Submission No 20

INFRASTRUCTURE FOR ELECTRIC AND ALTERNATIVE ENERGY SOURCE VEHICLES IN NSW

Organisation: National Electrical & Communications Association (NECA)

Date Received: 29 April 2025

NSW Parliament Inquiry into Infrastructure for Electric and Alternative Energy Source Vehicles.

NECA SUBMISSION

April 2025

national electrical and communications association

The Hon Lynda Voltz MP
Chair, Committee on Transport and Infrastructure
Parliament of New South Wales

Dear Ms Voltz,

Please find enclosed the submission of the National Electrical and Communications Association (NECA) to the Committee's Inquiry into Infrastructure for Electric and Alternative Energy Source Vehicles in NSW.

NECA is the peak body representing over 6,500 electrical contracting businesses across Australia. Our members are at the coalface of NSW's energy transition — designing, installing and maintaining EV charging systems, renewable generation, energy efficiency upgrades, and grid connection services.

This submission raises urgent concerns on behalf of the electrical contracting industry. It details the failures of regulation that are enabling monopoly electricity distribution businesses (DNSPs) to dominate contestable markets — through the misuse of shared resources, branding, and public subsidies. These actions undermine competition, damage investment, push up costs for consumers and taxpayers, and risk a collapse of confidence in the infrastructure rollout required to support a low-emissions economy.

NECA welcomes the opportunity to provide evidence and policy recommendations. We call on the Committee to support immediate regulatory reform, independent investigation into DNSP conduct, and protection of contestability as a cornerstone of energy infrastructure policy.

Yours sincerely,

Oliver Judd
Chief Executive Officer
National Electrical and Communications Association (NECA)

Term of Reference (a): Funding and Location of Electric Vehicle Chargers or Infrastructure for Other Potential Energy Fuel Sources

Location of Infrastructure – Strategic Considerations and Impediments

NECA supports targeted public funding to increase the availability of appropriate and equitable electric vehicle charging infrastructure, particularly where off-street charging arrangements are generally impractical and/or it supports inter-city, regional and other long-range travel for EV owners.

The strategic location of electric vehicle charging infrastructure across New South Wales must be driven by more than convenience for incumbent monopoly networks. Instead, it should reflect consumer needs and behaviours, complement local community characteristics and facilities, support intercity transport and tourism integration, and equitable economic benefit across regions.

i. The location and selection and arrangement of public facing EVCI deployed in public spaces should be co-ordinated by local government supported and informed by information and analysis from the NSW government.
ii. Additional EVCI infrastructure to service high traffic / major highway routes should be co-ordinated by state government departments and utilise private investment and providers to plan for and secure re-charging options that enable inter-city and regional travel.
iii. Further support for business and recreational tourism should be considered via installations at commercial accommodation and other venues.
iv. Off-street residential strata EV charging options should be encouraged and enabled wherever possible and practical.

Charging stations, battery hubs and alternative energy nodes should be located according to a coordinated, statewide strategy and include opportunities for proposals from commercial interests. This strategy must be co-designed with industry representatives, local councils, and the community. It should consider grid hosting capacity, projected public usage patterns, and the broader shift toward decentralised energy systems.

Pole mounted and kerbside EVCI facilities will form part of the solution to community needs particularly where off residential off-street parking is unavailable or fast charging stations are able to complement community needs and/or commercial activity. However, NECA strongly opposes allowing DNSP's to own and/or operate public-facing electric vehicle chargers funded through regulated revenue or included in the regulated asset base (RAB) of the DNSP.

NECA further posits that the current proposition from the Distribution Network Service Providers (DNSP's) and Energy Networks Australia (ENA) that those monopoly entities are best placed to plan for, roll-out, operate and maintain such facilities is both incorrect and inappropriate.

Regulatory barriers must also be addressed. This includes streamlining strata approvals and planning pathways for electric vehicle charger installations and harmonising these processes across New South Wales to remove inconsistencies.

Importantly, NECA strongly asserts that any publicly funded or publicly located infrastructure must be delivered via open tender processes. This is essential to ensure transparency, encourage innovation, support small and medium-sized enterprises, and deliver the best outcomes for New South Wales taxpayers. NECA will address this matter in more detail in a separate section of this submission.

Potential for Mis-placed & Mal-Investment

There is a significant risk of over investment, mal-investment and unfair cross-subsidisation in funding and deploying EVCI. This is particularly significant in the case of DNSP led or owned EV pole mounted charging infrastructure. Public statements and information on Ausgrid's website variously indicate intentions to

- "deliver up to 30,000 pole mounted EV chargers across the Ausgrid network by 2029"[1]. or
- "estimate that 11,000 kerbside chargers are needed in our (Ausgrid's) network"[2]

when reasonable analysis from Ross De Rango, an EV and EVCI industry expert, suggests that the actual need is substantially short of those figures –

"There's nothing wrong with overbuilding infrastructure a little bit in advance of the need- if NSW decides that the 'right' number is 3000 units by 2030, that wouldn't be too big a deal- but the idea that we need to urgently subsidise the deployment 50,000 or more pole mounted AC EV chargers nationally, and that failure to do so risks dampening EV uptake to the tune on 1.2 million cars by 2030, is not supportable on the basis of the available data."[3]

Ross' further analysis suggests that Ausgrid's claims are an order of magnitude greater than the realistic need for this type of solution. This is consistent with the DNSP over-investment behaviour observed for DNSP deployed EVCI in Korea, where the over-investment has not resulted in appreciable EV uptake.[4]

Recommendations:

1. Establish transparent and competitive platforms for the establishment of public electric vehicle solutions including open access to DNSP poles and fair pricing of FAAs.
2. Continue to mandate that publicly funded electric vehicle infrastructure is installed by licensed electrical contractors, ensuring quality, safety, compliance, and workforce development in the electrotechnology sector.
3. Incentivise the use of Australian-made electric vehicle charging hardware through grant conditions and procurement policy aligned with the Future Made in Australia Act.
4. Develop a statewide infrastructure strategy co-designed with councils, community and industry, and DNSP's.
5. Streamline strata and planning approvals; harmonise planning regulations across New South Wales.
6. Mandate compulsory open tender processes for all infrastructure located or utilising public space locations or infrastructure.

A state-led transition to electric transport infrastructure must be underpinned by competitive neutrality, open markets, and clear rules that support small businesses, protect consumers, and advance sovereign manufacturing. New South Wales has a chance to lead the country—but only if market integrity is preserved.

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[1] https://www.ausgrid.com.au/About-Us/News/Pole-mounted-EV-charger
[2] https://www.ausgrid.com.au/About-Us/Future-Grid/Electric-Vehicles/Kerbside-charging
[3] https://www.linkedin.com/pulse/power-pole-mounted-ac-ev-charging-how-many-do-we-need-ross-de-rango-kvble/?trackingId=1M9i1WOFmrJeRQ%2BT1QGxMQ%3D%3D
[4] https://www.iea.org/reports/global-ev-outlook-2023/trends-in-charging-infrastructure

Term of Reference b: The viability of alternative energy sources for freight, heavy vehicles and other licenced vehicles in regional communities

Electric vehicles are already suitable for depot-based regional freight, buses, council fleets, and light commercial vehicles that return to base for charging. Grid limitations, however, remain a barrier to rapid deployment, especially for high-capacity fast charging needed by freight fleets. For longer-haul and high-payload vehicles, hydrogen fuel cell technology and/or battery swapping technology may offer greater range and faster refuelling, but currently lacks the required infrastructure and standards for widespread use.

Both technologies will require careful regional planning to avoid network bottlenecks and to ensure infrastructure is sited where it can be maintained and accessed by skilled professionals.

Regional Workforce and Infrastructure Constraints

Viability in regional areas is constrained by:

- Delays in grid augmentation and site approvals,
- A shortage of regional training centres and trainers,
- Low availability of appropriately licensed electrical contractors with the skills to safely install and commission high-capacity charging or hydrogen equipment,
- Financial disincentives for small business uptake of alternative fuels.

New South Wales's own energy transition documents confirm that most of the new clean energy infrastructure—including hydrogen, renewable fuels and microgrids—will be in regional New South Wales. Yet without an aligned plan for workforce development and local procurement, regional communities risk being left out of the economic benefits.

NECA strongly supports region-specific delivery models that prioritise local contracting, ensure infrastructure is installed by qualified ASPs and electrical businesses, and link infrastructure grants with local workforce training initiatives.

Recommendations:

1. Strategic depot electrification programs should be fast-tracked for regional fleets, with co-location of rooftop solar and storage systems and direct funding for selected grid upgrades.
2. Hydrogen demonstration corridors should be planned around regional freight networks with support for industry-led skills development and installer accreditation.
3. Public funding for required infrastructure upgrades should be distributed via open tender and prohibit bundling by vertically integrated network operators, to ensure fair access for regional contractors.
4. A regional workforce delivery strategy should be developed and funded, based on:
    a. Industry-led training centres in key regional hubs;
    b. Support for mature-age workers reskilling projects to retrain through NECA's proposed Mature Apprentice Subsidy Scheme;
    c. A Tradie to Trainer program to address the shortage of electrotechnology educators in regional areas;
5. Engagement with First Nations communities should be prioritised in remote infrastructure programs to ensure cultural appropriateness, genuine partnerships, and skills legacy benefits.

Regional viability cannot be assessed in isolation from who delivers the infrastructure and how the workforce is supported. Government policy must not only address energy and transport goals but should be designed to support local employment, build long-term local capability, and ensure safety through professional standards.

Publicly funded projects must be transparent, contestable, and prioritise regional benefits—not monopolised by distribution businesses or outsourced to external vendors with limited community ties.

Term of Reference (c): Use of Existing Infrastructure and Measures to Ensure a Competitive Market, Including Ring-Fencing Policies

Use of existing infrastructure

There is already a significant amount of publicly accessible EVCI in the community which utilises existing public infrastructure, most notably in or on local council managed land and facilities, and on existing power poles.

With respect to local council managed land and facilities, there is a healthy selection of providers available to assist local and state government agencies with options for public charging facilities. Those providers are also typically adept at making the appropriate applications and negotiating with the local supply authority for those connections. As such, the diligent application of proper council tendering and procurement policies should and must ensure a competitive market.

However, this market has recently become the target of aggressive tendering by Related Electricity Service Providers (RESPs) such as Plus ES exploiting weak ring-fencing rules to compete in markets that their parent company are technically prohibited from participating in. Our submission addresses why this is inappropriate in further detail below.

With respect to the installation of EVCI on DNSP power poles we note that the poles themselves form part of the regulated asset base of the networks. The DNSP's are remunerated for the prudent maintenance and investment in those assets plus a permitted rate of return via the allowable revenues determined by the AER and the associated tariffs collected by the market retailers. Third parties are able to use those poles by agreement with the DNSP subject to establishing Facilities Access Agreements (FAA) which have been an established practice for decades to enable the installation of third-party equipment where appropriate. The DSNP's collect fees for each installation in that case and are not necessarily required to remunerate the local councils for adjoining land and assets.

There already exists in the market, providers and operators of equipment suitable for pole mounted installations of EVCI and ASP's capable of undertaking the installation. The owner/operators of this equipment undertake a substantial amount of product development, negotiations with councils and commercial risk analysis to determine appropriate deployment outcomes to service the community. They utilise local staff, Intellectual property and are producing cutting edge, reliable equipment often developed in the state of NSW.

Cross subsidised monopoly service or user pays outcome

The current AEMC rules prohibit the DSNP's from owning and operating equipment that is not directly associated with the distribution of electrical supply to customers. In the case of pole mounted EVCI, that means that the charge point operators are the customer who then charge users accessing their equipment for the energy and service provision. Put simply, the users of the service pay the reasonable costs for charging their vehicle at such a device and have the agency to choose from providers, maintaining competitive pressure on pricing

Under proposals[5] from the DNSP's the pole mounted ECVI would become recognised as part of their Regulated Asset Base (RAB), in turn justifying an increased revenue determination from the AER and tariff outcomes. In such a scenario, there is a very significant incentive for DNSP's to over-invest in

[5] https://www.energynetworks.com.au/assets/uploads/The-Time-is-Now-Report-ENA-LEK-August-2024.pdf

EVCI installations on their poles and socialise the establishment cost, maintenance and risk of providing the service across their customer base. **Basically the outcome would make people who can't afford cars and/or have no need for the additional service to pay for a significant over-deployment of public EV charging through their power bills.**

NECA finds it extraordinary that governments and regulators would accept this outcome considering the undisputed excessive profits consistently being achieved by the DNSP's in the National Electricity Market during a cost-of-living crisis with significant focus on energy costs.

Specifically,

Table 1 - Estimated combined electricity network supernormal profit annual bill impact per customer[6]

($2023)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	10 yr Total
Ausgrid	280	254	(78)	38	167	208	164	93	247	311	1,685
Endeavour Energy	74	278	(6)	32	338	278	244	442	526	808	3,013
Essential Energy	147	362	(134)	(88)	(68)	(103)	(3)	(38)	139	275	488

and,

Table 2 - NSW DNSP's financial performance[7]

Electricity DNSP Financial performance - Summary results

Returns from indexation of the RAB Inclusive

Return on assets

Nominal return on assets	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ausgrid	13.01%	10.48%	5.69%	6.21%	7.14%	7.34%	5.74%	4.28%	7.00%	10.30%
Endeavour Energy	11.06%	11.77%	6.78%	6.85%	7.71%	7.68%	6.89%	5.80%	7.55%	12.50%
Essential Energy	11.85%	12.83%	5.24%	5.72%	5.91%	5.21%	5.47%	4.23%	7.10%	10.77%

Allowed nominal rate of return	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ausgrid	10.81%	7.22%	7.15%	7.06%	6.97%	6.87%	5.97%	5.75%	5.49%	5.30%
Endeavour Energy	10.83%	7.32%	7.26%	7.17%	7.07%	6.97%	6.01%	5.77%	5.53%	5.39%
Essential Energy	10.75%	7.23%	7.17%	7.08%	6.99%	6.88%	5.98%	5.78%	5.54%	5.33%

Return on regulated equity

Nominal return on regulated equity	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ausgrid	19.74%	13.61%	3.56%	6.60%	10.88%	11.58%	8.90%	6.20%	12.57%	19.18%
Endeavour Energy	14.53%	18.01%	5.38%	6.68%	19.98%	16.69%	13.84%	20.77%	26.32%	44.69%
Essential Energy	16.15%	17.77%	1.74%	2.91%	4.16%	2.80%	4.39%	2.75%	9.67%	17.86%

Allowed nominal return on equity	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Ausgrid	11.82%	7.10%	7.10%	7.10%	7.10%	7.10%	5.70%	5.70%	5.70%	5.70%
Endeavour Energy	11.82%	7.10%	7.10%	7.10%	7.10%	7.10%	5.80%	5.80%	5.80%	5.80%
Essential Energy	11.82%	7.10%	7.10%	7.10%	7.10%	7.10%	5.80%	5.80%	5.80%	5.80%

Competitive neutrality, open markets, and clear rules

The rollout of electric vehicle infrastructure across New South Wales presents an opportunity to strengthen our clean energy economy, lower emissions, and support small business-led innovations.

[6] Tahu Consulting Report - Appendix A

[7] Extract from - https://www.aer.gov.au/system/files/2024-09/AER%20-%20Financial%20performance%20data%202024%20-%20Electricity%20Networks.xlsm

However, without robust regulatory oversight, funding transparency, and a level playing field, the rollout risks being monopolised by government-owned Distribution Network Service Providers (DNSPs) and their unregulated commercial affiliates.

The issue is not isolated. NECA has made formal submissions the AER, and to Ministers, identifying and questioning systemic and ongoing exploitation of weak ring-fencing rules by multiple Distribution Network Service Providers (DNSPs). The activities include the sharing of significant quantities of front-line/technical/engineering staff, plant and equipment, and logistic systems with their Related Electricity Service Providers (RESPs), such as PLUS ES and Ausconnex.

For example, NECA's analysis of staff sharing registers shows that Endeavour Energy provided more than 116 staff to their RESP in Q4 2024 with job descriptions indicating that these staff are front line or technical staff. These employees had access to electricity network information unavailable to independent competitors, undermining any claim of operational separation.

Table 3 - Extract from Endeavour Energy Q4 2024 Staff Sharing Register[8]

Staff Position Name	Term/Duration	Ringfence Waiver
Technologist	40 staff shared across 3 months	Employee has access to electricity information but no opportunity to discriminate by using the electricity information (4.2.2(b)(i)(b)).
Lineworker	19 staff shared across 3 months	
Engineer or Engineering Officer/ Designer	18 staff spread across 3 months	
Leading Hand Lineworker	10 staff shared across 3 months	
Distribution Powerline Worker (DPW)	6 staff shared this quarter	
Plant Operator	5 staff shared across 3 months	
Automation Engineer	3 staff shared across October and November	
Project Officer/ Supervisor/ Sub Civil Maintenance Trade and Non-Trade	3 staff shared in November and December	
Electrical Fitter Mechanic (EFM)	2 staff shared in October and November	
Electricity Worker (EW) Underground and Overhead	2 staff shared in November	
Leading Hand Cable Jointer/EW Cable Laying	2 staff shared across 3 months	
Leading Hand EFM	1 staff shared in November	
Leading Hand EW Plant Operator	1 staff shared in December	
Leading Hand DPW	1 staff shared in October	
Development Specialist – Secondary Systems	1 staff across November and December	
	116 Frontline/Tech/Trade/Eng staff shared in Q4 2024	

[8] https://www.endeavourenergy.com.au/search?query=staff+sharing+register

Similarly, Essential Energy's register for the same period indicates

Table 4 - Extract from Essential Energy Q4 Staff Sharing Register[9]

Staff Position Name	Term/Duration	Ringfence Waiver
Distribution Trades Staff	217	4.2.2(b)iii. - Staff Located at a Regional Office
Transmission Trades Staff	7	
Field Support Staff	67	
Project Management Staff	6	
Engineering Staff	13	
	310 Frontline/Tech/Trade/Eng staff "subject to regional office exemption" in Q4 2024	
Major Projects Project Manager	1 staff provided services in October and November	
Major Projects Project Manager	2 staff provided services in December	
	2 Actual Staff Shared	

and Ausgrid's

Table 5 - Extract from Ausgrid Q4 2024 Staff Sharing Register[10]

Staff Position Name	Term/Duration	Ringfence Waiver
Staff supporting EVCI projects by providing planning, technical and partnership advice.	Ad-Hoc task specific	Employee has access to electricity information but no opportunity to discriminate by using the electricity information (4.2.2(b)(i)(b)).
Providing support in testing or maintenance of specialised equipment or software (e.g., HV or IR testing).	Ad-Hoc task specific	
Shared transmission mains technicians on RESP jobs for maintenance on specialised equipment. Direction of technical issues to staff relating to specific tasks and projects.	Ad-Hoc task specific	
	No genuine transparency as to extent of staff sharing	

[9] https://www.essentialenergy.com.au/about-us/customer-and-regulatory-information/ring-fencing/registers-and-information-sharing

[10] https://www.ausgrid.com.au/Industry/Regulation/Ring-Fencing

On a basic reading, these reports lack the detail, transparency, or consistency to provide either the AER or other analyst the ability to identify and question the allocation of resources to non-regulated entities.

Despite the clear intent of the Distribution Ring-Fencing Guidelines—that DNSP staff involved in regulated activities must not be involved in contestable work[11]— DNSP's are exploiting the broad exemptions[12] and vague reporting rules to participate in and distort competitive electricity service markets.

The current regulatory framework relies on self-assessment and self-reporting by DNSP's, with little transparency or auditing from the regulator (the AER). As a result, Related Electricity Service Providers (RESPs) operate with significant structural advantages: access to DNSP logistical support, priority use of vehicles and depots, and freedom from the commercial risks that small businesses must absorb.

NECA argues that these arrangements effectively create vertically integrated monopolies, where the illusion of market competition exists only on paper. Without urgent reform, this practice will continue to erode investment confidence, suppress innovation, and drive skilled contractors and NSW Small and Medium sized business out of the emerging electric vehicle and electrification markets.

NECA also finds it extraordinary that governments and regulators would accept the diversion of front-line and technical staff from primary service delivery (electricity distribution) to alternative profit-making activities without a demonstrable benefit to the communities they are demonstrably overcharging. Particularly when each of the NSW distributors report substantial amounts of outstanding inspection and correction actions tasks in their compulsory Electricity Network Safety Management System reports[13,14,15].

NECA further suggests that sharing overhead lineworker staff to an RESP whilst simultaneously failing to provide safety advice / tiger tail or other monopoly services to the construction industry in reasonable timeframes is an explicit misuse of resources that

- fails to serve the community,
- contributes to higher development costs, and
- motivates risk-taking behaviour by desperate builders/developers/crane operators.

In regard to the current NSW Housing shortages NECA finds it surprising staff can be utilised to pursue private works outside their specific remit rather than the facilitate the planning and installation of critical infrastructure. According to Joanna Kubota, Executive Director of The Parks, Sydney's Parkland Councils, said Western Sydney's housing crisis will worsen without government investment in water, electricity and public transport. Speaking at a recent UNSW Western Sydney Connect event the director noted an example of Wollondilly, where there have been DAs basically approved, or the

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[11] Per Cl 4.2.2 (a) of the current Ring-Fencing Guideline - https://tinyurl.com/ycxw3uxv
[12] Particularly Cl 4.2.2 (b)(i)(b) and Cl 4.2.2 (b)(iii)
[13] Table A.11 in https://www.endeavourenergy.com.au/__data/assets/pdf_file/0020/71291/ENSMS-Anuual-Report-2022-23.pdf
[14] Table A.11 in https://www.ausgrid.com.au/-/media/Documents/Safety/ENSMS/ENSMS.pdf?rev=6d674925e6c44644a25c77e625c42cc9
[15] Table A.11 in https://www.essentialenergy.com.au/-/media/Project/EssentialEnergy/Website/Files/Our-Network/ENSMS-Performance-and-Bushfire-Preparedness-Report-2023-24.pdf?rev=1c8d12b9eb59471982820b099f7d10f6

indication that there will be approval for some 20,000 lots and the developers chose only to do 5000 because there's no water and electricity in place, and there's no idea when that's going to come in.

In the event that DNSP's were also permitted to own and operate EVCI within their regulated asset base,

- The DNSP's will have a perverse incentive to over-invest and increase their Regulated Asset Base, increasing their permitted returns
- the capital and operational cost of the assets will be added to general energy consumers bill's
- the risk of stranded assets will be borne by general energy consumers
- the EVCI infrastructure could be impacted by protected industrial action from the DNSP workforce similar to the widespread disruption caused at all three DNSP's in 2024

The electrification of transport and energy systems must be delivered fairly, transparently, and in the public interest. The current market conditions are imperfect by these measures, but allowing EVCI to be included in RABs would make the situation far worse. NECA holds serious concerns regarding the conduct of Distribution Network Service Providers (DNSPs) and their unregulated entities, and the ongoing failure of the AER's ring-fencing guidelines to prevent misuse of public infrastructure, regulated staff, and network data. These failures are not isolated — they are now systemic across New South Wales and other jurisdictions, harming legitimate businesses, undermining procurement integrity, and distorting clean energy market growth.

Market Distortion Through RESP Abuse

DNSP's have a strong incentive to transfer operational expenses to their respective RESP's and pursue additional profits in unregulated markets.[16]

NECA has provided evidence to the Australian Energy Regulator (AER) and the Commonwealth Government highlighting how Distribution Network Service Providers (DNSPs) and their Related Electricity Service Providers (RESPs) — such as Plus ES (Ausgrid) and Ausconnex (Endeavour Energy) — are:

- excessively reliant on using regulated staff and equipment for contestable commercial work. (ie not functionally separate)
- suspected of accessing and applying network data unavailable to external parties.
- suspected of gaining advance or exclusive knowledge of upcoming infrastructure projects.

This is not innovation, efficiency, or of benefit to the consumer — it is vertical integration by stealth, funded by regulated revenue, and operating outside the competitive discipline imposed on every independent Accredited Service Provider (ASP) in the market.

Regulator Inaction and AER Waiver Abuse

NECA's 2025 submission to the AER outlined specific legal and operational loopholes in Clauses 4 and 5 of the Ring-Fencing Guideline and proposed targeted reforms, including:

- Clearer staff separation rules,
- Auditable shared resource registers,
- Limits on waiver use for commercial deployments.

[16] Tahu Consulting Report - Appendix A pge 20

Despite this, the AER has failed to act. Worse, it granted a waiver to Plus ES to install 1,000 kerbside electric vehicle chargers with an exclusive metrology rule waiver — enabling a partially government-owned entity to unfairly gain first mover advantage and roll out a significant infrastructure base under that guise. Furthermore, the costs associated with the FAA's (or annual rate for the use of the poles) between the DNSP and the RESP remains undisclosed.

This undermines both NECA's members and the credibility of the regulator itself. It sends a dangerous message that monopoly-owned businesses can re-enter contestable markets through weakly ring-fenced subsidiaries, undercut local operators, and displace innovation without consequence.

Government Ownership and Procurement Conflicts

While Distribution Network Service Providers (DNSPs) like Ausgrid and Endeavour Energy are partially privatised, the New South Wales Government retains a 49.6% shareholding in both entities through ERIC (Electricity Retained Interest Corporation). As such, these are not just commercial players — they are state-influenced actors subject to the obligations of public sector procurement.

The New South Wales Procurement Policy Framework (March 2024) is clear:

- Section 4.2 requires value for money to be achieved not only on cost, but fairness, transparency and quality.
- Section 6.3 prohibits government businesses from using their monopoly position to gain an unfair advantage.
- Section 6.4 mandates competitive procurement wherever a private market exists.

The current conduct of Distribution Network Service Providers (DNSPs) and their affiliates in our opinion breaches all three. There is no evidence that waivers granted to Plus ES or work funnelled to Ausconnex delivers better outcomes, lower cost, or higher quality. Instead, it reduces contestability, increases concentration, and shuts out hundreds of qualified contractors and small businesses from participating in New South Wales's infrastructure programs and clean energy future.

Industry Impact and Urgency of Reform

NECA members report:

- Increasing loss of market access to RESP-led contracts.
- Deliberate delays or information asymmetry when seeking DNSP connection data and/or Facilities Access agreements.
- Withdrawal of commercial investment due to delays in DNSP connection processes.
- Reduced employment certainty, particularly in regional areas where few Related Electricity Service Providers (RESPs) now dominate.

The longer these practices continue, the harder it will be to reverse the damage. Contractors will leave the sector, skills pipelines will dry up, and innovation will stall under the weight of vertical integration and regulatory failure.

International Experience

The UK initially allowed DNOs (their equivalent of DNSPs) to act as “providers of last resort” for public EV chargers—but only in areas that had received no private bids after open tender. However, that allowance is now being rolled back due to:

- Risk of market distortion,
- Poor consumer transparency, and
- Evidence that private investment was crowded out.

The UK Government and Ofgem (regulator) are now shifting to fully market-led deployment, reinforcing that DNOs should not own or operate public chargers at all unless exceptional conditions apply—and even then, only temporarily.

Recommendations:

1. The New South Wales Government formally request that AER extend metrology waiver granted to PLUS ES be extended to all providers, and prohibit future exemptions that permit Distribution Network Service Providers (DNSPs) or their RESP's from gaining exclusive waivers.
2. Prohibit Distribution Network Service Providers (DNSPs) and their affiliates from delivering contestable services with DNSP shared resources.
3. Request the Federal Government direct the AER to investigate
    i. the quantum of work performed by RESP's activity in contestable markets and profits and it's impact on contestable electricity service markets
    ii. the extent to which shared staff and other resources are utilised by RESP's in delivering contestable projects / programs of work
    iii. the savings that could be delivered to electricity consumers if the revenue received from staff/office/plant sharing arrangements (or profits from the RESP's) were subtracted from the allowable revenue cap of the DNSP.
    and,
    iv. prohibit DNSPs from classifying EV chargers as "distribution services" or seeking cost recovery through standard network charges.
    v. improve associated investigation and enforcement capabilities of the AER.
4. The New South Wales government formally request that Clause 4.2 of the Distribution Ring-Fencing Guidelines be redrafted to
    i. provide meaningful thresholds and limits to staff sharing.
    Specifically, to ensure effective functional separation staff sharing should be limited to specific purposes (eg where there is a community need or for training purposes) and capped.
    ii. Specify reporting processes that ensure transparent and specific declarations of staff and resources sharing.
5. Require publicly funded electric vehicle and energy infrastructure to be procured via open, competitive tender, with DNSP-affiliated entities excluded unless a demonstrable public interest test is satisfied.
6. Enforce the New South Wales Procurement Policy Framework across all DNSP-affiliated projects, particularly where state ownership or influence is present.
7. Have IPART
    i. review industry complaints,
    ii. monitor DNSP/RESP activity in contestable electricity service markets,
    iii. enabled to act to protect market access for ASPs and SMEs.
8. The Government of New South Wales should legislate, or alternatively negotiate with the Australian Energy Regulator (AER), to mandate the implementation of standard Facilities Access Agreements (FAAs) and connection protocols. These agreements and protocols must incorporate publicly available pricing schedules and performance standards, ensuring that access conditions are uniform, transparent, and non-discriminatory across all service providers.
9. Facilities access for electric vehicle (EV) charging infrastructure must be made available on equal terms to all eligible providers. Access must be granted at the same price to any provider capable of supplying equipment, and allocation must occur on a 'first to install' basis without the ability for any entity to reserve or preclude access to a site absent immediate equipment deployment.

10. A standardised and equitable fee structure should be legislated for the provision of access by local government entities to footpath and public parking spaces for EV charging installations. Such fees must be consistently applied, transparent, and designed to facilitate fair competition while ensuring appropriate cost recovery for public asset usage.

11. NSW should firmly reject proposals—overt or implied—that seek to entrench DNSPs in EV infrastructure on grounds of expediency, speed, or "gap filling.". The NSW Government should reaffirm its commitment to a commercially driven and competitive EV charging market and reject any attempt to dilute ring-fencing to accelerate rollout at the cost of long-term market health.

The misuse of monopoly infrastructure, the regulatory inaction of the AER, and the erosion of procurement standards represent the most serious threat to the viability of independent manufacturers, innovators, suppliers, entrepreneurs, electrical contractors and small businesses in New South Wales in over a decade.

If the Committee seeks to ensure a thriving clean energy economy in New South Wales, the first step is to restore competitive integrity, enforce existing procurement and ring-fencing obligations, and dismantle the structural advantages that Distribution Network Service Providers (DNSPs) and their affiliates currently exploit at the expense of taxpayers, workers, and small business.

Term of Reference (d): Measures to Ensure the Transition of Workers from Affected Industries and Industry Standards

New South Wales's transition to electric and alternative energy vehicles is displacing workers from traditional fossil fuel, mechanical, and civil infrastructure sectors. At the same time, it is increasing demand for a highly skilled, licensed electrotechnology workforce.

The success of this transition hinges on two factors:

- A structured, well-supported pathway for displaced workers to enter the new energy economy.
- The preservation of high technical and safety standards in all new energy infrastructure.

Transitioning Workers from Affected Industries

Workers from industries such as fossil fuel logistics, combustion engine servicing, and legacy grid infrastructure will face increasing redundancy. These workers possess transferable mechanical, systems and diagnostic skills — but without targeted intervention, many will be unable to transition.

NECA supports the immediate introduction of:

- A Mature Apprentice Subsidy Scheme to retrain affected workers in electrotechnology trades, including licensed electrical work.
- Government-funded Recognition of Prior Learning (RPL) programs for semi-skilled workers seeking licensing pathways via selected RPL providers
- Targeted regional workforce strategies for communities impacted by coal closures, fuel depot wind-downs, and high-carbon infrastructure phase-outs.

These measures will ensure that the transition is not just low carbon, but also just and inclusive.

Workforce Delivery Through Accredited Industry Channels

NECA and its national network of GTOs and RTOs already deliver over 2,500 electrical apprenticeships and post-trade training annually, with completion rates above 90% — the highest in the sector.

To deliver the next generation of electric vehicle and alternative energy infrastructure, this capacity must be expanded, not replaced.

NECA strongly recommends that:

- Industry-led training providers be explicitly included in workforce transition funding programs.
- Training infrastructure be aligned to actual rollout locations — particularly in regional New South Wales.
- Apprenticeship delivery partners be selected based on completion performance, industry integration, and licensing outcomes.

This ensures displaced workers transition into roles that are licensed, durable and compliant, not short-term or substandard.

Industry Standards Must Not Be Compromised

Alternative energy infrastructure requires compliance with complex and regulated systems, from grid safety to dynamic load control. NECA strongly opposes any watering down of licensing requirements in electric vehicle charging, hydrogen safety systems, or battery integration.

All electrical work associated with installation and commissioning must be completed by licensed electricians, supported by accredited training and formal inspection pathways.

Preserving this standard:

- Protects the public from fire, arc flash and electrocution risk.
- Ensures infrastructure longevity and grid compatibility.
- Maintains consumer confidence in the rollout.

Without consistent licensing enforcement, safety failures and industry reputation damage are inevitable. National licencing will also assist in ensuring the highest standards are maintained and electrical practitioners are monitored across all jurisdictions.

Recommendations:

NECA Recommendations – Transition of Workers and Industry Standards

1. Fund targeted transition and training programs for displaced fuel, combustion and carbon-intensive sector workers.
2. Launch a Mature Energy Apprentice Subsidy Scheme for workers aged 25+ seeking electrical qualifications.
3. Expand industry-led training provider capacity, including NECA RTOs and GTOs, to meet electric vehicle infrastructure needs.
4. Protect the integrity of technical standards by mandating that only suitably qualified and licensed workers deliver electric vehicle, hydrogen and energy infrastructure.
5. Fund regional transition strategies that map infrastructure rollout to workforce training and redeployment opportunities.
6. Support inclusive workforce growth by investing in diversity-driven training, mentoring and placement programs.
7. Require apprenticeship completion rates and licensing compliance as KPIs in all publicly funded infrastructure delivery.
8. Reform licensing and standards to ensure national consistency and safe practice in EV maintenance and charger installation.

Term of Reference (e) – Other Matters

Diversity and Inclusion in the Transition

The transition presents a once-in-a-generation opportunity to diversify the electrical workforce. NECA supports targeted recruitment and retention strategies for:

- Women, particularly in electrotechnology apprenticeships.
- First Nations workers, especially in regional and remote electrification projects.
- Culturally and linguistically diverse communities, supported through mentorship and language-appropriate RTO delivery.

These strategies are essential to ensuring the workforce transition reflects New South Wales's population and supports equitable access to emerging careers.

Procurement Must Support Workforce Outcomes

Publicly funded infrastructure must directly support the transition of workers and standards by embedding workforce outcomes into procurement rules.

Recommendations

1. Government contracts in the electric vehicle, hydrogen and battery sectors include KPIs preferencing engagement of contractors that employ apprentices.
2. Preference given to engagement of local (NSW) based contractors for government funded programs/projects.
3. Contractor workforce diversity and skills development plans be included in tender scoring criteria.

These measures ensure the state's investment creates skills.

Consumer Protections and Charging Transparency

EV drivers increasingly rely on public infrastructure, yet experience inconsistent pricing models, poor service availability, and limited payment options. In the absence of consumer protections, users—particularly in areas with low market competition—may face high prices or unreliable access. NSW should establish minimum standards for transparency and service reliability while preserving the flexibility of a market-led model.

Recommendations

NECA Recommends the State Government:

1. Introduce baseline consumer protections for EV charging services, including :-
    a. access to clear pricing and payment information,
    b. minimum uptime standards,
    c. open publication of real-time availability and performance data.

Appendix A

CONTESTABLE NSW ELECTRICITY SERVICES MARKETS

Is monopoly network regulation protecting competition?

Tahu Consulting, January 2025

Contestable NSW electricity services markets

Is monopoly network regulation protecting competition?

January 2025

Prepared by Tahuconsulting for NECA

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Contents

Acronyms & abbreviations

ACT	Australian Capital Territory
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
ASP	Accredited service provider (NSW scheme)
BESS	Battery energy storage system
CAM	Cost allocation methodology
CER	Consumer energy resources
CESM	Contestable electricity services market
DER	Distributed energy resources
DNSP	Distribution network service provider
EBSS	Efficiency benefits sharing scheme
EV	Electric vehicle (battery)
FCAS	Frequency control ancillary service
IEEFA	Institute for energy economics and financial analysis
IPART	Independent Pricing and Regulatory Tribunal
MVA	Megavolt amperes (incorporates power factor losses)
NECA	National Electricity and Communications Association
NEL	National Electricity Law
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NSW	New South Wales
Opex	Operating and maintenance expenditure
RAB	Regulated asset base
RESP	Related electricity service provider
RERT	Reliability and Energy Reserve Trader
REZ	Renewable Energy Zone
RHS	Right hand scale
SAPS	Stand-alone power system
STPIS	Service Target Performance Incentive Scheme
TNSP	Transmission network service provider
ZS	Zone substation

Introduction

This report has been commissioned by the National Electrical and Communications Association (NECA) in response to concerns by NECA members that competition in multiple NSW contestable electricity services markets (CESM) is being foreclosed by defects in the regulation of electricity networks with statutory monopolies.

NECA's membership represents most participants in NSW CESM. NECA provides training and certification services to participants in CESM.

The focus of this report is NSW CESM. Compared with other parts of the National Electricity Market (NEM), NSW has the strongest jurisdictional framework supporting competition in CESM.

This report has been limited to a review of available public information via a desk top study. The analysis first outlines the objectives of regulation of the relevant CESM and links with the transformation to a decarbonised electricity system. It then surveys available information from Australian Energy Regulator (AER) network compliance reports and a NSW government review of the Accredited Service Provider (ASP) scheme, to assess whether regulatory objectives for CESM are being achieved. It concludes with findings and recommendations.

Summary of findings

Existing ring-fencing regulations and their implementation are **not** effective in constraining electricity network monopolies from foreclosing competition in CESM. The reasons and evidence for this finding are as follows.

a) Efficient and open CESM are essential for the orderly transition to a renewables-based energy system. CESM are outside the regulated electricity transmission and distribution markets which are statutory monopolies and closed to competition. Networks have strong commercial incentives to invest in CESM, both directly and via Related Electricity Services Providers (RESP), as this increases shareholder value and future returns. This is because demand for monopoly network services is flat while the energy transition is making CESM grow very rapidly. If networks can foreclose competition in CESM, this will delay the energy transformation, reduce innovation, increase capital and ongoing transformation costs, including higher emissions and energy prices.

b) Distribution and transmission ring-fencing guidelines appear to constrain opportunities for networks to cross subsidise RESPs via cost transfers. However, on its own, ringfencing is not sufficient to constrain cross subsidisation to RESPs. A further necessary condition is that economic ("price") regulation is effective.

c) The AER's two ring-fencing guidelines assume that economic regulation constrains cross subsidisation to RESPs. However, economic regulation is not effective in limiting networks from cross subsidising their RESPs from regulated revenues. This is because network revenues substantially exceed total network costs, including an efficient return to equity investors. The difference between total revenue and total network costs (revenue minus all other costs including allowed profit) for the four NSW networks in the year ending 30 June 2023 was more than $1.7 billion compared with AER's profit "allowance" of $613 million. No official assessment of the effectiveness of regulation in constraining supernormal profits, consistent with effective regulation, has yet been undertaken.

d) Networks have strong incentives to shift operating and maintenance (notably labour) costs from their regulated cost base to their RESPs. These incentives appear to be overlooked in both ring-fencing and economic regulation. Cost shifting to RESPs can contribute to sustained network supernormal profits by reducing network operating costs relative to regulated allowances. The resulting savings can then be retained by networks for the following five years under the efficiency benefits sharing mechanism.

e) Recent revisions have diluted the ring-fencing guidelines for both distribution and transmission including by "streamlining" processes for networks to obtain ring-fencing waivers and directly enter contestable CESM, including for the supply of batteries, electric vehicle (EV) charging and a range of energy market services. Decisions to dilute ring-fencing rules were undertaken in the absence of any evidence that network price regulation and ring-fencing were effective.

f) Ring-fencing compliance reporting to and by the AER does not provide the information necessary for assessing whether ring-fencing is effective in protecting competition in CESM. This is because networks no longer have obligations, that existed when IPART was the ring-fencing regulator for NSW networks, to publish the share of network connection capital works undertaken by RESPs vs competitors. Networks have this data, since they are required to track and report total capital contributions and interact with ASPs over the design, construction and energisation processes. When capital works market share data was published, it was possible to identify significant differences in competition outcomes over time for a given network and between networks for a given period.

Taking these points together, there is ample evidence that current rules and supporting guidelines, intended to support competition in CESM, are not achieving their stated objectives. Substantial reform of the relevant regulations is required to ensure outcomes are consistent with the National Electricity Law (NEL) Objective (NEO). Required reforms include the following:

i. An independent post-implementation review[17] should be undertaken to assess whether economic regulation, ring-fencing and other relevant regulations are effective in constraining monopoly networks from distorting CESM outcomes.

[17] Post implementation reviews are required for Australian government agencies for all policies that have a substantial impact on the Australian economy. See https://oia.pmc.gov.au/sites/default/files/2024-08/post-implementation-reviews.pdf

ii. There should be an independent post-implementation review of whether regulated electricity network returns are consistent with the revenue and pricing principles, and the AER's stated corporate objective of ensuring that consumers pay no more than necessary for a safe and reliable electricity network service. The two proposed two post-implementation reviews could be combined. Depending on the outcome of these assessments, consideration should be given to enhancing the ring-fencing guidelines to address any identified shortcomings contributing to inefficient market outcomes.

iii. Network ring-fencing compliance reporting requirements should be amended to require networks to provide data on the portion of network connection capital works that are undertaken by third parties. This is to ensure that compliance reporting refers to outcomes in CESM.

iv. The NSW government should amend regulation of the NSW ASP scheme to improve the definition of *'contestable works.'* This would replace the current definition of CESM by exclusion under AER Framework and Approach decisions for each network determination.

v. All new waivers from the ring-fencing guidelines should be deferred until the recommended post-implementation reviews (i. and ii. above) have been undertaken and any corrective actions initiated.

CESM and the energy transition

The four NSW monopoly electricity networks operate under licenses issued by the NSW government.[18] These licenses confer statutory monopolies on these networks under the Electricity Supply Act 1995 (NSW). In addition, certain powers are conferred upon them including powers to acquire land or easements, to place plant on public land, to gain entry to customer premises to manage vegetation and undertake excavation.[19]

Efficient and open CESM are essential for the orderly transition to a renewables-based energy system. CESM are outside the regulated electricity transmission and distribution markets which are statutory monopolies and closed to competition.

CESM are growing rapidly because of the transition to a zero-carbon energy system. CESM include: new generator transmission connections, such as for Snowy 2.0 and renewable energy zones (REZ); grid scale battery energy storage systems (BESS); new and augmented demand connections, including data centres and to support conversion from gas and liquids to electricity; community and home BESS; EV charging installations at power poles; a diverse range of consumer energy resources; microgrids; Stand-Alone Power Systems (SAPS); metering and home energy management systems; and reconfiguring existing infrastructure, for example for the Western Sydney Aerotropolis.

Risk to competition in CESM

All four NSW monopoly electricity network entities, and their related electricity service providers, operate horizontally across both monopoly and CESM, as shown in Table 6. NECA members compete with RESPs in CESM.

Table 6 Electricity network monopolies and RESPs

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

Horizontal integration between regulated and competitive CESM markets creates opportunities and incentives for monopoly networks to favour their RESPs to the disadvantage of other competitors operating in the related markets, including by:

[18] See for example *Review of electricity network operators' licences, Final Report*, September 2022, IPART.
[19] See for example Division 1 and Part 5 of the Electricity Supply Act 1995 (NSW)

- using revenue from regulated services to cross-subsidise RESPs;
- leveraging assets, capabilities and staff, funded by monopoly revenues, in CESM;
- sharing information to the advantage of the RESPs and to the disadvantage of other competitors operating in the related markets.

If left unchecked, RESPs could acquire and exercise market power to foreclose competing suppliers in CESM by using proceeds from regulated returns to engage in predatory pricing and margin squeezes. They could also leverage regulated business assets, including skilled labour, depots, plant and equipment, and commercially invaluable customer, planning and other information obtained from regulated business activities. Where networks procure contestable services, RESPs may be able to avoid the cost of a competitive procurement process.

If horizontal foreclosure is permitted, CESM entry and expansion would be deterred, and some current participants may be obliged to reduce activities or exit. These outcomes would not be in the long-term interests of customers and the National Electricity Law (NEL) Objective (NEO). This is because a reduction in CESM supply capacity would increase long-term prices in CESM. Reduced capacity and higher CESM prices delay and increase the cost of the transition to a net zero carbon, electrified, energy system.

If monopoly networks can cross subsidise RESPs to engage in anti-competitive conduct, this also indicates that monopoly network customers are paying more than necessary for a safe and reliable network service. Effective network regulation is a necessary condition for efficient CESM outcomes.

Reduced capacity and higher CESM prices also reduce incentives for innovation and service quality. This includes timeliness. A key advantage of the ASP scheme is that competition avoids and reduces lengthy delays for connection works.

Connection delays are costly. For example, a delay in a new generation connection works may result in higher wholesale prices and a higher risk of supply shortfalls than otherwise. Similarly, delays in new residential subdivision connection works may contribute to residential supply shortfalls and reduced housing affordability. Delays in connecting industrial loads, including data centres, can potentially result in investment being diverted elsewhere, or retention of costly high emissions industrial processes.

Regulation of CESM in NSW

Ring-fencing regulation

Ring fencing regulation seeks to protect competition in CESM by requiring accounting and functional separation between regulated and RESP services. This regulation takes the form of National

Electricity Rules (NER),[20] following the *Power of Choice* reforms[21], requiring the AER to issue and maintain ring-fencing guidelines. The AER's distribution ring-fencing guideline[22] states that:

> *The objective of ring-fencing is to provide a regulatory framework that promotes the development of competitive markets. It does this by providing a level playing field for third party providers in new and existing markets for contestable services. Effective ring-fencing arrangements are an important mechanism for promoting increased choice for consumers and more competitive outcomes in markets for energy services.*

The ring-fencing guidelines require legal, accounting, functional and physical separation. Significant "Backoffice" resources and systems can be shared between networks and RESPs. The allocation of these costs is constrained by cost allocation methodologies (CAM). The guidelines also prohibit co-branding and cross promotion, and the sharing of certain types of information. Monopoly electricity networks are required to prepare statements on compliance with the guidelines, annually. These include disclosures of all waivers from the guidelines.

The electricity distribution ring-fencing guideline was updated in November 2021. Among other things, changes were made to expand the role of regulated distribution networks including by simplifying processes for networks to apply for waivers from the guideline requirements, especially regarding services that *'operate at the boundary between regulated and contestable markets.'*[23] This includes a *'streamlined waiver process to facilitate certain types of DNSP batteries, especially community - scale batteries, where they supply capacity to others.'*[24]

The electricity transmission ring-fencing guideline was updated in March 2023. Again, changes were intended to support expansion by transmission companies into broader areas including grid scale storage, synchronous condensers and network support services.[25]

In December 2024, the AER proposed further changes to the transmission ring-fencing guideline to clarify the application of the guideline to negotiated transmission services.[26] The proposed changes extend the transmission ring-fencing guidelines to negotiated connection services and are not discussed in the remainder of this report.

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[20] See clauses 6A21 (transmission) and 6.17 (distribution) of the NER.
[21] See https://www.aemc.gov.au/markets-reviews-advice/power-of-choice-stage-3-dsp-review
[22] See page 4 of the *Electricity distribution ring-fencing guideline (version 3) Explanatory Statement,* AER, November 2023. The transmission guideline has a similar statement.
[23] See page 6-7. Ibid.
[24] See https://www.aer.gov.au/system/files/Distribution%20ring-fencing%20guideline%20-%20Communications%20Statement%20on%20streamlined%20waiver%20consultation%20-%2021%20December%202021.pdf
[25] See for example pages 2-4 of *Ring-fencing guideline; electricity transmission; version 4 draft; explanatory statement*. March 2023, AER.
[26] See *Electricity Transmission Ring-fencing guideline; Draft Explanatory Statement – Version 5*, AER, December 2024.

Provision for CESM contestability in NSW laws

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 ASP scheme participant. The ASP scheme operates under the Electricity Supply (Safety and Network Management) Regulation 2014, specifically Part 3.[27]

Clause 26 of the Regulation enables the Minister to establish a framework for an ASP to provide contestable network services in a safe and competent manner for the design, construction and installation of electricity works that comprise or are connected to the electricity distribution networks in NSW.[28] The Scheme Rules specify classes of contestable network services. These include:

- Level 1 ASP services which consist of constructing and installing electricity distribution works to enable the provision of customer connection services (these are services related to a new connection or alteration to a connection as defined in section 24(3) of the Electricity Supply Act 1995 and chapter 5A of the NER
- Level 2 ASP services, which include disconnections and connections where no work on network operator assets is required and energising these connections in accordance with technical procedures and standards.
- Level 3 ASP services, which relate to the design of network assets, underground or overhead.

The Scheme Rules also set out qualification and training requirements. NECA is an authorised training provider under the ASP Scheme.

The Scheme Rules appear to refer only to distribution network connections. Under the national electricity rules, high voltage (HV) transmission network connections are also contestable or negotiated. In addition, section 36; 32(1)(b) of the Electricity Infrastructure Investment (EII) Act 2020 introduces the concept of a network operator who may or may not be the incumbent Transmission Network Service Provider (TNSP) in NSW. The EII Act does not define the exact functions of 'operations' that may be envisaged to be contestable.

Renewable energy zone (REZ) and new connection transmission in NSW appear to form part of CESM. For example, for the Central-West Orana REZ, NSW EnergyCo contracted a consortium consisting of ACCIONA, COBRA and Endeavour Energy to design, build, finance and operate and maintain this REZ transmission network.[29] Similarly, the Snowy 2.0 transmission connection project is not being developed as a regulated network by TransGrid and is instead being undertaken by TransGrid's RESP, Lumea.

[27] See Electricity Supply (Safety and Network Management) Regulation 2014 - NSW Legislation
[28] See *Scheme Rules: NSW Accredited Service Provider (ASP): Schedule 1 Scheme Rules*, December 2017, NSW Department of Planning and the Environment.
[29] See https://www.energyco.nsw.gov.au/cwo

The ASP scheme was reviewed by NSW Treasury in August 2022. Among other things, the review concluded *'there is a persuasive case for expanding the scheme to encompass new types of work.'*[30] It recommended that regulations should be amended to improve the definition of *'contestable works.'* However, it is unclear from publicly available information whether this recommendation has so far been actioned.

Economic regulation of electricity network monopolies

The ring-fencing guidelines appear to constrain opportunities for networks to cross subsidise RESPs via cost allocation. However, on its own, ringfencing does not constrain cross subsidisation to RESPs.

The AER determines the classification of services to be subject to different forms of regulation in its Framework and Approach decisions which accompany each regulatory decision. A classification of a service as 'Direct Control' or "Alternate Control" means the associated costs can be recovered from regulated charges.[31] Classification of services as "negotiated" or "contestable" means the service forms part of CESM. Classification of services decisions mean that boundaries between regulated markets and CESM can change over time.

The ring-fencing guidelines assume that economic regulation constrains cross subsidisation to RESPs. Electricity networks are natural monopolies. It is not economic to duplicate most network assets. This means that, if unconstrained, networks have pricing power, including the opportunity to set prices above total costs, and to extract supernormal profits. Supernormal profits are profits that exceed the level of profit necessary to compensate equity investors for the opportunity cost of their investment, inclusive of a sufficient margin for systematic risk.

The AER is responsible for the economic regulation of electricity networks under the NEL and supporting regulations and rules. Economic or revenue regulation is intended to constrain monopoly networks from charging prices that substantially exceed efficient costs. This is achieved by capping revenues at forecast efficient total costs over the relevant revenue or price control period.

Australia applies incentive regulation. Unlike rate of return regulation, this means that networks have incentives to outperform the benchmark allowed returns by a combination of increasing efficiency above forecast improvements and increasing service levels above those specified in the Service Target Performance Incentive Scheme (STPIS).[32]

[30] See page 19, *Accredited Service Provider Scheme Review Final Report*, The Insight Partnership and NSW Treasury, August 2022.
[31] See *Framework and approach: Ausgrid, Endeavour Energy and Essential Energy (New South Wales); Regulatory control period commencing 1 July 2024*, July 2022, AER.
[32] See *AER – Final decision – Review of incentive schemes*, 30 April 2023.

Incentive regulation means that some regulated networks can earn supernormal profits by being more efficient or productive than their peers. However, the sector should not experience supernormal profits on a sustained basis. Incentive regulation should therefore limit opportunities for regulated networks to allocate parts of any supernormal profits to their RESPs.

Are current regulations effective?

Taken as a whole, existing ring-fencing regulations and their implementation are **not** effective in constraining electricity network monopolies from foreclosing contestable CESM. There is no monitoring of competitive outcomes in contestable CESM, and previously available data on outcomes is no longer published. As a result, direct evidence of foreclosure in CESM by monopoly networks is not available. Nevertheless, there is sufficient available evidence to conclude that current regulations intended to support competition in CESM are not achieving their stated objectives. Substantial reform of network regulation is required to ensure outcomes are consistent with the National Electricity Law (NEL) Objective (NEO).

Opportunity to cross subsidise

Regulation is not effective in limiting networks from cross subsidising their RESPs from regulated revenues. This is because network revenues substantially total network costs, as shown in

Figure 2 below. The difference between total revenue and total network costs (revenue minus all other costs including allowed profit) for the four NSW networks, in the year ending 30 June 2023, was more than $1.7 billion. This is shown in *Figure 1 – Estimated NSW electricity network cost and profit outcomes 2022-23 ($2023)Figure 1* below.

Figure 1 – Estimated NSW electricity network cost and profit outcomes 2022-23 ($2023)

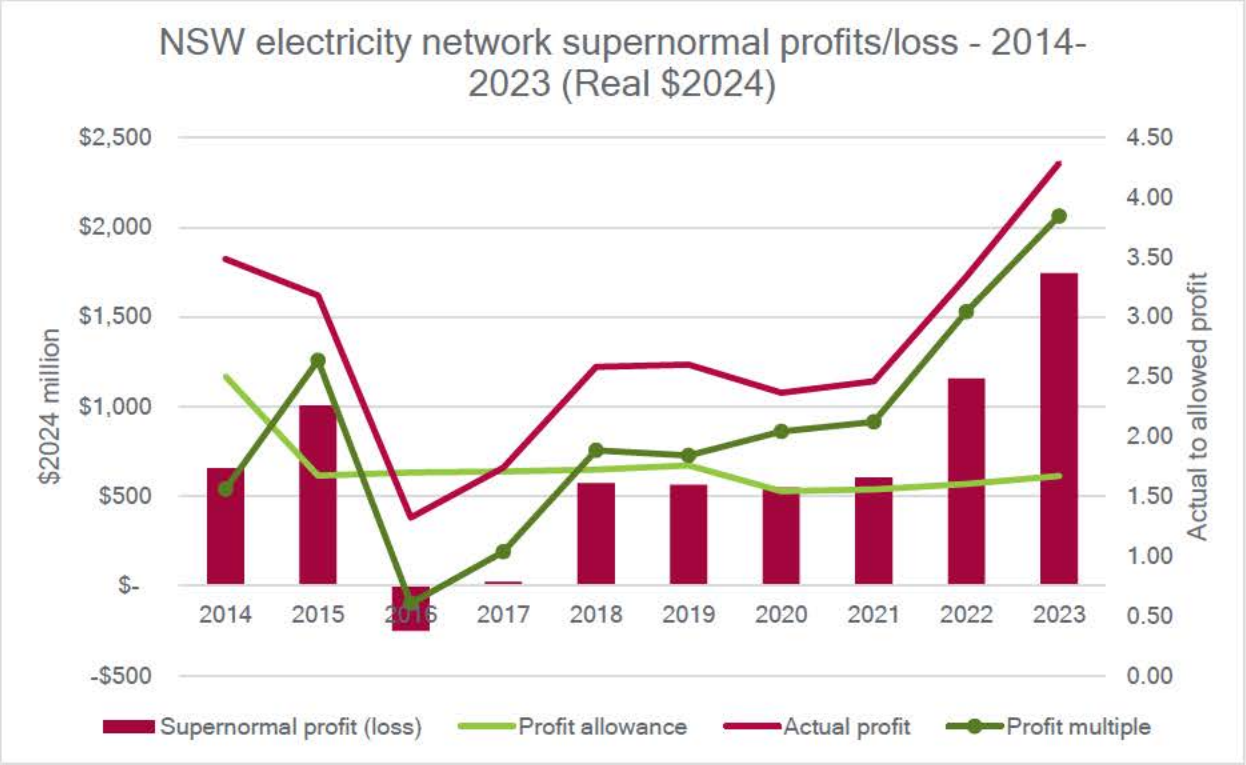
This difference between revenue and cost including allowed profit is a supernormal profit (dark green). Supernormal profits represent charges for costs that do not exist.

As shown in

Figure 2, supernormal profits are persistent and structural. Over the ten-year period, for the NSW sector, there were only two years where substantial supernormal profits were not extracted from regulated customers.[33]

Figure 2 – Estimated NSW electricity network supernormal profits and profit multiples 2014-2023 (real $2023)

[33] The two years where economic losses were recorded reflected a set of AER regulation decisions that were later overturned following legal action by the networks. During the Merits Review process, evidence regarding the earlier supernormal profits was not available to the relevant courts at the time decisions were made to overturn AER decisions. For a summary of the Merits Review process, see section 4.4 of *Regulated Network Prices are higher than necessary*, Simon Orme, IEEFA guest contributor October 2022.

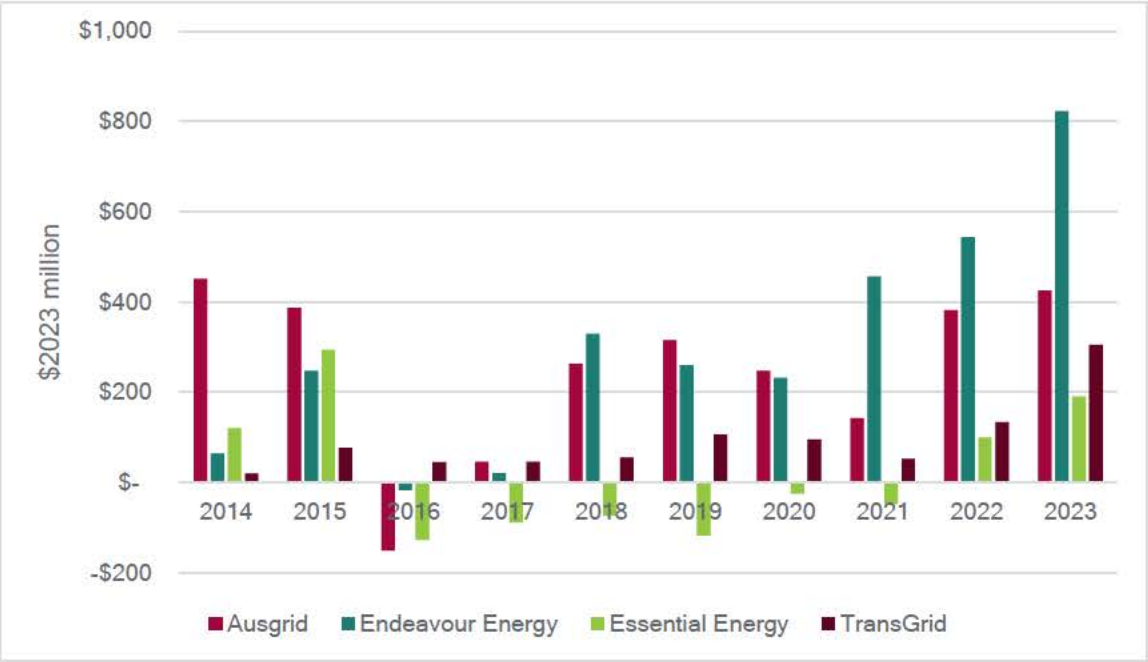


NSW networks have collectively extracted more than $6.5 billion in net supernormal profits over the ten-year period between 2014 and 2023. To put these supernormal profits in context, if regulation were effective, the ratio of actual to allowed profits (dark green line and RHS) would be distributed over a range between 0.9 and 1.3 times.[34] However, aggregate profit for the four NSW networks exceeded 1.5 times allowed profits (RHS) in all but two years over the decade.

There is significant variability in profitability between NSW networks, as shown in *Figure 3Figure 5*. Over the period, Endeavour recorded by far the highest supernormal profits and Essential Energy the lowest.

[34] See page 7-8 of *Power prices can be made fairer and more affordable – tackle unearned network supernormal profits*, Simon Orme, IEEFA guest contributor, November 2023. The analysis of expected supernormal profits draws from *Understanding the role of RAB multiples in regulatory processes*, Darryl Biggar, 20 February 2018.

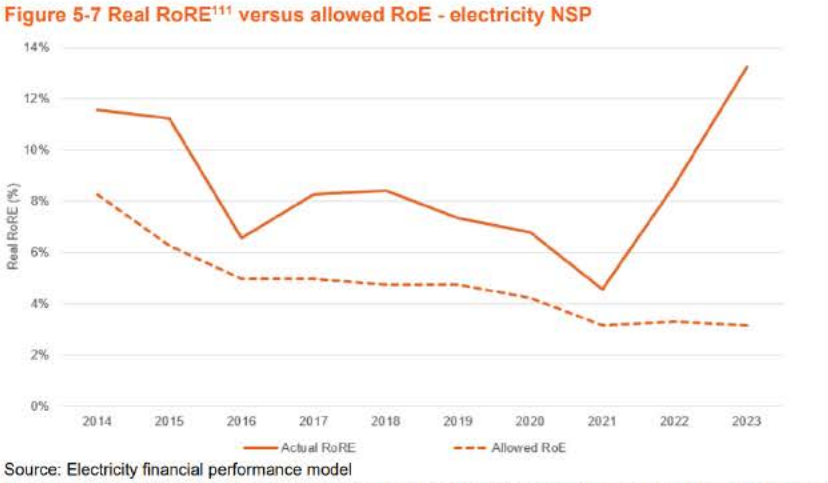
Figure 3 – Estimated NSW network supernormal profits 2014-2023 by network



Of the four entities, Essential Energy is the only one that remains wholly owned by the NSW government. For the other entities, NSW government has retained just over 49% ownership.

The AER does not disclose the dollar value of network supernormal profits. It refers to supernormal profits as "outperformance." Instead, it reports the percentage difference between actual and allowed profits over the entire sector, as shown in *Figure 4*.

Figure 4 AER reporting of network profitability for the entire sector



Source: Electricity financial performance model
Note: Financial performance numbers are nominal. The weighted average RoRE is calculated by multiplying an electricity NSP's real RoRE against the proportional size of the electricity NSP's regulated equity.

In its *2024 Electricity and gas networks performance report*, AER acknowledges that actual profits exceed allowed profits by a substantial margin.[35] The AER attributes this outcome mainly to higher than forecast inflation. However, AER does not acknowledge that over the 10-year period, with very few exceptions, electricity networks across the NEM extracted significant supernormal profits even during an extended period when actual inflation was lower than forecast inflation.[36]

The estimates of supernormal profits across the sector for a nine-year period 2014-2022 have been broadly confirmed by the AER to be correct.[37] There are some errors in the estimates above for individual networks and for the group in aggregate. These errors arise because AER does not publish balance sheet information required to make precise estimates of network supernormal profits for each network. The estimates used in this analysis use the limited sector wide average balance sheet data provided by AER to IEEFA on request in 2023. Any estimation errors do not invalidate the conclusion that network supernormal profits are both very substantial and structural.

Subject to the estimation error due to the non-disclosure of actual balance sheet data, it is possible to estimate the impact of supernormal profits on retail power bills over the period. The estimates are for the combined impact of transmission and distribution per customer are shown in *Table 7*.[38]

Table 7 Estimated combined electricity network supernormal profit annual bill impact per customer

($2023)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Total
Ausgrid	280	254	(78)	38	167	208	164	93	247	311	1,685
Endeavour Energy	74	278	(6)	32	338	278	244	442	526	808	3,013
Essential Energy	147	362	(134)	(88)	(68)	(103)	(3)	(38)	139	275	488

Dilution of ring-fencing rules

In 2021 (distribution) and 2023 (transmission), ring-fencing requirements were substantially diluted. The stated purpose is to facilitate the expansion of regulated network activities to reflect the energy transition. Key amendments to the two ring-fencing guidelines include relaxing prohibitions on networks directly being involved in the supply of contestable services relating to:

a) Generation SAPS
b) Grid scale BESS
c) Community scale BESS

[35] See page 82 of *2024 Electricity and gas networks performance report*, AER, September 2024.
[36] AER's inflation forecasts have varied from time to time but typically remain within the RBA's 2% to 3% range. Actual inflation was below 2% over the seven years between 2015 and 2021
[37] See AER statement at https://www.aer.gov.au/news/articles/news-releases/aer-statement-institute-energy-economics-and-financial-analysis-report-electricity-network-profits
[38] Note these numbers include commercial and industrial customers and hence overstate the bill impact per residential customer.

d) Transmission in REZ
e) Telecommunication services
f) Network support services including generation services (e.g. Broken Hill)
g) Other potential services including "inertia" (e.g. synchronous condensers)
h) Consulting services.

Some of the changes mean that networks can directly enter contestable CESM, rather than via RESPs. Other changes were implemented in part by decisions to "streamline" procedures for networks to get waivers from key aspects of the ring-fencing requirements. If certain tests are met, then waivers are granted without the need for consultation with affected parties. In other words, the bar for acquiring waivers from various aspects of the guidelines has been substantially lowered.

The dilution of the ring-fencing rules was made under the unexamined but implicit assumptions that:

- ring-fencing rules are effective in protecting competition in CESM;
- networks have limited opportunity to cross subsidise contestable activities because economic regulation of electricity networks is effective; and
- there are few opportunities for networks to allocate some of their supernormal profits to support RESP entry or expansion by horizontal foreclosure.

Strategic incentives to cross subsidise RESPs

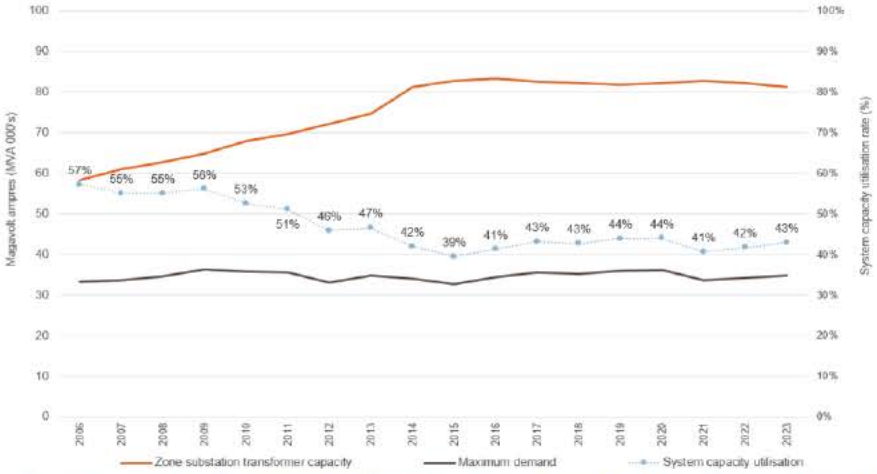
As a result of the energy transition, together with increases in network prices due to historical over-investment in network capacity, demand for regulated network services is flat or declining. *Figure 5* shows that asset utilisation, as measured by non-coincident peak demand relative to firm capacity at the zone substation level (ZS), continues to be lower than before 2014.[39]

Figure 5 Electricity distribution network utilisation trends 2006-2023[40]

[39] The chosen metric (MVA) incorporates the impact of variable power factors. ZS transformers are the most capital-intensive parts of most networks and feeder capacity ("poles and wires") is matched to ZS capacity. Low utilisation increases redundancy and therefore increases opportunities for networks to exceed performance targets and gain higher returns from performance-based incentive payments.

[40] See Figure 3-21 on page 42 of *2024 Electricity gas and networks performance report*, AER, September 2024.

Figure 3-21 Network utilisation - DNSPs



Source: Non-coincident summated raw system annual maximum demand' from EB RIN table 3.4.3.3 - 'Annual system maximum demand characteristics as the zone substation level' MVA measure. 'Zone substation transformer capacity' from EB RIN table 3.5.2.2.
Note: System capacity utilisation calculated by dividing the DNSP's non-coincident summated raw system annual maximum demand by the DNSP's Zone substation transformer capacity.

Over the period since 2014, maximum customer demand has been flat, ranging between 39 and 44 per cent capacity utilisation. This compares with 56 to 57 per cent utilisation between 2006 and 2009 before network capacity substantially increased (orange line).

Continuing low utilisation of network assets is likely to be resulting in pressure from shareholders for regulated networks to expand the scope of their business activities into the related CESM, where demand is expanding substantially. Shareholders are highly influential as they include State governments (NSW, Queensland, NT, Tasmania and ACT), international investors, and major national superannuation funds.

Given that actual returns to equity holders in the four NSW networks exceeded required returns by more than 3.5 times in 2023, shareholders could readily forego a small portion of excess returns to increase the market share and long-term value of RESPs in strongly growing CESM. Network reporting suggests that at least some of the four NSW networks are investing significant capital in their RESPs. For example, unregulated capital expenditure in ES Plus increased by nearly 50% between the year ending 30 June 2024 and the previous 12-month period, while capital expenditure in the regulated business increased by 12%.[41]

Networks can lock in substantial revenue streams for RESPs by allocating supply contracts for a range of contestable services to their RESP without undertaking a formal contestable process.[42] This means of transferring value to RESPs appears to be consistent with the ring-fencing guidelines. This indicates

[41] See note 10 to Ausgrid Group Notes to the consolidated financial statements 30June2024.
[42] See Attachment RIN.09 - Related party transactions, Ausgrid, 31 January 2023.

the nature and scale of competitive advantages that networks can confer on RESPs while remaining within the ring-fencing guidelines.

Significant waivers from ring-fencing guidelines

BESS, EV charging infrastructure and supply of Reliability and Reserve Energy Trader (RERT) services all form part of CESM. Ring-fencing waivers for emerging CESM including provision of community BESS, access to public lighting infrastructure for EV charging, and pole top BESS, could distort competition in CESM.

Public lighting is classified by the AER as 'Alternate Control' and prices are regulated outside the core regulated network service. Nevertheless, public lighting is a monopoly, and the DNSP ring-fencing guidelines apply.

In a series of decisions in 2022 and 2023, AER approved waivers to NSW DNSPs for Community BESS and pole top BESS. Similarly, in a November 2024 decision, the AER approved a waiver from the distribution ring-fencing guideline for 10 pole top BESS in Victoria.[43]

Under these BESS waivers, DNSPs own each BESS entirely and a portion of the capital cost is added to the Regulated Asset Base (RAB) and recovered from regulated network charges. The balance of the cost is recovered via revenue from a lease to a third party offering competitive energy services including *'in wholesale market arbitrage, FCAS services and storage services for customers.'*[44]

The arrangements for some BESS have a 20-year duration. The initial cost allocation between the regulated business is based on forecasts at the time of the investment decision. DNSPs are required to report on BESS usage relative to forecasts. However, it is possible that, as with most other costs, AER could consistently over-estimate the portion of BESS costs to be allocated for recovery from DNSP regulated charges.

The possible use of public lighting assets for EV charging highlights the potential for networks to leverage their existing regulated assets in ways that could adversely affect CESM competition. The Australian Energy Market Commission (AEMC) in 2024 introduced rule changes to lower barriers to settling energy sales to EV chargers and streetlights. [45]

[43] See AER correspondence with AusNet dated 19 November 2024. https://www.aer.gov.au/system/files/2024-11/AER%20-%20Decision%20-%20Ausnet%20-%20Ring-fencing%20waiver%20-%20November%202024.pdf
[44] Ibid.
[45] See page v and vi of Rule Determination: National Energy Retail Amendment (Unlocking CER benefits through flexible trading) Rule 2024, AEMC, 15 August 2024.

So far, there have been no network disclosures of ring-fencing waivers for EV charging using public lighting infrastructure. Nevertheless, at least one non-NSW network has sought a waiver from the ring-fencing guideline to allow it directly to provide EV charging from public lighting infrastructure. In a recent preliminary decision AER opposed a proposal by SA Power Networks to allow provision of 'last resort' EV charging services in regional areas.[46]

Ausgrid discloses that it has at least two partnerships with commercial operators to provide kerbside EV charging infrastructure utilising its substations and streetlighting poles. It is also inviting councils, customers and third parties to nominate kiosk and kerbside pole mounted charging. These installations would therefore not form part of regulated asset bases with costs recovered from regulated (substation or kiosk) or alternate control (public lighting) network charges.

Incentives for shifting regulated network costs to RESPs

Incentives for networks to shift costs to RESPs appear to be overlooked in a series of AER decisions to relax ring-fencing rules, especially regarding the transfer of staff (labour) and associated operating and maintenance (Opex) costs to RESPs. Unlike asset costs, most of which are sunk, Opex is relatively flexible. According to AER network performance data, discussed below, Opex "efficiencies" are significant and structural contributors to network supernormal profits.

Where networks can increase the transfer of Opex to RESPs, they will "outperform" Opex benchmarks used by the AER to set regulated revenues and prices. If, for example, in a given year Opex of $1million is transferred to an RESP, then other things being equal, network profits increase by $1million relative to "allowed" profits.

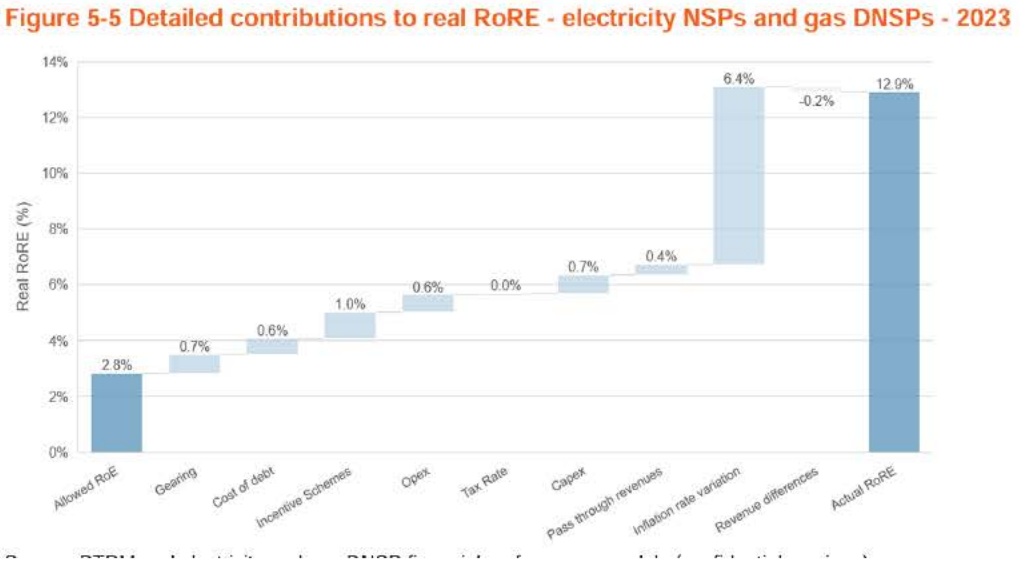
Under the efficiency benefits sharing scheme (EBSS), if sustained, that $1million can be retained over the following five years, resulting in a $5million increase in supernormal profits.[47] This is because the EBSS provides for networks to "carryover" benefits from reduced expenditure from one regulatory control period to the following regulatory control period for up to five years before benchmark costs are amended. The intention of the carryover mechanism in the EBSS is to avoid outcomes where networks defer cost savings until the start of a following five-year regulatory control period.

In its 2023 final decision regarding incentive schemes, there is no acknowledgement of the existence of sustained supernormal profits. The implicit but false assumption is that networks are unable to extract sustained supernormal profits on top of financial rewards from incentive schemes.

[46] See page 7 *AER Preliminary Position Paper: Framework and Approach Papers for Ergon Energy, Energex, SA Power Networks and Directlink 2025-30*.
[47] See *AER Final decision – Review of incentive schemes for networks – 28 April 2023*.

As shown in *Figure 6*, separately from incentive schemes, lower than forecast Opex contributed an additional 0.6% to the real rate of return on equity. If the EBSS were a quarter of the network gains from incentive schemes, then that would be a further 0.25% addition to actual profits.[48]

Figure 6 AER reporting of contributions to real Return on equity (profits) for 2023



It is also relevant to note that, according to the AER's most recent Annual Benchmarking report, 'Opex was the main driver of productivity changes in 2023.[49] The AER uses productivity benchmarking in setting regulated revenues and prices.[50] This suggests that networks are significantly reducing Opex. However, at least some of this reduction may reflect shifting costs to RESPs, rather than improvements in the efficiency of the regulated network.

No monitoring of NSW contestable CESM outcomes

There is currently no effective system for monitoring whether outcomes in CESM are consistent with protecting and supporting competition in those markets. Under the ring-fencing regime, regulated networks are required to report on their compliance with the ring-fencing guidelines.[51] However, these compliance reports, and other network performance reports, do not appear to provide data on CESM outcomes.

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[48] If these NEM wide values apply to NSW networks, then the total increase in NSW network profits for 2023 would be $200m or nearly a third on top of the "allowed" profit of $613m.

[49] See page 30, 2024 Annual Benchmarking Report – Distribution network service providers, November 2024, AER

[50] See *Independent review of Operating Environment Factors used to adjust efficient operating expenditure for economic benchmarking*, Simon Orme et al, August 2018 https://www.aer.gov.au/system/files/SapereMerz%20review%20of%20operating%20environment%20factors%20-%20October%202018.pdf

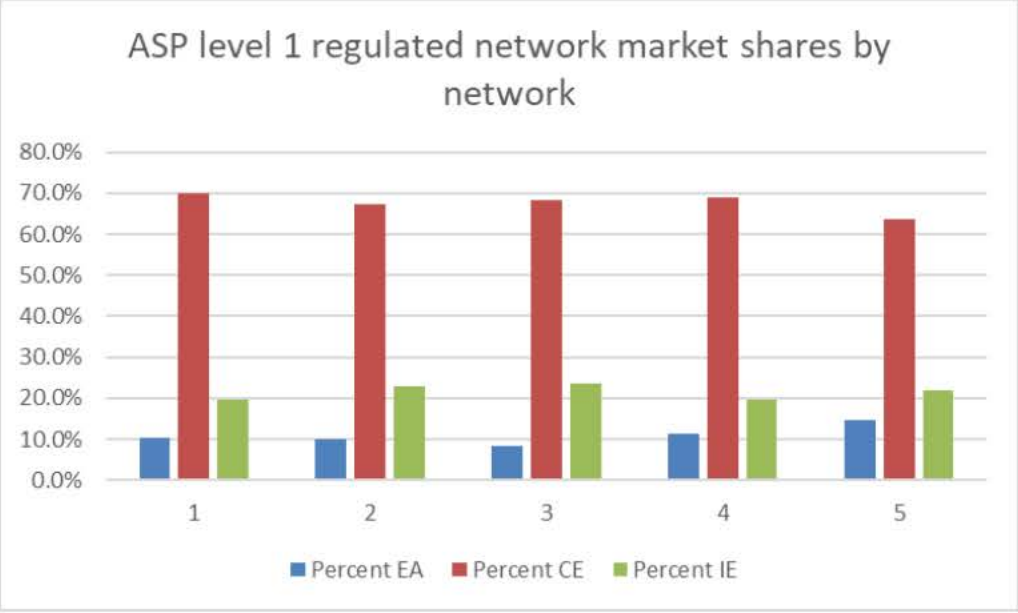
[51] See for example Ausgrid's compliance reporting available at https://www.ausgrid.com.au/Industry/Regulation/Ring-Fencing

The lack of transparency regarding CESM outcomes compares unfavourably with the ring-fencing arrangements that were applied when IPART was the network regulator. Under the IPART arrangements, data was available showing the share of defined contestable markets where services were supplied by third parties. For example, it was evident that ASPs held much lower market share in regional NSW served by Essential Energy. Similarly, from the previously available data, it was possible to discern whether defined market activity was increasing or decreasing and whether ASP shares in defined markets was increasing or decreasing.

This can be seen in

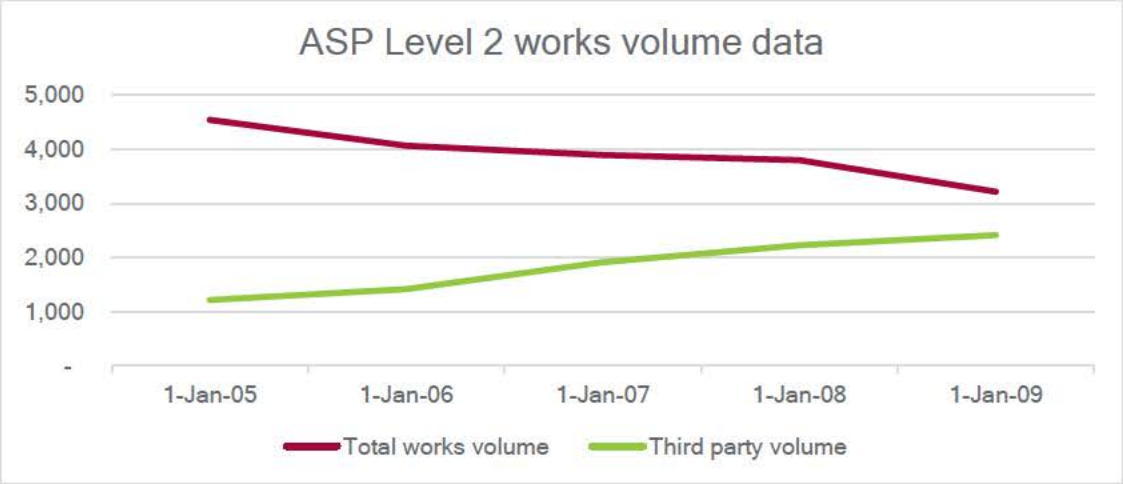
Figure 7 below, which shows that over the 5-year period to 2009 (year 5) Country Energy (now Essential Energy) held a very high share of CESM in the Essential network area (more than 60%), whereas in the other two NSW network areas, networks held around 20% of these two CESM.

Figure 7 – ASP level 1 regulated network provider market share by network – 2005-2009



Similarly, *Figure 8* below refers to ASP level 2 works across NSW by volume. It shows third party providers grew their market share, despite a decline in the total volume over the period.

Figure 8 – ASP level 2 works volume data – 2005-2009



Our understanding is that networks acquire data on the capital value of all contestable connection works where these assets are transferred to electricity networks as capital contributions. Drawing on this data, networks can deduct capital works undertaken by their RESP and identify the aggregate capital works undertaken by all other ASPs. This information on CESM outcomes could then be disclosed to IPART, the AER and others. This information would enable regulators and others to observe differences in RESP market shares between network areas and CESM competition trends within each network area over time.

It appears that contestable capital works market share data are not being provided by the networks to the relevant regulators. Similarly, a 2022 NSW Treasury review of the NSW ASP Scheme does not contain data on CESM competition outcomes.[52]

From a desk top review, we have been unable to identify why the AER ring-fencing guideline and other data supply arrangements, including under NSW licences, no longer requires networks or another party to publish data on ASP activity. This matter was not addressed in any recent reviews of CESM contestability by any of the relevant parties: AER, IPART and NSW government.

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

Appendix – scope of CESM

Of the various reviews of ring-fencing regulation and the ASP scheme, we have been unable to find a clear, comprehensive definition of CESM. CESM include but are not limited to:

- New electricity connections for new demand and generation supply
- Augmentation of existing transmission and distribution infrastructure
- Development and operation of REZ and REZ transmission and distribution
- A wide range of distributed energy resource (DER) and consumer energy resource (CER) markets, including distributed solar, BESS, EV and others
- Reconfiguring of existing network infrastructure, such as that related to the new Western Sydney Aerotropolis and associated road projects and other infrastructure
- Microgrids, for example on edge of grid or other areas where distributed generation and storage solutions may be more efficient than augmenting or extending regulated network systems.
- SAPS, for example serving a mine or other large or small demand that is outside the regulated network
- Provision of RERT to AEMO.