Energy Networks Australia

Street Smart: Scaling Up Kerbside EV Charging in Australia

The Time is Now

Dom van den Berg
CEO Energy Networks Australia

January 2025

Executive Summary: Unlocking Australia's EV Potential with Kerbside Charging Solutions

The global transition to electric vehicles (EVs) is accelerating, yet Australia lags behind due to insufficient public charging infrastructure. This paper outlines a straightforward and scalable solution: using existing power poles to deploy kerbside charging at pace. This approach offers enhanced convenience, supports grid stability, and accelerates emissions reductions while fostering competition in the market.

In August 2024, Energy Networks Australia released The Time is Now: Getting Smarter with Grid, a comprehensive report developed with L.E.K. Consulting. The report highlights how Australia's existing electricity distribution networks can be leveraged to advance the energy transition. Key findings include:

- Transitioning to EVs benefits individuals and significantly reduces emissions, even after accounting for vehicle purchase costs
- As EV technology and markets mature, the cost of ownership decreases, driving consumer interest
- Despite these benefits, inadequate public charging infrastructure remains a critical obstacle, with nearly half of Australian EV owners considering a return to internal combustion engine vehicles.

Australia's charging network is underdeveloped compared to global standards. Currently, there are 68 EVs per public charge point in Australia, far exceeding the global average of 11. This disparity exacerbates range anxiety among potential EV buyers and deters wider adoption.

Existing power poles, ubiquitous across Australia, present an immediate and cost-effective solution for expanding EV charging infrastructure. By installing small chargers on poles we will see:

- Faster Deployment: Chargers can be installed at a rate of over 120 per week in states like New South Wales
- Lower Costs: Using existing infrastructure reduces the need for extensive and disruptive construction work
- Universal Access: Chargers can be placed in any location with a power pole and parking space, not just in areas with high EV ownership and wouldn't require EV specific parking
- Increased competition: Distributions networks would provide the chargers as "network infrastructure" like poles they do with poles and wires, and retailers and charge point operators would be able to use the network infrastructure to offer services to their customers.

This solution is within reach with straightforward regulatory change to that allows kerbside chargers to be treated as a "distribution service" and regulated appropriately.

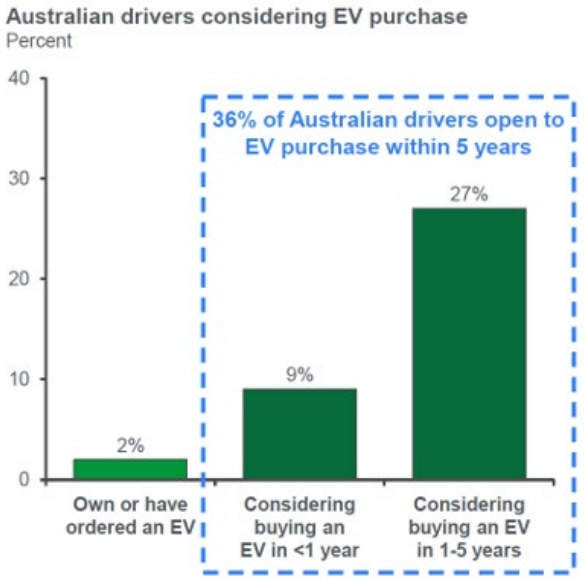
By embracing the this plug & play solution, policymakers and industry leaders can deliver a scalable approach that benefits consumers, strengthens the grid, and accelerates emissions reductions.

Australia's transition to electric vehicles hinges on overcoming the barriers posed by inadequate charging infrastructure

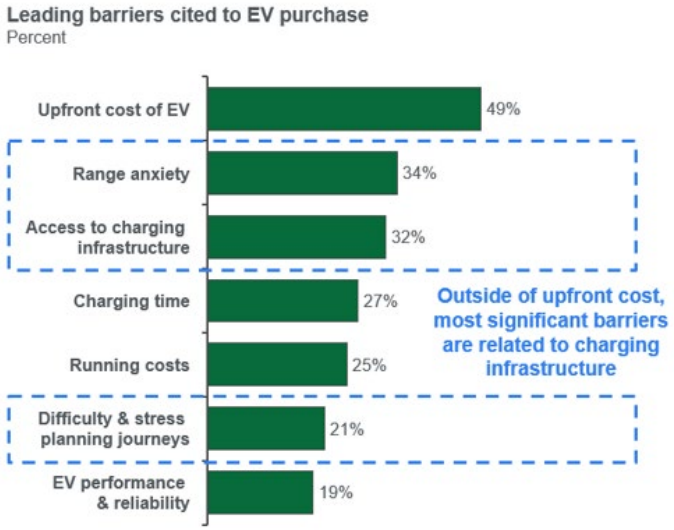
The time to act is now.

Barriers to EV growth

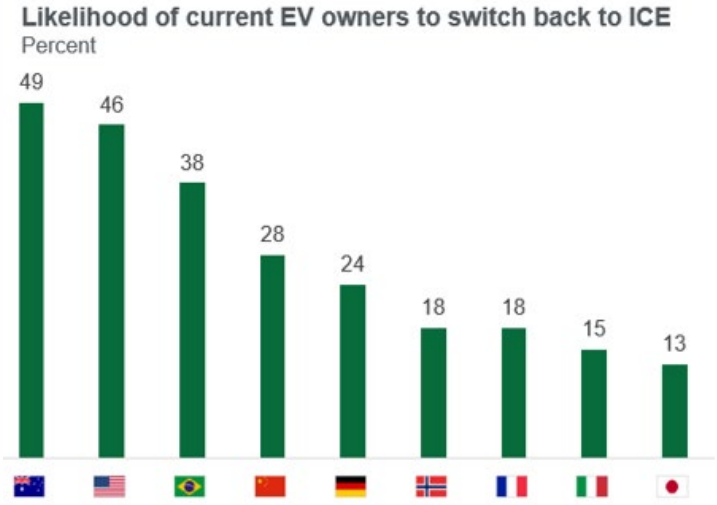
Availability of EV chargers remains a key barrier to *new and replacement* purchases of EVs in Australia



Australians are willing to consider EV's for their next car...



But they still hold significant concerns about their ability to easily charge.



Even those with an EV already are thinking of switching back due to difficulties charging.

Source: University of Sydney Transport Opinion Survey 2024; Consumer Policy Research Centre; McKinsey Mobility Consumer Pulse June 2024

Industry Overview

Australian public charger density is low by global standards & we cannot leave it entirely to the commercial market

The Problem

Australia's EV charging network is immature by global standards.

We currently have 68 EVs per public charge point, compared to the global average of 11, and this is only getting worse over time Public charging is key to enabling more widespread adoption of, and more equitable access to, EVs.

The Solution—Until Now

There are challenges faced by the commercial market when it comes to EV chargers investment: it Suffers from a *'chicken and egg'* problem where a lack of EV density results in poor business models, but without more public chargers, drivers won't buy EVs to increase density. This can then result in lower maintenance investment. Globally studies show that c.25% of commercial charging infrastructure is offline or non-fuctioning at any given time.

Note: Public charge points are defined as any out-of-home charge point that can be accessed by the general public (ie. it excludes destination charging located in private car parks or commercial / industrial estates) Source: IEA Global EV Outlook 2024; UC Berkeley

Better using our existing infrastructure

Distribution networks across Australia can deliver kerbside chargers at lower cost, faster, with improved customer experience & access and they can start tomorrow.

1

Lower cost

Initial roll-out of EV chargers can be delivered at a lower cost than commercial operators – Networks > 50% cheaper

2

Faster deployment

Networks can install up to c.40 chargers per week per Network by leveraging the extensive existing infrastructure base of poles and existing expert workforce

3

Improved customer experience

Network expert workforces would ensure chargers are properly maintained over their life, ensuring that chargers work when EV drivers need them

4

Improved equity and access

EV chargers would be rolled out across a networks, rather than just focusing on areas which are most profitable. Plus there is scope for vehicle to grid capability in the future.

5

More competition and innovation

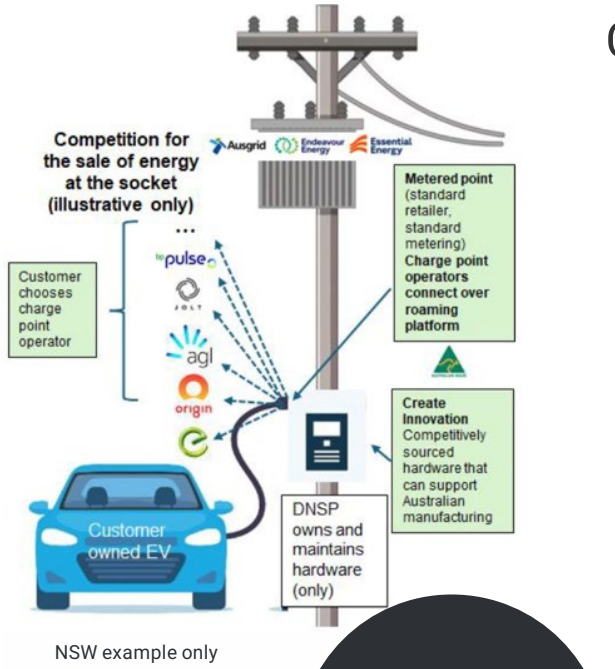
Network chargers could be 'neutral hosts' allowing any Charge Point Operator to roam, fostering competition and driving prices down for EV drivers

6

Less disruption for community

By installing on existing poles, Networks would avoid the need for extensive works that may disrupt the community (e.g. footpath excavation) as the infrastructure is plug and play

How would it work?



NSW example only

FASTER, CHEAPER & MORE EQUITABLE

Characteristics of a Network-led EV charger rollout

1. **Networks would install, own and maintain EV chargers and install at scale**

   This would consist of kerbside pole-mounted public chargers using the Network's existing assets (poles) and workforce.

2. **Networks would work with customers and local councils**

   Local councils and Network's customers could assist in identifying suitable and preferred locations.

3. **Networks would open the access to retailers to sell to customers**

   Networks would provide the enabling infrastructure to facilitate EV charging but Networks would not sell energy to EV owners, this would be done by retail service providers.

- ✓ **Lowest upfront cost**
- ✓ **Plug & play solution that can be rolled out at pace**
- ✓ **Ensures all customers have access to EV chargers**
- ✓ **Higher reliability and improved customer experience**
- ✓ **Better use of existing assets**

A simple solution exists

The existing grid can work harder for customers and our regulation framework can and should support that.

Existing arrangements and regulations block distribution networks from offering kerbside charging services to retail service providers, limiting or “capping” the services the grid is allowed to provide

Classifying kerbside EV charging infrastructure as a ‘distribution service’ in the regulatory framework would also see the service regulated appropriately, providing certainty and assurance to customers.

It would allow distribution companies to install and maintain kerbside EV chargers, and then provide open access to commercial charging operators who 'sell' the charging services to customers.

It’s a case of better using what we already have – unlocking the grid to do more for customers than just lights and power points.

Energy Networks Australia

Author: Dom van den Berg, CEO Energy Networks Australia.

Energy Networks Australia

Appendix A

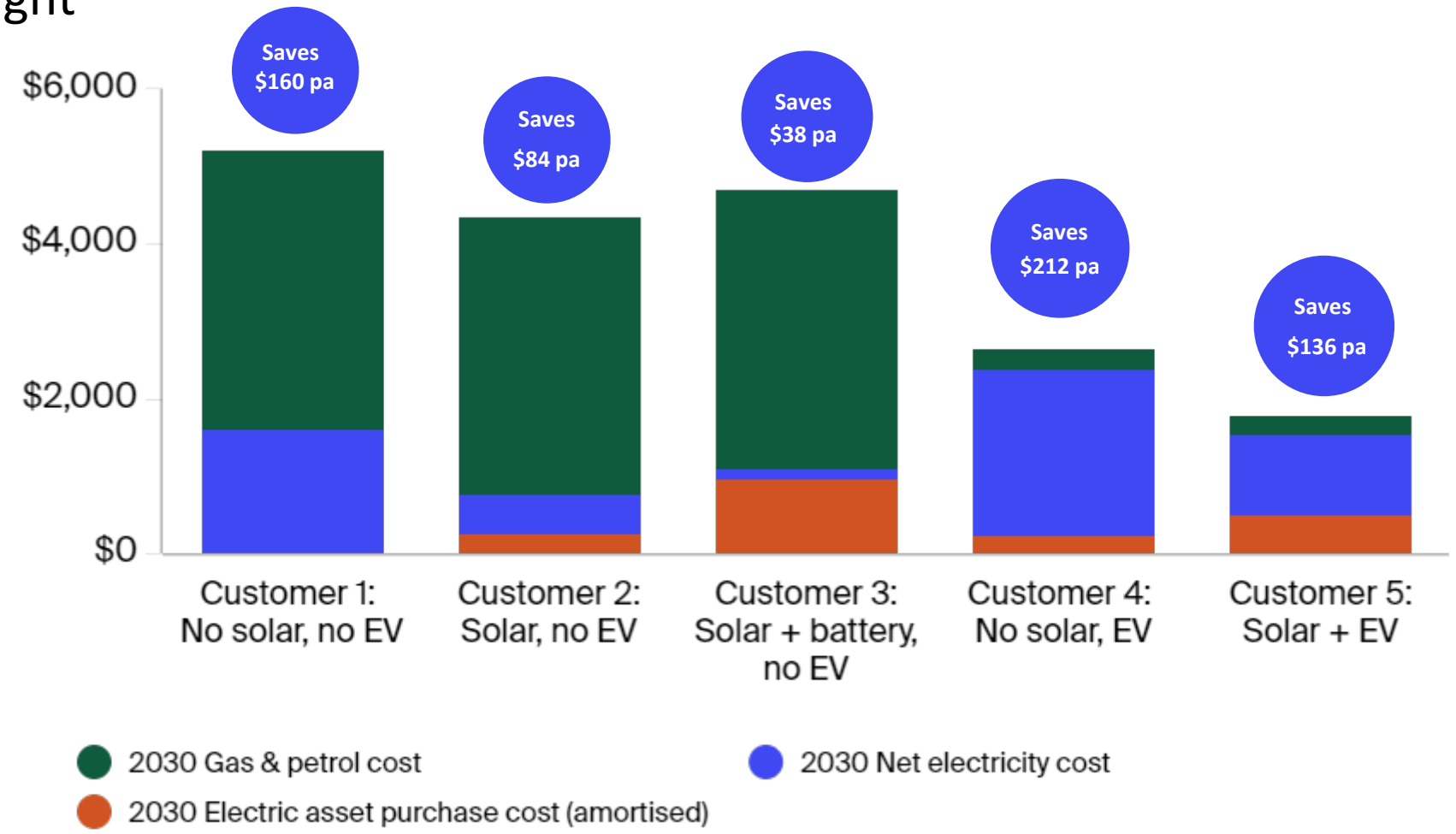
The Time is Now

Customer archetype analysis

For the full report click here

REPORT EXTRACT:

All customers types save money by moving from the left to the right right



Snapshot of customer's total energy costs in 2030

- ✓ **All customers benefit from lower lower bills for grid grid supplied electricity**
- ✓ **Getting an EV & installing solar will will further reduce reduce a customer's total energy costs**