



Name: Nexa Advisory

Submission date: 6/06/2025

1. Reduce the cost of meeting carbon targets

1. What could be done to improve the cost-effectiveness and alignment of policies to reduce emissions across the industrial, electricity and transport sectors?

See attached submission

2. Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

See attached submission

3. Are there any duplicative emissions-reduction policies in the industrial, electricity and transport sectors which could be streamlined?

See attached submission

2. Speed up approvals for new energy infrastructure

1. Are planning and approvals processes for large energy infrastructure taking too long? If so, what causes the most delay?

See attached submission

2. How can planning and approvals processes be sped up without unduly compromising regulatory standards?

See attached submission

3. Should clean energy projects be treated differently to other projects for the purpose of environmental and other approvals? If so, how?

See attached submission

4. What can be done to build local community support for new energy infrastructure projects?

See attached submission

5. Please outline any evidence showing the productivity benefits of faster approvals for energy projects.

See attached submission

3. Encourage adaptation by addressing barriers to private investment

1. What are the barriers and enablers impacting decisions by owner-occupiers, landlords and developers about how housing is built and updated over time so that it is resilient to the effects of climate change?

See attached submission

2. What information do people need to make decisions about where to live, how to build and how to upgrade their homes to appropriately factor in climate change?

See attached submission

3. What are the most cost-effective retrofitting options for improving the resilience of Australia's existing housing stock? What are their costs and benefits?

See attached submission

4. What role might minimum standards play in ensuring the resilience of Australia's housing stock?

See attached submission

5. The impacts of climate change are being factored into the regulation of where and how houses are built in different ways around Australia. What does leading practice look like? Where is there room for improvement? Are there lessons we can learn from other countries?

See attached submission

Cover sheet: Supporting document #1

6 June 2025

Productivity Commission
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Submitted electronically

Submission to Productivity Commission - Pillar 5: Investing in cheaper, cleaner energy and the net zero transformation consultation

Nexa Advisory welcomes the opportunity to respond to the Productivity Commission's consultation on Pillar 5: *Investing in Cheaper, Cleaner Energy and the Net Zero Transformation*.

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

The energy and electricity sector is integral to Australia's economic productivity and growth. We are currently at a critical juncture to take advantage of a once in a lifetime transformation to our energy system brings significant economic growth, create jobs and ensure that Australia can continue to be an energy powerhouse to the rest of the world.

We are already one of the largest exporters of energy resources globally. In the 2023–24 financial year, Australia earned \$415bn from resource and energy commodity exports underscoring our status as a global energy powerhouse¹.

Our position as a clean energy superpower is all at risk unless we set the ambition and prioritise our clean energy transition. This will require changing our governance, priorities and energy strategy to replace our coal and gas exports with clean energy resources. This presents an opportunity to enhance our productivity and economic prosperity, without missing out on the value provided by Australia's abundant natural resources and critical minerals which will be needed for global decarbonisation efforts.

However, while our political leaders talk the talk on Australia being a clean energy superpower, the nation's current strategic priorities and plans are not adequate to meet this potential. In particular, our national energy policies are failing to meet our domestic energy needs. Ongoing misalignment in government priorities – particularly around the closure of coal-fired power plants – have resulted in an ongoing electricity reliability risk. This perceived risk is resulting in knee-jerk reactions from state governments, such as support for the extension of coal-fired

¹ Australian Government, [Resources and Energy Quarterly](#), March 2025

power plants², and gas storage and import terminals³ – despite export Liquefied Natural Gas comprising 74% of all gas demand in the East Coast Gas Market⁴.

Key recommendations

We propose four key areas where the Productivity Commission can help to unlock the potential of Australia becoming a clean energy superpower:

1. The outcome of this Productivity Commission work should inform a renewed Strategic Energy Plan (SEP) 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 – through network governance arrangements.

2. Ensure orderly coal exit to provide certainty to bring in the necessary renewable generation, storage and transmission

The ongoing lack of coordinated and orderly coal closures and delays in transmission infrastructure approvals and delivery are resulting in a disorderly transition which is driving up the cost of decarbonisation in the electricity sector.

The Productivity Commission should also improve how the value of emissions reduction is considered both across government decision-making, and by the private sector – including coal-fired power stations.

3. Provide certainty to investors to ensure we mitigate capital flight

Speeding up approvals for new energy infrastructure is key to unlocking \$142bn in investment needed by 2050. There is currently 30 GW of solar, 15 GW of wind and 25 GW / 60 GWh of large-scale battery storage projects in the pipeline which can be accelerated with:

- Certainty around transmission delivery; and
- Greater alignment between energy infrastructure planning and government support.

² NSW Government, [Agreement between the state of NSW and Origin on its plans for Eraring power station](#)

³ Premier of Victoria, [Major Milestone For Gas Import Project](#)

⁴ AEMO, 2025 Gas Statement of Opportunities

4. Undertake an independent review of the role and performance of electricity distribution networks

Australians have already invested over \$20bn since 2018 in Consumer Energy Resources (CER), putting the power in people's hands and providing electricity reliability and resilience for the broader system. 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.

The Productivity Commission must undertake an independent review into the role and performance of electricity distribution networks, as the AER is not providing the appropriate oversight to protect the long-term interest of consumers. 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 our submission is structured as follows:

- context of the relevance of the energy sector to this consultation
- further detail of these recommendations – including relevant barriers to the energy transition, and the relevance to each of these to the Productivity Commission's reform areas.

Thank you for the opportunity to provide input to this consultation. We welcome the opportunity to further discuss any aspect of our submission - please contact either myself on

stephaniebashir@nexaadvisory.com.au or Jordan Ferrari, Director - Policy and Analysis, jordanferrari@nexaadvisory.com.au.

Yours Sincerely,

Stephanie Bashir
CEO and Principal
Nexa Advisory

Relevance of the energy sector to the Productivity Commission's reform areas

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. To meet our 82% renewable target by 2030, we must build 6GW per year, we are not reaching 3 GW⁵. This is not an ambitious target to become an energy superpower; it is simply to maintain reliability as coal exits the system.

The cost of this delay will ultimately be borne by Australian households and businesses, who will face higher electricity prices, reduced system reliability, and missed opportunities to build a productive, low-emissions economy.

Nexa Advisory supports the focus on three reform areas outlined in the consultation questions. However, we encourage the Productivity Commission to recognise the barriers to productivity and affordability in the energy transition before implementing any policy recommendations in these areas. These are shown below:

Reform area	Key barrier for the energy sector
Reduce the cost of meeting carbon targets	• Uncoordinated and disorderly coal closures
Speed up approvals for new energy infrastructure	• Delays in transmission infrastructure approvals and delivery
Encourage adaptation by addressing barriers to private investment	• Governance and regulatory challenges in distribution networks

We have consistently advocated federal and state governments and Energy Ministers to accelerate action in these areas⁶, and note the alignment with several other reforms currently underway – including the *National Electricity Market (NEM) wholesale market settings review*.

We support the Productivity Commission's view around enduring, broad-based market mechanisms being the best method to achieve economically efficient decarbonisation. As noted in the Productivity Commission's submission⁷, this review is focused on ensuring enduring and efficient market signals for the wholesale electricity market, as well as improved consumer interaction between CER and market signals.

⁵ AEMO, 2024 ISP

⁶ Nexa Advisory, [Submission on the NEM Wholesale Market Settings Review](#), February 2025

⁷ Productivity Commission, [Submission to the National Electricity Market wholesale market settings review](#)

1. The outcome of this Productivity Commission work should inform a renewed Strategic Energy Plan (SEP) by State and Federal Energy Ministers

As highlighted in our submission to the Select Committee on Energy Planning and Regulation in Australia in October 2024⁸, several reviews have identified 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 Partnership⁹, 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^{10,11} and rule changes¹².
- national coordination and accountability for delivery of the nation-building transmission infrastructure¹³.

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 2050¹⁴. 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 consumers¹⁵.

Policy certainty and national coordination would also inform the strategic and policy direction of the energy market bodies – the Australian Energy Regulator (AER), Australian Energy Market Commission (AEMC), and AEMO. This should clearly set the expectations of how the Energy

⁸ Nexa Advisory, [Submission on the Select Committee on Energy Planning and Regulation in Australia](#), October 2024

⁹ Energy and Climate Change Ministerial Council, [National Energy Transformation Partnership](#), August 2022

¹⁰ Nexa Advisory, [Orderly Exit Management Framework Draft Exposure Bill and Rule submission](#), July 2024

¹¹ For example, the [NSW Government decision to extend Eraring coal power station](#)

¹² AEMC, [Allowing AEMO to accept cash as credit support](#), October 2024

¹³ Nexa Advisory, [Supercharging Transmission Buildout](#), September 2024

¹⁴ AEMO, [2024 Integrated System Plan](#), June 2024

¹⁵ Nexa Advisory, [The Consumer Cost of Transmission Delays](#), July 2024

Ministers and market bodies acknowledge and measure the shifting market and system trends and manage this transition. It is critical that these bodies retain independence and are held accountable to delivering on these expectations.

2. Ensure orderly coal exit to provide certainty to bring in the necessary renewable generation, storage and transmission

2.1. Ensuring orderly coal closures

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 these case studies are shown below.

Eraring Power Station

- 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.
- 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. This could cost New South Wales taxpayers up to \$450 million.

Yallourn Power Station

- Yallourn has exhibited elevated unplanned outages over the last decade – with an annual unplanned outage rate of 32 per cent in 2024

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.

Callide Power Station

- Since 2020, the average total downtime across its two units has been around 4,000 hours – equivalent to each unit being offline for 12 weeks a year
- Annual unplanned outage rate spiked to 70% in 2014 following coal supply issues – and 42% in 2024 due to ongoing unplanned outages and maintenance
- Callide C has faced significant outages since the catastrophic failure of one of its units in 2021, and the subsequent failure of the other unit in 2022. These remained offline until August and April 2024 respectively

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. It is also a key driver of higher market volatility and contract prices, which result in higher consumer electricity bills¹⁶.

¹⁶ AER, [Wholesale electricity market performance report 2024](#), December 2024

Why it matters for the Productivity Commission – reducing the cost of meeting carbon targets

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 2029¹⁷, 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 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 consumers¹⁸.

The Productivity Commission should investigate the introduction of a framework mechanism that provides a clear and enforceable timetable for coal-fired plant closures that 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 of use the OEM Framework by a jurisdictional minister presents a significant challenge to investors in new renewable generation and batteries¹⁹.

The Productivity Commission should also improve how the value of emissions reduction is considered both across government decision-making, and by the private sector – including coal-fired power stations.

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 emissions²⁰. Decarbonising this sector not only directly reduces emissions but also enables the electrification of other sectors like transport and industry.

¹⁷ NSW Government, [Agreement between the state of NSW and Origin on its plans for Eraring power station](#)

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

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 CO₂-e,
- NSW Government incorporates cost-benefit analysis guidelines²¹ 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.

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.

To enhance the efficiency and efficacy of emissions reduction in the electricity sector, it is imperative to establish 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.

2.2. The consumer cost of transmission delays

The factors contributing to the slow transition are many and complex²². A key issue is the ongoing delays to new transmission projects, particularly transmission interconnectors.

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.

We have previously discussed that delayed transmission buildout results in increased wholesale electricity prices which flow through to consumer bills and deteriorate electricity reliability outcomes - which in turn increase demand for more costly peaking gas generation²³. The impact of transmission delays results in an overall increase in residential and business bills across the NEM, which progressively rise with the length of delays - as shown in the tables below.

²¹ NSW Treasury, [Carbon emissions in the Investment Framework](#)

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

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)

Continued transmission delays are a key risk to developers, driving up consumer electricity bills and threatening energy reliability²⁴. Major transmission projects continue to be delayed by 3 years (on average), resulting in transmission delivery risk that hinders investment in new generation projects²⁵.

Why it matters for the Productivity Commission – speeding up approvals for new energy infrastructure

There is a great deal of positive investor sentiment about new renewable generation and storage in the NEM, but as demonstrated by the New South Wales Renewable Energy Zones (REZ) - even expedited approaches to new transmission and firmed renewable generation are experiencing delays and cost increases²⁶.

The Productivity Commission has a role to better incorporate these costs of delays into whole-of-government decision-making.

AEMO's 2024 ISP outlines the optimal development path (ODP) of new grid-scale generation, storage and transmission investment needed to deliver power system reliability and security at the lowest long-run cost to consumers. If delivered on time and budget, the transmission developments required by 2050 amount to \$16 billion in annualised costs but provide \$38.2 billion in gross benefits to consumers – equating to \$22 billion in net market benefits.

Since delays in building transmission on time reduce the net benefits, this 'cost of inaction' must be better incorporated into federal and state government decision-making, as well as the public discussion around the cost of the transition²⁷.

²⁴ Nexa Advisory, [The Consumer Cost of Transmission Delays](#), July 2024

²⁵ Nexa Advisory, [We Plan and then Don't Build](#), May 2024

²⁶ RenewEconomy, [NSW renewable zones face delays and cost blowouts as questions hang over Eraring](#)

²⁷ Nexa Advisory, [A Solution Looking for a Problem](#), November 2024

The Productivity Commission must address regulatory inefficiencies and burden resulting for poor transmission planning and coordination to expedite planning approvals.

The inadequacy of the regulatory environment is the greatest challenge to timely transmission delivery. It was designed to support the incremental build and renewal of our power system. It is simply not able to facilitate the fundamental restructure and expansion that is required for the energy transition. Fragmented regulation is a barrier to entry for transmission, leading to delays, unnecessary cost to consumers and uncompetitive delivery outcomes²⁸. Although we have a rigorous planning process, there is a lack of accountability for delivery²⁹.

While jurisdictional schemes have attempted to address planning and coordination, there remain challenges around the regulatory complexity of these derogations from the national framework, and misalignment between government workstreams – e.g., between energy and planning and approvals.

We have recently discussed this as part of the New South Wales Transmission Planning Review – where the jurisdictional framework has attempted to address key challenges associated with delivering transmission but have introduced complex governance arrangements and allocation of responsibilities between multiple New South Wales Electricity Infrastructure Roadmap entities³⁰.

Additionally, difficulty around grid connection has also been a challenge for renewable energy and storage projects across the NEM – particularly for projects which are subject to controlled access when connecting outside of REZs. For example, as part of Victoria’s access arrangements – developers will be required to undertake a Grid Impact Assessment process, which could involve complex and duplicative modelling assessments undertaken across different stages of connection and development.

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.

3. Provide certainty to investors to ensure we mitigate capital flight

Shown below, 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 30 GW of solar, 15 GW of wind and 25 GW / 60 GWh of large-scale battery storage projects.³¹

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

The approved projects are those in early development stages which are considered somewhat progressed. However, these projects typically still need to undertake further development

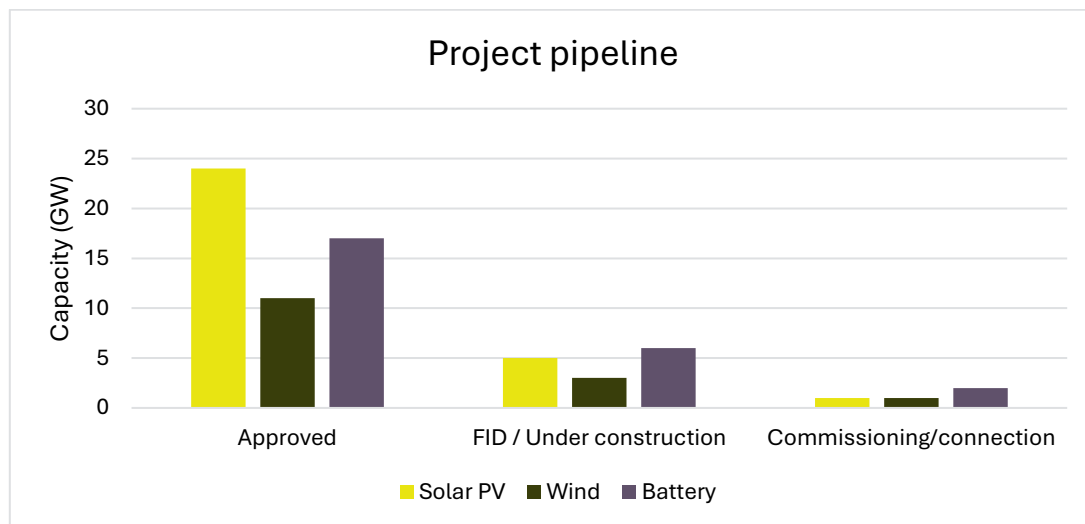
²⁸ Nexa Advisory, [Transmission Contestability in Australia](#), June 2023

²⁹ Nexa Advisory, [Supercharging Transmission Buildout](#), September 2024

³⁰ Nexa Advisory, [New South Wales Transmission Planning Review 2025](#), March 2025; [New South Wales Transmission Planning Review 2025 Options Paper](#), May 2025

³¹ Source: AltEnergy; where approved projects are defined as having received state planning, development and/or environmental approvals, and proposed projects are those publicly announced.

activities to progress to construction. These can be supported by state and federal policies – such as the recent National Renewable Energy Priority List.



This bottleneck between project approval and execution highlights the risks posed by regulatory uncertainty, transmission delays and fragmented market signals. Without urgent reform, Australia risks capital flight and project attrition, as developers and financiers shift investment to markets with clearer infrastructure pathways and stronger investor confidence.

Why it matters for the Productivity Commission – reducing the cost of meeting carbon targets and speeding up approvals for new energy infrastructure

The Productivity Commission should recommend whole-of-government actions that accelerate project delivery by improving planning certainty, enabling timely transmission access and coordinating firming investment across jurisdictions.

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 Productivity Commission must address inefficiencies of misaligned government support

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 Commonwealth’s Capacity Investment Scheme, but unsuccessful in receiving access rights to connect to the South West REZ in New South Wales³².

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

³² Reneweconomy, [Four huge wind, solar and battery projects granted grid access, but capacity trimmed in key REZ](#), 23 April 2025

4. Undertake an independent review of the role and performance of electricity distribution networks

4.1. Accelerating CER to deliver reliability and resilience outcomes

CER and demand-side participation (DSP) remain 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.

Recent catastrophic events in the NEM have demonstrated the complex challenges associated with network resilience – including the events impacting Far West New South Wales in October 2024, and the impacts of Cyclone Alfred in Brisbane in March 2025. The recent Broken Hill outage also is a clear example of how a non-network solution (i.e., Silver City Energy Storage Project) could have improved consumer resilience outcomes.

Stand-Alone Power Systems (SAPS) are another alternative, 'non-network' solution which provide network resilience. We have previously discussed the opportunity to leverage this across regional communities to provide a cost-efficient solution and lower overall network costs while enhancing the reliability outcomes for consumers³³. However, barriers to their adoption have included:

- complex market arrangements – including pseudo-competitive retail arrangements; and
- difficulty in determining the costs and benefits of locating SAPS across the local electricity networks, due to a lack of network data.

As such, these solutions are not being adequately explored in system planning or delivered competitively. Few SAPS have been developed in the NEM and where they have been developed, they have mostly been for 1-3 isolated customers³⁴.

Understanding the total system costs and benefits of these solutions is currently limited within system planning. We have previously discussed that the key objectives for including distribution network developments within the ISP should be to³⁵:

- improve transparency of distribution network developments in system planning, reducing information asymmetry which currently exists in the market; and
- provide a whole-of-system lowest cost development pathway which bolsters the robustness of existing network development plans published by distribution networks.

Why it matters for the Productivity Commission – reducing the cost of meeting carbon targets and encouraging adaption by addressing barriers to private investment

³³ Nexa Advisory, [Including distribution network resilience in the National Electricity Rules](#), November 2024

³⁴ Nexa Advisory, [Accelerating Consumer Energy in Australia](#), April 2024

³⁵ Nexa Advisory, [Submission to the Draft ISP Methodology](#), April 2025

While work to value network resilience in the electricity sector, there remains a broader need to consider how resilience solutions can be delivered without necessarily resorting to costly network expenditure, under the regulated asset base of regulated DNSPs³⁶.

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 Productivity Commission can play a role to better understand the value of resilience network services and delivering non-network solutions through innovative, competitive business models – rather than as part of the regulated distribution network regime.

The Productivity Commission should undertake an independent review of the role and performance of electricity distribution networks, and the Australian Energy Regulator's enforcement of these regulated monopoly businesses.

This is further detailed below.

4.2. 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 prices³⁷.

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.

There is a critical need to reassess the roles of traditional and innovative players in the energy retail and distribution network landscape.

Under existing regulatory monitoring, the ACCC plays an informal role in assessing the competitiveness across the wholesale and retail markets³⁸, and the AER oversees network, retail and wholesale market performance as part of its performance reporting function.

Despite these regulatory monitoring efforts, there is a notable gap around the role of DNSPs. While there is a focus on wholesale and retail market competitiveness, the 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

³⁶ Nexa Advisory, [Including distribution network resilience in the National Electricity Rules – draft determination](#), March 2025

³⁷ Nexa Advisory, [Accelerating C&I rooftop solar and batteries is a 'win win' Discussion Paper](#), June 2024

³⁸ Ibid

AER's recent ring-fencing class waiver for Community batteries³⁹, which though limited in application, set a precedent which could undermine the intention of ring-fencing⁴⁰ to protect competitive market dynamics and consumer outcomes for regulated network monopoly businesses⁴¹.

In addition to the need for ring-fencing, we have also previously discussed that the interaction between DNSP and retailer tariffs is a critical contention within pricing. There is an opportunity to explore the governance arrangements, roles and responsibilities of these parties, as well as new entrants such as resource aggregators and other service providers⁴².

Why it matters for the Productivity Commission – encouraging adaption by addressing barriers to private investment

We consider that the ongoing challenges seen at the interface of regulated DNSPs and energy consumers presents a critical risk to the efficiency of the energy market.

This has been recognised as part of the NEM wholesale market settings review – through both the Panel and submissions which highlighted that CER and demand-side resources - such as demand-side response, behind-the-meter storage, and flexible loads - function as 'invisible market participants'. These resources are not directly observable or dispatchable within the spot market, leading to a misalignment between their operational capabilities and the market's price signals. Consequently, the demand elasticity and responsiveness to market signals become 'fuzzy,' introducing significant uncertainty into forecasting and planning processes and representing a risk of price inefficiency.

While the AEMC has considered this as part of their recent Consumer Pricing Review – there remains a critical need to review the role of networks.

The Productivity Commission must undertake an independent review into the of the role and performance of electricity distribution networks, as the AER is not providing the appropriate oversight to protect the long-term interest of consumers.

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).

³⁹ AER, [Batteries funded under the Commonwealth Government's Community Batteries for Household Solar Program - Ring-fencing class waiver](#), February 2023

⁴⁰ AER, [Electricity distribution Ring-fencing Guideline Explanatory statement](#), November 2021

⁴¹ Nexa Advisory, [Community battery class waiver submission](#), January 2023

⁴² Nexa Advisory, [AEMC Electricity pricing for a consumer-driven future: Draft Terms of Reference submission](#), August 2024