

Pathways Call for Evidence Submission

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NSW Net Zero Commission – Decarbonisation pathways for NSW: Call for evidence

14 August 2026

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About the Justice and Equity Centre

The Justice and Equity Centre stands for a society that is fair and free from discrimination and disadvantage. Established in 1982 as the Public Interest Advocacy Centre (PIAC), we use the law and policy advocacy to challenge injustice and inequality. We do this through:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change to deliver social justice.

Energy and Water Justice

Our Energy and Water Justice work improves regulation and policy so all people can access the sustainable, dependable and affordable energy and water they need. We ensure consumer protections improve equity and limit disadvantage and support communities to play a meaningful role in decision-making. We help to accelerate a transition away from fossil fuels that also improves outcomes for people. We work collaboratively with community and consumer groups across the country, and our work receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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1. Introduction

The Justice and Equity Centre (JEC) welcomes the opportunity to respond to the Net Zero Commission's (Commission) Call for Evidence.¹ The advice of the Commission is critical to ensuring NSW meets its near-term legislated emissions reduction targets. This process is particularly important in laying the foundation for future emissions reduction and ensuring progress also improves fairness in energy, housing and transport outcomes in NSW, particularly for those already experiencing disadvantage.

Our submission builds on the Commission's recommendations in its 2026 Annual Progress Report. It offers recommendations regarding how to best to prioritise solutions in order to maximise near-term emissions reduction while promoting fairness and equity.

While the emissions reduction task requires economy-wide action, prioritisation must be given to actions addressing near-term emission reduction.

2. A rapid and fair energy transition

The JEC supports accelerating the transition in ways that leave all NSW households better off.

Climate change is a critical threat to everyone, but has a greater impact on people and communities already experiencing disadvantage. They're also the least equipped to cope with its effects and enact changes to benefit from transition efforts.²

The JEC's vision – and the central vision which should inform advice from the Commission – is for a transition that is:

- **rapid** – because working quickly is required to avoid the worst climate impacts.
- **fairly costed** – because the transition comes with significant costs, and we must ensure they are shared fairly, and people experiencing disadvantage don't pay an unfair share.
- **for everyone** – because the significant change involved in the transition offers opportunity for everyone to benefit from clean, affordable energy regardless of their capacity to invest in technology.

Household energy use, including in increasingly electrified homes, is an essential underpinning of health, wellbeing and economic participation and productivity. When transitioning the energy sector, putting equity for households and the community front and centre, will ensure the transition is toward a cleaner, fairer and more prosperous future for the community.

¹ <https://www.netzerocommission.nsw.gov.au/engagement-consultation/decarbonisation-pathways-call-evidence>.

² See DCCEEW Cth, *National Adaptation Plan*, 2025, <https://www.dcceew.gov.au/sites/default/files/documents/national-adaptation-plan.pdf>, p.40; DCCEEW NSW, *NSW Climate Change Adaptation Plan 2025-2029*, 2024, <https://www.climatechange.environment.nsw.gov.au/sites/default/files/2024-10/NSWClimateChangeAdaptationActionPlan2025-2029.pdf>, p.12.

3. Electricity and energy sector

3.1 Near term electricity emission reductions are critical

Electricity generation specifically accounts for 31.8% of Australia's overall emissions.³ Rapid decarbonisation of NSW energy system is critical to reach both NSW and National emissions targets and stay within our emissions budgets.

The Australian Energy Market Operator (AEMO) calculated carbon budgets for the NEM, which are used in the development of the ISP. They describe a slow, medium or accelerated approach to reducing emissions, and show we're falling alarmingly behind. The middle or 'Step Change' scenario has a total emissions budget of 583 MtCO₂-e from 2026 to 2050.⁴ If recent emission rates of around 120 MtCO₂-e per year continue, the NEM carbon budget to 2050 will be exceeded by 2031.⁵

3.1.1 Emission budgets are critical in all emissions decisions in the years before net-zero

Prioritisation of action must be guided by consideration of emissions budgets.

Our national emissions reduction commitments include both a net zero by 2050 target and emissions budget targets.⁶ Emissions budgets are calculated to ensure global temperatures stay below 1.5C in global warming. They work alongside the net zero by 2050 target and are a critical consideration in prioritising action.

If we exceed emissions budgets between now and 2030, we will need to drastically increase our rate of emission cuts in the future or try to 'reverse' emissions to undo climate change. These are both more expensive and riskier than near time emissions reduction.

Recommendation 1

That the Net Zero Commission provide clear guidance to the NSW Government on the importance of emissions budgets, and meeting near term emissions targets.

3.1.2 The pace of change is too slow

³ Quarterly Update of Australia's national Greenhouse Gas Inventory, December 2025, <https://www.dcceew.gov.au/sites/default/files/documents/quarterly-update-australias-national-greenhouse-gas-inventory-dec-2025.pdf>, p.14.

⁴ See section 3.2 AEMO 2023 IASR, and section 3.2.3 of the 2025 IASR.

⁵ See generally the article recently published in Renew Economy - <https://reneweconomy.com.au/climate-scientists-warn-of-record-rate-of-global-warming-carbon-budget-to-be-exhausted-in-3-years/>.

⁶ See the emission budgets in - [Australia's first NDC](#) to 2030 – including Table 1, rows 1.1.1.2 and 1.4.7., and [Australia's second NDC](#) to 2031-2035, Annex A, Row 1b. See also section 10(1), *Climate Change Act* 2022 (Cth).

As the Commission has highlighted, the pace of emissions reduction is not sufficient to meet NSW legislated interim targets of reducing emissions by 50% by 2030, 70% by 2035.⁷

In NSW while 2005 Electricity and energy sector emissions figures were approximately 60 MtCO₂-e, they have remained relatively stable around 43 MtCO₂-e, notwithstanding the large amounts of new renewable generation.⁸ This is largely due to the continued operation of coal generators.

The replacement of NSW remaining coal generation with renewable generation is therefore not just critical for the electricity sector, but for the wider economy. Households and businesses rely on electricity for their energy supply, and this use will increase further as they transition away from fossil fuel use for heating and transport.⁹ Ensuring coal generation closure is then the highest priority for near emissions reduction and staying 'within budget'.

3.2 Closure of NSW coal generation units is critical

The closure of NSW remaining coal generation units remains the most critical near-term climate goal for NSW and particularly the energy sector.

The electricity sector is collectively the largest emitter in NSW.¹⁰ The NSW Net Zero Emissions Dashboard¹¹ records how public electricity emissions have been declining, but at relatively slow rate. This includes emissions of 43.3 MtCO₂-e in 2022, 42.5 MtCO₂-e in 2023, and 40.9 MtCO₂-e in 2024.¹² The vast majority of emissions are from coal generation.

There are four remaining power stations in NSW and in 2023-24 collectively produced just over 40 MtCO₂-e.¹³

In 2024-25 they continued to collectively produce just over 39 MtCO₂-e. The four coal power stations produced in 2024-25 the following emissions to the nearest 0.1 MtCO₂-e -

- Eraring 13.5 MtCO₂-e
- Bayswater 13.3 MtCO₂-e
- Vales Point 6.1 MtCO₂-e

⁷ NSW Net Zero Commission, 2026 Annual Progress Report, <https://www.netzerocommission.nsw.gov.au/sites/default/files/2026-07/Net-Zero-2026-Annual-Progress-Report.pdf>, (2026 Annual Report), pp. 5, 39-41.

⁸ 2026 Annual Report, p.47.

⁹ Annual Report 2026, pp.5, 8, 47; The Commonwealth Government Net Zero Plan places achieving rapid and deep emissions reduction in energy at the centre of the transition. Three of the five key priorities for action are relevant to the AEMC and its rule making powers. Namely, clean electricity across the economy, lowering emissions by electrification and efficiency, and expanding clean fuels. The plan makes clear the expectation electricity and energy is the sector of the economy delivering most emissions reductions to 2035. See Cth Net Zero Plan, pp.5-13, and chapter 5 including Figures 3.3 – p.30, and Figure 5.1 – p.44.

¹⁰ 2026 Annual Report, p.47.

¹¹ See <https://www.seed.nsw.gov.au/net-zero-emissions-dashboard>.

¹² See <https://www.seed.nsw.gov.au/net-zero-emissions-dashboard>.

¹³ Cite CER data 2023-24, <https://cer.gov.au/markets/reports-and-data/nger-reporting-data-and-registers/electricity-sector-emissions-and-generation-data-2023-24>, (Eraring 13,550,220 tCO₂-e; Bayswater 13,712,719 tCO₂-e; Vales point 7,111,963 tCO₂-e; Mount Piper 5,672,338 tCO₂-e).

- Mount Piper 6.0 MtCO₂-e ¹⁴

Currently the announced *closure dates* and *expected closure year* are -

- Eraring April 30 April 2029 (closure date)
- Bayswater 2033 (expected closure year)
- Vales Point 2033 (expected closure year)
- Mount Piper 2040 (expected closure year)¹⁵

These 4 generators are comprised of 12 individual coal generation units, which are all greater than 30 MW and hence scheduled generation units. The NER require -

- All generators provide an *expected closure year* for each individual generating unit. Nothing restricts this date being amended. (See rule 2.1B.3).
- Generators must provide notice of the *closure date* of scheduled generation units. These can be amended. The minimum notice provide for the closure of a scheduled generation unit is 42 months, unless the Australian Energy Regulator grant an exemption. (See rule 2.10.1(c2)).

Maintaining or accelerating the expected closure schedule of the remaining power stations is critical.

The Commissions 2026 Annual Report – identifies the importance of maintaining the current closure date for Eraring.¹⁶ Equally critical is maintaining – or bringing forward - the expected closure schedule of the three remaining power stations and their constituent units.

Accordingly, options to accelerate the closure of the 12 NSW generating units should be a priority for the Commission. If Bayswater and Vales Point closures are to be closed early, notice would have to be provided by 2029, as the National Energy Rules (NER) requires 3.5 years notice of coal power station closure.¹⁷

The closure dates of the remaining NSW 12 coal generation units currently is dependant on announcements from the commercial operators of these units. Ensuring no further delays is coal closures is, however, as much about the decisions of the NSW government, and those of network companies, as it is of the owners of the generation units. Closure requires new generation and storage assets to be built, and transmission network connections and upgrades to be completed.¹⁸

The NSW Government that can play a critical role in ensuring -

¹⁴ See CER data 2024-24, <https://cer.gov.au/markets/reports-and-data/nger-reporting-data-and-registers/electricity-sector-emissions-and-generation-data-2024-25>. (Eraring 13,511,556 tCO₂-e; Bayswater 13,336,378 tCO₂-e; Vales point 6,157,537 tCO₂-e; Mount Piper 6,040,135 tCO₂-e).

¹⁵ See AEMO, *Generation Information*, <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>, including - *Generation Unit Expected Closure Year – July 2026 – xls file*.

¹⁶ 2026 Annual Report, p. 9, 44, 47.

¹⁷ Rule 2.10.1(c2) NER.

¹⁸ 2026 Annual Report, pp. 35, 44, 47.

- Critical examination of projected coal power closure timelines
- Staged closure of generation units
- Coordination of all government, and market participants' actions
- Incentivise the temporary closure of individual coal generation units
- Timely planning approvals for new renewable generation
- Timely updates to the electricity network and systems
- Clear market signals to ensure sufficient incentives for renewables
- Continued support for the deployment of CER
- Continued community support for the transition
- Data centre connections are consistent with achieving emissions targets

3.2.1 Critical examination of projected coal power closure timelines

The Commission should critically examine the projected closure dates of coal power stations. It should not treat these dates as representing a definitive last date when the power stations will, or are required to, operate.

As discussed above, there is no guarantee as to when closure will occur.

The announced closure dates of NSW coal power stations are based solely on dates put forward by their commercial operators. These decisions are notified to AEMO. To the extent that AEMO provides coal closure dates in planning documents, such as the Integrated Systems Plan, caution should be exercised. This is because there is no guarantee as to when closure will occur. Operators announce expected closure years, and closure dates which are used in scenario planning. While AEMO does say that plants may even retire faster than forecast, there is no guarantee that the required renewables, transmission and system strength will be built in time to match either announced or projected closure dates.¹⁹

The Commission should recommend, undertake or commission its own independent analysis to determine whether in all the circumstances – including new renewable approvals, financial certainty, systems security, and transmission delays – coal generation unit closure dates are likely to be maintained. Moreover, whether they can be brought forward, even if only on a temporary or seasonable basis for individual units.

The Vales Point and Mount Piper power stations represent around 6% of NSW present emissions each, and Eraring and Bayswater power stations represent 12% each.²⁰

Given the significant contribution of each power station to the emissions of NSW, this analysis will then help inform just how significant the risks are of not meeting the 2030 and 2035 targets.

¹⁹ See for example AEMO, 2026 Integrated System Plan, July 2026, <https://www.aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2026-integrated-system-plan-isp>, pp.14-15, including Figure 3.

²⁰ Calculated on the basis that each generation unit is approximately the same capacity. As there are approximately 40 MtCO₂-e across 12 units, this is 3.3 MtCO₂-e per unit, per year. There were a total of 114.5 MtCO₂-e net emissions per year in NSW in 2023-24 (See 2026 Annual Report p.39). Therefore 3.33 MtCO₂-e per year is approximately 2.9 % of annual emissions. We have rounded this down to 2.5%.

3.2.2 Staged closure of coal generation units

The four remaining power stations are not four single machines, but rather collectively represent a total of 12 generation units. These 12 units represent 12 large, independent point sources of emissions in NSW. Each has a capacity of between 620-730 MW.²¹

When viewed as individual generation unit there is the possibility to approach the question of how to minimise the use of each individual coal generation unit, and both accelerate coal unit closure and minimise total emissions through a new lens.

While coal generators need an extended start and shutdown time, and cannot ramp up and down at the same rates as other generation, individual units can be and are shut down at various times, including for scheduled maintenance.

The NSW government should investigate more robust coordination between governments, industry and market bodies, to more actively manage the use of remaining individual coal generation units. Specific attention should be paid to exploring scope to 'mothball' units or temporarily close them on an annual or seasonal basis between now and the notified closure dates of the generator itself. Temporary, or seasonal shut down is an extension of the idea of two-shifting where generation is varied across a single day by coal generators.²²

Scheduled generation units must submit a dispatch bid. The relevant rule 3.8.6 does not require a minimum level of capacity is bid. In our view, the NER contain no prohibition the temporary mothballing or closure of a unit for an extended period, or the seasonal shut down of the coal generation units.

The emissions savings from this practice could be substantial, given the 12 units are collectively responsible for some 39 MtCO₂-e. Closing even one unit one year earlier than scheduled, or shutting down two units each year on a seasonal basis before full closure, will have a substantial impact.

3.2.3 Coordination of government and market participants' actions on coal closures

The timely closure of the four remaining power stations in NSW is of such critical importance that the Commission – and the NSW Government – should consider all options for accelerating the process, shepherding it, or at least ensuring it is delivered not later than scheduled.

The Commission could consider establishing its own specialist advisory committee with the task of advising the Commission on the progress being made on the closure of the four remaining

²¹ See AEMO, NEM July 2026 *Generation Information*, <https://www.aemo.com.au/energy-systems/electricity/national-electricity-market-nem/nem-forecasting-and-planning/forecasting-and-planning-data/generation-information>.

²² <https://www.abc.net.au/news/2024-10-13/australian-coal-plant-in-extraordinary-survival-experiment/104461504>; <https://blog.energy-insights.com.au/two-shifting-coal-generators-a-new-phase-in-australias-energy-transition>

power stations.²³ This advisory committee could explore options to accelerate and coordinate the closure of coal unit closure.

Recommendation 2

That the Net Zero Commission recommend that the NSW Government coordinate the actions of government, industry and market officials to ensure the fastest possible closure, including temporary mothballing and seasonal closure, of each of the remaining 12 individual coal generation units in NSW..

3.3 Priority interventions to ensure faster deployment of renewables

3.3.1 Timely planning approvals for new renewable generation

The CEIG 2026 Clean Energy Outlook highlights that in NSW the issue of planning approvals remains the key renewable investor concern.²⁴

The Commissions' 2026 Annual Report deals extensively with the importance of ensuring timely planning approvals in NSW.²⁵ We support the observations made.

3.3.2 Timely updates to the electricity network and systems

The CEIG 2026 Clean Energy Outlook highlights that in NSW the issue of transmission buildout delays remains the key renewable investor concern.²⁶ We note that this topic is dealt with in the 2026 Annual Report.²⁷

The Commission should give detailed consideration to the issue of systems strength. This is a key topic with respect to questions of how quickly coal generation units can be shut. As large spinning machines are removed from the network, the system strength services they provide must be replaced. The current 'default' approach of investment in synchronous condensers is expensive and subject to significant delays. It is increasingly apparent that more flexible and efficient responses will be possible in system with a large proportion of inverter-based resources.

The JEC sees issues in the manner in which the need for system strength has been established and solutions decided. Some of our reservations are set out in our various submissions to AER and AEMO processes.²⁸

It is not disputed that there are real world challenges to ensuring sufficient systems strength is available before coal generation closures.²⁹ However, the focus should squarely be on achieving

²³ Section 22, *Climate Change (Net Zero Future) Act 2023* (NSW).

²⁴ Clean Energy Investor Group, *2026 Clean Energy Outlook*, 2026, <https://www.ceig.org.au/clean-energy-outlook-2026/> (CEIG 2026 Clean Energy Outlook), p.11.

²⁵ 2026 Annual Report, pp. 9, 36-37.

²⁶ CEIG 2026 Clean Energy Outlook, p.11.

²⁷ 2026 Annual Report, p.51.

²⁸ ~~Cite to our subs~~

²⁹ See for example the recent AEMO rule change proposal, <https://www.aemc.gov.au/rule-changes/security-framework-enhancements>.

the fastest possible coal closures, and therefore the fastest and lowest cost deployment of system strength resources.

The CEIG 2026 Clean Energy Outlook highlights that in NSW the issue of access to the grid and congestion are a key renewable investor concern.³⁰

Removing congestion – particularly through the efficient deployment of battery storage assets - has the possibility of being an easy win. It would allow existing renewables which are currently being curtailed to be deployed more often, thereby driving down electricity generation emissions. It would also provide more scope for the provision of important ancillary system services, such as those associated with system strength. The commission should explore this topic in detail, with a view to making recommendations to the NSW Government.

3.3.3 Clear market signals to ensure sufficient incentives for renewables

The CEIG 2026 Clean Energy Outlook highlights that in NSW the issue of a lack of clear market incentives remains a key renewable investor concern.³¹ There are both Commonwealth and NSW existing and future mechanisms intended to provide financial support to the role out of renewables. These issues discussed in the Commission's 2026 Annual Report.³²

We note that greater focus on coal unit closure and greater certainty that dates will not be exceeded would provide greater investor certainty for renewables.³³

A robust price on carbon would also improve incentives for renewable investment. We discuss this topic in more detail below.

3.3.4 Continued support for the deployment of CER

The 2026 Annual Report provides discussion and recommendations on the uptake of CER. We support Recommendation 2C.³⁴ We do, however, have some reservations on 'urban REZs'. We are concerned that such proposals are poorly framed or defined and there is no clear evidence of what is being proposed as an 'urban REZ' or that it is capable of more efficiently delivering new generation capacity at scale. We are further concerned that DNSP's have not demonstrated that such proposals are equitable – for example that all consumers burdened with the relevant costs will equitably benefit from the services they provide. We are raising related issues in relation to the current AEMC review of network regulation and would welcome the opportunity to discuss this topic further with the Commission.

3.3.5 Continued community support for the transition

³⁰ CEIG 2026 Energy Outlook 2026, p.11.

³¹ CEIG 2026 Energy Outlook 2026, p.11.

³² 2026 Annual Report, pp.48, 50.

³³ <https://reneweconomy.com.au/wholesale-electricity-prices-plunge-as-renewables-surge-batteries-boom-and-gas-power-hits-23-year-low/>

³⁴ 2026 Annual Report, pp.54-55.

We note that this topic is extensively dealt with in the 2026 Annual Report.³⁵ We support the observations made.

The JEC's joint submission to the Commission in 2025 previously discussed our views on the topic of community support, and linked evidence on this issue.³⁶

We again highlight the fact that disproportionately burdening residential consumers with a with the costs of electricity sector transition costs undermines efficient and equitable cost sharing and critically endangers social licence for the energy transition and climate action more broadly.

We draw the Commission's attention to analysis of future demand by AEMO as provided in the 2026 ISP. In section 2, AEMO set out how residential consumer demand for electricity from the grid will drop with adoption of consumer energy resources. At the same time business and industrial demand is likely to increase dramatically. The result is an increasingly stark divide in the share of total demand for grid electricity between residential, and business and industry, and the proportion of costs recovered from those cohorts. This divide has implications for how the costs of the transition of the electricity sector are shared among residential, and business and industrial consumers and the likely exacerbation of existing inequities.³⁷

We strongly recommend the Commission support efforts to review energy cost recovery frameworks in NSW to better ensure consistency and fairness.

3.3.6 Data centre connections are consistent with achieving emissions targets

The Commission sets out in its Annual Report 2026 four principles it recommends guide the development of data centres.³⁸ We support these four principles.³⁹ The Commissions principles largely mirror the recent Commonwealth statement on expectations.⁴⁰ We highlight our input to a recent consultation on data centre development⁴¹

Recommendation 3

That the Net Zero Commission provide guidance to the NSW Government on which interventions should be prioritised to ensure the fastest possible deployment of renewables in the electricity sector.

3.4 Pricing emissions

The Commission should explore the most efficient and practical method by which to cost pollution from any electricity generation remaining after 2030. Several methods are possible – including for

³⁵ 2026 Annual Report, pp.52-53.

³⁶ See JEC et. al., *Joint submission NSW Net Zero Commission 2025 Consultation Paper*, <https://jec.org.au/wp-content/uploads/jec-publications/17524/250711-Joint-Submission-to-NSW-Net-Zero-Commission-2025-consultation-paper.pdf>, section 4.3.

³⁷ AEMO, *2026 Integrated System Plan*, 2026, <https://www.aemo.com.au/energy-systems/major-publications/integrated-system-plan-isp/2026-integrated-system-plan-isp>, (2026 ISP).

³⁸ 2026 Annual Report, p.56.

³⁹ See JEC, *Submission to Infrastructure NSW data centre consultation*, 8 May 2026.

⁴⁰ <https://www.industry.gov.au/publications/expectations-data-centres-and-ai-infrastructure-developers>.

⁴¹ JEC *Submission to NSW Parliamentary Inquiry on Data Centres*, 2026

example an economy-wide carbon price, expansion of the safeguard mechanism, or a requirement to buy offsets. Each have relative benefits and weaknesses.⁴²

Recently the Productivity Commission recommended,

The Australian Government should introduce a national emissions-reduction policy for the electricity sector. This policy should be market-based, and a potential candidate could be modelled on the Safeguard Mechanism.⁴³

The JEC's preferred carbon pricing mechanism is one that is most efficient and provides the broadest possible coverage to enable the most efficient emission reduction at lowest cost to consumers. Such a broad mechanism is also most capable of promoting fairness for consumers and supporting equity-based adjustments. Regardless, any carbon pricing mechanism should be robust and capable of driving the emissions reductions required.

In any case we support the extension of carbon pricing to the electricity sector, including in the form of expansion of the Safeguard Mechanism to electricity generation emissions.⁴⁴

As we have detailed, accelerating coal closure is a critical priority. An expanded Safeguard Mechanism should be considered, alongside the other measures we have outlined above, as it can support increased emission reduction in energy by:

- Helping reduce the dispatch of fossil generation – including both coal and gas generation,
- Supporting faster closure of coal generation, or at very least temporary, including seasonal, shutdown, and
- ensuring emissions costs and impacts are priced into decision made to invest in new gas generation.

Recommendation 4

That the Net Zero Commission explore the role that pricing NSW electricity emissions, could have in achieving emission targets, and recommend the NSW Government support incorporation of the electricity sector into the Safeguard Mechanism, or otherwise support robust measures to efficiently price emissions of fossil fuel electricity generation.

3.5 No Government subsidy for gas generation

There should be no NSW Government subsidies specifically for gas generation of electricity.

⁴² See the analysis by the Grattan Institute, <https://grattan.edu.au/report/bills-down-emissions-down-a-practical-path-to-net-zero-electricity>; Superpower Institute, <https://www.superpowerinstitute.com.au/work/the-case-for-pricing-pollution>.

⁴³ See Productivity Commission, Inquiry Report, Investing in cheaper, cleaner energy and the net zero transformation, <https://www.pc.gov.au/inquiries-and-research/net-zero/report/>, recommendation 1.1.

⁴⁴ Note there exists an sectoral baseline for grid connected electricity generation. This is set at 198 MTCO₂-e and this means in effect that the Safeguard Mechanism currently does not apply to electricity generations emissions, see further <https://cer.gov.au/schemes/safeguard-mechanism/safeguard-baselines#sectoral-baseline>.

Renewables and battery storage are putting downward pressure on prices as outlined by the Commission.⁴⁵ As important, it can be observed that the deployment of new wind and batteries at scale, has had a substantial impact on the bidding and dispatch of gas generation.⁴⁶ This change means that projections on the requirement for gas peakers for firming, especially on a daily basis must be questioned. The rapid changing nature of the impact of batteries on wholesale market calls into question the reliability of AEMOs forecast of the required amount of gas generation in NSW.

If the market does not support investment in gas for firming for daily peaks, the government should not intervene to provide government subsidies.⁴⁷

Recommendation 5

That the Net Zero Commission recommend against the NSW Government providing any gas generation specific financial support.

4. Built environment

Evidence overwhelmingly points to the built environment sector having readily available technology to decarbonise.⁴⁸ The solutions to decarbonise the built environment sectors also typically come with significant benefits to running costs⁴⁹, health⁵⁰, comfort⁵¹ and resilience⁵². Because of this, the built environment provides a compelling opportunity for immediate and rapid emissions reduction, while solutions for more hard-to-abate sectors are developed. Further, while the electricity sector reduces its emissions, demand-side measures in the built environment sector provide a cost-effective way to drive progress. The Commission has rightly recognised that NSW is not currently maximising this opportunity.⁵³

The following sections provide detail on the key solutions to accelerate emissions reductions in the NSW built environment sector while also improving equity outcomes. We highlight two key documents that the Commission should be guided by for further policy solutions and implementation timelines:

⁴⁵ 2026 Annual Report, p.49.

⁴⁶ See AEMO *Quarterly Energy Dynamic's Reports*, <https://www.aemo.com.au/energy-systems/major-publications/quarterly-energy-dynamics-qed>, including the Q2 2026 report. See also <https://reneweconomy.com.au/wholesale-electricity-prices-plunge-as-renewables-surge-batteries-boom-and-gas-power-hits-23-year-low/>; <https://www.abc.net.au/news/2026-06-05/australias-emissions-drop-as-renewable-energy-batteries-surge/106751294>; The Energy, *Why the energy transition is in a prisoner's dilemma*, <https://theenergy.co/articles/why-the-energy-transition-is-in-a-prisoners-dilemma>.

⁴⁷ See the discussion currently taking place in the ESEM industry-led Electricity Contract Co-design group, as recorded in its meeting minutes, <https://asl.org.au/tenders/industry-led-electricity-contract-co-design#panel2>.

⁴⁸ For example see Green Building Council of Australia, 2025, *Built environment ambition*, p 15; Climateworks Centre, 2023, *Climate-ready homes: Building the case for a renovation wave in Australia*

⁴⁹ Climate Council, 2023, *Smarter energy use: how to cut energy bills and climate harm*

⁵⁰ Sustainable Victoria, 2022, *The Victorian Healthy Homes Program Research findings*, pp 30-40.

⁵¹ Better Renting, 2026, *Boiling Point*, pp 13-14.

⁵² Cornell, Gurran and Lea, 2020, *Climate change, housing, and health: A scoping study on intersections between vulnerability, housing tenure, and potential adaptation responses*

⁵³ 2026 Annual Report, p 95.

- The [Roadmap for Efficient and Electric Homes](#) was developed by a cross-sectoral collaboration, and sets out detailed actions required for to upgrade all Australian homes to meet climate commitments and support a just transition.
- ‘[Built Environment Ambition](#)’, by the Property Council of Australia, Green Building Council of Australia and Climateworks Centre, analyses opportunities for decarbonisation of the built environment in response to the Australian Government’s [Built Environment Sector Plan](#).

While these two resources are focused on national initiatives, their level of detail and evidence makes them key resources that should guide the Commission’s decision-making.

4.1 Prioritisation for impact

Our advice in this section focuses on measures that should be prioritised to maximise emissions reductions and other complementary benefits.

We strongly support many of the recommendations the Commission has made to date regarding the built environment sector in NSW.

In general we note the need to ‘prioritise action’ and strongly recommend the Authority give priority to measures whose benefits are not ‘contingent’ on external assumptions or otherwise subject to uncertainty.

In determining impact of different policies, the Commission should prioritise policy measures that have a measurable impact which is not subject to behaviour change. As shown by research, some measures can have significantly varying impacts depending on consumer behaviour, in turn introducing significant uncertainty of impact.⁵⁴ For example, improving thermal performance can be a more effective demand-side measure compared to increasing uptake of residential solar panels, as the impact on emissions, affordability and household comfort does not depend on how the consumer practically uses it. Rather than assuming behaviour change that may not eventuate, the Commission should prioritise measures with non-contingent benefits.

Given that there are already strong incentives for households to electrify and improve energy efficiency, the pathway that maximises emissions reductions is one that focuses solutions on equity.

Some households in NSW, including renters, apartment dwellers and low-income earners, experience barriers to efficient electrification and improved energy efficiency. These households are also likely to experience other social or economic disadvantage.⁵⁵ Households that are left behind in the energy transition will face compounding inequities, including having to pay a growing share of gas network cost as others with more freedom of choice leave the network.

Policies should proactively target initiatives toward cohorts and individuals who have been or are disadvantaged in the transition. This includes those who face financial, technical or circumstantial

⁵⁴ Jami et al., 2021, [The effect of occupant behaviors on energy retrofit: A case study of student dormitories in Tehran](#); Hu et al., 2020, [A systematic review of occupant behavior in building energy policy](#)

⁵⁵ Australian Treasury, 2025, [Built Environment Sector Plan](#), p 24.

barriers to electrifying. This is important to maximise the value and emissions impact of budget measures and improve equity in energy and economic outcomes.

A focus on impact can also be guided by benefits beyond emissions reductions. Improving the energy efficiency of existing and new buildings should be a key priority, particularly due to the accompanying benefits. As detailed in the Commission's own report on Heat Stress, energy efficiency upgrades can be targeted to improve thermal resilience.⁵⁶ This becomes increasingly important with projected increases in extreme heat, where improved energy efficiency can help improve thermal safety and further reduce energy demand for cooling.⁵⁷

We have provided summary advice on a framework for prioritising interventions in the built environment in NSW. – including electrification and energy efficiency upgrades - in appendix 1 of this document. We would welcome the opportunity to engage further with the Commission on detailed recommendations for priority-built environment interventions.

4.2 Existing buildings

Buildings that exist now will make up the majority of the housing stock between now and 2050.⁵⁸ This means that upgrades to existing buildings must be accelerated to enable meeting emissions reduction targets.

4.2.1 Electrification pathways

The pathways modelled for NSW should test different electrification targets and end dates for residential and commercial gas use. We support the Commission's call for an electrification strategy that encourages rapid, orderly electrification and increased energy efficiency of existing buildings, with clear targets, timelines and equitable outcomes for renters and low-income households.⁵⁹ Consumers and the built environment industry need a clear signal that gas will not be part of the future fuel mix, to prevent investments in assets that may become stranded in the transition.

While the ACT has announced a complete shut-down of the gas network, this may not be feasible in NSW due to differing industrial profiles. An approach like that of the Victorian Government would be more feasible, where gas is actively phased out in residential homes, to ensure reliable supply in hard-to-abate sectors (such as high heat industry). Both the ACT and Victoria tested different timelines for their gas phase-out policies; we consider the Commission's pathways work provides an opportunity to start testing this in NSW.

Recommendation 6

That the Net Zero Commission test the impacts of different timelines for phasing out residential and commercial gas use.

⁵⁶ Net Zero Commission, 2026, [Heat Stress Spotlight Report](#), pp 37-39.

⁵⁷ Santamouris & Vasilakopoulou, 2026, [Passive cooling for the built environment](#)

⁵⁸ CSIRO, 2023, [Australian homes can be made climate-ready, reducing bills and emissions – a new report shows how.](#)

⁵⁹ 2026 Annual Report, pp 95-96.

The electrification targets set by the NSW Government should provide a pathway to enable all homes and businesses to efficiently electrify, and enable safe, cost-effective, zero-emissions alternatives for those who cannot. Targets should be aligned with legislated net zero commitments. Some targets to be modelled include:

- Proportion of consumers electrified (with sub-targets for disadvantaged consumers)
- Number of gas appliances replaced with an efficient electric alternative

4.2.2 Hot water heating

The Commission should recommend that the Government prioritise support to consumers to electrify and upgrade their hot water systems to heat pumps⁶⁰.

This would involve expanding existing funding for household upgrades from gas hot water systems to heat pump hot water systems, including for shared hot water systems. This should be through both targeted direct subsidy, alignment with the Energy Savings Scheme and support through aligned no/low interest loan schemes. Correct alignment of incentives could drive technology uptake at scale, like that seen from the Cheaper Home Batteries Program.

Recognising that many households electrify in steps rather than all at once, targeting hot water would deliver the greatest single impact to emissions and household energy affordability while supporting households to fully electrify. Modelling by the Energy Efficiency Council confirms that for Australia to meet its national emissions reductions commitments, the rate of hot water upgrades needs to be prioritised compared to other appliances.⁶¹

This would deliver consistent – and equitable – benefits to households without relying on behaviour change. As hot water makes up a material proportion of many NSW households' energy use,⁶² an upgrade to an efficient electric alternative significantly shifts the economics for a household to fully electrify. Heat pump hot water systems also improve the benefits of other energy technologies, with many allowing for load shifting to reduce peak demand and maximise the benefits of existing solar panels and excess peak time solar.⁶³

Recommendation 7

That the Net Zero Commission recommend a commitment to electrify household hot water and expanded incentives for household upgrades from gas hot water systems to heat pump hot water systems, including coordinated support to electrify systems shared in multi-tenant buildings.

4.2.3 Minimum energy efficiency rental standards

The pathways should also incorporate emissions reductions impacts from introducing minimum energy efficiency rental standards (MEERS). We agree with the Commission's recommendation

⁶⁰ Detailed discussion of this recommendation is contained in appendix 1

⁶¹ Energy Efficiency Council, 2025, [Efficient electrification for Australia's 2035 target – Policy brief](#), pp 8-9.

⁶² Institute for Energy Economics and Financial Analysis, 2025, [Home energy upgrades in New South Wales](#)

⁶³ Institute for Energy Economics and Financial Analysis, 2024, [Australia needs more efficient, smarter home hot water systems](#)

to implement a mandatory, ratings-based standards framework that embeds energy efficiency, thermal resilience and thermal safety into rental regulation.⁶⁴

The emissions reductions benefits of implementing MEERS depend significantly on the scope and depth of the standards. Analysis by ClimateWorks shows the emissions reductions impact of different types of upgrades varies, including depending on the building typology.⁶⁵ Research consistently shows the upgrades with the strongest impacts on emissions reduction (and extensive co-benefits) are electrification and thermal upgrades.⁶⁶

The most certain emissions reductions benefits would be achieved by standards based on the Home Energy Rating.⁶⁷ The Home Energy Rating approach is an evidence-based, independent assessment of a home's holistic energy performance, ready to be built on as part of MEERS implementation. This should be paired with enablers for electrification, such as an initial mandate to replace gas appliances with efficient electric alternatives at end of life. The lack of a clear signal requiring landlords to electrify their properties risks inequities, as well as preventing a significant emissions reduction opportunity.

MEERS should apply equally to private rentals and social housing to ensure equitable access to benefits. Research shows social housing tenants in NSW face greater heat risk compared to others,⁶⁸ partly due to poor energy performance.⁶⁹ These challenges are even greater in regional and remote Indigenous housing.⁷⁰ These challenges also mean that significant emissions reductions and social benefits can be realised from upgrading the housing of those most disadvantaged, however.⁷¹ Social housing makes up a considerable part of NSW's housing stock, which means applying MEERS to it enables greater market development for energy efficiency upgrades. However, this must come with commensurate funding to community housing providers, for example through expansion of the Social Housing Energy Performance Initiative (SHEPI).

Recommendation 8

That the Net Zero Commission recommend a commitment to implementation of ratings-based minimum energy efficiency rental standards paired with measures to enable the widespread electrification of rentals.

⁶⁴ Net Zero Commission, 2026, [Submission to NSW DCCEEW Consultation Paper 'Investigating minimum energy efficiency rental standards'](#)

⁶⁵ ClimateWorks Centre, 2023, [Climate-ready homes: Building the case for a renovation wave in Australia](#)

⁶⁶ For example see Climate Council, 2023, [Smarter energy use: how to cut energy bills and climate harm](#); Rodriguez et al., 2026, [Impact of Heating Electrification and Building Retrofit on the Indoor Thermal Environment and Electricity Demand](#)

⁶⁷ For further detail on the implementation of MEERS, see Justice and Equity Centre, 2026, [Submission to investigation into minimum energy efficiency rental standards](#)

⁶⁸ Pfautsch et al., 2026, [A battleground of climate change: Summer air temperatures in social housing](#)

⁶⁹ Australian Housing and Urban Research Institute, 2023, [New social housing will be more energy efficient, but older houses are still costing us dearly](#)

⁷⁰ Australian Housing and Urban Research Institute, 2021, [Final Report No. 368 Sustainable Indigenous housing in regional and remote Australia](#), pp 2-3.

⁷¹ Australian Council of Social Services, 2024, [Funding and financing energy performance and climate-resilient retrofits for low-income housing](#)

4.3 New builds

We strongly support the Commission's recommendations to ban new gas connections and improve energy efficiency standards in BASIX.⁷² Experiences in the ACT and Victoria show that new gas connections can be phased out reasonably rapidly without adverse consequences.

Evidence from other jurisdictions supports the phase out of new gas connections. For example, the ACT Government found that a new residential gas connection has approximately 1.3 tCO₂-e annual emissions potential, and locks in fossil fuel assets that will eventually need to be electrified.⁷³ Analysis by the Victorian Government found similar emissions reductions.⁷⁴ With further emissions reductions realised in the electricity sector, the relative benefits of electrification will continue to increase.⁷⁵ We note the ACT Government commissioned analysis comparing the relative benefits of different pathways to phase out new gas connections.⁷⁶

Climate resilience must also be embedded in building standards, especially while the NSW Government is currently seeking to increase new housing supply. We strongly support the Commission's calls for climate resilience requirements in the National Construction Code.⁷⁷

4.4 Gas networks

With electrification accelerating, NSW's gas networks will need to transition. This will require coordinated planning from the NSW Government to ensure the transition is orderly and efficient. Evidence from the ACT shows there can be material regulatory barriers hindering this transition.⁷⁸

If the effects of demand decline on gas networks are not managed well, this risks inefficiency and inequity. As households and small businesses leave the network, there will be significant impacts for network businesses and consumers remaining on the network, many of whom do not have the choice to electrify. This includes issues of asset stranding and the equitable apportionment of risks and costs between both networks and consumers, but also among customers. Gas distribution networks currently face no mandate or incentive to avoid retaining uneconomic assets and shrink the network or even plan for eventual decommissioning.⁷⁹ As a result, the largely fixed costs of maintaining the network are shared across a shrinking pool of consumers, thus driving up prices in a vicious spiral.

While the Australian Energy Market Commission (AEMC) is currently considering reforms to the national regulatory framework of gas networks⁸⁰, the NSW Government needs to ensure state-based legislation and policy allow for the equitable phase down of gas networks. The Net Zero Commission's recommendations to accelerate electrification should therefore be paired with recommendations to plan for the phase-down of the gas network. This planning should entail:

⁷² 2026 Annual Report, p 95.

⁷³ ACT Government, 2023, [Regulating for the prevention of new fossil fuel gas network connections](#), p 28.

⁷⁴ Victorian Government, 2023, [DEECA Factsheet Victorian new build emissions forecast](#)

⁷⁵ Victorian Government, 2024, [Building electrification regulatory impact statement](#), p 45.

⁷⁶ Baringa, 2023, [No new gas connections regulatory impact assessment](#)

⁷⁷ Net Zero Commission, 2026, [Heat Stress Spotlight Report](#), p 34.

⁷⁸ Proximity, 2025, [Regulatory barriers to decommissioning the ACT's gas network by 2045](#)

⁷⁹ Energy Consumers Australia, 2026, [Power Move](#), pp 42-44.

⁸⁰ AEMC, [Gas networks in transition](#), accessed 29 July 2026.

- Reforming gas distribution license conditions to collect more granular demand and utilisation data from providers. This also enables better targeting of broader government electrification and decarbonisation measures.
- Enabling strategic decommissioning through regulatory reform, and working with communities and businesses to pro-actively identify sections of the network that would be economical to decommission.
- Ensuring appropriate policy and regulatory arrangements are in place for the fair and sustainable allocation of cost and risk for the gas transition.

One major barrier to efficient gas network decommissioning is the limited visibility on network utilisation. The planning of targeted electrification measures requires understanding of where gas is being used currently. Visibility of utilisation is needed to better understand where to target initiatives. Analysis by the Brotherhood of St Laurence shows the promise of a ‘pruning’ approach to gradually shrink the network.⁸¹

Recommendation 9

That the Net Zero Commission recommends the NSW Government develops a plan for the equitable transition of gas networks, to mitigate inequities arising from accelerating household electrification.

5. Transport

5.1 Pipelines – transport of gases

Reduction of fugitive methane emissions from the NSW domestic gas networks is an important issue. Action on near term methane reductions can have a material impact on climate outcomes. We support work to enable the 30% methane reduction by 2030, in line with the Global Methane Pledge.

There are only a limited number of transmission and distribution pipelines in NSW operated by a limited number of companies. The Commission should seek to gather more accurate and up to date information from these gas network companies, and regulators including the AER, on the exact nature of actual emissions and emissions reduction pledges, and the best way to improve the detection and management of methane leaks and ensure crucial material reductions before 2030. These actions should not be assumed to be occurring through regulatory frameworks.

In the short term to 2030 what is required is that all gas network companies set targets to eliminate or substantially reduce methane leaks by 2030. Regulators have a role to play in approving regulated expenditure for this task. There is already likely to be sufficient regulatory power to allow the approval of such expenditure in respect of fully regulated pipelines.

In parallel, establishing a specific regulatory response on methane leaks, including potentially through licence agreements, should be explored.

⁸¹ Brotherhood of St Laurence, 2026, [Balancing act: project report on pruning gas networks](#)

The Commission should recommend that the NSW Government help coordinate state governments, networks and regulators, with respect to ensuring the task of identifying and fixing fossil methane leaks from gas networks, and this is undertaken in a timely manner.

5.2 Electric Vehicle Charging Infrastructure

The Commission has observed that the EV charging infrastructure (EVCI) is not keeping pace with the uptake in vehicles.⁸²

We strongly support policies reducing emissions and helping to meet Australia's commitments. We agree efficiently expanding EVCI is an important part of this transition, although we consider the analysis of emissions reduction benefits from EVCI could be improved.

While expanding EVCI is important for emissions reduction this does not mean it is appropriate or efficient for energy consumers to subsidise it. We highlight our recent submission to the AEMC on the request by the Commonwealth Government for a rule change to allow for a Commonwealth grant scheme on EVCI.⁸³

We note that the Commission place reliance on the EV chargers to EV vehicle registration ratio. The adequacy of the roll out of EV charging should not be based on this matrix alone. This is not a reliable measure of how well the charging network is performing.

EV-per-charger ratios vary widely depending on local conditions. These include:

- the availability of home charging;
- the mix of AC and DC charging;
- local grid capacity; and
- EV uptake in each area.

For this reason, there is no single “optimal” ratio that can be applied across the system.⁸⁴ Relying on this metric risks misstating the adequacy of charging infrastructure.

A more useful metric is charger utilisation. Utilisation rates show how much existing infrastructure is actually being used and whether it is keeping pace with demand. This provides a clearer and more direct link to both system performance and emissions outcomes.

The Commission should therefore avoid placing undue weight on EV-per-charger ratios and consider a broader set of metrics, including utilisation rates.

⁸² 2026 Annual Report, pp.59-60.

⁸³ See AEMC, *Facilitating EV charging infrastructure rollout under Commonwealth grants*, <https://www.aemc.gov.au/rule-changes/facilitating-ev-charging-infrastructure-rollout-under-commonwealth-grants>, including JEC submission 25 June 2026.

⁸⁴ See ECA [Creating accessible and affordable public EV charging networks for Australia](#), pp. 12-13.

This will lead to a more accurate assessment of both emissions reductions and infrastructure needs.⁸⁵

6. Appendix

Summary of approach to prioritisation of action on residential electrification in NSW

The following summary draws on JEC's long-standing expertise in household and small business gas decarbonisation and is comprised of:

- **Approach to identify interventions** – this sets out the principles and considerations which should inform and guide the structure of the Roadmap and how interventions should be prioritised and structured.
- **Roadmap recommendations** – this draws on key principles and considerations to set our short, medium and long-term priorities which should be included in the roadmap for residential gas decarbonisation.

*We highlight our key recommendations that support – including grants, subsidies and other measures - **upgrade to hot water heat pumps with an equity-based prioritisation**. These measures are the highest-impact use of limited Government revenue, and should be*

⁸⁵ See further, JEC Submission to AEMC Facilitating EV charging infrastructure rollout under Commonwealth grants, 26 May 2026, <https://www.aemc.gov.au/rule-changes/facilitating-ev-charging-infrastructure-rollout-under-commonwealth-grants>

prioritised as part of wider support for the electrification of target cohorts facing disadvantage.

- **Measures to implement recommendations** – this sets out specific actions and measures the NSW Government should initiate or support in order to implement the recommendations

Recommendations are targeted at the immediate needs and priorities for NSW residential interventions. We highlight the reports and submissions provided in section 5 of this brief for a comprehensive summary of reforms and other measures required to progress gas decarbonisation and household electrification more broadly.

Approach to identify interventions

Efficient electrification is the most cost-effective measure available to reduce energy costs for many households, regardless of tenure or housing format. It is also an important measure to support energy system efficiency, productivity, and healthy safe homes. These considerations should inform the approach to gas decarbonisation, in conjunction with the focus on emissions reduction.

Evidence overwhelmingly points to household electrification as one of the most effective ways to achieve decarbonisation over any timeframe, and particularly in the short-medium term.⁸⁶ While replacement at the point of failure of an appliance is often the most economic approach, increasing returns can be achieved by bringing forward many appliance replacements to the earliest available opportunity. Mass-market technology to efficiently electrify residential gas end uses is well established. While the swap is technically relatively simple in many cases, interventions can and should be designed to overcome impediments for targeted cohorts, promote equity and optimise impact against the priority objectives.

In that context, the following principles should frame the structure and approach of the Roadmap:

- **Impact targeting**

To maximise impact, the Government should focus on:

- Interventions which involve the highest bill savings and emissions reductions per program/capital spend (see App 1) – with impact that is enduring and **not** highly dependant on household behaviour.
- Cohorts who are otherwise unable to electrify and will be burdened with escalating costs as others electrify and adopt CER. These should be clearly defined cohorts with technological or physical (they are apartment dwellers), tenure (they are tenants, or owners in a strata) or financial barriers (they have low access to capital) or 'disadvantage'.

- **Align targeted measures with wider approach**

Given limited resources, an 'equity' focus - and the benefits of additionality - subsidies and direct support should be targeted to disadvantaged cohorts. Broader uptake across less disadvantaged cohorts can be supported and enabled by making independent, high-quality

⁸⁶ Grattan Institute, 2023, [Getting off gas: why, how, and who should pay?](#), pp 6-8; NSW Net Zero Commission, 2026, [Advice for the Net Zero Plan to 2035](#), p 5; Treasury, 2025, [Built Environment Sector Plan](#), p 19; Springmount Advisory, 2026, [2035 Gas reduction target for NSW](#), pp 5-6.

information and advice more accessible. Improved sales and installation processes, modernised regulation and standards⁸⁷, and low/no interest loan schemes should be a part of this response.

- **Target progress now while enabling future solutions**

Mature, cost-effective efficient electrification solutions are readily available for homes and small businesses, and these should be the priority focus for emissions and other impact benefits. For applications where efficient electrification is not economically feasible in the short to medium term, the Government should explore longer term options to pilot and investigate emissions abatement alongside pursuing “low-hanging fruit” For instance efficient electrification of shared gas hot water in multi-unit dwellings should be pursued, but may and require longer term work to derive effective solutions in all circumstances. In the meantime, information and other measures to support improved efficiency could support electrification of other applications (such as cooking and heating).

- **‘Renewable’ gases are a last resort for households**

Renewable gases will not be available or economic at the scale and cost decarbonise NSW gas supply. Nor can they compete with electrification for the vast bulk of households and appliances.

They will not enable households to benefit from avoided gas supply costs or from aligning flexible load with times of peak solar. Blending any volume of hydrogen into reticulated gas networks is complicated and entirely incompatible with cost efficiency and decarbonisation goals, and its role should be limited to decarbonisation in viable but otherwise hard-to-abate industry applications. In the longer term, biomethane delivered by a vastly reduced gas network and/or as bottled gas is likely to play an important but limited role in decarbonising the hardest to electrify homes and businesses.

- **Ensure regulatory alignment**

The regulatory framework – including national gas regulations, and jurisdictional gas and electricity policy and regulation – can impede or enable the priorities of the Roadmap (as outlined). Direct government assistance and policy interventions should be supported by regulatory reform, particularly where these interventions can materially impact equity, emissions reduction and cost sharing between consumers. Gas networks’ incentives are misaligned with gas consumers’, and therefore reforms and clear policy signals are needed to obligate gas networks to efficiently plan for the transition and support the priorities of the Roadmap. NSW Government can also modify gas distribution licenses and act as a shareholder in electricity networks.

- **Align with and leverage existing programs**

There are a suite of programs and tools which already exist – they should be reviewed for alignment with the priorities of the Roadmap and, where possible leveraged to optimise

⁸⁷ As a starting point installers and any participants in government supported measures should be required to be signatories of the NETCC

impact e.g. the Energy Security Safeguard, gas rebates for low-income households or Home Energy Upgrades Fund.

Roadmap recommendations

We propose short, medium and long-term priorities taking into account the timing of initiatives, readiness of implementation (e.g. availability of supply chains), cost to government and the principles outlined above. Section 3 of this document outlines the key issues that these initiatives are designed to address. The table below summarises our evaluation of the costs and benefits of specific upgrades.

	Capital required (per home) (moves up category if major rewiring required)				
		Low	Medium	High	Very High
Energy/fuel cost reductions (per home) (increases if last appliance)	Low	Induction stove			
	Medium	Heat pump water heater, stand-alone dwelling Reverse cycle air conditioner* Shared heat pump water heater/s, multi-dwelling Electric vehicle**			
	High	Heat pump hot water heater with existing solar*** Heat pump hot water heater with new solar			

* Average shown. Actual capital cost and bill saving both range from Low to High, dependent on climate zone, current heating/cooling technology used, usage patterns, thermal efficiency of building, complexity and apportionment of cost and benefit between heating (substituting gas) and cooling (stand-alone benefit)

** Benefit dependent on mileage

*** This could include either direct access to existing solar or solar sharer-type retail tariff.

Prioritise financial support for water heating the short term

Given the consistent benefits, universality of hot water heating need, that hot water makes up the largest portion of both energy and water use for the majority of households,⁸⁸ strong scope to leverage rooftop solar, availability of affordable hot water heat pump products -

We recommend the Government prioritise Gas Decarbonisation Roadmap funding for household upgrades from gas hot water systems to heat pump hot water systems, including for shared hot water systems. This should be through both targeted direct subsidy, alignment with ESS schemes and support through aligned no/low interest loan schemes.

Less efficient electric options (such as resistance water heaters) may still be considered financially and environmentally favourable compared to gas water heating in some difficult to 'efficiently electrify' circumstances. Where a home has a genuine barrier to accommodating the infrastructure required for a heat pump – such as some multi-unit circumstances - households should still be supported to electrify, alongside other measures to improve efficiency and offset usage costs.

Short term priorities (by 2028)

Key priorities

- **Subsidise/directly support upgrades to heat pumps:** provide direct support and/or subsidy for gas water heating systems, including shared hot water systems, to be switched to heat pump hot water heaters (or less efficient electric alternative in limited cases)
- **Reform gas rebates:** enable existing low-income household gas rebates to be provided as an upfront subsidy to support switching gas appliance to an efficient electric alternative, rather than subsidising a gas retail bill. The existing solar scheme could be drawn on as an example of scheme architecture.
- **Review gas distribution licenses:** amend licenses (or use other jurisdictional options) to place obligations on gas networks to:
 - Review safety frameworks to define the scope of network activities and expenses involved in disconnections, to limit disconnection costs through to the next regulatory period (2031).
 - collect more granular demand and utilisation data from gas distribution network service providers, enabling better planning for the future of the network and targeting of government electrification and decarbonisation measures (see attached slides on DEECA work to amend Victorian gas distribution network license conditions)
- **Contestability in disconnections:** Commence work toward legislative / trade licencing and any other changes to allow household gas disconnection services to be provided contestably before the end of the current JGN regulatory period.

⁸⁸ Institute for Energy Economics and Financial Analysis, 2025, [Fact Sheet: Home energy upgrades in New South Wales](#)

Supporting initiatives

- **Electrification as part of minimum energy efficiency rental standards:** set a timeline by which rental homes must be all-electric, with accompanying low to no interest loans for landlords
- **Electrification subsidies:** provide targeted subsidy for costs involved in electrification
- **Free accessible independent advice:** Further develop online electrification guidance (including specific guidance for apartments) and expand support for community provided outreach and information provision, in conjunction with further investigating more coordinated information and support platforms.⁸⁹
- **SHEPI expansion:** invest further in SHEPI program to enable electrification of all social housing in NSW by 2033⁹⁰
- **Expand Solar for Apartment Residents:** repurpose funding for Solar for Apartment Residents program to broaden scope to any electrification activities.
- **Strategic, systemic planning:** establish a multi-sector – including Government agencies, gas and electricity networks, other industry and consumer and community stakeholders - NSW Gas Decarbonisation Taskforce to guide development of policy and regulatory frameworks and other measures outlined, to support the ongoing implementation of the roadmap measures.

Medium term priorities (commence by 2031)

- **Subsidy of gas abolishment fee:** subsidise previously socialised portion of gas abolishment fee to reduce barriers to disconnecting from the network (to commence after the current JGN regulatory period ends). Combine this with tendered bulk contestable disconnection services to minimise costs to consumers and Government.
- **Develop options for localised biogas use for hard-to-electrify industry and households.** This will require gas network visibility, market development and improved planning in the earlier years.
- **Strategic decommissioning of gas network sections:** work with communities and network businesses to start identifying sections of the network that would be economical to decommission, and support remaining consumers in these areas to electrify.
- **Strategic, systemic planning:** task the NSW Gas Decarbonisation Taskforce to guide development of policy and regulatory frameworks to support
 - effective retirement and decommissioning of the gas network,
 - electrification of homes and businesses with significant barriers, and

⁸⁹ [Victorian SEC example](#) could be used as a platform

⁹⁰ This should be regarded as a stretch objective – noting that with implementation of ratings and disclosure, areas of reasonable exception will likely be identified.

- progressing the long-term priorities identified below.

Long term priorities (from 2031)

- **Distribution alternatives for last resort gas applications:** Develop arrangements for bottled gas and localised networks of biogas as last-resort applications for gas supply through the 2030's
- **Fair cost sharing:** Ensure appropriate policy and regulatory arrangements are in place for the fair and sustainable allocation of cost and risk for the gas transition.

Targets and measures to implement recommendations

3.1 Set ambitious targets to electrify households and small businesses

The electrification targets set by Government should provide a pathway to enable all homes and businesses to efficiently electrify, and enable safe, cost-effective, zero-emissions alternatives for those who can't. Targets should be aligned with legislated net zero commitments⁹¹ and recent Net Zero Commission advice⁹², and the roadmap should clearly outline the basis on which these targets were set. We recommend a set of targets based on a range of relevant metrics, as well as sub-targets to address related forms of disadvantage:

Target	Sub-targets
Emissions reduction from roadmap initiatives	• Reduction in built environment gas use • Reduction in industry gas use
Number/proportion of consumers electrified	• Number of small businesses electrified • Number/proportion of households electrified • Number /proportion of households with equity/disadvantage criteria electrified, e.g. ○ Low-income households (starting with rebate recipients) ○ Regional and remote households ○ Social housing households ○ Apartments/strata homes
Number of gas appliances/applications replaced	Number of • heat pump hot water systems • shared hot water systems electrified, by number of ○ Dwellings ○ Systems ○ Buildings

⁹¹ *Climate Change (Net Zero Future) Act 2023* s9.

⁹² NSW Net Zero Commission, 2026, [Advice for the Net Zero Plan to 2035](#), p 5.

Target	Sub-targets
	• split system RCAC units • induction cooktops • C+I applications

3.2 Phase out new gas connections

To avoid counteracting electrification targets and given the material financial harm which will likely impact households who connect to gas from this point, the Government should start to phase out new gas connections as a matter of urgency.

In any case an immediate moratorium on new gas connected multi-unit dwellings should be prioritised. This avoids locking consumers into an increasingly expensive fuel, avoids adding to the ‘hard to efficiently electrify problem’ and aligns with a growing number of local governments already implementing bans on new gas connections under their Development Control Plans.⁹³ This priority is particularly important given the current focus on accelerating the construction of new medium-high density housing.

The Regulatory Impact Statement supporting building electrification policy in Victoria identified a 1.85 benefit to cost ratio for the option of electrification of new residential and most new commercial buildings, as well as existing residential buildings (excluding existing residential cooking)⁹⁴.

For more than a decade, establishing new gas connections and appliances for NSW households has been substantially more expensive option than efficient electric appliances⁹⁵ and preventing new connections to network gas is a ‘no regrets’ option which does not prevent scope for the ongoing use of bottled gas and biogas in homes.

3.3 Support those who will otherwise be left behind

We recommend that Government funding be targeted to those who do face material barriers to electrification and would otherwise be further disadvantaged through progress of the transition.

Holistic planning is required to achieve an orderly transition. While the decarbonisation objective requires consistent electrification across the board - which the roadmap should enable - the roadmap should proactively target initiatives toward cohorts and individuals who have been or are disadvantaged in the transition. This includes those who face financial, technical or circumstantial barriers to electrifying. This is important to maximise the value and emissions impact of budget measures and improve equity in energy and economic outcomes.

By our estimates, approximately one in three of NSW households do not face material barriers to electrification. While this cohort would benefit from better information availability, funding support

⁹³ 350 Australia, [Electrify Your Council Council Tracker](#)

⁹⁴ Victorian Department of Transport and Planning, 2025, [Building Electrification RIS Summary](#), p 3.

⁹⁵ Alternative Technology Association (Renew), 2014, [Are We Still Cooking With Gas?](#), p 5, p 50-57

to electrify is unnecessary. For these cohorts, information, regulatory reform and measures to unlock and enable private financing options are appropriate.

The majority of NSW households face one or more financial, technical or circumstantial barriers which, though not enough to invalidate the net benefit of electrification for them, means they would still benefit from targeted support. Most apartments with one or more gas appliance - or serviced by shared gas hot water - are in this cohort.

In the longer term, a smaller subset of existing NSW gas households may be unable to fully electrify using efficient electric appliances due to building limitations. These are predominantly apartments, which make up 20% of NSW households.⁹⁶ The first priority for supporting those homes should be finding other electric options, with a much smaller subset being shifted to bottled gas or biogas.

While we note the ACT Government found in its apartment electrification pilots that electrification is achievable at all sites, with payback periods ranges from 2 to 22 years⁹⁷, this is not directly reflective of age, diversity and density of NSW apartment stock. The significant capital and complexity involved in these upgrades means that additional support is warranted.

Cohort & barriers faced	Proposed Roadmap initiative priorities⁹⁸
Tenants (private rentals and social housing) Tenants have no power to initiate upgrades and landlord has no explicit incentive or requirement to do so.	• Implementation of minimum energy efficiency rental standards with an electrification mandate • Low to no interest loans for landlords to make upgrades, supported by information platforms • Expand Social Housing Energy Performance Initiative (SHEPI) funding to enable electrification of all social housing
Households with lack of access to capital • Owner cannot afford the additional upfront cost of electrification, even where the long-term savings are substantial • Financial stress⁹⁹	• Targeted direct grants, subsidies and rebates to assist with the cost of electrifying • Equity sub-targets in Energy Savings Scheme¹⁰⁰ • Reform gas rebates to provide upfront (e.g. 10 years' worth) funding tied to electrification upgrade – based on current solar example.
Apartments and strata homes • Strata laws complicate individual owners' ability to make upgrades	• Establish working group to investigate technical enablers of electrification (including shared energy infrastructure as well as appliances in

⁹⁶ University of New South Wales, 2025, [Australasian Strata Insights 2024](#), p 8.

⁹⁷ ACT Government, 2026, [Sustainable Apartments Pilot Case Study 1](#), p 4.

⁹⁸ These are not comprehensive and other measures include those detailed in additional references provided in section 5.

⁹⁹ Brotherhood of St Laurence, 2023, [Enabling electrification Addressing the barriers to moving off gas faced by lower-income households](#)

¹⁰⁰ See Section 2.3 of Justice and Equity Centre, 2026, [Submission to Energy Security Safeguard policy reform consultation paper](#)

or complicate overcoming upfront issues and costs. - Physical built environment limits efficient electric options (such as external compressors needed for heat pump hot water and RCAC) - Electrification of shared gas hot water may require substantial capital, building modification, alterations to metering and/or embedded network arrangements or prohibitive strata decisions	individual units), building on the expertise and knowledge of researchers, industry, strata peak bodies, consumer and community organisations and local councils. - Strata reform to reduce barriers to electrification upgrades (e.g. lower consensus) - Expand Solar for Apartment Residents to broader electrification activities - Ensure apartments are eligible for existing energy efficiency schemes - Pilot electrification responses across common typologies - Consider financial support schemes for electrification at a strata level - As people facing other types of disadvantage and complex barriers to electrification are overrepresented in this cohort, review these matters with a focus on addressing disadvantage
Electrical wiring and capacity - Older homes can require substantial rewiring and/or switchboard upgrades for new electric appliances - Many homes lack sufficient switchboard current-carrying capacity for electrification, particularly for induction cooktops - Many buildings (particularly multi-dwelling) lack the existing connection capacity to fully electrify and arrangements to allocate cost and capacity beyond a first-come, first-served basis.	As people facing other types of disadvantage and complex barriers to electrification are overrepresented in this cohort, review these matters with a focus on addressing disadvantage

3.3 Enable streamlined access to information

Small consumers looking to electrify are faced with numerous complex choices, which would be smoothed by a central, trusted source of information¹⁰¹. Expanding the current NSW government guidance with more detailed case studies and sources with more information, would help improve the consumer electrification journey. This guidance should also clearly link to the subsidy schemes available across NSW and Commonwealth government. The Victorian Government is

¹⁰¹ SEC Victoria are releasing a comprehensive advice and connection platform which can be examined for NSW applicability. <https://www.secvictoria.com.au/households/how-to-go-electric>

soon to release a platform through the SEC which could be examined as a mature model for building on this.

Consumers also benefit from access to personalised guidance. The Government should consider expanding its existing community grant scheme (initiated through the Consumer Energy Strategy) to support establishing localised community capacity building, information and outreach in partnership with community and industry. It should also review professional standards and qualifications for relevant tradespersons to ensure installers are equipped with the skills to make electrification upgrades.

3.4 Plan for an equitable decommissioning of gas networks

Resolving issues with the economic regulation of gas networks cannot be deemed a long term – post 2040 – issue. Consumers already face mounting inequitable costs, and the regulatory framework does not enable or incentivise gas network businesses to make the most efficient decisions promoting consumers' interest. For instance, where evidence shows supporting electrification is often more economically efficient than ongoing network maintenance, gas networks are prevented from making this determination.¹⁰²

The NSW Government has a critical role to play through the Roadmap in setting the direction of the transition to ensure it is orderly, and provide the signal and framework needed to achieve emissions reductions targets. This includes updating gas regulations and licencing and supporting reform at a national level. Not setting this direction now, or setting it too late, risks saddling consumers with a rapidly growing and unfair share of the cost of the gas network, including its decommissioning.¹⁰³

The gas transition - who should pay for what, who should carry risk

The JEC recommends roadmap reforms – particularly those involving regulatory interventions – implement a beneficiary pays approach to who *should* carry costs. Causer-pays should be adopted where a beneficiary can't be clearly identified. Risk should be allocated to those best placed to manage it. The distinction is critical, as the beneficiary is often not the best placed party to manage (or carry the cost of) risk.

We consider there are 5 broad categories of actors to consider (and a few subcategories as noted):

- **'The customer/consumer'** as in the individual household or business supplied. In specific cases we need to make distinctions between an *existing* consumer (e.g. for abolishment), and a *future* consumer (e.g. for connection costs).
- **All consumers** on a given network as the group who pays for any socialised costs, including 'The customer/consumer'. Functionally this can be broken down to
 - *Other* consumers, excluding 'The customer' (e.g. who **shouldn't** pay for abolishment)

¹⁰² The Brotherhood of St Laurence is due to release a detailed examination of the benefits of electrifying compared to ongoing network maintenance

¹⁰³ For more detail on this issue, see Chapter 4 of Energy Consumers Australia, 2026, [Power Move](#), pp 33-43.

- *Existing* consumers (e.g. who **shouldn't** pay for future network expansion investments)
 - Consumers of a particular *type* (e.g. Resi, Bus, C+I)
 - Consumers in a particular *pricing zone*
- **Developers** where they are the proponent but aren't the end-use customer
- **Shareholders** of the gas network business
- **Government**

Asset/service/cost item	Beneficiary/causer (proponent)	Who should pay	Who should carry risk of under-recovery
Cost of dedicated new connection	The consumer connecting	The consumer connecting	N/A – cost should be recovered up front
Cost of shared new pipes for developments	Developer (proponent) and future consumers (beneficiary)	Developer	N/A – cost should be recovered up front
Cost of shared new pipes for network expansion	Gas network business shareholders (proponents) and future consumers of that portion of network (beneficiaries)	Future customers of that portion of network (limited to the fair and efficient cost to serve them)	Shareholders
Cost of augmenting existing network for renewable gases.	Shareholders (proponent) Consumers remaining on the gas network approaching 2040/50 (as beneficiaries of longer use of the network asset than they would in absence of renewable gas)	All consumers (limited to the fair and efficient cost to serve them) and shareholders	Shareholders
Opex for existing network	All consumers	All consumers (limited to the fair and efficient cost to serve them)	Shareholders

Opex for future expanded network	Future consumers of that portion of network	Future customers of that portion of network	Shareholders
Recovery of existing RAB (and capital cost of maintaining existing network)	A mix of 1. All consumers (beneficiaries), 2. Shareholders (proponents of historical expansion and beneficiaries through investment returns) and 3. State government (as proponent and seller of privatising gas networks and as proxy for society as beneficiary)	All consumers (limited to the fair and efficient cost required to serve them)	Shareholders and government
Cost of permanently disconnecting dedicated assets (Abolishment)	The customer disconnecting	Preferably government, otherwise the customer disconnecting	Government
Remediation costs of shared assets	NA	Shareholders and/or Government	Government
Write-down of RAB (or other measure to shift transition cost from consumers)	All consumers Shareholders (when Government pays down portion of RAB)	Shareholders and/or Government	N/A - realised risk
Lost future shareholder profit	N/A	Shareholders	N/A - realised risk

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