Submission No 58

INFRASTRUCTURE FOR ELECTRIC AND ALTERNATIVE ENERGY SOURCE VEHICLES IN NSW

Organisation: Evie Networks

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Electric Vehicle Charging Infrastructure in NSW

Parliamentary Inquiry Submission – Inquiry No. 3095

Evie Networks | 2 May 2025

About Evie Networks

Evie Networks is Australia's largest owner-operator of public direct-current (DC) fast EV charging infrastructure. Since our establishment in 2018 we have built a national network of more than **300** charging stations and 800 bays of charging, including **67** sites across New South Wales, with **20** of them serving intercity corridors and areas outside of Metropolitan Sydney. Over the past twelve months alone our national network has delivered approximately **20 GWh** to drivers, enabling about **120 million kilometres** of zero tail-pipe emission travel for drivers of passenger cars, light commercials and an emerging cohort of battery-electric trucks.

Contents

1. Executive Summary

There are strong public policy arguments as to why Governments should ensure a commercially viable EV charging infrastructure industry to support the widespread adoption of electric vehicles and electrification of transport. Increased EVs on the road results in significant societal benefits including community health through improved air quality and less noisy local environments, less dependence on foreign fuel sources and reduced emissions. Importantly, growing EV uptake also provides the opportunity for lower cost of living on two fronts:

- EVs have much lower fuelling and maintenance costs vs internal combustion vehicles; and
- Charging EVs improves electricity distribution network utilisation and efficiency, generating network cost savings that can be passed on to all consumers, including non-EV drivers.

A thriving and competitive EV charging industry is essential to achieve EV uptake targets and the resulting consumer benefits. Evie believes that Australia needs a wide variety of charging infrastructure to support the needs and behaviours of the many different driver segments, and that no driver should be left behind in the transition to electric.

With these principles in mind, Evie's response to the NSW Parliamentary Inquiry is focussed on two of the five items in the terms of reference, being ***a) funding and location of electric vehicle chargers or infrastructure for other potential energy fuel sources*** and ***c) use of existing infrastructure and measures to ensure a competitive market, including 'ring fencing' policies.***

Australia already has a lot of experience in EV charging deployments and it is clear that there are significant barriers to address before rollouts can accelerate and business models become sustainable. At a local level, there is clear feedback from industry and local governments that the current blockers to successful deployment are:

- **Local area planning**: EV charging rollouts that ignore local government strategy, driver charging needs and community amenity result in very low utilisation.
- **Grid connection delays and cost**: Charge Point Operators (CPOs) face unpredictable timeframes and high-cost network connections relative to network connection size.
- **Incompatible network tariffs**: Network tariffs that include blunt Demand / Capacity charges are high cost and unsustainable for CPOs. They ignore the substantial benefit that EV charging can bring to the grid and the dynamic controllability of EV charging infrastructure.

To assess future policy responses and funding options for EV charging infrastructure, the NSW government should take into account the National Electricity Objective (**NEO**) Framework and NSW Treasury's business case guidelines. At the highest level this could be distilled to:

1. **Is it fair for everyone?** Will the approach benefit all NSW residents – including those who don't yet own an electric vehicle – without unfairly shifting costs?

2. **Does it deliver value for money?** Will the approach install the maximum number of chargers at the lowest overall cost to taxpayers and electricity customers?

3. **Does it maintain healthy competition?** Will the approach preserve innovation and price competition that improves service quality and drives down costs for drivers?

4. **Does it solve the actual problems?** Will the approach directly address the real barriers that are currently slowing down charger installation across NSW?

Energy Networks Australia and its DNSP members are now proposing to adopt a novel regulated monopoly model for kerbside charging infrastructure: monopolies would own and operate chargers, funded via the Regulated Asset Base, while private charge point operators and energy retailers "compete at the plug" for customers (**DNSP Mandate model**). This is the wrong policy solution for the right problem. Independent expert analysis suggests it creates a substantial risk of:

- **Increased energy bills for consumers** with cross subsidisation between regions and EV / non-EV drivers;
- **Displacing private investment** and suppressing innovation, as there would be an uneven playing field favouring DNSPs; and
- **Delay** because of the substantial hurdles to modifying ring fencing rules.[1]

In addition, the DNSP proposal does *nothing* to address the stated existing blockers to EV charger deployment: *local area planning, grid connection delays and cost,* or *incompatible network tariffs*.

We also note that DNSPs are already allowed to deploy kerbside AC charging today via their contestable business units. By playing to the same rules as industry, DNSPs would have to ensure commercial viability and reasonable asset utilisation. In order to be competitive with industry they would need to engage with local communities and invest in solutions that provide a good driver experience. The contestable business units may even place pressure on their parent DNSPs to address some of the key barriers that exist today.

Instead of embarking on this level playing field approach, DNSPs are proposing to invest in unviable assets with no incentive for efficiency, innovation or commercial return, but a large incentive to maximise regulated returns by over-investing in assets that do not serve the needs of drivers and the community.

There is a clear alternative to deliver the charging infrastructure that NSW drivers need and it can be achieved by following the most basic principles (that have not been considered by DNSPs), being:

[1] Economics of NSW Kerbside Electric Vehicle Charging Infrastructure, Tahu Consulting 2025 - See attachment for full report.

1. All stakeholders, including Local and State Government, CPOs and DNSPs should work together to address the current barriers to EV charger deployment. These barriers include DNSP connection costs and processes, as well as DNSP tariffs that result in high costs for CPOs and consumers.

2. Learn from overseas precedents. Australia has the benefit of hindsight as other markets have successfully deployed tens of thousands of well-planned, local charging stations. None of the successful models deployed overseas involve regulatory rule changes to create a DNSP Mandate model.

3. Ensure that the broader benefits derived from supporting EV uptake, including network efficiency generated from charging EVs, are shared with all consumers.

At the highest level, the evidence suggests that a market-led co-funding model outperforms centrally planned state driven EV infrastructure policy.

- Of the ten countries leading EV uptake, 9 predominantly use private–public–partnership models to achieve scaled charging rollouts, rather than state owned infrastructure. The only exception is China.[2]

- In Japan[3] and Korea[4] centrally planned directives under a "build it and they will come" approach resulted in overspending, stranded chargers, and low EV adoption relative to investment.

The alternative approach is a model where DNSPs remain key enablers–not owners–of public charging. In this approach, government funds charging infrastructure through competitive public tenders to drive scale.

A proven blueprint is the United Kingdom's *Local Electric Vehicle Infrastructure (LEVI) Fund*, which–similar to NSW's current programs–leverages private ownership and targeted public funding but *also* invests in local government capacity and uses data-driven methods to match chargers to real demand. This program has already delivered thousands of chargers against a targeted roadmap of 100,000 operating chargers by 2030.[5]

As an immediate priority, the NSW government should establish a comprehensive NSW EV Infrastructure Acceleration Program that builds on the experience of NSW and ARENA funding programs and leverages implementation lessons from Australia's global peers.

[2] Ibid at 2.

[3] Bloomberg News, *Japan Doesn't Have Enough Electric Cars for Its EV Chargers*, 25 August 2021.

[4] Despite having a high ratio of public chargers to cars, adoption has stalled at 9-10% of new car sales [Roland Berger analysis 2024], and that charging issues still rank as a key blocker for EV Uptake despite the density of charging [Roland Berger analysis 2023].

[5] National Audit Office, *Public Chargepoints for Electric Vehicles: Summary*, HC 379, Session 2024–25 (13 December 2024) accessed 15 April 2025.

Key pillars of a NSW EV Infrastructure Acceleration Program

- **A clear data driven target for charging infrastructure** - this should be an overarching state level target, and also broken down by local government area. The target should include different types of charging infrastructure by area, referencing local demand and international benchmarks.
- **Co-funding over 5 years, emphasising support for critical charging infrastructure in regional corridors and black spots** where commercial rollouts are less viable. At least 10% of this should be allocated to funding EV program capabilities at a local council level, and in enabling transparent and live data sharing against critical infrastructure planning data such as grid capacity to street level.
- **A streamlined application process for EV charging grid connections** - with a focus on open access to drive network utilisation, provide SLAs for connection assessments and capped costs for installations under 300kW, with standardised technical requirements across networks.
- **Network tariffs designed to support smart equipment,** to enable the full positive grid benefits from well controlled EV charging. Building on Ausgrid's EA964 trial tariff, this should include energy-only charges for new sites; time-of-use rates with solar soak incentives; load control incentives during critical events and should be available for both low and high utilisation sites.

Evie's view is that by addressing current deployment barriers, learning from overseas models and targeting funding to the areas that are less commercially viable (typically outside the Greater Sydney / Newcastle / Wollongong region), we can achieve sustainable growth in EV charging infrastructure rollout to support the transition to electric.

Evie Networks welcomes this NSW Parliamentary Inquiry into EV charging. Evie's view reflects those of other CPOs, Local Governments and industry bodies, whereby we are placing consumers at the centre of our position.

This is a critical juncture for the EV industry and there has been significant lobbying by ENA and DNSPs to expand their monopolies into many Consumer Energy Resource (CER) areas, including behind the meter energy management, battery storage, ownership of consumer energy assets and EV charging deployment. The outcomes of this NSW Parliamentary Inquiry are likely to set a precedent for government department policy makers across a broader range of regulatory reviews, in all states and territories.

2. The scale of the charging infrastructure need

Evie agrees that as EV uptake grows, so too must the rollout of charging infrastructure in all of its different forms. Our principle is that there are many different driver segments with many different charging use cases. While our focus is on DC fast charging, we acknowledge the need for complementary AC slow charging at homes, workplaces, public destinations and on the kerbside.

The key policy question is not whether a greater rollout charging infrastructure is needed, but how to stimulate this large-scale deployment both **effectively** and **efficiently,** and in a way that **matches demand** to avoid over-investment and is **equitable** for all NSW consumers.

2.1 Charger rollout has been in line with EV uptake and will need to further accelerate as EV sales become mainstream

- **Charger head-count.** As of 14 February 2025, the NSW government recorded 3,200 public charging plugs in NSW.[6]

- **Benchmark comparison.** European planners target ≈ 1 public charger to 15 EVs[7] to prevent queueing; NSW today sits at ~1 to 25.[8] An appropriate ratio for NSW is likely to be lower than European cities, given NSW has greater access to off-street parking and is in an earlier stage of EV adoption than Europe.

- **Scale of future need.** AEMO's Step-Change scenario projects ~2.7 million battery EVs in NSW by 2035;[9] which is approximately 10x the number of EVs in Australia today. This provides an indication of the number of public charger plugs required in 2035, noting that there will be many different locations for charging including shopping centres, convenience refuelling, restaurants, Council carparks and kerbside.

Demand for public charging will evolve over time, so it is important that any rollout tracks the real demand from drivers, to ensure effective deployment and avoid over-investment. It follows that operators of charging infrastructure need to have appropriate incentives to deploy capital efficiently, and that guaranteed returns through the Regulated Asset Base do not achieve this requirement.

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[6] NSW Climate and Energy Action (NSW Government) – *"The NSW public electric vehicle charging network"* (updated Feb 2025, accessed 29 April 2025).

[7] Article 3(1)(a) of Regulation (EU) 2023/1804 on the deployment of alternative fuels infrastructure (AFIR) requires each EU Member State to ensure that its public network provides "at least 1.3 kW of publicly accessible recharging power for every battery-electric light-duty vehicle registered on its territory." Assuming an average output of ~20 kW (the midpoint of common 11–22 kW AC units and lower-power DC posts), the AFIR rule translates into a practical planning benchmark of ~1:15.

[8] Ratio derived from 3,200 public charging plugs in NSW (see footnote 11) and 80,171 registered battery-electric vehicles (Transport for NSW, *Registered Vehicles by Fuel Type*, snapshot April 2025), giving ≈ 1 charger to 25 BEVs.

[9] Australian Energy Market Operator. (2023, July). *2023 IASR electric-vehicle workbook* - note AEMO includes ACT within NSW for energy modelling and forecasting purposes.

2.2 NSW EV charging policy must service a wide range of needs across different driver segments and areas.

- **Drivers without off-street charging:** Many drivers including those without driveways, renters and apartment residents will rely on public charging. They will need a combination of convenient fast DC charging and AC slow charging, each matched to their natural behaviours.

- **Holiday makers and visitors:** Taking an EV on holidays requires ultra-fast highway charging as well as access to destination DC fast and AC slow charging, depending on the driver use case.

- **Professional drivers:** The highest km segment, professional drivers need access to DC fast charging throughout metropolitan areas, so they can quickly top up and continue serving their customers.

- **Business fleets.** Business with cars, light commercial vehicles and trucks need a combination of workplace, depot and public charging. A combination of speeds is required to allow efficient, slow charging overnight and during longer parking dwell times, plus fast charging when rapid turnaround is required.

NSW EV charging policy must also reach a wide variety of areas. The challenges of providing charging in inner city areas, outer suburbs, regional towns and black spot areas are varied and different funding models are required.

- **Inner city areas** often face both space and power constraints. Evie's experience is that Ausgrid often can only provide limited power for new connections, less than is required for DC fast charging without costly augmentation. The power available for DC fast charging may be equivalent to only 4 or 5 AC chargers such as the type that Ausgrid is proposing to deploy for the DNSP kerbside proposal. This raises the obvious question as to how DNSPs will provide AC kerbside charging without consuming all latent network capacity and requiring others to pay for even more expensive network augmentations?

- **Outer suburban areas** typically provide more opportunities to host charging, but drivers in these areas prefer even faster charging for short top ups. There is less demand for slow AC charging as homes generally have driveways and access to off-street charging. Government co-funding may be required to overcome low demand in early years.

- **Regional towns and black spots** are often characterised with seasonal demand based around holidays. Public destination DC charging and hosted AC charging are the primary use cases in larger regional towns. However registration data shows that 13 of the state's 129 local-government areas have fewer than ten battery-electric vehicles on the road, and four of those—Bourke, Brewarrina, Central Darling and the Far-West unincorporated area—have none at all. These low-uptake LGAs cluster in the state's Far West and Central West, including Cobar, Bogan, Walcha and Warren. Public-charger directories list either no chargers or, at best, a single 7 kW AC outlet across these

councils[10]. This can be addressed with a black spots program similar to that which is applied in telecommunications which would allow for a high proportion of government funding to provide charging as an essential service. Models may even be considered where operational costs are also funded.

When considering that the main need for kerbside charging is in inner-city areas, if kerbside EVCI is to be included in the RAB with all consumers paying (as proposed by DNSPs), it is clear that outer suburb and regional consumers be subsidising wealthier inner-city consumers through their electricity bills. Clearly a commercial, demand-based model is preferable to the model proposed by DNSPs.

[10] Transport for NSW, *Vehicle Registration Snapshot — 31 Mar 2025*, BEV rows grouped by LGA; PlugShare charger map download, 29 Apr 2025.Transport for NSW. (2025). *NSW electric vehicle charging map*. Retrieved 30 April 2025.

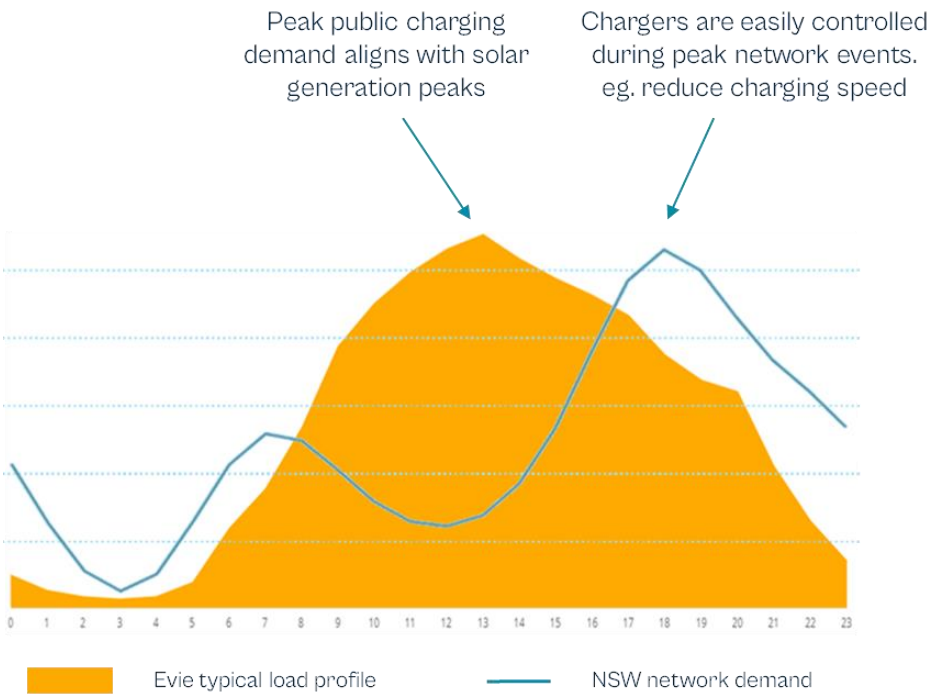
3. EV charging is good for the grid and can save money for all consumers

Evie agrees with recent statements from DNSPs that EV charging is good for the electricity grid and has the potential to deliver significant benefits for all electricity consumers. Contrary to some popular misconceptions that EV charging will overload the electricity grid, this is not the case. The electricity grid is built for a few demand events each year and for most of the year there is significant latent capacity available that can be utilised by smart Consumer Energy Resources such as EV charging.

The key benefits of EV charging for the grid are as follows:

1. Greater utilisation of existing network assets means efficiency benefits can be passed on to all consumers[11].
2. Public fast charging demand aligns with solar peak times. Soaking up solar generation helps networks avoid the growing costs of managing excess solar.
3. Networks are built for 5-10 peak events per year. Public charging is highly controllable and customers respond well to notifications and price signals.

The figure below demonstrates these points and is created from actual Evie network utilisation data overlaid with NSW electricity network demand.



[11] *NSW DNSPs want more EV's on the roads as it means increased network utilisation"* – Ausgrid presentation to EV Council, October 2024

4. Addressing current barriers to efficient EV charging deployment

Australia already has a lot of experience deploying charging in different categories, from DC fast charging to kerbside AC charging, and across metropolitan and regional areas alike. In every state and territory, governments have co-funded EV charging infrastructure and the lessons learnt reveal common themes that have been consistent across Australia. Those lessons centre around strategic planning, local coordination and the role of DNSPs.

4.1 Local coordination challenges

Local governments, their communities and EV drivers have consistently expressed concerns about uncoordinated infrastructure rollouts. They care deeply about the aesthetics and amenity of local spaces as well as availability of EV charging. Specific examples of DNSP-led rollouts that are not coordinated with local governments and the community, such as chargers deployed by PlusES (Ausgrid) have resulted in AC charging being placed in undesirable locations, without dedicated parking bays. The chargers are inaccessible and low utilisation as a result, while incorporating non-compliant Ausgrid advertising.

We note similar concerns with other DNSP initiatives, such as Community Batteries, which are funded by consumers via the Regulated Asset Base, but positioned for maximum visibility and promotion, instead of placing equipment discretely within the community.

4.2 Grid connection delays and cost

The most significant barriers CPOs currently face are directly attributable to DNSPs. Connection processes are notoriously unpredictable, with timelines often stretching into years depending on connection size and without SLAs. This unpredictability introduces significant commercial risk and undermines the investment case for CPOs.

Connection costs also remain prohibitively high, with substantial variation between similar sites. Evie was recently quoted more than $20k by a Victorian DNSP to assess the cost of a power augmentation. The DNSP noted that further costs may be incurred subject to the outcome. The actual cost of connection will be an order of magnitude higher. Clearly spending $20k just for an investigation is a significant barrier to deployment. Evie is not saying that the DNSP is acting against current AER guidelines, but we are saying that AER rules allow DNSPs to create these barriers and that DNSPs, acting rationally, are taking advantage of inadequate AER rules in order to maximise profits.

4.3 Lack of flexible connection options

DNSPs have stated that there is ample capacity for additional kerbside EV charging and we agree. Part of the reason there is ample capacity is that equipment is easily controllable to avoid peak network events. Evie welcomes connection options that allow for flexible connections, however connection options available to CPOs today are very limited.

Evie's recent experience, right across Australia and including all regions of NSW, is that DNSPs often limit the capacity available for new CPO connections. At multiple sites in inner Sydney, Evie has been offered just 133A and 150A by Ausgrid. We understand that networks must

accommodate peak demand events, however EV charging equipment is highly controllable and we can easily avoid peak demand events, making use of latent capacity when available. Flexible connection options are not offered.

It remains to be seen how DNSPs might roll out an extensive AC charging network, when CPO experience is that there is often limited capacity available. The model as proposed is clearly not possible if DNSPs are required to follow the same rules that are applied to their customers.

4.4 Lack of system-wide coordination and data sharing by DNSPs

Despite their central role in the electricity system, DNSPs currently demonstrate little evidence of system-wide coordination regarding EV infrastructure. They typically respond to individual connection requests in isolation, without considering the broader context of EV adoption or charging needs. This piecemeal approach leads to inefficient network utilisation and higher costs for all stakeholders.

We suggest that DNSPs focus on opening up access to networks, enabled by extensive data sharing and streamlined processes that consider the broader EV charging rollout requirements of their customers.

4.5 Tariffs that are incompatible with sustainable charging business models

Current DNSP tariff structures fail to recognise the unique characteristics and clear benefits of EV charging for the grid. Demand charges directly penalise the load profiles inherent to public charging infrastructure, resulting in a disproportionately high cost of electricity for public DC fast charging.

The one example of an innovative tariff today, Ausgrid's EA964, provides a strong incentive to reduce load during peak demand events while offering low cost at other times. During heatwave events last summer, Evie reduced our demand at 11 sites by 50% to help protect the grid. However this tariff is limited to low utilisation sites and a further 18 sites were not eligible. When utilisation grows, none of our sites will be eligible and we will no longer work with Ausgrid to help stabilise the grid during heatwave events. Clearly this doesn't make sense in today's climate.

Tariff innovation is desperately needed across all DNSPs and it can start with replication and extension of Ausgrid's EA964 to other DNSPs and high utilisation sites.

4.6 Recommendations to address current barriers

Government policy must address the current barriers to EV charging rollout if NSW is to achieve objectives for EV uptake and emissions reduction. If the following recommendations are achieved, this will go a long way to creating a vibrant and sustainable EV charging industry that the community needs:

Support local government planning: Provide funding, resources and standardised frameworks to help local governments develop a consistent EV infrastructure strategies and processes.

Streamline network connections: Require DNSPs to provide standardised, transparent connection timeframes with SLAs and penalties for excessive delays.

Implement cost caps: Establish reasonable cost caps for standard connection types up to 300kW, with standardised technical requirements, to prevent excessive and unpredictable connection fees.

Develop flexible connection options: Require DNSPs to offer flexible connection arrangements optimise use of latent network capacity through controllable load management of smart infrastructure, with customers responding to network forecasts and signals.

Develop tariffs that recognise smart infrastructure: Replicate and extend Ausgrid's EA964 to other DNSPs and high utilisation sites for smart infrastructure that can be easily controlled by customers. Key elements of innovative tariffs should include energy-only charges for new sites; time-of-use rates with solar soak incentives; and load control incentives during critical events. Innovative tariffs should be available for both low and high utilisation sites.

Establish open access networks: Implement clear requirements for DNSPs to coordinate EV infrastructure planning across their networks and share capacity data, while streamlining processes.

Maintain and strengthen ring-fencing: Preserve and strengthen existing ring-fencing rules to ensure fair competition and a vibrant EV charging industry. Prevent DNSPs from leveraging their monopoly position to dominate emerging EV markets.

Create DNSP Performance Metrics: Develop specific performance indicators for DNSPs related to EV connection times, costs, flexibility and tariff offerings.

5. Evaluating the DNSP Mandate model

5.1 Evaluation framework

To assess future policy responses and funding options for EV charging infrastructure, the NSW government should take into account the National Electricity Objective (NEO) Framework and NSW Treasury's business case guidelines. At the highest level this could be distilled to:

1. **Is it fair for everyone?** Will the approach benefit all NSW residents – including those who don't yet own an electric vehicle – without unfairly shifting costs?
2. **Does it deliver value for money?** Will the approach install the maximum number of chargers at the lowest overall cost to taxpayers and electricity customers?
3. **Does it maintain healthy competition?** Will the approach preserve innovation and price competition that improves service quality and drives down costs for drivers?
4. **Does it solve the actual problems?** Will the approach directly address the real barriers that are currently slowing down charger installation across NSW?

5.2 Summary analysis of DNSP Mandate model

DNSPs now propose to adopt a novel regulated monopoly model for kerbside charging infrastructure: monopolies would own and operate chargers, while private charge point operators and energy retailers "compete at the plug" for customers (**DNSP Mandate Model**). This is the wrong policy solution for the right problem.

Independent expert analysis suggests it creates a substantial risk of:

- **increased energy bills for consumers** including those who don't yet own EVs;
- **displacing private investment** and suppressing innovation; and
- **delay** because of the substantial hurdles to modifying ring fencing rules.[12]

[12] Economics of NSW Kerbside Electric Vehicle Charging Infrastructure, Tahu Consulting 2025 - See attachment for full report

Fair for everyone	✗	Socialising cost through network tariffs is regressive and requires cross-subsidisation between consumers. Regional and outer suburb consumers fund wealthy inner city residents as per section 2.2, and non-EV drivers will be funding EV drivers.
Value for money	✗	No incentive to operate efficiently, innovate or design for consumer charging. DNSPs have an opposing incentive to over-invest and gold-plate in order to maximise regulated returns.
Healthy competition	✗	Destroys competition and innovation. No CPO can compete with a regulated WACC and 100% market share. Displaces private capital.
Solves actual problems	✗	Does not address EV deployment issues ie. the key blockers raised. Unchecked, in terms of meeting the needs of local communities (Councils have prior experience of DNSPs deploying to suit their own agenda, not the needs of local communities). Unchecked in terms of matching supply with demand. DNSP incentive will be to overbuild, given returns are guaranteed.

6. A better alternative – market-led, DNSP enabled

Australia has the benefit of hindsight as other markets have successfully deployed tens of thousands of well-planned, local charging stations. None of the successful models deployed overseas involve regulatory rule changes to enable expansion of monopolies.

6.1 The global evidence suggests that a market-led co-funding model outperforms centrally planned state driven EV infrastructure policy

- Of the ten countries leading EV uptake, 9 predominantly use **private–public–partnership** models to achieve scaled charging roll outs, rather than state owned infrastructure. The only exception is China.[13]
- In Japan[14] and Korea[15] **centrally planned** directives under a "build it and they will come" approach resulted in **overspending, stranded chargers,** and **low EV adoption** relative to investment.

EV Adoption & Charger Infrastructure by Country

	Top 10 countries by EV adoption										Other cases		
Region	**NOR**	**ICE**	**DEN**	**SWE**	**NLD**	**BEL**	**FIN**	**CHN**	**SWI**	**UK**	**KOR**	**JPN**	**AUS**
% EVs	**29%**	18%	11%	11%	8.3%	8.2%	8.1%	7.6%	5.8%	5%	2.4%	0.8%	1.2%
% sales	**93%**	71%	46%	60%	35%	41%	54%	38%	30%	24%	7.9%	3.6%	12%
Chargers	1:33	1:28	1:18	1:16	1:5	1:11	1:19	1:8	1:17	1:30	1:3	1:17	1:66
Policy	PPP-driven; public grants & private ops; partial state involvement; no regulated monopoly	Early public buildout; now mostly private w/ govt co-funding for rural areas	Incentives for private market; targeted subsidies fill gaps	Govt grants catalyze private deployment; no state monopoly	City-driven PPPs; tender to private ops; some direct public ownership	Regional PPP concessions; no national monopoly; municipal partnerships	Modest govt support + EU funds; private-led competitive market	Hybrid central planning; state utilities + private ops; competitive subsidies	Market-driven with PPP coordination by federal govt	Market-led; govt grants & regulation; no state monopoly	Shifting from state-led to PPPs; growing private role; centrally planned	Subsidy-driven collaboration; auto, local govs & private ops	Initial company investment with private operators

Centrally planned approach

Figure 1 - Comparison of EV adoption and charger deployment by region.
Sources: IEA Global EV Data 2024 (data series ends 2023).

6.2 Two leading programs from the Netherlands and United Kingdom demonstrate market-led approaches that deliver superior outcomes

Both frameworks channel public money into de-risking demand signals and local planning capacity, while leaving capital deployment and customer proposition to competitive Charge Point Operators (CPOs). They have produced dense networks, fast delivery and scaled up private-investment multiples–outcomes NSW can replicate by keeping DNSPs in an enabling, not owning, role.

[13] Ibid at 2.

[14] Bloomberg News, *Japan Doesn't Have Enough Electric Cars for Its EV Chargers*, 25 August 2021.

[15] Despite having a high ratio of public chargers to cars, adoption has stalled at 9-10% of new car sales [Roland Berger analysis 2024], and that charging issues still rank as a key blocker for EV Uptake despite the density of charging [Roland Berger analysis 2023].

	Netherlands	United Kingdom
Key programs	National Agenda for Charging Infrastructure (NAL) regional concessions	• On-Street Residential Charge-point Scheme (ORCS) 2017-24 • Local EV Infrastructure (LEVI) Fund 2023-30
Scale delivered	**~175,000**[16] installations nationally	**~75,000**[17] installations nationally, of this LEVI + ORCS: ~10k delivered, ~29k contracted.
Who pays?	**Today:** 100% private capex. **Historically**: ~30-50% public subsidy.	**Today:** Up to 40% public capex. **Historically**: up to 75% public capex.
Roles	Municipality awards concession; charge point operator finances, connects, installs, operates; Network only approves technical connection (no asset ownership).	Local authority plans sites, tenders long-term contract; Charge point operator finances & operates; Network provides connection under regulated timelines
Trigger and planning tools	Statutory right-to-charge - any EV owner without a driveway can request a charging post. Responsible CPO must site within 300m of residence.[18]	Triggered by local council tender processes. Planned through the NEVIS data platform - aggregation of demand, grid capacity, charger density information to capability officers who rank need.[19]
Grid service level	Grid operator screens sites but does not own assets. Connection deadlines baked into overall concessional contract to CPO - typically 12 weeks.[20]	Grid operators screen sites but do not own assets. Regulations require grid operators to assess low voltage sites ≤15 working days with compensation to CPOs for delays.[21]
Key policy innovation	Demand signal locked in up-front; concession bundles grid connections, on-street permits and utilisation guarantees, letting CPOs finance at low risk.	Separates capability funding (policy, traffic order, community engagement staff) from capital grants, accelerating councils that previously had no in-house expertise.
Equity wins	No regressive cross-subsidy. Captures renters. Equal access for all drivers of need.	Capability grants create jobs and capacity within local councils, including remote / small. Planning criteria specifically targets households with no driveways.
NSW take-away	Pass a NSW Right-to-Charge & bundle multi-council concessions. Keep DNSPs as facilitators, not owners.	Replicate LEVI's capability granting and shared data platform model. Establish a mandatory guaranteed connection time for low voltage sites.

[16] McLoughlin, L. (2025, February 19). *Europe reaches 1 million public EV charge points, set to double by 2029*. Electric Vehicle Charging & Infrastructure.

[17] Department for Transport. (2025, February 5). *Electric vehicle public charging infrastructure statistics: January 2025*.

[18] Guidehouse. (2021, November). *Lessons from the Dutch EV charging approach: Prepared for COP26 Transport Day for SSEN-Distribution*. Guidehouse Inc.

[19] Cenex (October 2022). Article - Over 75 Local Authorities register for new EV infrastructure service.

[20] NKL Nederland. (2018). *Uniform Standards for Charging Stations – EN-V1.0*. Netherlands Knowledge Platform for Public Charging Infrastructure.

[21] Energy Saving Trust. (2025, March 6). *Connecting electric vehicle chargepoints to the electricity network*. UK Government. *The Electricity (Standards of Performance) (Amendment) Regulations 2023* (SI 2023/887).

6.3 Applying best practice for NSW

As an immediate priority, the NSW government should establish a comprehensive NSW *EV Infrastructure Acceleration Program* that builds on the experience of NSW and ARENA programs and leverages implementation lessons from Australia's global peers.

Key pillars of a NSW EV Infrastructure Acceleration Program

- **A clear data driven target for charging infrastructure** - this should be an overarching state level target, and also broken down by local government area. The target should include different types of charging infrastructure by area, referencing local demand and international benchmarks.
- **Co-funding over 5 years, emphasising support for critical charging infrastructure in regional corridors and black spots** where commercial rollouts are less viable. At least 10% of this should be allocated to funding EV program capabilities at a local council level, and in enabling transparent and live data sharing against critical infrastructure planning data such as grid capacity to street level.
- **A streamlined application process for EV charging grid connections** - with a focus on open access to drive network utilisation, provide SLAs for connection assessments and capped costs for installations under 300kW, with standardised technical requirements across networks.
- **Network tariffs designed to support smart equipment,** to enable the full positive grid benefits from well controlled EV charging. Building on Ausgrid's EA964 trial tariff, this should include energy-only charges for new sites; time-of-use rates with solar soak incentives; load control incentives during critical events and should be available for both low and high utilisation sites.

7. Conclusion and recommendations

The NSW electric vehicle landscape stands at a critical crossroads. As EV adoption accelerates, the decisions made today about charging infrastructure deployment will shape transportation electrification for decades to come. This inquiry presents an opportunity to establish a framework that balances the needs of all stakeholders–consumers, industry, networks, and government–while ensuring equitable, efficient, and sustainable outcomes. The evidence clearly demonstrates that a market-led, DNSP-enabled approach delivers superior outcomes compared to the proposed DNSP Mandate model, which risks increasing costs for consumers, stifling innovation, and failing to address the actual barriers slowing EV charger deployment.

We recommend that the Committee takes action to support the following recommendations:

Addressing current barriers:

- **Support local government planning**: Fund resources and standardised frameworks to help councils develop consistent EV infrastructure strategies and approval processes.
- **Streamline network connections**: Mandate standardised, transparent connection timeframes with enforceable SLAs and penalties for excessive delays.
- **Implement connection cost caps**: Establish reasonable cost caps for standard connections up to 300kW with standardised technical requirements.
- **Develop flexible connection options**: Require DNSPs to offer flexible arrangements that optimise latent network capacity through controllable load management.
- **Develop network tariffs that recognise smart technology** and the benefits of EV charging for the grid. Extend and replicate innovative tariffs like Ausgrid's EA964 across all DNSPs for both low and high utilisation sites
- **Establish open access networks**: Implement requirements for DNSPs to coordinate planning and share capacity data while streamlining processes.
- **Maintain and strengthen ring-fencing**: Preserve existing safeguards to ensure fair competition and prevent monopoly advantage.
- **Create DNSP performance metrics**: Develop specific indicators for connection times, costs, flexibility and tariff innovation.

Implementing a better system than DNSP Mandated EVCI rollout

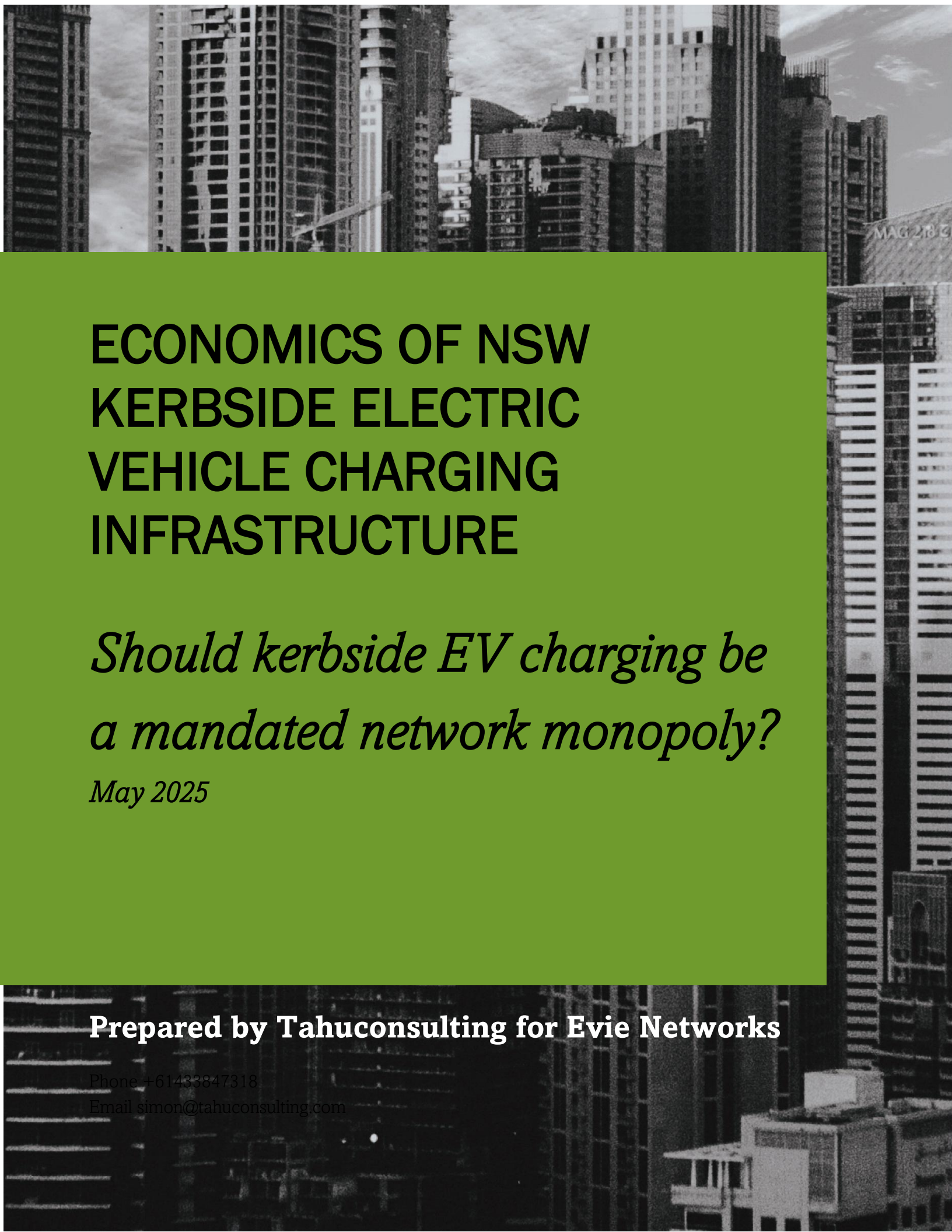
- **Establish a comprehensive NSW EV Infrastructure Acceleration Program** with clear data-driven targets by region and charging type.
- **Implement targeted co-funding** over 5 years for critical infrastructure in areas that are less commercially viable (typically outside the Greater Sydney / Newcastle / Wollongong region). **At least 10% of funding** should be allocated to local council capability building and data-sharing initiatives.
- **Learn from successful overseas programs** in markets that are further advanced that Australia, including Netherlands and United Kingdom, where coordinated, demand-based, public-private partnerships are delivering extensive charging infrastructure.

All stakeholders, including local and state government, CPOs and DNSPs should work together to address the current barriers to EV charger deployment and identify the most effective ways of delivering the infrastructure that NSW needs, while ensuring that network efficiency benefits from charging EVs are shared with all consumers.

Evie's view is that by addressing current deployment barriers and learning from overseas models we can achieve sustainable growth in EV charging infrastructure rollout to support the transition to electric.

We reiterate that DNSPs are already allowed to deploy kerbside AC charging today via their contestable business units. By playing to the same rules as industry, DNSPs would have to ensure commercial viability and reasonable asset utilisation. This means they would need to engage with local communities and invest in solutions that provide a good driver experience. The contestable business units may even place pressure on their parent DNSPs to improve connection processes and tariffs, helping to address some of the key barriers that exist today.

Instead of working with their customers to remove existing barriers and enable growth of network utilisation together, for the benefit of all consumers, ENA and DNSPs are choosing an approach of monopoly expansion for regulated returns. This is happening across many Consumer Energy Resource (CER) areas, including behind the meter energy management, battery storage, ownership of consumer energy assets and EV charging deployment. The outcomes of this NSW Parliamentary Inquiry are likely to set a precedent for government department policy makers across a broader range of regulatory reviews, in all states and territories.



ECONOMICS OF NSW KERBSIDE ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

Should kerbside EV charging be a mandated network monopoly?

May 2025

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Summary

Introduction

This report has been prepared by Tahuconsulting for Evie Networks, in response to the NSW Parliamentary enquiry into and report on infrastructure for electric and alternative energy source vehicles in NSW. Its focus is on terms of reference regarding *a) funding and location of electric vehicle charging infrastructure for other potential energy fuel sources* and *c) use of existing infrastructure to ensure a competitive market, including 'ring fencing' policies.*[1] For the purposes of this report, these two terms of reference have been divided into topics 1 and 2.

Topic 1: EV charging economics – KEVCI benefits, funding and location

Kerbside electric vehicle charging infrastructure (KEVCI), alongside other EVCI, is essential for the timely electrification and decarbonisation of four wheeled light transport. KEVCI is required because a significant portion of the population does not have dedicated off-street parking with access to EVCI, especially in densely populated urban areas.

Accelerated deployment kerbside (KEVCI) would bring forward community adoption of EVs. This would advance State and national electrification and decarbonisation objectives.

In public roads and public carparks, local governments typically make parking access decisions and enforce these decisions. This determines the extent ICE vehicles can block EV access to KEVCI in public roads and carparks.

Nationally, and across NSW, policy direction and guidance for local governments regarding support for transport electrification and KEVCI leave much to be desired. For example, mandatory national climate-related financial disclosure requirements, which commenced in January 2025, do not yet apply to local governments.[2] The absence of a national (or State) governance framework regarding climate-related decision-making results in inconsistencies between local governments, increasing the cost and delaying EVCI deployment. For example, in NSW it appears that some new NSW government part-funded KEVCI sites, without dedicated on site EV parking, may have low utilisation rates.[3] This is because ICE vehicles are typically occupying the KEVCI site most of the time.

DNSPs are materially delaying transport electrification. This appears to be a governance failure, since transport electrification is beneficial for DNSPs both in the short and long term.

EVCI deployment delays are caused by network connections frameworks and network tariff designs that ignore the demand profiles of EVCI and KEVCI. Outside locations with very high rates of new

[1] See https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=3095#tab-termsofreference
[2] See for example https://treasury.gov.au/sites/default/files/2024-01/c2024-466491-policy-state.pdf
[3] Observations by the author of multiple KEVCI sites in Sydney's eastern suburbs.

connections growth, EVCI and KEVCI are unlikely to increase network congestion and associated network capacity upgrades. However, connections policies and decisions by many DNSPs ignore this evidence. As a result, substantial network upgrades are typically required before connecting new EVCI. This delays and increases the cost of EVCI. Reform of electricity network connections and tariff design policies and frameworks is therefore necessary to support electrification and decarbonisation of light transport.

Topic 2: Review of proposals to DNSP KEVCI mandates

In April 2025, the Energy Networks Association (ENA) released a 'wish list' outlining six critical Commonwealth policy measures to ensure a reliable, affordable, and low emissions energy future. This includes '…Enable networks to install EV chargers on power poles for faster and cheaper kerbside charging.'[4] The proposal is detailed in an August 2024 report where KEVCI assets form part of monopoly distribution networks (DNSPs) assets under a DNSP mandate.[5]

A DNSP mandate is required under the proposed ENA model because DNSPs cannot own KEVCI, under ring-fencing rules. Ring-fencing supports the national electricity law (NEL) objective (NEO) by preventing cross subsidies from network customers and protecting competition in electricity connections markets, including KEVCI. DNSPs can only participate in KEVCI markets via related electricity services providers (RESPs). RESPs cannot be given preferential treatment by DNSPs, leverage DNSP branding, or be cross subsidised by DNSPs. DNSP ring-fencing operates under the NEL[6], which in NSW is NSW not Commonwealth law.

No evidence has yet been provided by ENA and others to establish that a DNSP KEVCI mandate is consistent with the long-term interests of customers (NEO).[7] A proper assessment of the proposed DNSP KEVCI mandate would find that alternatives to mandating DNSP KEVCI monopolies are preferable under both to the NEO and the objective of accelerating KEVCI with open access. The foremost concern is the retail bill impacts from DNSP cross subsidies, and the impacts on the cost and timeliness of the energy transition. If ring-fencing is removed or diluted, DNSPs can foreclose competition in the contestable energy services markets required to deliver the energy transition, which would naturally result in a slower transition and higher prices paid by all energy consumers.

Governments could implement accelerated KEVCI more quickly under alternatives to a DNSP mandate. This is because it would not need to seek a highly contentious expansion of DNSP monopolies and removal of ring-fencing rules in opposition to the NEO. Instead, accelerated KEVCI would be undertaken under existing customer protection rules using a contestable KEVCI procurement process. This requires establishing KEVCI site coordinators for sets of KEVCI installations in each area.

[4] See https://www.energynetworks.com.au/news/media-releases/energy-networks-election-wish-list-includes-calls-to-remove-tax-on-landholders/

[5] See slide 6 of *The Time is Now; Getting smarter with the grid,'* prepared by LEK for ENA

[6] Ring-fencing also applies in Western Australia, although it has not acceded to the NEL.

[7] Western Australia's WEM objective refers to encouraging competition in minimising long-term costs for customers.

Table 1 below compares KEVCI acceleration options with the status quo, using NEO (bills) and accelerated KEVCI (complexity and delay) as evaluation criteria. This indicates the likely outcome of any process required to mandate a monopoly KEVCI deployment, including for any new KEVCI innovation "sandboxing" or "waiver" from ring-fencing rules. Either would be a slippery slope toward a *de facto* DNSP KEVCI mandate.

Table 1 – Comparison of KEVCI acceleration options compared with base case

KEVCI outcomes	Base case	KEVCI site coordinator	DNSP KEVCI mandate
New network regulation required	NA	None	Extensive
KEVCI assets within mandate exclusive to DNSPs	NA	No	Yes
KEVCI site coordinator	No	Yes	No
KEVCI contestability	Yes	Yes	No
Implementation complexity & delay	NA	**Moderate**	**High**
KEVCI roaming	Possible	Yes	Yes
Utilization & EV customer accessibility	Lower	Higher	Higher
Installation & operating cost per EVCI connection	Higher	Lowest	Bloated
KEVCI revenue shortfall	High	Lowest	Higher than necessary
Increase in network costs and bills	NA	**Zero risk**	**High risk**

A contestable KEVCI model has been implemented by the NSW government under its EV destination charging grants program.[8] In the current NSW KEVCI rollout, local governments and other parties receive grants to undertake the KEVCI site coordinator and KEVCI procurement role. The available NSW government discussion papers relating to its EV charging grants program do **not** indicate that ring-fencing rules have been an impediment to the NSW KEVCI grants program. No evidence has been provided from which to conclude that the NSW government program for accelerated KEVCI contestable deployment has been unsuccessful. Nevertheless, the creation of a site coordinator role, improved governance of local governments regarding transport electrification, and the adoption of KEVCI roaming requirements would together substantially improve the economics of an accelerated KEVCI deployment.

It appears that existing DNSP ring-fencing guidelines have been breached in at least part of the NSW KEVCI program. We understand this reported to the regulator but so far, no explanation has been received or enforcement action taken. See Box 1 below.

[8] See https://www.energy.nsw.gov.au/sites/default/files/2022-08/2022_05_NSW_EVDestinationChargingGrants.pdf

Should kerbside electric vehicle charging be a network monopoly?

Introduction

This report has been prepared by Tahuconsulting for Evie Networks, in response to the NSW Parliamentary enquiry into and report on infrastructure for electric and alternative energy source vehicles in NSW. Its focus is on terms of reference regarding *a) funding and location of electric vehicle charging infrastructure for other potential energy fuel sources* and *c) use of existing infrastructure to ensure a competitive market, including 'ring fencing' policies*.[9] For the purposes of this report, these two terms of reference have been divided into Parts 1 and 2.

Part 1 considers the impacts of kerbside electric vehicle charging infrastructure (EVCI and KEVCI) – its benefits, funding and location. The report identifies the key role EVCI and KEVCI play in supporting and enabling government policy objectives to electrify and decarbonise light vehicle transport. It also identifies investment barriers to the early deployment of KEVCI. Aside from slow EV adoption rates, these include monopoly network pricing and connections policies, and the lack of national or State governance of this aspect of local government performance regarding regulation and enforcement of EV access to KEVCI.

Part 2 evaluates proposals by the Energy Networks Association for ring-fencing policies to be removed. It explains why removal of ring-fencing is not required for an accelerated deployment of KEVCI. It also explains why removal of ring-fencing via a DNSP mandate KEVCI is inferior to feasible alternatives, relative both to the national electricity objective (NEO) and to the electrification of light transport.

[9] See https://www.parliament.nsw.gov.au/committees/inquiries/Pages/inquiry-details.aspx?pk=3095#tab-termsofreference

Part 1: EV charging economics – KEVCI benefits, funding and location

Transport electrification and decarbonization requires KEVCI

An accelerated deployment of KEVCI is essential for the rapid electrification and decarbonisation of four wheeled light transport. This is because a significant portion of the population does not have dedicated off-street parking with access to EVCI, especially in densely populated urban areas. Slow deployment of KEVCI, and low KEVCI density, are barriers to faster EV adoption.

Transport electrification reduces carbon emissions. Electric vehicles are around three times more energy efficient than internal combustion engine (ICE) vehicles.[10] Emissions reduction is greatest when EV charging is from renewable energy, including from solar power during daylight hours.

Light passenger and commercial vehicles operate on a relatively slow replacement cycle. The average age of the Australian light vehicle fleet is just over 10 years.[11] This means that, even if EVs were 100% of new vehicle sales, it would take around half a decade for EVs to make up more than half the vehicle fleet.[12] At present, combined EV and PHEV sales are making up less than 11 percent of new vehicle sales.[13] Until this rate substantially increases, transport electrification and national decarbonisation objectives will be delayed.

Many would-be EV owners will not switch to EVs until they are confident they can access convenient and competitively priced EVCI. This is likely a key factor in the ongoing popularity of hybrid and PHEVs, despite their significantly higher operating costs and other drawbacks.[14] Faster KEVCI deployment and higher KEVCI density would therefore bring forward community adoption of EVs.

Benefits for electricity users and monopoly networks

Accelerated adoption of EVs would increase electricity distribution network (DNSP) asset utilisation, reducing network charges and retail electricity bills. Increased utilisation reduces unit prices for sunk DNSP regulated assets. Fixed and variable DNSP charges can be recovered from a greater volume of electricity supplied.

Transport electrification is clearly in the commercial interests of DNSPs. In the short term, this is because it increases utilisation of DNSP assets, while requiring little additional investment. This will

[10] The energy conversion efficiency of EVs (77%) is at least 2.5 times better than that of ICE vehicles (30%) and in real world conditions the differential is typically three (3) times. See EVs: Are they really more efficient?
[11] See https://www.abs.gov.au/statistics/industry/tourism-and-transport/motor-vehicle-census-australia/latest-release
[12] EVs currently make up around one (1) percent of the total light vehicle fleet.
[13] See Electric Vehicle Index - Australian Automobile Association
[14] Among other things, this reflects the need to buy, fuel and maintain an internal combustion engine and transmission system, even if it is seldom used.

translate into improvements in productivity, which may be rewarded via higher revenues and profits, under incentive regulation.

Over the long term, to the extent regulated asset bases (RABs) need to be expanded to supply the new EV demand, electrification increases the dollar value of DNSP profits. In the short term, EV adoption is unlikely to have adverse impacts on DNSP congestion and related costs, for the reasons explained below.

Where EVCI is highly utilised during periods of high rooftop solar output, it could substantially reduce requirements for DNSPs and others to invest in new assets to absorb this solar output, via investments in new DNSP export infrastructure, including DNSP owned battery electric storage systems (BESS).[15] To the extent EVCI contributes to increased demand during high solar output periods, it also reduces spillage of surplus solar output and increases wholesale prices during low or even negatively priced periods.

At the same time, EVCI, including KEVCI, is in most locations very unlikely to result in requirements for DNSPs to invest in increasing their network capacity to ensure reliable supply during rare maximum demand periods. These maximum demand periods are typically less than two percent of the time and mainly affect areas with high connections growth rates. This reflects substantial spare network capacity in NSW, except in areas with very high connections growth rates.[16]

Our understanding is that KEVCI typically has relatively low charging speeds, using alternating current (AC) and lower network capacity requirements. Its main value is locational, being close to where people live, work and shop. This is different from high-speed direct current (DC) public charging, where the main value is minimising charging times, especially on longer journeys and in holiday destinations. KEVCI is therefore more likely to increase utilisation of existing DNSP assets than require augmentation.

A recently adopted national vehicle to grid technical standard enables bi-directional charging.[17] It is likely that EVCI suppliers and charge point operators (CPO), potentially including KEVCI, might create incentives for EV owners to export energy back into the grid. If this occurs, it could ease periods of high network congestion in areas with high connections growth.

In addition, modern EVCI can readily limit EV charging rates during such periods. Variable KEVCI pricing can also contribute to minimising EV contributions to maximum network demand, or wholesale price spikes where prices can go up to a maximum of $20,300/MWh.[18]

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[15] These are sometimes described as 'community batteries', where privately owned. See https://www.dcceew.gov.au/energy/renewable/community-batteries#business-grants-hub-stream-1

[16] See *Review of Ausgrid's Revised Network Tariff Proposals and the Australian Energy Regulator's Draft NSW DNSPs' Tariff Determinations: Are They Reasonable? Report for Evie Networks;* 2 February 2024. https://www.aer.gov.au/system/files/2024-02/Evie%20Networks%20-%20%20Submission%20on%20the%20NSW%20revised%20proposals%20and%20draft%20decisions%202024-29%20-%20January%202024.pdf

[17] The latest version of AS-NZ 4777.

[18] See https://www.aemc.gov.au/news-centre/media-releases/aemc-updates-market-price-cap-2025-26

KEVCI using existing network assets, such as power poles and network connections for public lighting, would increase DNSP hosting fees. Like mobile telephony asset hosting, KEVCI hosting would marginally reduce revenues that need to be recovered from regulated network charges.

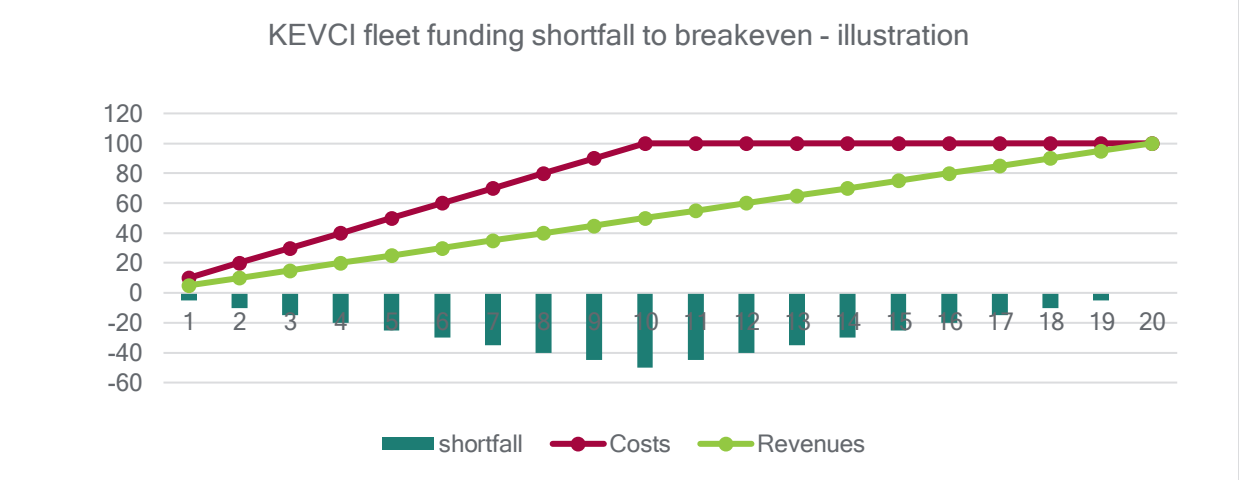
The financing barriers to accelerated KEVCI deployment

A key barrier to the timely deployment of KEVCI is that commercial returns to KEVCI investors are typically negative until the stock of EVs, as a proportion of the total stock of light vehicles, is much higher than now. As discussed above, this will likely take more than a decade due to the slow turnover of light vehicles and current modest EV new vehicle market penetration.

It is challenging for markets to finance the extended and uncertain funding gap until EV penetration rates are much higher. The current slow KEVCI deployment contributes to EV new vehicle market uptake outcomes that are inconsistent with government electrification policy objectives.

A subsidy for some KEVCI is therefore likely to be necessary because there is often a substantial shortfall between future revenue from the supply of KEVCI services and the full costs of financing, deploying, depreciating and operating a full set of KEVCI installations. The shortfall is illustrated in Figure 1 below.

Figure 1 – Need for funding of KEVCI revenue shortfall



The funding shortfall (downward bars) arises because KEVCI utilisation will almost always lag KEVCI deployment. The costs line will exceed the revenue line for an extended period, reflecting the relatively slow turnover of vehicles, compared with for example mobile phones. There is also uncertainty about the duration until revenue for a fleet of KEVCIs will be sufficient to fund both depreciation and operations, and the additional cost of financing the cumulative revenue shortfall.

This is not to assert that individual KEVCI installations may not be profitable from the outset, due to favourable locations and dedicated EV parking. However, across a region, there may be many KEVCI

installations that continue to make substantial losses that exceed profits from installations in favourable locations.

Local government barriers to accelerated KEVCI deployment

A key challenge for KEVCI is coordinating KEVCI location decisions and parking access decisions. In the transition to high levels of EV penetration, access to KEVCI may be limited where ICE vehicles can block EV access to KEVCI. Local governments typically make parking access decisions, and the extent ICE vehicles can block EV access to KEVCI.

Nationally, policy direction and guidance for local governments regarding support for KEVCI leaves much to be desired. For example, mandatory national climate-related financial disclosure requirements, which commenced in January 2025, do not apply to local governments.[19] Among other things, this means that local governments do not need to prepare annual sustainability reports, identify material climate-related financial risks and opportunities, or report progress on relevant metrics and targets, potentially including the deployment of EVCI and KEVCI within areas controlled by each local government.

The absence of a national (or State) governance framework regarding climate-related decision-making results in inconsistencies between local governments, increasing the cost and delaying EVCI deployment. For example, in NSW it appears that some new KEVCI sites, without dedicated on site EV parking, may have low utilisation rates.[20] This is because ICE vehicles are typically occupying parking bays at the KEVCI site most of the time.

A recent example in Queensland also highlights EVCI risks and costs relating to local governments. Following an eight-year process, in April 2025, a local government opposed an agreement to install the Capricorn Coast's first EV charger.[21] This contributed to a reported decision by Evie Networks to withdraw from the draft agreement with the council.

Network barriers to accelerated KEVCI deployment

DNSPs are materially delaying transport electrification. This appears to be a governance failure, since as discussed earlier transport electrification is beneficial for DNSPs both in the short and long term.

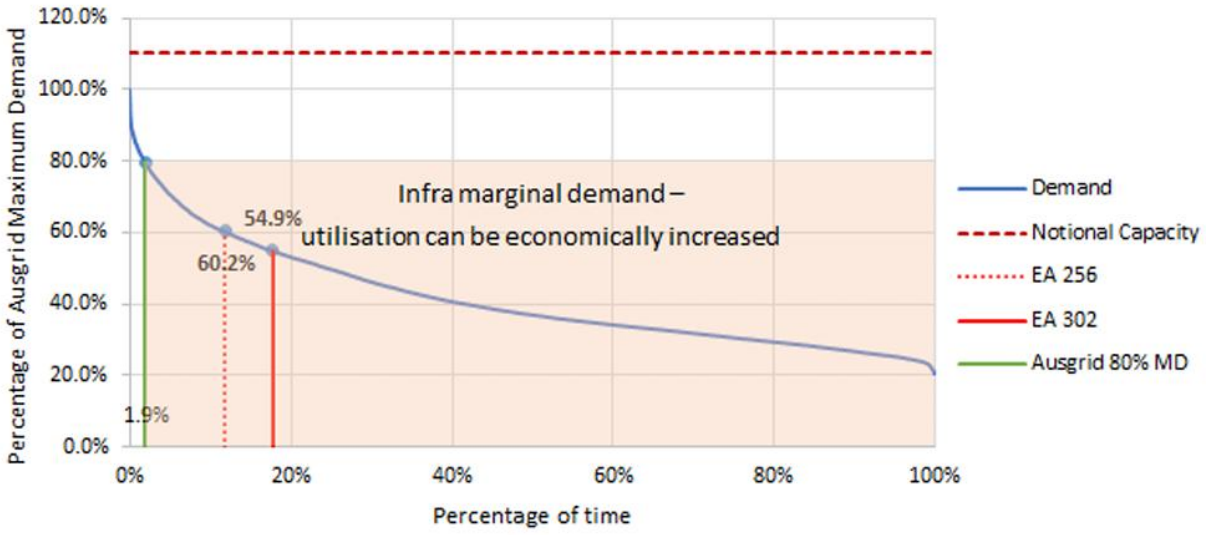
These EVCI delays are caused by network connections frameworks and network tariff designs that ignore the relationship between EVCI and KEVCI demand profiles and network congestion and related costs. As discussed above, outside locations with very high rates of new connections growth, EVCI and KEVCI are unlikely to increase network congestion and associated network capacity upgrades.

[19] See for example https://treasury.gov.au/sites/default/files/2024-01/c2024-466491-policy-state.pdf
[20] Observations by the author of multiple KEVCI sites in Sydney's eastern suburbs.
[21] See for example https://thedriven.io/2025/04/24/council-votes-again-to-dump-public-ev-fast-charging-station-after-tv-news-report/

However, connections policies and decisions by many DNSPs ignore this evidence. As a result, substantial network upgrades are typically required before new EVCI is connected. This both delays and increases the cost of EVCI.

Similarly, widespread regulated network tariff designs result in excessive network charges at locations and during periods where there is no network congestion.[22] This reflects the adoption of capacity and demand charges that apply outside locations and periods where there is network congestion. For Ausgrid, this is shown in Figure 2 below, in relation to two of Ausgrid's many business tariffs.[23]

Figure 2 – Ausgrid's premium tariff windows vs. network congestion



Source: ***AEMO Net System Load Profile, Ausgrid***

In this example, network congestion is conservatively defined as 80 per cent of maximum annual demand and occurs less than 1.9% of the year.[24] However, congestion pricing denoted by the two vertical lines for different tariff "windows" is applied for 11.8% (EA 256) and 17.8% (EA 302) of the year, respectively. Note that EA 964 is considered by Evie to be an attractive tariff for CPO services. However, it is only available to a decreasing number of public charging sites with less than 160MWh of demand per annum. Congestion pricing is therefore being applied to infra-marginal demand (shared area) where utilisation can be increased without triggering any requirement to augment network capacity.

[22] See *Review of Ausgrid's Revised Network Tariff Proposals and the Australian Energy Regulator's Draft NSW DNSPs' Tariff Determinations: Are They Reasonable? Report for Evie Networks;* 2 February 2024. https://www.aer.gov.au/system/files/2024-02/Evie%20Networks%20-%20%20Submission%20on%20the%20NSW%20revised%20proposals%20and%20draft%20decisions%202024-29%20-%20January%202024.pdf

[23] See Ausgrid's current tariff list available at https://www.ausgrid.com.au/-/media/Documents/Regulation/Pricing/PList/Ausgrid-Network-Price-List-2024-25.pdf?rev=61699dd84f6d421785a6591885745c70

[24] Note that across the network elements shown, firm capacity is around 10 per cent above maximum coincident demand, suggesting that even the top 2 percent of demand intervals are unlikely to coincide with network congestion triggering augmentation expenditure.

Due to the current low penetration of EVs, EVCI currently has relatively low load factors (annual demand relative to maximum demand during each monthly billing period). As a result, under Ausgrid's network tariff designs EVCI typically experience network charges that are on average 50 per cent higher than otherwise similar business customers.[25]

The adverse impacts of these inefficient tariff designs are not limited to EVCI. They also arise for primary industries and other sectors with low annual demand and high maximum monthly demand, such as irrigation.[26] Inefficient network tariffs are then carried over to customer bills by retailers.[27] This further reinforces the need for reform of network tariff regulation.

[25] Ibid.
[26] See for example https://www.abc.net.au/news/rural/2017-02-15/rural-queensland-electricity-prices/8274010
[27] See for example Energy retailers' 'insidious' power pricing charges households based on highest point of use - ABC News

Part 2: Review of proposals for DNSP KEVCI mandate

DNSP proposals for KEVCI monopolies

The Energy Networks Association (ENA) recently released its 'wish list' outlining six critical Commonwealth policy measures to ensure a reliable, affordable, and low emissions energy future. This includes '…Enable networks to install EV chargers on power poles for faster and cheaper kerbside charging.'[28]

In August 2024 the ENA published a report by LEK Consulting *'The Time is Now; Getting smarter with the grid'*. The LEK report proposes among other things that networks should be mandated to deploy KEVCI as a monopoly service. KEVCI and other EV charging infrastructure would be reclassified from a contestable service to being a monopoly service. KEVCI assets would form part of the regulated asset bases of DNSPs and could be included in the setting of regulated network revenues affecting customer bills. Unless government subsidies for KEVCI fully match KEVCI revenue shortfalls over the transition to electrification, cross subsidies from DNSP customers (higher bills) to fund KEVCI are likely.

No evidence has yet been provided by ENA and others to establish that a DNSP KEVCI mandate is consistent with the long-term interests of customers.[29] No evidence has been provided from which to conclude that the NSW government program for accelerated KEVCI deployment with contestability is inferior to KEVCI deployment via a DNSP KEVCI mandate.

Existing customer and competitor protection

KEVCI – other than powered via a stand-alone power system (SAPS) – requires network connections. All network connections – both on the generation and demand sides and including all EVCI – are fully contestable in NSW. The Electricity Supply Act 1995 (NSW) gives customers the option to choose a supplier and contractor to perform customer connection services other than the licensed network, provided the other party is an Accredited Service Provider (ASP) scheme participant. The ASP scheme operates under the Electricity Supply (Safety and Network Management) Regulation 2014, specifically Part 3.[30]

A DNSP mandate is required under the ENA plan because DNSPs are prevented, by ring-fencing rules, alongside the ASP scheme, from deploying and owning KEVCI. Ring-fencing supports the NEL objective (NEO) by preventing cross subsidies from NEM customers and protecting competition in electricity connections markets, including KEVCI.

[28] See https://www.energynetworks.com.au/news/media-releases/energy-networks-election-wish-list-includes-calls-to-remove-tax-on-landholders/
[29] Western Australia's WEM objective refers to encouraging competition in minimising long-term costs for customers.
[30] See Electricity Supply (Safety and Network Management) Regulation 2014 - NSW Legislation

Box 1 – Apparent breach of DNSP ring-fencing rules in new KEVCI

In January 2025, an apparent breach of the DNSP ring-fencing rules was observed in Sydney's eastern suburbs. This has so far not been explained or rectified. A contestable KEVCI asset presumably owned by a related electricity service provider, Plus ES, in compliance with ring-fencing, has been branded "Ausgrid". There is also an Ausgrid branded sign at the top of pole at the KEVCI network connection. The same branding has been observed at multiple KEVCI sites in the area, all of which appear to be part of the NSW government KEVCI grants program.

On branding and cross promotion (4.2.3), the Australian Energy Regulator's (AER) DNSP ring-fencing guideline says that a DNSP must not advertise or promote its direct control services and its contestable electricity services that are not direct control services together (including by way of cross promotion). There is an exemption where the asset also provides direct control services, but this exemption does not apply to KEVCI assets. There is current no ring-fencing waiver. We understand the possible breach was reported to the AER ring-fencing team by early February. At the time of writing, it is understood no AER response or other public communication has been received.

In March 2025, AER announced it had granted a waiver to Plus ES from the metrology rules. However, this waiver refers to metrology and not to branding and cross promotion.

Source.[31]

DNSPs can only participate in KEVCI markets via related electricity services providers (RESPs). RESPs cannot be given preferential treatment by DNSPs, leverage DNSP branding, or be cross subsidised by DNSPs.

It appears that existing "sandboxing" exemptions from regulatory requirements cannot be applied to KEVCI. Any attempts to circumvent ring-fencing rules, including via the creation of new regulatory "sandboxes," or extend "waivers" from ring fencing rules, are a slippery slope toward a *de facto* DNSP KEVCI mandate.

Mandating KEVCI could be disallowable by NSW or another NEL Parliaments, or potentially otherwise blocked via legal challenges.[32] Ring-fencing rules operate under the NEL, which in NSW (and in other NEM jurisdictions) is NSW not Australian government law.

The application of consumer and competition protection objectives in the NEL and NER has been delegated to the AER. A complication from the perspective of the present enquiry is that the AER is not audited by the NSW Auditor General and submitted to the NSW Parliament. It is instead audited by the Australian National Audit Office.[33] This governance arrangement appears to diminish opportunities for

[31] See https://www.linkedin.com/posts/simon-orme-99a9486_is-this-kerbside-ev-charging-installation-activity-7313746822630387713-UjRG?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAE1C4YBfrujp_J4DuxmiGVXy19GBN7Taik

[32] Note we are not qualified to offer legal advice.

[33] See https://www.anao.gov.au/work/performance-audit/regulation-the-national-energy-market

NSW Parliament to assess and where required take steps to improve AER performance, including regarding ring-fencing enforcement, network tariff reform and failure to constrain monopoly network pricing power.[34]

Is a DNSP KEVCI mandate the only alternative?

A contestable accelerated KEVCI and EVCI model has already been successfully applied by the NSW government under its EV destination charging grants program.[35] In the current NSW KEVCI rollout, local governments and other parties receive grants to undertake the KEVCI site coordinator and KEVCI procurement role. None of the available NSW government discussion papers relating to its EV charging grants program indicates that a DNSP mandate is preferable to a contestable KEVCI option.

A feasible alternative to a KEVCI mandate is available within the existing consumer protection rules – a KEVCI site coordinator. There are several similar models both in KEVCI and elsewhere as summarised in Box 2 below.

Box 2 – KEVCI contestability via site coordinators – LEVI and similar contestable models

Several KEVCI site coordinator models are available.

- NSW government's electric vehicle destination charging program.
- The UK's Local Electric Vehicle Infrastructure (LEVI) Fund provides a model for a contestable accelerated KEVCI deployment.[1]
- The creation of the metering coordinator role in the NEL rules to enable contestability in electricity metering services for mass market customers.
- Contestable transmission procurement for renewable energy hubs, and similar initiatives by NSW EnergyCo and in other NEM jurisdictions.

The KEVCI site coordinator role would be separate from one or more entities installing, owning and operating KEVCI. The KEVCI installation manager could be an LGA or private entities. A competitive procurement can then be implemented for the exclusive rights to deploy and operate KEVCI installations in each region. The regions could correspond to local government authority (LGA) areas or groups of LGAs. This would give local economies of scale in KEVCI installation and operations and leverage local synergies. No DNSP mandate is required under this type of option.

KEVCI roaming does not require a DNSP monopoly

[34] See for example the discussion on the performance of the AER in constraining DNSP monopoly pricing power, and shortcomings in Governance of AER in a 2023 report by the Institute for Energy Economics and Finance available at https://ieefa.org/resources/power-prices-can-be-fairer-and-more-affordable

[35] See https://www.energy.nsw.gov.au/sites/default/files/2022-08/2022_05_NSW_EVDestinationChargingGrants.pdf

No DNSP mandate is required to support open access or "roaming" for KEVCI. Roaming allows multiple CPOs and energy retailers to serve their EV customers regardless of which CPO happens to own and run a given set of KEVCI installations.

Roaming accelerates KEVCI deployment because it increases KEVCI utilisation and customer access. This in turn reduces the amount of capital required to finance the likely revenue shortfall before the installations are viable.

Under open access, technical open interoperability and other roaming rules need to be established. These rules need not be established in regulations but can instead be established in the funding arrangements. This is similar to software subscription requirements under the NSW government's EV destination charging grants.

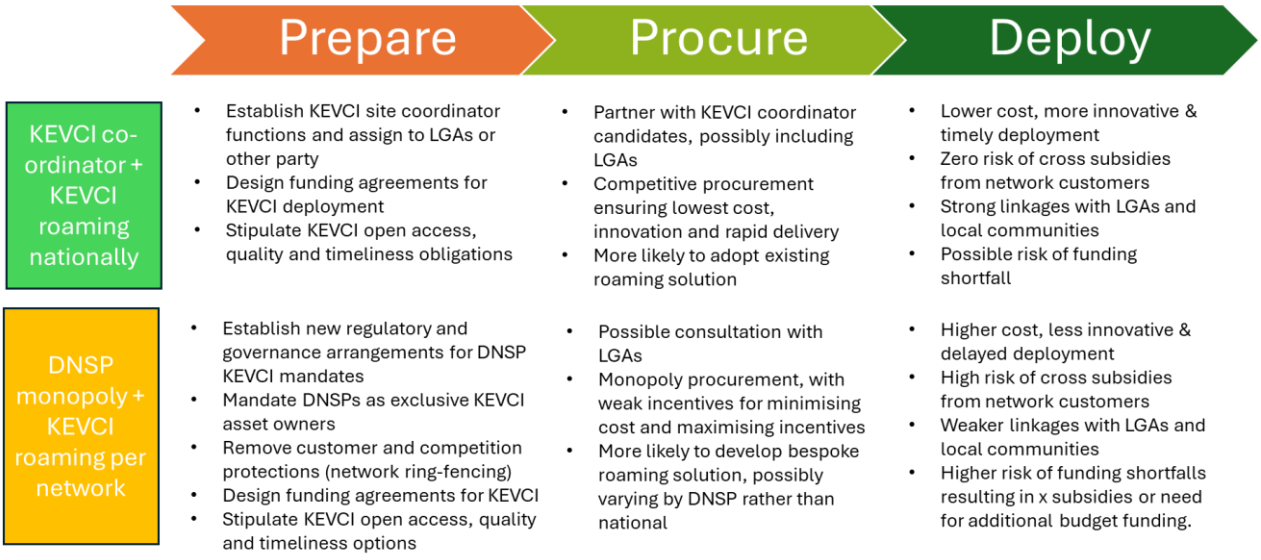
Contestable energy transition infrastructure procurement, with open access, is best practice. There are suitable existing access templates for designing KEVCI open access, both domestically and internationally. These include arrangements for the appointment of metering coordinators to support contestable metering deployment for small customers, outside Victoria

Accelerated KEVCI implementation speed and complexity

Under a DNSP monopoly, customer protections would no longer apply. As a result, implementation complexity and risk of delay is higher for a DNSP KEVCI monopoly option.

Figure 3 compares the speed and complexity of implementation. An accelerated KEVCI deployment with contestability could be designed and implemented more quickly than an accelerated KEVCI deployment under DNSP monopoly mandates.

Figure 3 – Comparing speed and complexity of implementation



This timing difference is because no changes to ring-fencing and other rules under the NEO, or the creation of new DNSP monopoly mandates for KEVCI, would be required. No new regulatory decisions on the recovery of DNSP KEVCI assets from higher regulated network charges, and increased customer bills, would be required.

Instead, the relevant jurisdiction could set out KEVCI roaming and other quality requirements under the terms of a contestable procurement process. The jurisdiction could establish the KEVCI site coordinator function, possibly in partnership with LGAs. This model has already been tested in NSW and Britain and lessons learnt from these cases can be applied in Australia. Any additional requirements including KEVCI roaming requirements could be defined within the funding arrangement without the need to change national electricity rules.

Similarly, Renewable Energy Zone (REZ) transmission reconciles open access and contestability, while retaining ring-fencing and avoiding automatic TNSP mandates. The Central West-Orana REZ transmission infrastructure was not mandated to the NSW transmission operator, Transgrid. The infrastructure is contestable and awarded to a new transmission supplier following a competitive process. Competitive KEVCI procurement is best practice in other sectors and internationally, including for example KEVCI deployment in Great Britain and elsewhere.

Even with open access regulation, accelerated KEVCI is likely to require one or more Budget appropriations to cover funding shortfalls in the transition to widespread EV use. Under this option, expenditure is market tested via a competitive procurement process. This stimulates higher levels of efficiency and innovation than would be the case under a DNSP mandate. There would be no impact at all on NEM retail customer bills because KEVCI would continue to be ring fenced from DNSP monopolies.

DNSPs would not be precluded from participating in contestable KEVCI, via their Related Electricity Service Providers (RESPs). See

Table 2 below. RESPs may be successful where they have a real comparative advantage.

Table 2 – NSW monopoly networks and their RESPs

Monopoly network	Related Electricity Service Provider (RESP)
Ausgrid	Plus ES
Endeavour Energy	Ausconnex
Essential Energy	Intium
TransGrid	Lumea Group

Technical inter-operability standards, network connections and vertical integration benefits

No evidence has so far been provided via a RIS/CBA, or an assessment against the NEO, to support assertions there are significant vertical integration benefits between DNSPs and KEVCI. Even if there were modest integration benefits, these are likely to be outweighed by the costs of extending network monopolies to KEVCI.

The revision to the NEO may be interpreted as supporting an accelerated KEVCI rollout, as this would have long term emissions reduction benefits. Even if network utilisation and climate benefits are included, cross subsidies to DNSPs for KEVCI would not be in the long-term interests of NEM customers once viable alternatives are considered.

A 2021 review for the NSW Treasury found network connections and other electricity services market contestability was beneficial and should potentially be expanded.[36] It also suggested contestable markets should be positively defined by the NSW government, rather than negatively defined by periodic decisions by the energy regulator. The NSW Electricity Infrastructure Investment Act 2020 retained and expanded contestability in transmission connections for renewable energy zones (REZ), instead of mandating REZ transmission to TransGrid.

Box 3: Opportunity for KEVCI innovation

Aside from open access, there may be a further opportunity to reduce KEVCI installation costs and accelerate their deployment. This is to consider changing the relevant technical standards, metering rules and NEM settlement arrangements. The changes would seek to integrate each KEVCI electricity meter (parent meter), and associated communications equipment used for market settlement, into the KEVCI CPO equipment which measures electricity withdrawn by each EV charger (child meter).

At present, it appears KEVCI grid withdrawals and settlement are being measured both at a parent meter and a separate child meter for each installation. It seems unlikely, however, that losses between the KEVCI meter and the KEVCI CPO meter vary between each KEVCI installation (normalised for relevant differences such as voltage, charging performance etc.). This suggests that standardised loss values could be used to estimate gross grid withdrawal volumes, avoiding current redundant KEVCI metering. Such an arrangement could be more accurate than the arrangements for estimating, without meters, the significant energy demand from public lighting installations.

[36] See https://www.energy.nsw.gov.au/sites/default/files/2023-03/ASP-Scheme-Review-Final-Report.PDF

Realising benefits from removing duplication of metering, metering communications and market settlement, does not require a DNSP mandate. The KEVCI coordinator would reconcile wholesale market settlement with charges to individual CPOs, under open access, and thence to end KEVCI customers.

The Energy Security Board and more recently the Australian Energy Market Commission (AEMC) have reviewed the governance of technical standards for distributed energy resources (DER), including EVs and EVCI. Inconsistencies in technical standards between DNSPs is one of the factors driving the development of new national governance arrangements for DER technical standards, including for EVCI. No serious consideration has been given to transferring governance of DER technical standards to individual DNSPs, because technical standards need to be nationally consistent rather than varying by DNSP.

New roaming rules may be considered desirable to constrain any potential for the benefits from open KEVCI access to be reduced by higher than efficient roaming charges or other barriers to roaming. If roaming rules are required, it appears likely they would equally be desirable whether roaming is via a DNSP KEVCI mandate or a KEVCI coordinator. Possible roaming rules could include requiring disclosure of roaming (inter change) fees to customers.

Accelerated KEVCI via DNSP mandate

Under a DNSP KEVCI mandate, with KEVCI assets within the scope[37] of the mandate owned exclusively by DNSPs, DNSPs would seek compensation for the shortfall between total KEVCI revenue from supplying EV customers, and total cost. This compensation and the associated regulatory and budget processes could be implemented under one of the following three (3) implementation paths.

1. Funding a DNSP KEVCI subsidy by increasing regulated network charges (DUOS) and retail bills. There are two sub-options. In both sub-options, ring-fencing rules would need to be waived, to support cross subsidies from NEM customers, and prevent KEVCI contestability, notwithstanding the NEO:
    - The jurisdictional Minister amends DNSP licences to reclassify KEVCI assets and services as DNSP monopolies. If the reopening threshold is exceeded, DNSPs may be able to reopen the revenue determination and seek to increase regulated charges. It is possible a KEVCI budget subsidy is not required because the KEVCI subsidy could be funded entirely by NEM consumers.
    - NEM Ministers (led by the Federal Energy and Climate Minister) issue a statement of policy principles under the NEL which instructs AEMC and AER to make changes to rules and guidelines to waive the ring-fencing rules, reclassify KEVCI as DNSP monopoly assets, and permit cross subsidies from NEM customers to KEVCI customers. The AER/AEMC then need to demonstrate the benefits outweigh the costs, relative to the NEO, and consider alternatives to DNSP KEVCI mandates.

2. A budget funded subsidy (Commonwealth, State or hybrid) is created for DNSP delivery of a 'community service obligation' (CSO). This requires an appropriation and associated review by

[37] Defining the scope of any DNSP KEVCI exclusive mandate is itself likely to be contentious and challenging.

the relevant Treasury department, accompanied by a RIS/CBA demonstrating a market failure requiring intervention and evidence the economic benefits exceed the costs. If the appropriation is approved by Parliament, part of the subsidy could be a capital contribution to KEVCI assets. There would be no impact on the regulated asset base (RAB) used to calculate DUOS or NUOS. Ring-fencing rules would nevertheless need to be waived, contrary to the NEO, because it would foreclose competition in KEVCI markets. The KEVCI assets would form part of DNSP monopoly assets and form part of the RAB funded from capital contributions and does not impact customer bills.

3. Funding a non-budget DNSP subsidy under a jurisdictional scheme, as with the costs of the NSW electricity infrastructure investment roadmap. This may not require a budget appropriation. Instead, the required annual subsidy is added to total network charges (NUOS) payable by electricity retailers and recouped from retail customers. Other things being equal, the new cross subsidies to DNSPs would increase reference retail bills determined by the Australian Energy Regulator (AER) under the DMO and VDO (ESCV in Victoria). This option is subject to pricing and bill impact scrutiny by both the AER and the jurisdictional regulator (IPART in NSW). There would be no short-term impact on regulated network charges (DUOS). Ring-fencing rules preventing cross subsidies from NEM customers would need to be waived, contrary to the NEO. This option may require legislation, similar to the NSW roadmap legislation.

In all three pathways above, there is no competitive process to drive efficiency and innovation in KEVCI design, installation, financing, and operations, such as integrating parent and child meters. Instead, within the scope of the KEVCI mandate, DNSPs are the only party that is permitted to own KEVCI assets. This means DNSPs are given further opportunities to inflate costs, prices and returns via 'gold plating'. All DNSP mandate implementation options involve complex and contentious ring-fencing waivers that are potentially disallowable in one or more NEM jurisdiction. Lead times for ring-fencing waivers/mandates, budget appropriations, increasing retail bills and possibly legislation, vary, but are likely to be 12 months at minimum and potentially more than two years.

A possible alternative DNSP mandate sub-option is for KEVCI to form a separate monopoly service with separate RAB and revenue caps. This sub-option may reduce adverse the risk of adverse DNSP customer bill impacts but does not address increased risk DNSPs could foreclose competition in contestable electricity services markets. A separate KEVCI RAB does not address the funding of shortfalls between KEVCI revenue and total KEVCI costs, including financing of possibly extensive periods where KEVCI portfolios have insufficient revenue to recover their costs.

A series of major regulated transmission upgrades are underway across the NEM. These are all experiencing substantial capital cost increases relative to estimates used when these upgrades were approved by the regulator ahead of alternative transmission and non-transmission alternatives. While capital costs are also rising for non-regulated capital projects, mandated monopoly transmission is evidently contributing to higher than necessary capital cost increases and commissioning delays.

Historical DNSP gold plating, and excessive NSW and Queensland reliability standards, resulted in substantial over-investment in network capacity and the current historically low total factor productivity of the entire DNSP sector. DNSPs (outside Victoria) were given an exclusive mandate to

deploy digital meters. While a similar mandate was delivered in Victoria, with doubtful net benefits, other NEL jurisdictions later withdrew the DNSP mandate, and digital metering is now fully contestable outside Victoria. Taken together, these examples reinforce the conclusion a DNSP mandate is highly contentious and subject to delay under any of the complex and challenging implementation processes identified above.

Overall findings

KEVCI economics – benefits, funding and location

An accelerated deployment of KEVCI is essential for the rapid electrification and decarbonisation of four wheeled light transport. This is because a significant portion of the population does not have dedicated off-street parking with access to EVCI, especially in densely populated urban areas. Slow deployment of KEVCI, and low KEVCI density, are barriers to faster EV adoption.

It is challenging for markets to finance the extended and uncertain funding gap until EV market penetration rates are much higher. The delay in KEVCI deployment contributes to EV new vehicle market uptake outcomes that are inconsistent with government electrification policy objectives.

A subsidy for some KEVCI is therefore likely to be necessary because there is often a substantial shortfall between future revenue from the supply of KEVCI services and the full costs of financing, deploying, depreciating and operating a full set of KEVCI installations.

In public roads and public carparks, local governments typically make parking access decisions and enforce these decisions. This determines the extent ICE vehicles can block EV access to KEVCI in public roads and carparks. Nationally, and across NSW, policy direction and guidance for local governments regarding support for KEVCI leaves much to be desired. For example, mandatory national climate-related financial disclosure requirements, which commenced in January 2025, do not apply to local governments.[38]

The absence of a national (or State) governance framework regarding climate-related decision-making results in inconsistencies between local governments, increasing the cost and delaying EVCI deployment. For example, in NSW it appears that some new KEVCI sites, without dedicated on site EV parking, may have low utilisation rates.[39] This is because ICE vehicles are typically occupying the KEVCI site most of the time.

DNSPs are materially delaying transport electrification. This appears to be a governance failure, since as discussed earlier transport electrification is beneficial for DNSPs both in the short and long term.

EVCI deployment delays are caused by network connections frameworks and network tariff designs that ignore the demand profiles of EVCI and KEVCI. Outside locations with very high rates of new connections growth, EVCI and KEVCI are unlikely to increase network congestion and associated network capacity upgrades. However, connections policies and decisions by many DNSPs appear to ignore this evidence. As a result, substantial network upgrades are typically required before connecting new EVCI. This delays and increases the cost of EVCI. Reform of electricity network connections and tariff design policies and frameworks is therefore necessary to support electrification and decarbonisation of light transport.

[38] See for example https://treasury.gov.au/sites/default/files/2024-01/c2024-466491-policy-state.pdf
[39] Observations by the author of multiple KEVCI sites in Sydney's eastern suburbs.

Should KEVCI be a network monopoly?

Removal of DNSP ring-fencing is neither a necessary nor sufficient condition for accelerating KEVCI, or any associated benefits for KEVCI and wider NEM customers. Under any assessment of a DNSP KEVCI mandate and ring-fencing waiver, an alternative counterfactual for an accelerated KEVCI deployment must be identified. Feasible alternatives to the DNSP KEVCI mandate were not identified in the LEK report for ENA.

A proper assessment of the proposed DNSP KEVCI mandate would conclude that alternatives to mandating DNSP KEVCI monopolies are preferable relative both to the NEO and the objectives of accelerating KEVCI with open access. There are likely to be strong objections to expanding DNSP monopolies for KEVCI. Foremost is the concern over retail bill impacts from cross subsidies, alongside the wider impacts on the cost and timeliness of the energy transition. If DNSPs can avoid ring-fencing, they can foreclose competition in the contestable energy services markets required for delivery of the energy transition.

Table 3 below compares KEVCI acceleration options with the status quo, using NEO (costs and bills) and accelerated KEVCI (implementation complexity and delay) as evaluation criteria. This indicates the likely outcome of a full regulatory impact assessment, as required for mandating a monopoly KEVCI deployment, including for any innovation "sandboxing" or ring-fencing waiver.

Table 3 – Summary of KEVCI acceleration options compared with base case

KEVCI outcomes	Base case	KEVCI site coordinator	DNSP KEVCI mandate
New regulation required	NA	None	Extensive
KEVCI assets within mandate exclusive to DNSPs	N A	No	Yes
KEVCI site coordinator	No	Yes	No
KEVCI contestability	Yes	Yes	No
Implementation complexity & delay	NA	**Moderate**	**High**
KEVCI roaming	Possible	Yes	Yes
Utilization & EV customer accessibility	Lower	Higher	Higher
Installation & operating cost per EVCI connection	Higher	Lowest	Bloated
KEVCI revenue shortfall	High	Lowest	Higher than necessary
Increase in network costs and bills	NA	**Zero risk**	**High risk**

KEVCI open access means any participating charge-point operator (CPO), or energy retailer, can supply their customers. Open access applies in telecommunications ("roaming") and point of sale

payments. Roaming reduces the size of the budget subsidy required for accelerated KEVCI. Even with government subsidies and roaming, under a DNSP monopoly, there is a high risk of cross subsidies from network customers to KEVCI customers.

A contestable KEVCI model has been implemented by the NSW government under its EV destination charging grants program.[40] In the current NSW KEVCI rollout, local governments and other parties receive grants to undertake the KEVCI site coordinator and KEVCI procurement role. The available NSW government discussion papers relating to its EV charging grants program do **not** indicate that ring-fencing rules have been an impediment to the NSW KEVCI grants program. No evidence has been provided from which to conclude that the NSW government program for accelerated KEVCI contestable deployment has been unsuccessful. Nevertheless, the creation of a site coordinator role, improved governance of local governments regarding transport electrification, and the adoption of KEVCI roaming requirements would together substantially improve the economics of an accelerated KEVCI deployment.

It appears that existing DNSP ring-fencing guidelines have been breached in at least part of the NSW KEVCI program. We understand this reported to the regulator but so far, no explanation has been received or enforcement action taken. See Box 1 above.

The second part of this report focuses on the ENA proposal to introduce DNSP mandates for KEVCI infrastructure. The methodology and critique above equally apply to the other proposals in the LEK report for ENA, including in relation to DNSP owned and controlled BESS, sub-transmission renewable energy hubs and national standards for distributed energy resources.

[40] See https://www.energy.nsw.gov.au/sites/default/files/2022-08/2022_05_NSW_EVDestinationChargingGrants.pdf

Acronyms & abbreviations

AC	Alternating current – typically used in KEVCI with slower EV charging speeds.
ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
ASP	Accredited service provider (NSW connections contestability scheme)
BESS	Battery energy storage system
CAM	Cost allocation methodology
CBA	Cost-benefit analysis
CER	Consumer energy resources
CESM	Contestable electricity services market
CPO	Charge point operator
DC	Direct current – typically used for fast and ultra-fast charging KEVCI
DER	Distributed energy resources
DMO	Default market offer
DNSP	Distribution network service provider
DUOS	Distribution use of service charges (DNSP regulated monopoly charges)
EBSS	Efficiency benefits sharing scheme
ESCV	Essential Services Commission of Victoria
EV	Electric vehicle (battery), including plug in hybrid EVs (PHEVs)
EVCI	EV charging infrastructure
FCAS	Frequency control ancillary service
ICE	Internal combustion engine vehicle
IEEFA	Institute for energy economics and financial analysis
IPART	Independent Pricing and Regulatory Tribunal
LEVI	Local Electric Vehicle Infrastructure fund – partnerships with British Local Authorities
MVA	Megavolt amperes (incorporates power factor losses)
NECA	National Electricity and Communications Association
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Law Objective (as amended)
NER	National Electricity Rules
NSW	New South Wales
NUOS	Network use of service charges – including approved jurisdictional scheme amounts
Opex	Operating and maintenance expenditure
PHEV	Plug in hybrid electric vehicle
KEVCI	Kerbside EV charging infrastructure
RAB	Regulated asset base – any customer capital contributions for new connections form part of the RAB but do not incur depreciation or financing costs
RESP	Related electricity service provider
RERT	Reliability and Energy Reserve Trader
REZ	Renewable Energy Zone
RIS	Regulatory investment test – problem definition and cost benefit analysis
SAPS	Stand-alone power system
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission network service provider
VDO	Victorian default offer
ZS	Zone substation