on proposals for a Jobs First Commission. One of the proposed functions of the Commission is to set and enforce a *Future Skills Guarantee* like the Federal version mentioned above. It is essential that this policy is brought forward as soon as possible with ambitious targets on trade training.

The ETU has called for independent "trade workforce" metrics to be applied under the Future Skills Guarantee so that key trades can be targeted for apprenticeship & gender ratios. We expect an ambitious target of 20% for apprentice workers in trade occupations and stepped targets towards a goal of 10% women in trades by the 2030s.

The ETU has further advocated for a financial penalty scheme to be embedded in the Future Skills Guarantee to fund expansions of trade training capacity. Companies that fail to meet agreed training targets on Government contracts should be required to pay a financial penalty into a designated "VET Capacity Fund" which reinvests those penalties back into expanding & upgrading VET pathways for critical skills. The penalties would need to be significantly greater than the cost of unpaid apprentice expenses that the company has avoided. The aim is to create a positive feedback loop where failure to meet apprenticeship targets on one contract directly funds more training places so that the targets can be more easily met on the next one.

Safety & Industry Standards

The strict licensing and oversight frameworks that apply to electrical work in NSW act as an accountability and quality assurance mechanism that can offer peace of mind to those procuring electrical services. All installation, maintenance, and decommissioning work on Type 2 & 3 EV charging infrastructure should be licensed electrical work carried out by a qualified electrician in line with the relevant Australian Standards.

Australian Standards

Every public EV charger commissioned in NSW should be certified as compliant with *AS/NZS 3000:2018 Wiring Rules*. Public EV charger installation work that meets the definition of construction work (i.e. not already within an existing structure & using an existing network connection) is also legally required to comply with *AS/NZS 3012:2019*[3] *Electrical installations – construction and demolition sites* under WHS Regulations. NSW DCCEEW & Transport for NSW have supported the development of Technical Standard *SA TS 5397:2024 EV Chargers for commercial applications* which should also be enforced for commercial charging installations.

Operating Standards

All Australian States & Territories have collaborated & agreed on a set of minimum operating standards for government-supported public EV infrastructure through the Energy and Climate Ministerial Council. These standards cover themes like minimum uptime, accessibility, payment methods, plug types, pricing & data transparency, and interoperability.

Some particularly useful requirements in these operating standards are only mandatory for DC fast charging stations:

- Payment options that don't need internet signal or prior download of apps,
- Clear pricing information that doesn't need internet to check
- Live online availability data
- Minimum customer service information

These requirements are strongly encouraged for AC chargers "where reasonable and practical" – but not compulsory. As industry is given time to adjust to these operating standards, they should move towards adopting uniform standards across all charger types. In the meantime, the NSW Government should apply an "if not, why not?" approach for these requirements when dealing with proposals for government-supported EV charging installations using AC chargers.

[3] Work Health and Safety Regulation 2017 specifies *AS/NZS 3012:2010*, however this is set to be updated to the latest (2019) version in 2025.

Interoperability requirements are essential for ensuring that chargers don't become stranded assets in the instance of their owner liquidating – as is common in emerging industries. These should also move towards being compulsory over time.

Electrical Safety Regulation in NSW

It is important to note that NSW does not have standalone electrical safety legislation or an electrical safety regulator like many other States & both Territories. Lacking a regulator or dedicated legislative framework has meant that industry standards on electrical compliance and safety in NSW workplaces have generally slipped behind those in Victoria and Queensland. It also means that statutory requirements around licensing and safety obligations vary depending on the industry that electricians work in.

EV chargers installed on power poles owned by electricity distributors are exempt from being considered electrical installations under the *Gas & Electricity (Consumer Safety) Act 2017* & *Home Building Regulation 2014* which establish NSW's electrical licensing frameworks. There are separate legislative carve outs for electrical work in the NSW power, rail, and mining sectors which complicate obligations for workers and split enforcement responsibilities across several regulators without electrical expertise.

If we are to expect the community to embrace the transition to electric vehicles, including the rollout of chargers en masse in our shared public spaces, a specialised, standalone electrical safety regulator is needed to ensure that industry standards remain in line with community expectations.