

10 March 2025

Hon. Penny Sharpe MLC  
Minister for Energy and Climate Change  
New South Wales Government

Submitted via: [transmissionplanningreview@dcceew.nsw.gov.au](mailto:transmissionplanningreview@dcceew.nsw.gov.au)

Dear Minister Sharpe,

### **New South Wales Transmission Planning Review 2025**

Nexa Advisory welcomes the opportunity to share our views and insights as part of the New South Wales Transmission Planning Review (the Review).

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.

The factors contributing to the slow transition are many and complex<sup>1</sup>. A key issue is the ongoing delays to new transmission projects, particularly transmission interconnectors.

Nexa Advisory has long advocated for the timely and efficient delivery of transmission infrastructure to support Australia's clean energy transition and deliver energy security, reliability and affordability for electricity consumers<sup>2</sup>. However, transmission delays across New South Wales and the broader National Electricity Market (NEM) continue to undermine renewable energy targets, investor confidence and consumer outcomes.

While the New South Wales framework has attempted to address the key challenges associated with delivering transmission, we consider the complex governance arrangements and allocation of responsibilities between the Infrastructure Planner, Consumer Trustee and Network Operator functions has contributed to transmission delays in the state – namely by failing to adequately allocate responsibility and create positive obligations and accountability for on time and on budget delivery for transmission delivery proponents.

*We urge the New South Wales Government to appoint an independent entity such as EnergyCo to be responsible for the planning and coordination of transmission across the state.*

This would see transparency and clarity of responsibility and accountability on the delivery, planning and competitively tendering projects sit squarely with one entity.

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<sup>1</sup> Nexa Advisory, [Removing the Roadblocks to New Transmission to Achieve the Transition](#), April 2022

<sup>2</sup> Nexa Advisory, [The Consumer Cost of Transmission Delays](#), July 2024

Additionally, we consider that opening transmission build to established transmission network organisations that demonstrate resource capability, experience in building the infrastructure and procurement leverage is the most effective pathway to overcome ongoing delays and cost blow-outs. This limits the potential inefficiencies and uncompetitive outcomes associated with delivery by the regulated incumbent Transmission Network Service Providers (TNSP).

We consider the below elements of the state’s transmission planning, investment and delivery framework are critical to timely and efficient transmission delivery:

- **All transmission projects in New South Wales should be contestable** and open to the market to better manage risk and align incentives for timely transmission infrastructure delivery
- **Clear roles and responsibilities within the governance arrangements** – ensuring the separation of the New South Wales Infrastructure Planner and transmission delivery entity (Network Operator). This can be achieved by establishing a single, independent entity responsible for transmission coordination and planning
- **Virtual transmission and non-network solutions** – including alternative intra-regional development, or ‘market-led’ development, in collaboration with large loads
- **Transmission and distribution ring-fencing** to avoid the risk of uncompetitive outcomes, such as through the overreach of incumbent regulated monopoly TNSPs and Distribution Network Service Providers (DNSPs)

We note there are several issues related to the above which may be deemed as out of scope – namely the challenges faced by storage, which is relevant given its potential role as a non-network solution. This Review must consider these broader issues in the context of delivering transmission and avoiding further delays and cost blowouts.

The remainder of our submission outlines the challenges of transmission delivery, before providing further detail on how each of the above elements would improve the current New South Wales framework.

### ***Transmission delays result in a disorderly transition and knee-jerk political reactions***

Continued transmission delays are contributing to New South Wales’ disorderly transition – which risks additional delays in the retirement of the state’s coal-fired power station fleet – as seen with Eraring Power Station.

We have previously found that as a result of the state’s disorderly transition – which reflects slower buildout of renewable generation, storage and firming capacity, and transmission assets - New South Wales electricity consumers would pay \$106 more by FY2027, increasing to \$324 by FY2032<sup>3</sup>.

The disorderly transition also has implications on energy reliability, which has resulted in the New South Wales Government negotiating an extension of Eraring’s operation to August 2027<sup>4</sup>, creating additional risk and uncertainty for investors. Keeping this unreliable asset operating is

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<sup>3</sup> Nexa Advisory, [Australia’s disorderly transition and coal retirement](#), May 2024

<sup>4</sup> New South Wales Government, [Agreement between the state of NSW and Origin on its plans for Eraring power station](#), accessed 15 January 2025

also contributing to higher energy market volatility, which results in higher contract prices<sup>5</sup>. These higher wholesale costs ultimately flow to the prices paid by consumers<sup>6</sup>.

There is a clear opportunity for further improvement to the New South Wales planning framework to ensure that transmission network services – whether network or non-network solutions – are delivered as planned, to avoid ongoing adverse outcomes and ensure an orderly transition for the state.

**Cost blowouts and delays to transmission delivery in New South Wales is stifling the renewable build out in New South Wales**

As we have previously discussed, we plan the transmission we need, but then we don’t build it, or at least not nearly fast enough<sup>7</sup>. This is reflected through significant cost increases and expected delivery dates which are consistently delayed.

Major transmission projects in New South Wales continue to face protracted design, approval and construction timelines since first being identified, experiencing cost blow-outs over this time. Notably, Project EnergyConnect took around 10 years just to break ground, including a 4.5-year regulatory approvals process under the RIT-T<sup>8</sup>.

This is further detailed for key New South Wales projects below<sup>9</sup>:

Project	First identified	Initial Cost Estimate (Year)	Current Cost Estimate (Year)	Cost blowout	First expected delivery date	Current expected delivery date
HumeLink	2018	\$1.35 billion (TransGrid PADR - 2020)	\$4.88 billion (Stage 2 CPA – 2023)	3.6x initial estimate	2025	2026
Project EnergyConnect	2016	\$2.28 billion (TransGrid Contingent Project Application - 2020)	\$4.1 billion (2024) <sup>10</sup>	80% increase	2025	2027

<sup>5</sup> AER, [Wholesale electricity market performance report 2024](#), December 2024

<sup>6</sup> AEMO, [Quarterly Energy Dynamics Q4 2024](#), January 2025

<sup>7</sup> Nexa Advisory, [Supercharging Transmission Buildout](#), September 2024

<sup>8</sup> Nexa Advisory and Clean Energy Investor Group, [Inquiry into Feasibility of Undergrounding the Transmission Infrastructure for Renewable Energy Projects](#), July 2023

<sup>9</sup> Adapted from Nexa Advisory, [We Plan and then Don’t Build](#), May 2024

<sup>10</sup> RenewEconomy, [Déjà vu on transmission project cost blowouts as price of EnergyConnect doubles](#), 10 Feb 2025

*We support opening the market of delivery for the state's transmission network infrastructure as the best method of overcoming these challenges and building these critical projects on time and budget<sup>11</sup>.*

This is discussed in further detail below.

## **1. All transmission projects in New South Wales should be contestable and open to the market to better manage risk and align incentives for timely transmission infrastructure delivery**

Australia's transmission market is highly concentrated, which has led to:

- **Cost overruns and inefficiencies** due to the regulated monopoly model, where cost increases are passed directly to consumers.
- **No financial penalties for project delays**, reducing incentives for timely project completion.
- **Opaque procurement processes**, which limit opportunities for new entrants to provide innovative solutions.

Our analysis shows \$13 billion of costs could be saved by opening Australian transmission markets to effective competition<sup>12</sup>.

While there are many barriers to competition in transmission delivery, a key issue which persists – even in the current New South Wales framework – is that the regulated monopoly model for funding transmission in the NEM ensures all costs fall to customers via Network Use of Service charges.

Meanwhile, there are weak incentives for the monopoly TNSPs to minimise capital costs, ensure timely energisation, and to maximise opportunities for innovation and the adoption of new technology and methods.

As such, we consider that full contestability would see the identified need for transmission network services be met through competitively designed, procured, constructed, owned, operated and maintained by the party which demonstrates it can do so while maximising the long-term net benefit to consumers.

Current contestability arrangements in the New South Wales framework must be expanded and applied to all future transmission projects. If this is adopted, removing the selection process / function of the Infrastructure Planner to deem projects contestable (or non-contestable) would minimise the regulatory complexity and burden of this process.

## **2. Clear roles and responsibilities are critical to streamline the planning arrangements**

New South Wales must appoint a single, independent entity to coordinate transmission planning and delivery across the state. This would see the responsibility for planning and

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<sup>11</sup> Nexa Advisory, [Transmission Contestability in Australia](#), June 2023

<sup>12</sup> Ibid

competitively tendering projects sit squarely with one entity – similarly to the function of VicGrid in Victoria.

We note the current complexity of governance arrangements, which sees transmission planning activities undertaken across:

- **EnergyCo** - including its role as Infrastructure Planner for the first five New South Wales REZs, and other functions of the Infrastructure Planner under the EII Act.
- **Transgrid** - including its role as the New South Wales Jurisdictional Planning Body under the National Electricity Rules and its delivery of the Transmission Annual Planning Report (TAPR)
- **AEMO** - including its role as system planner for the NEM and its delivery of the Integrated System Plan (ISP)
- **AEMO Services** - including its role as the Consumer Trustee under the EII Act and its delivery of the Infrastructure Investment Objectives (IIO) Report

Appointing one entity to be accountable for planning also ensures independence between these roles / entities – which is critical to avoid conflicts of interest and ensure that transmission planning and procurement decisions prioritise efficiency, competition, and long-term consumer interests, rather than the commercial interests of a single network operator.

We note the delivery of the Central-West Orana REZ Infrastructure Project under the New South Wales contestable framework by ACEREZ. Although this project is being delivered competitively, the project was delayed due to an expansion of its capacity, and route changes due to a lack of community support. In December 2023, EnergyCo announced that the initial intended network capacity of 3 GW would be increased to 6 GW to allow for 7.7 GW of renewable energy and storage projects to connect<sup>13</sup>. This has seen the project delayed from 2025 when it was first expected to be delivered until 2028<sup>14</sup>.

This provides a good example of how greater upfront work by a single government entity accountable for planning for the state could have benefited the early planning of the project.

### ***Independence in Contestability and Procurement Decisions***

We consider all projects should be opened to the competitive market and delivered competitively. This would mitigate the potential for bias towards the incumbent TNSP and minimise the burden currently seen throughout the procurement determination made by the Infrastructure Planner.

At present, a key function of the Infrastructure Planner is determining whether a network infrastructure project is procured through contestable or non-contestable arrangements under the *Electricity Infrastructure Investment Act 2020* (EII Act). This role assesses each project to decide the appropriate procurement method based on factors such as project complexity, integration with existing infrastructure, and market capability, declaring:

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<sup>13</sup> EnergyCo, [Central-West Orana REZ Access Scheme Headroom Decision](#), 16 January 2025

<sup>14</sup> RenewEconomy, [NSW renewable zones face delays and cost blowouts as questions hang over Eraring](#), 25 May 2023

- **Contestable projects** when they can function independently from existing network assets and when there is sufficient market capability to deliver the project, making them suitable for third-party development<sup>15</sup>.
- **Non-contestable projects** when significant interaction with existing assets makes contestable delivery impractical<sup>16</sup>.

Given Transgrid’s dual role as both Jurisdictional Planning Body and Network Operator (where selected), it is critical that the Infrastructure Planner remains independent to ensure contestability decisions are made objectively, without bias toward network expansions that solely benefit the incumbent TNSP.

For contestability to be effectively implemented, the Infrastructure Planner must maintain full discretion over the declaration of contestable projects, ensuring that competitive procurement is prioritised where feasible. This avoids a scenario where Transgrid, as the dominant transmission provider, influences procurement decisions to its own benefit, reinforcing monopolistic inefficiencies and increasing costs for consumers.

By maintaining its independence, EnergyCo ensures that contestability is applied where possible and that transmission planning remains focused on system-wide efficiency rather than reinforcing regulated monopoly structures. This is particularly important given the scale of New South Wales’ energy transition and the need for cost-effective, timely transmission delivery.

### **3. The role of virtual transmission using and non-network solutions is critical**

The Infrastructure Planner must better explore opportunities for emerging and innovative non-network solutions. These must be delivered in open and transparent tenders and not be monopolised by existing regulated monopoly electricity distribution and transmission network providers. These solutions - such as grid-forming battery storage, demand response mechanisms, and virtual transmission - can provide cost-effective alternatives to traditional network investments.

One potential mechanism for achieving this is the introduction of an independent expression of interest process for non-network solutions, enabling EnergyCo to engage directly with market participants without the influence of the Jurisdictional Planning Body or Network Operator. This would allow for a more robust assessment of innovative technologies and ensure that emerging alternatives receive fair consideration within transmission planning and procurement.

#### ***Development challenges for BESS are relevant for transmission planning***

Since BESS are a key virtual transmission or non-network solution, the broader challenges they face in planning and connection – including under the state’s access scheme<sup>17</sup> - are relevant to this Review.

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<sup>15</sup> AER, [Revenue determination guideline for NSW contestable projects](#), August 2022

<sup>16</sup> AER, [Revenue determination guideline for NSW non-contestable projects](#), July 2024

<sup>17</sup> RenewEconomy, [Disappointment as tender for access rights to NSW renewable energy zones delayed](#), 1 Nov 2023

We have previously discussed the specific challenges for large-scale storage<sup>18</sup>, which include:

- Planning application costs and processing times – reflecting that planning processes used for storage projects are not fit-for-purpose, as they are subject to the same processes used for other large renewables projects
- Securing a connection – being required to undertake complex connection processes with AEMO and the relevant TNSP
- TNSPs competing to own and operate batteries – with TNSPs being granted ring-fencing waivers by the AER to own and operate batteries, providing an unfair advantage over third-party providers of batteries, which may be used to provide network services or non-network solutions.

Although outside the immediate scope of this Review, addressing these challenges is relevant for the delivery of non-network solutions and for achieving the objectives of the New South Wales Electricity Infrastructure Roadmap - delivering 12 GW of new renewable electricity generation and 2 GW of long-duration storage by 2030.

***These solutions must be considered across the transmission and distribution network***

We are also pleased that the Terms of Reference of this Review includes:

*Distribution network planning for the higher-voltage parts of the NSW electricity distribution network that may be suitable for the connection of grid scale generation and storage, having regard to the changing model of distribution networks.*

Nexa Advisory considers that there is a clear opportunity for the Infrastructure Planner to better assess the role of innovative non-network solutions across the transmission, sub-transmission and distribution networks which may contribute to meeting the objectives of the New South Wales Roadmap.

We consider this broader perspective beyond the transmission network exclusively is needed and would allow the Infrastructure Planner to have a greater role in facilitating innovation across the New South Wales energy system. This could include:

- virtual transmission and system integrity protection (exemplified by the Waratah Super Battery, as discussed in the below case study);
- grid-connected Battery Energy Storage Systems (BESS); and
- demand-side measures – particularly for large loads expected to connect in New South Wales, such as data centres.

**Case study - Waratah Super Battery**

The Waratah Super Battery is being delivered as a Priority Transmission Infrastructure Project under the New South Wales framework<sup>19</sup>. This project highlights the benefits of non-network solutions, as well as contestable delivery.

<sup>18</sup> Nexa Advisory, [Energy Storage Financeability in Australia](#), March 2024

<sup>19</sup> EnergyCo, [Waratah Super Battery](#), accessed August 2024

Announced in 2022, the project is expected to be completed by 2025 and is comprised of:

- a System Integrity Protection Scheme (SIPS) provided by a 850 MW / 1,680 MWh BESS, and paired generation services (contestable); and
- Network augmentations and SIPS control (non-contestable)

The contestable elements are delivered via a competitive assessment process, and the non-contestable elements will be carried out by Transgrid as the Network Operator. These are all separately subject to revenue determinations made by the AER.

The contestable process determines the prudent, efficient and reasonable costs via a competitive process, allocating the responsibility for risk management and project delivery to the service provider (Akaysha Energy) and Network Operator (Transgrid). The regulator's role is to assess the competitive process itself, taking a holistic view of the procurement strategy rather than the economic efficiency of costs as under the national regulatory framework.

### ***There is an opportunity for other non-network solutions – including intra-regional and demand-side developments***

The Infrastructure Planner should also explore alternative intra-regional development which minimises the demand for major transmission network development. This may include working with generation or load proponents<sup>20</sup>, including large loads such as data centres, to facilitate co-located generation or other innovative solutions which reduce the need for network infrastructure which is ultimately paid for by New South Wales electricity consumers.

## **4. Upholding transmission and distribution ring-fencing**

Although outside the immediate scope of this Review, the Infrastructure Planner must also remain cognisant of the risks and anti-competitive outcomes associated with regulated TNSP ownership of assets if transmission ring-fencing is not upheld.

Transmission ring-fencing is critical to maintain a fair and competitive energy market. By enforcing clear boundaries between monopoly transmission services and competitive sectors, ring-fencing prevents TNSPs from leveraging their dominant positions to the detriment of emerging competitors.

The Australian Energy Regulator (AER) has recently updated its Electricity Transmission Ring-Fencing Guideline to extend obligations to negotiated transmission services, ensuring that TNSPs do not use their monopoly power to favour their own services over those of competitors<sup>21</sup>.

This also extends to the ownership of non-network solutions by regulated monopoly TNSPs and is relevant in the delivery and connection of non-network solutions such as BESS.

Failing to uphold ring-fencing provisions risks incumbent network players exercising their monopoly power, stifling innovation and resulting in an uncompetitive outcome.

<sup>20</sup> Similar to 'market-led' development discussed in the recent REZ design [consultation](#) by Powerlink

<sup>21</sup> AER, [Ring-fencing guideline \(electricity transmission\) 2025](#), February 2025





Thank you for the opportunity to provide input to the Consultation Paper. We welcome the opportunity to further discuss any aspect of our report or submission - please contact either myself or Jordan Ferrari, Director - Policy and Analysis, [jordanferrari@nexaadvisory.com.au](mailto:jordanferrari@nexaadvisory.com.au).

Yours Sincerely,

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