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Submission to the NSW Net Zero Commission 2025 Consultation

Nexa Advisory welcomes the opportunity to share our views and insights on the New South Wales Net Zero Commission 2025 Consultation Paper. The Commission has a strong leadership role to embed long-term decarbonisation goals into state climate and energy policy and ensure whole-of-government alignment.

Nexa is an advisory firm with an unwavering focus to accelerate the clean energy transition in a way that provides secure, reliable, and affordable power for consumers of all types. Nexa Advisory is a team of experienced specialists in the energy market, policy and regulation design, stakeholder engagement, and advocacy. We work with public and private clients including renewable energy developers, investors and climate impact philanthropists to help them get Australia's clean energy transition done.

Introductory remarks

As highlighted in the Consultation Paper, New South Wales is the largest energy user and emissions source in eastern Australia. The state produced 115 Mt CO_2-e in 2022/23[1] - roughly one quarter of Australia's total emissions - with electricity and stationary energy together contributing just over 40 per cent of that figure. The state is also the heaviest load in the National Electricity Market (NEM), accounting for around 30 per cent of NEM electricity demand in 2024[2]. As such, the pace of coal retirement, and the delivery of renewable generation, storage and transmission in New South Wales is highly influential to Australia's renewable energy and decarbonisation trajectories.

There is broad recognition in Australia of the urgent need to build adequate capacity to replace our ageing and unreliable coal-fired generation fleet and ensure energy security, reliability and affordability. Australians also understand the benefits of clean and low-cost renewable generation.

However, the pace of the clean energy transition is not meeting expectations or desired timelines. This not only means that Australia will fail to meet its climate targets, but that there is a significant threat to power system reliability and security, and increased costs for consumers both large and small.

[1] Australian Government, State and territory greenhouse gas inventories: annual emissions 2023
[2] OpenElectricity

Key recommendations

We propose four key areas where the Net Zero Commission can help to unlock the potential of the electricity sector to support broader decarbonisation and investment across New South Wales.

1. **Incorporate sector-specific policy alignment and performance monitoring for the electricity sector in New South Wales**

   This would enable electricity sector emissions reduction progress to be assessed and inform government policy to ensure orderly coal exit, providing the certainty needed for replacement renewable generation, storage capacity and transmission.

   The Commission should incorporate sector-specific performance data from the electricity sector to inform the progress towards New South Wales' decarbonisation targets. This should include metrics around the retirement of ageing coal-fired power stations - such as outage rates and downtime of Eraring and Bayswater – to provide insight into their unreliability and better signal the impact this has on electricity affordability and reliability.

   Evidence of the state's disorderly energy transition must be integrated into progress assessments. This should also consider the use of carbon valuation tools (e.g., Social Cost of Carbon) across New South Wales Government decision-making.

2. **The outcome of this Review should inform New South Wales' participation in a renewed Strategic Energy Plan (SEP) developed by State and Federal Energy Ministers**

   This would enable better whole-of-government alignment and outline the following strategic priorities for the transition:

   - National coordination and accountability for the delivery of critical generation, storage and transmission projects;
   - Clear roles and priorities for market bodies and regulators, including around their governance and engagement;
   - Inclusion of consumer preferences within policy and decision-making, including through representation of and engagement with consumers by market bodies;
   - Promoting competition and innovation - particularly for Consumer Energy Resources (CER) – through network governance arrangements.

3. **Provide certainty to investors to mitigate capital flight**

   Speeding up approvals for new energy infrastructure is key to unlocking $142bn in investment needed by 2050. There is currently 8.1 GW of solar, 6.7 GW of wind and 10 GW / 25.8 GWh of large-scale battery storage projects in New South Wales' near-term development pipeline, which can be accelerated with:

   - Certainty around transmission delivery; and

- Greater alignment between energy infrastructure planning and government support.

4. **Support an independent review of the role and performance of electricity distribution networks in New South Wales** – particularly to ensure the competitive delivery of Electric Vehicle Charging Infrastructure (EVCI)

   Australians have already invested over $20bn since 2018 in CER, putting the power in people's hands and providing electricity reliability and resilience for the broader system – and driving emissions reduction and electricity affordability for New South Wales consumers.

   However, this uptake has threatened the business models of incumbent regulated monopoly distribution network service providers (DNSPs) – which has resulted in these businesses seeking to own these assets themselves, the weakening of ring-fencing regulation which they are subject to, and the encroachment on unregulated, competitive markets. This includes DNSPs encroaching into the competitive market of EVCI.

   The Net Zero Commission should support an independent review into the role and performance of electricity distribution networks, given the significant role of CER in decarbonising the state's electricity sector. This review should consider:

   - DNSPs' role in facilitating the transition;
   - DNSPs' ability to adapt their business models to facilitate the integration of CER; and
   - how existing governance arrangements and regulatory oversight ensure value for energy consumers (e.g., whether the existing capital expenditure bias can be addressed through an alternative 'totex' model).

The remainder of this submission highlights the opportunity for the Net Zero Commission to:

- ensure policy alignment across New South Wales to close the state's coal infrastructure on time, deliver transmission and renewable generation and storage projects (Questions 6 and 7 of the Consultation Paper); and
- accelerate CER, including EVCI necessary to drive decarbonisation of the transport sector – and deliver electricity reliability and affordability for New south Wales consumers (Questions 7 and 9 of the Consultation Paper).

The need for sector-specific policy alignment in New South Wales and across State and Federal Energy Ministers

As highlighted in our submission to the recent Productivity Commission - *Pillar 5: Investing in cheaper, cleaner energy and the net zero transformation* consultation[3] and *Select Committee on Energy Planning and Regulation in Australia* in October 2024[4], several reviews have identified

[3] Nexa Advisory, Productivity Commission – Pillar 5 submission, June 2025
[4] Nexa Advisory, Submission on the Select Committee on Energy Planning and Regulation in Australia, October 2024

the lack of bipartisanship and policy fragmentation as a key barrier to effective policymaking. This has resulted in investment uncertainty and delays to the energy transition.

The misalignment and lack of national direction from the previous Federal Government has resulted in a policy vacuum, which has given rise to derogations from the national framework. This has necessitated the state governments taking control and implementing their own renewable energy targets and mechanisms to support the development of critical transmission infrastructure and the build out of renewable energy as the fleet of ageing coal-fired generators retires.

While the Federal Government has established a collaborative partnership with the states and territories through the National Energy Transformation Partnership[5], there remains a need for overarching and enduring policy certainty, including around:

- coal retirement certainty - a key barrier which continues to be adversely impacted by state government[6,7] and rule changes[8].
- national coordination and accountability for delivery of the nation-building transmission infrastructure[9].

A collaborative approach which extends beyond bipartisanship and embeds strategic alignment between government and market bodies is needed to underpin $142 billion of capital investment required by 2050[10]. The Australian Energy Market Operator's (AEMO) Integrated System Plan (ISP) which provides a roadmap of the investment in transmission and generation needed to manage the coal exits. There is currently no accountability structures established, or a strategic roadmap that outlines what it would take to close the coal power stations when they reach end of life and to deliver the energy transition on time.

As such, federal and state governments must be accountable for ensuring policy certainty required to deliver the required private investment and avoid any further delays to the transition, which ultimately results in additional costs to consumers[11].

The Net Zero Commission has a critical role in providing greater alignment between the electricity sector and broader government policy in New South Wales.

Ensuring orderly coal exit

New South Wales has fallen behind on its energy transition and is failing to deliver an orderly exit of its coal-fired power station fleet. This has resulted in the extension of Eraring Power

[5] Energy and Climate Change Ministerial Council, National Energy Transformation Partnership, August 2022
[6] Nexa Advisory, *Orderly Exit Management Framework Draft Exposure Bill and Rule* submission, July 2024
[7] For example, the NSW Government decision to extend Eraring coal power station
[8] AEMC, Allowing AEMO to accept cash as credit support, October 2024
[9] Nexa Advisory, Supercharging Transmission Buildout, September 2024
[10] AEMO, 2024 Integrated System Plan, June 2024
[11] Nexa Advisory, The Consumer Cost of Transmission Delays, July 2024

Station, which we have recently shown will continue to face outages as it reaches its use-by date[12], contributing to ongoing price volatility which flows through to consumer bills[13].

Nexa Advisory has recently published a series of case studies which examine the reliability and performance of coal-fired generators across the NEM as they approach the end of their technical lives. Key points from New South Wales case studies are shown below.

Eraring Power Station[14]

- Each of Eraring's units have experienced an average of about two months of downtime annually, with an unplanned outage rate of 6 per cent in 2024.
- Eraring's four units have emitted more than 3.2 Mt CO2 each year – totalling almost 13 Mt CO2 across all units annually.
- Based on recent dispatch behaviour, extending Eraring's closure by two and four years would result in an additional 25.8 Mt CO_2 and 51.65 Mt CO_2, which is valued at $380 million and $764 million respectively[15].
- Despite this poor performance, in May 2024, the New South Wales Government negotiated an extension and potential underwriting of Eraring's operation to August 2027.

Bayswater Power Station

- Bayswater has exhibited elevated unplanned outages over the last decade – with an annual unplanned outage rate 38 per cent in 2024. Between 2018 - 2022, the average total downtime across its four units remained over 6,000 hours - equivalent to each unit being offline for over two months each year.
- Bayswater has emitted around 13.6 Mt across its units annually since 2018.

In comparison, in 2019, around 141 Mt CO_2-e was emitted in New South Wales, of which 52 Mt – or 37 per cent - came from stationary energy for electricity generation[16].

There is a considerable risk resulting for the poor reliability of these assets and incompatibility with today's dynamic energy system – as unplanned outages present a significant power supply reliability risk for New South Wales consumers.

Continued uncertainty around coal closures will result in underinvestment in renewable energy and firming capacity, risking energy system reliability and affordability and resulting in knee-jerk policy interventions – as exemplified by the New South Wales deal with Origin to extend Eraring from 2025 to as late as 2029[17], which further knock Australia's energy transition off course.

This raises concern around the effectiveness and cost of reactionary government policy which results in the lack of a long-term transition plan and enduring market signals for

[12] Nexa Advisory, The Case for Closing Eraring in 2027, March 2025
[13] AER, Wholesale electricity market performance report 2024, December 2024
[14] Nexa Advisory, The Case for Closing Eraring in 2027, February 2025
[15] The price used is that defined in the European Union Emissions Trading System, equating to approximately AU$148 per tCO2-e.
[16] New South Wales Government, NSW greenhouse gas emissions, accessed 15 January 2025
[17] NSW Government, Agreement between the state of NSW and Origin on its plans for Eraring power station

decarbonisation. This policy risk increases the level of support needed for renewable investment – e.g., through Long Term Energy Service Agreements (LTESA) in New South Wales, or the Capacity Investment Scheme – which will ultimately be paid for by both taxpayers and energy consumers[18].

The Net Zero Commission should support sector-specific policy alignment and performance monitoring for the electricity sector in New South Wales to support a clear and enforceable timetable for coal-fired plant closures. This would increase the certainty needed to ensure the clean energy transition can progress at pace.

The Orderly Exit Management (OEM) Framework was recently written into the National Electricity Law as an "opt-in, last-resort tool to deal with coal or gas generators that try to shut earlier than previously notified. It does not schedule or coordinate the normal retirement of the coal fleet. Instead, if an owner of a "System Significant Generator" (SSG) moves its closure forward and AEMO forecasts a reliability shortfall, the relevant state or territory energy minister can issue a Mandatory Operation Direction (MOD) that legally compels the plant to stay on for up to three years.

As such, the OEM Framework as set out in the exposure bill does not resolve the ongoing uncertainty around the closure of coal power stations. The existence and potential use of the OEM Framework by a jurisdictional minister presents a significant challenge to investors in new renewable generation and batteries[19].

A note on value of emission reduction in the electricity sector

The electricity sector is pivotal in Australia's journey toward net-zero emissions, accounting for approximately 35% of the nation's greenhouse gas emissions[20]. Decarbonising this sector not only directly reduces emissions but also enables the electrification of other sectors like transport and industry.

While mechanisms such as the Social Cost of Carbon (SCC) and the Value of Emissions Reduction (VER) have been introduced to internalise the environmental costs of carbon emissions, their application across Australia remains inconsistent. For instance:

- the ACT Government employs an SCC starting at $20 per tonne CO_2-e,
- NSW Government incorporates cost-benefit analysis guidelines[21] with various values determined under low and high sensitivities

These are in addition to several other methodologies and applications – such as the Value of Emissions Reduction included in the National Energy Objectives which apply to energy market body decisions, while other mechanisms such as the Australian Carbon Credit Unit market and Safeguard Mechanism remain salient.

[18] Nexa Advisory, Submission to NSW Orderly Exit Management Framework Consultation, February 2024
[19] Institute for Energy Economics and Financial Analysis, There's a Better Way To Manage Coal Closures Than Paying To Delay Them, September 2021
[20] Climate Change Authority, Sector Pathways Review, 2024
[21] NSW Treasury, Carbon emissions in the Investment Framework

The absence of a unified, economy-wide carbon pricing mechanism hampers the effectiveness of emissions reduction efforts. Without consistent valuation, projects that could offer substantial environmental benefits may be overlooked, and resources may not be allocated optimally.

There is a clear role for the Net Zero Commission to support New South Wales contributing to a coherent, nationwide framework for valuing carbon emissions.

Such a framework would provide clear signals to investors, ensure equitable treatment across jurisdictions, and align with Australia's broader climate commitments.

The consumer cost of transmission delays

The factors contributing to the slow transition are many and complex[22]. A key issue is the ongoing delays to new transmission projects, particularly transmission interconnectors.

In order to connect the renewable generation and storage capacity required to replace ageing coal-fired power stations and transition to a clean energy power system, Australia needs to effectively plan and deliver thousands of kilometres of transmission lines in the next decade.

This includes the delivery of major transmission projects in New South Wales such as HumeLink and Project EnergyConnect, as well as the new infrastructure for the state's Renewable Energy Zones (REZ) such as the Central West Orana REZ Transmission Project.

We have previously discussed that delayed transmission buildout flows through to consumer bills. In New South Wales, this results in 21 per cent higher bills, or almost $1,100 in additional costs for residential customers if transmission projects are delayed by three years – the average length of delays observed in recent years. Businesses experience 23 per cent higher bills – representing $7,716 for a typical small business[23].

Region	1 year	2 year	3 year	4 year	5 year	6 year	7 year
NSW	3 %	10 %	21 %	36 %	53 %	72 %	88 %
QLD	0 %	1 %	4 %	5 %	7 %	12 %	14 %
SA	2 %	3 %	8 %	16 %	22 %	31 %	39 %
VIC	1 %	3 %	8 %	17 %	31 %	44 %	57 %

Table 2: Annual percentage electricity bill increases for residential customers

Region	1 year	2 year	3 year	4 year	5 year	6 year	7 year
NSW	6%	15%	23%	36%	50%	66%	78%
QLD	2%	5%	8%	9%	10%	14%	16%
SA	3%	7%	10%	17%	22%	30%	36%
VIC	3%	7%	11%	19%	31%	42%	52%

Table 4: demonstrates the average annual percentage impact on business electricity bills for 40 MWh annual energy consumption due to transmission delays over FY2027-2046 (real 2024 AUD, incl GST)

[22] Nexa Advisory, Removing the Roadblocks to New Transmission to Achieve the Transition, April 2022
[23] Nexa Advisory, The Consumer Cost of Transmission Delays, July 2024

Continued transmission delays are a key risk to developers, driving up consumer electricity bills and threatening energy reliability[24]. Major transmission projects continue to be delayed by 3 years (on average), resulting in transmission delivery risk that hinders investment in new generation projects[25].

The Net Zero Commission can ensure policy alignment in New South Wales to streamline address inefficiencies and expedite planning and approvals for the state's transmission projects.

We have recently discussed the complexity of New South Wales transmission delivery as part of the New South Wales Transmission Planning Review – where the state's jurisdictional framework has attempted to address key challenges associated with delivering transmission but has introduced complex governance arrangements and allocation of responsibilities between multiple New South Wales Electricity Infrastructure Roadmap entities[26].

There is a clear opportunity to better incorporate private, market-led solutions – including non-network solutions – which are smaller and can be delivered faster than major transmission projects. These can also be supported by expedited planning approvals.

Provide certainty to investors to mitigate capital flight

Australia has a strong pipeline of clean energy infrastructure ready to proceed - but realising this investment depends on clear policy direction and timely infrastructure delivery. There is currently 8.1 GW of solar, 6.7 GW of wind and 10 GW / 25.8 GWh of large-scale battery storage projects in New South Wales' near-term development pipeline.[27]

Yet just a fraction of these have reached final investment decision (FID), with even fewer in the final stages of commissioning or grid connection.

Projects in early development stages need to undertake further development activities to progress to construction and can be supported by state government policies – particularly alignment between planning decisions and broader government decarbonisation efforts.

Unlocking this approved pipeline is not only essential for emissions reduction - it is a near-term opportunity to boost economic productivity, generate regional employment, and replace unreliable, ageing coal assets with firmed renewables.

The misalignment between government support schemes and transmission access, project planning and development approvals is a material, albeit inherent, risk for renewable generation and storage projects seeking government support. This was recently exemplified by the Junction Rivers project which was successful in receiving support under the

[24] Nexa Advisory, The Consumer Cost of Transmission Delays, July 2024
[25] Nexa Advisory, We Plan and then Don't Build, May 2024
[26] Nexa Advisory, New South Wales Transmission Planning Review 2025, March 2025; New South Wales Transmission Planning Review 2025 Options Paper, May 2025
[27] Source: AltEnergy; where approved projects are defined as having received state planning, development and/or environmental approvals, and proposed projects are those publicly announced.

Commonwealth's Capacity Investment Scheme, but unsuccessful in receiving access rights to connect to the South West REZ in New South Wales[28].

Another example of misaligned planning and energy policy was seen in 2023, when the Draft 2023 Wind Guidelines effectively scaled back the developable area inside the state's flagship REZs[29].

This misalignment results in regulatory burden for developers and ultimately adds to the cost of the transition.

The Net Zero Commission must address inefficiencies of misaligned state government policies.

Accelerating CER to deliver reliability and affordability

CER and demand-side participation (DSP) – particularly for commercial and industrial (C&I) consumers – remains a significant untapped resource which, if leveraged, can accelerate the energy transition, putting power in people's hands, and improving energy reliability and resilience. These, and non-network solutions more generally, provide a cost-efficient alternative to continued growth of regulated distribution network investments.

We have previously discussed that the current regulatory framework often favours incumbents, limiting the evolution and competitiveness of new entrants and the development of consumer-centric technology solutions. There is a critical need to reassess the roles of traditional and innovative players in the energy retail and distribution network landscape.

The need for competition in CER and upholding ring-fencing regulations for DNSPs

Australian consumers have been leading the energy transition through the uptake of innovative energy resources and products including rooftop solar PV and storage, electric vehicles (EVs) and smart EV chargers, and other smart home appliances. Competition in these innovative consumer product markets – such as residential solar PV - has seen continued uptake, driven by the potential bill savings and falling prices[30].

Competition and innovation are vital aspects of the energy sector, particularly with the emergence of CER, which poses challenges to the business models of incumbent energy market participants - encompassing electricity distribution and transmission networks, retailers and large-scale generators. It disrupts established retail markets and necessitates the development of new, innovative business models to accommodate its flexibility and potential.

Existing regulatory and governance arrangements and specific roles and responsibilities of DNSPs is not adequately considered in the context of the CER and innovation currently underway. This is exemplified by the recent AER's recent ring-fencing class waiver for Community batteries[31], which though limited in application, set a precedent which could

[28] Reneweconomy, Four huge wind, solar and battery projects granted grid access, but capacity trimmed in key REZ, 23 April 2025
[29] Renew Economy, "Farcical:" Wind industry in shock as draft NSW guidelines say no to new wind projects, 15 November 2023
[30] Nexa Advisory, Accelerating C&I rooftop solar and batteries is a 'win win' Discussion Paper, June 2024
[31] AER, Batteries funded under the Commonwealth Government's Community Batteries for Household Solar Program - Ring-fencing class waiver, February 2023

undermine the intention of ring-fencing[32] to protect competitive market dynamics and consumer outcomes for regulated network monopoly businesses[33].

The Net Zero Commission should support an independent review into the of the role and performance of electricity distribution networks, given the significant role of CER in decarbonising the state's electricity sector.

Competition is critical to accelerating EV uptake and decarbonise the transport sector

The uptake of EVs and enabling charging infrastructure is a critical enabler of Australia's broader emissions reduction and energy security objectives[34]. With the introduction of the New Vehicle Efficiency Standard (NVES)[35], the Federal Government's National Electric Vehicle Strategy (NEVS)[36], and the New South Wales Government's updated Electric Vehicle Strategy, there is now a clear and growing momentum to accelerate EV adoption.

Overcoming barriers in EV uptake is critical for achieving Australia's emissions reduction goals, given that vehicles contribute to about 13 per cent of the country's greenhouse gas emissions[37]. Advocating for policies to support the EV transition is pivotal for addressing climate concerns and economic pressures, particularly in a way that is equitable, competitive and consumer-focused.

However, the regulatory framework which prevents incumbent regulated DNSPs from encroaching on the competitive delivery of these assets is currently being eroded by waivers granted by the AER for community batteries and EVCI. Without proper regulatory safeguards, DNSP involvement in contestable markets such as EVCI risks distorting competition and reducing innovation. If allowed to progress unchecked and without clear evidence of market failure, this risks the expansion of DNSP-owned EVCI and overinvestment in charging points that impose unnecessary costs on energy consumers.

The Net Zero Commission must recognise the shortcomings of the existing network planning and regulatory frameworks – namely poor network data transparency – which currently prevent third-party EVCI businesses from competing on equal footing.

DNSPs which have attempted to enter this market under the premise of faster and cheaper delivery. However, we have argued against these claims – highlighting that there is currently no market failure in the EVCI sector, but rather, several challenges faced by third party providers of these solutions. This is the result of a regulatory framework which has failed to provide necessary oversight of the operation and performance of DNSPs – particularly in facilitating connections and access to the electricity network.

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[32] AER, Electricity distribution Ring-fencing Guideline Explanatory statement, November 2021
[33] Nexa Advisory, Community battery class waiver submission, January 2023
[34] Nexa Advisory, Submission on the Transport and Infrastructure Net Zero Consultation Roadmap, July 2024
[35] Nexa Advisory, Submission on the New Vehicle Efficiency Standard – Consultation Impact Analysis, March 2024
[36] Nexa Advisory, Submission on the Inquiry into the transition to electric vehicles, March 2024
[37] Australian Government, Department of Infrastructure, Transport, Regional Development, Communications and the Arts, Cleaner, Cheaper to Run Cars: The Australian New Vehicle Efficiency Standard, February 2024

Nexa Advisory has consistently raised concerns about the challenges that third-party EVCI providers face when connecting to electricity networks, particularly DNSPs[38,39,40]. These include:

- significant delays in securing connections;
- a lack of transparency and access to network data; and
- inflexible tariff structures, which can result in costly projects and delays and inhibit the economic viability of charging infrastructure points.

For widespread EV adoption, consumers need confidence in the accessibility and reliability of EV charging. State and Federal governments are providing funding to support the growth of EV charging infrastructure, however, ensuring timely, cost-effective access to electricity supply is crucial for building this EV infrastructure. The lengthy and costly process of securing power supply from DNSPs remains a significant bottleneck in EVCI deployment and has the potential to increase costs for consumers – and delay broader EV uptake and associated decarbonisation of the transport sector of New South Wales.

By supporting an independent review of the role and performance of electricity distribution networks, the Net Zero Commission would support the competition needed to deliver consumer-centric solutions for New South Wales EV drivers and energy consumers.

Concluding remarks

Nexa Advisory urges the Net Zero Commission to promptly action the recommendations outlined in this Review. Implementing these reforms is critical to ensure the state's decarbonisation – and ensures the Commission provides certainty to investors in the state's decarbonisation efforts.

Thank you for the opportunity to provide input to the Review. We welcome the opportunity to further discuss any aspect of our submission - please contact either myself or Jordan Ferrari, Director - Policy and Analysis, jordanferrari@nexaadvisory.com.au.

Yours Sincerely,

Stephanie Bashir
CEO and Principal
Nexa Advisory

[38] Nexa Advisory, Accelerating Consumer Energy in Australia, April 2024
[39] Nexa Advisory, CitiPower, Powercor and United Energy Ring-fencing Waiver Application submission, June 2025
[40] Nexa Advisory, Empowering Consumer Energy, June 2025