

# Pathways Call for Evidence Submission

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27 July 2026

## **Submission to the NSW Net Zero Commission**

### **Call for Evidence: developing NSW-specific decarbonisation pathways**

The Committee for Sydney is the city's peak advocacy and urban policy think tank. We work with our 160+ member organisations to produce research and policy recommendations on key agendas for the metropolitan region. Our members include energy companies, utilities, transport and infrastructure constructors and managers, developers and designers of all forms of buildings, local governments, universities, and professional services. This breadth gives us direct sight of where emissions reductions are being enabled, and where they are being held back, across the metropolitan economy.

We note at the outset that the Committee for Sydney argued for the instrument the Commission is now building. In *It's Time to Set Our Own Carbon Budget in NSW* (2021) we called on NSW to adopt a carbon budget with transparent sector-by-sector trajectories, modelled on the United Kingdom's Climate Change Committee. Sectoral pathways with regular measurement and recalibration are, in our view, the right architecture for the transition. This submission is also consistent with, and builds on, the Committee's July 2025 submission to the Commission's Consultation Paper.

**Scope.** As a metropolitan body, the Committee for Sydney's evidence is strongest in three sectors: electricity and energy, transport, and the built environment. Together these account for the large majority of Greater Sydney's emissions, and Greater Sydney is responsible for around 38% of NSW's greenhouse gas emissions (Sydney as a Renewable Energy Zone, 2025). We have deliberately confined our answers to these sectors and to metropolitan evidence. We do not hold independent evidence on agriculture, land, resources or most heavy industry, and we do not claim to speak for rural, regional and remote communities.

**Framing.** Our response is mitigation-led. Where a mitigation measure also reduces climate risk, for example where building electrification and thermal efficiency also cut heat exposure, we identify that adaptation co-benefit, because pathways that deliver on both will be more durable and more publicly supported. The evidence below is drawn from the Committee's published research and submissions, referenced specifically so the Commission can trace each claim to source.

## Theme 1. Policies and market mechanisms

*Q1. What opportunities or barriers could improve the effectiveness of NSW's transition to net zero?*

### 1.1 Policies or market mechanisms to accelerate emissions reductions

**Electricity: unlock Sydney's untapped distributed generation.** Metropolitan Sydney is the missing piece in NSW's energy transition. It consumes 40 to 45% of the state's grid electricity, yet only a fraction of its more than two million rooftops generate power. Today the city generates over 3 GW from rooftop solar, meeting only 10 to 12% of its electricity demand; if every suitable rooftop were used, Sydney could generate up to 21 GW and meet up to 75% of its own annual energy needs (Sydney as a Renewable Energy Zone, 2025, pp. 7, 20). The single most effective mechanism available is to treat metropolitan Sydney as an urban Renewable Energy Zone: set metropolitan generation and storage targets, and establish coordination and governance to match local generation with local demand (Sydney as a Renewable Energy Zone, 2025, pp. 41 to 42).

**Buildings: regulate the switch from gas.** Replacing gas with electricity is the single largest source of potential building emissions reductions (Decarbonising Sydney, 2022, Charts 20 to 21). The mechanisms with the clearest evidence are: ending new gas connections; tightening minimum energy performance standards; mandating energy-performance disclosure at point of sale and lease; and subsidising the switch to heat-pump hot water, induction cooking and reverse-cycle heating and cooling (CER submission, 2024; Decarbonising Sydney, 2022). Thermal efficiency measures carry a direct adaptation co-benefit by reducing heating and cooling demand during extreme heat.

**Transport: targets plus fleet-led market creation.** A sustainable mode-share target of 40% of trips by 2030, rising to 60% by 2035 and 80% by 2040, would align road-space, investment and land-use decisions (Towards Net Zero for Transport and Infrastructure submission, 2024). On vehicles, the mechanism that moves fastest is fleet turnover: government and commercial fleets are around 9 to 10% of passenger vehicles, roughly 200,000 to 250,000 vehicles in Sydney, and converting them by 2030 seeds an affordable second-hand electric-vehicle market (Towards Net Zero for Transport submission, 2024; Decarbonising Sydney, 2022, Chart 18). Comparable jurisdictions show the value of regulation: dual feed-in tariffs in Germany (EEG 2023) encourage households to size solar for export, and bidirectional charging trials in Utrecht demonstrate vehicle-to-grid at scale (Sydney as a Renewable Energy Zone, 2025, pp. 43 to 44).

### 1.2 Stimulating private finance at scale and pace

The most specific and actionable reform is to widen the Capacity Investment Scheme. The Scheme currently underwrites projects above 30 MW or two hours of storage, which excludes almost all urban consumer energy resources (Sydney as a Renewable Energy Zone, 2025, p. 13). Underwriting aggregated consumer energy resources below 30 MW, and virtual power plants below 10 MW, would de-risk investment, lower the cost of finance and increase returns to consumers (NEM Review submission, 2025). This matters because the state's headline

investment task is large: the Electricity Infrastructure Roadmap anticipates more than 32 billion dollars of private investment by 2030, of which over 10 billion dollars of generation and storage must be fast-tracked as coal exits (Sydney as a Renewable Energy Zone, 2025, p. 12).

Mandatory energy-performance disclosure creates a data foundation that private lenders can price against; major banks have already signalled interest in discounted green home-loan products tied to home energy ratings (Decarbonising Sydney, 2022).

### **1.3 Drivers and risks to the 2030, 2035 and net zero targets**

**Diagnosis.** Despite NSW's nation-leading policy settings, Greater Sydney is not on track. Under current policy the Committee's modelling shows Greater Sydney's emissions falling around 43% by 2030 and around 80% by 2050, short of the state's 50% by 2030 and net zero by 2050 targets. The Committee's Accelerated Net Zero Transition scenario reaches around 50% by 2030 and around 95% by 2050 against 2005, consistent with net zero once residual emissions are offset (Decarbonising Sydney, 2022, Chart 48). Electricity is the largest single source of NSW emissions at around 40%, and within Sydney, transport and buildings are the two largest emitting end-use sectors, at roughly 36 to 37% and 31% respectively (Decarbonising Sydney, 2022, Chart 12).

**Risks.** Three stand out.

First, electricity demand growth: even after energy efficiency and rooftop solar, grid electricity consumption is projected to rise by around 68%, roughly 22 TWh, by 2050 in the accelerated scenario, driven by electrification and data centres (Decarbonising Sydney, 2022, Chart 26).

Second, network timing: the five-year network investment cycle with a two-to-three-year planning lead time is structurally too slow for the pace of data-centre and electrification demand, and warrants reform through the Australian Energy Regulator, as the United Kingdom has done (Data Centres Inquiry submission).

Third, workforce: uptake of home energy upgrades is constrained by a real capacity risk that energy assessors and skilled trades cannot meet demand (Decarbonising Sydney, 2022). We also recommend the Commission adopt consumption-based emissions accounting alongside production-based metrics, to reflect urban emissions responsibility accurately (NZC Consultation submission, 2025).

### **1.4 Collaboration across sectors**

The pathways should be designed around the couplings between sectors, not sector by sector in isolation. The clearest opportunities are: vehicle-to-grid integration, where electric vehicle and bus batteries provide flexible storage to the electricity system (Sydney as a Renewable Energy Zone, 2025, p. 15; Towards Net Zero for Transport submission, 2024); data-centre heat reuse and co-location, linking industry, buildings and energy (Data Centres Inquiry submission); and the use of distribution network service providers as a delivery mechanism for consumer energy resources at scale, drawing on their existing customer relationships and regulatory safeguards (CER submission, 2024).

## Theme 2. Technology and behaviour change

### *Q2. What are the opportunities and barriers to technology development and deployment?*

#### **2.1 Technologies available or emerging, and readiness**

In the three focus sectors the core technologies the task is deployment rather than invention.

- *Mature*: rooftop solar, heat-pump hot water, induction cooking and reverse-cycle heating and cooling.
- *Maturing with a rapidly narrowing price gap*: battery storage and electric vehicles. Emerging but proven in trials: community and neighbourhood batteries, virtual power plants, and vehicle-to-grid.
- *Deployment is accelerating*: to date 400,000+ households installed a home battery in under the 2024 NSW rebate, and around 100 neighbourhood batteries have been delivered by Ausgrid and Endeavour Energy.

#### **2.2 Constraints on uptake and deployment**

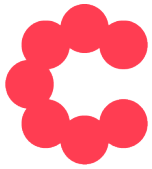
The binding constraints are financial and structural rather than technical: split incentives between landlords and tenants, and between industrial asset owners and occupants; network hosting capacity and export limits; the Capacity Investment Scheme threshold; and network connection and investment-cycle rules not built for distributed generation (Data Centres Inquiry submission; Sydney as a Renewable Energy Zone, 2025, pp. 28 to 33). Industrial rooftops are the starkest missed opportunity: large-format buildings often use solar for only 10 to 20% of available roof space, leaving significant generation unrealised (Sydney as a Renewable Energy Zone, 2025, p. 21).

#### **2.3 Current and future costs**

The central cost finding is that decarbonisation in Sydney is overwhelmingly cost-effective. The Committee's marginal abatement cost analysis found that around 87% of Sydney's abatement potential to 2030 is cost-negative or cost-neutral, with rooftop solar, distributed batteries, power-sector decarbonisation and converting internal-combustion vehicles to electric all sitting in cost-negative territory (Decarbonising Sydney, 2022, Chart 10).

#### **2.4 The role of the NSW Government**

Government's role is to set direction and lower the barriers that the market cannot clear alone: set metropolitan generation, storage and deployment targets; provide point-of-sale rebates weighted to high energy-burden households; fund a one-stop-shop for home circuitry upgrades, including fuse-box and single-to-three-phase upgrades; drive the smart-meter rollout toward 100% by 2030; remove strata barriers to solar; and use distribution network service providers to deliver consumer energy resources at scale (CER submission, 2024). Government can also open regulatory sandboxes so networks and new entrants can test local energy sharing, peer-to-peer trading and local energy hubs before wider rollout (Sydney as a Renewable Energy Zone, 2025, p. 44).



*Q3. What are the opportunities to foster demand reduction and behaviour change?*

Committee consumer research points to five levers that must move together to shift behaviour at scale: make it easy, reduce the price, provide trustworthy information, have government and business lead by example, and show households the impact of their choices (CER submission, 2024).

On demand reduction specifically, the largest structural opportunities are modal shift in transport and thermal efficiency in buildings. Shifting short trips from cars to walking, cycling and public transport is projected to move private-vehicle travel to around a 1% annual decline while public transport grows around 5% a year to 2030, with a bicycle replacing a car for a short trip cutting around 84% of that trip's emissions (Decarbonising Sydney, 2022, Chart 15).

In buildings, improved thermal efficiency reduces heating and cooling demand, which lowers both emissions and heat-related health risk. Mandatory energy-performance disclosure at sale and lease is the most direct behavioural intervention, giving households and tenants the information to factor running costs into decisions (CER submission, 2024).

### **Theme 3. Economic impacts and just transition**

*Q4. What are the likely economic effects on NSW of different emissions pathways to net zero, relative to NSW's current level of ambition?*

Because most abatement in the Committee's sectors is cost-effective, a more ambitious pathway is largely a lower-cost pathway for households and the wider economy, not a higher-cost one (Decarbonising Sydney, 2022, Chart 10).

The accelerated pathway lowers household energy bills, improves health through better air quality and reduced heat exposure, and strengthens grid resilience through distributed storage (Decarbonising Sydney, 2022; Sydney as a Renewable Energy Zone, 2025). The economic risk runs the other way, The Committee's heat research quantifies this dynamic in one domain, with the annual cost of heatwaves to Western Sydney alone projected to rise from around 1.4 billion dollars today to over 6.8 billion dollars by the 2070s under a moderate emissions scenario (Burning Money, 2024).

The most immediate workforce pressure in our sectors is a skills shortage: energy assessors and skilled electrical trades cannot currently meet the demand that mass electrification and home retrofits will generate, and this capacity risk could throttle deployment even where technology and finance are available (Decarbonising Sydney, 2022). The pathways should therefore treat trade and assessor training as a delivery-critical input.

A second pressure, the transition of the fossil-fuel and mining workforce, is real and important but largely non-metropolitan; we note the principle that no community should be left behind in the energy transition, while deferring to parties with direct evidence on regional labour markets.

Work by our partner organisations for the Renewable Energy Sector Board<sup>1</sup> also identified the need to develop frameworks and platforms to facilitate workforce redeployment within the renewable energy sector and across other sectors including:

- a NSW digital passport that recognises skills and qualifications of the renewable energy and transmission sector workforce
- online talent community platforms for each REZ listing jobs and apprenticeships (which could leverage existing platforms)
- a micro-credentialling framework, offerings and pilots that target skills shortages.

The Committee has not published NSW-wide macroeconomic pathway modelling; our economic evidence is household and city-scale, together with the heat-cost analysis above.

*Q5. What are the opportunities and barriers to addressing socio-economic priorities for a just transition, including equitable outcomes for First Nations peoples and rural, regional and remote communities?*

The Committee's strongest just-transition evidence is on urban energy equity, where the stakes are acute. Energy costs consume around 20% of disposable income for Sydney's lowest-income quintile, against around 3% for the highest; adopting rooftop solar, batteries, electric vehicles and electric appliances could cut the lowest quintile's energy costs to around 5% (CER submission, 2024; NEM Review submission, 2025). Yet the benefits are currently captured by those who can already afford them: almost 30% of Sydney households benefit from rooftop solar, leaving more than 70% without the dividend, and renters, who are over a third of Sydneysiders, are largely locked out by split incentives, upfront cost and short tenancies (Sydney as a Renewable Energy Zone, 2025, p. 18).

The mechanisms to close this gap are known: solar-for-rentals incentives with guaranteed tenant benefit, phased minimum rental energy standards, community batteries with equitable-access models for apartments and strata, inclusive virtual power plants that let households without their own assets participate, and grant programs such as the NSW Solar for Apartment Residents grant (CER submission, 2024; Sydney as a Renewable Energy Zone, 2025, p. 43).

On First Nations outcomes, we support alignment with the First Nations Clean Energy Strategy and defer to First Nations organisations on design.

On rural, regional and remote communities, we do not hold independent evidence and defer to those who do, while noting that regional Renewable Energy Zones are bearing significant infrastructure impacts on behalf of the whole state, which strengthens the equity case for cities like Sydney to generate more of their own power (Sydney as a Renewable Energy Zone, 2025, pp. 13, 18).

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<sup>1</sup> UTS (Institute for Sustainable Futures) and SGS Economics and Planning (2022) Employment, Skills and Supply Chains: Renewable Energy in NSW <https://www.energy.nsw.gov.au/sites/default/files/2022-09/employment-skills-and-supply-chains-renewable-energy-in-nsw-final-report.pdf>

## Theme 4. Evidence and other considerations

*Q6. What evidence can you provide to inform pathway inputs and assumptions (for example cost curves, deployment rates, sector-specific data)?*

The Committee's independent modelling for Decarbonising Sydney was completed in 2022 so is considered too long ago to be shared here. The full report can be found here:

<https://sydney.org.au/wp-content/uploads/2022/08/Committee-for-Sydney-Decarbonising-Sydney-August-2022.pdf>

*Q7. Beyond emissions reduction, what outcomes should be considered (for example business, jobs, land-use, water and biodiversity)?*

The pathways will be stronger, and more publicly supported, if they are assessed against the co-benefits and trade-offs that the transition delivers. The Committee's evidence points to:

- cost-of-living and energy-poverty relief through lower household bills (CER submission, 2024);
- using data centre roll outs as an accelerator of generation & storage infrastructure (Transforming Sydney's Economy, 2025)
- health gains from better air quality, active transport and reduced heat exposure (Priorities for a Net Zero Sydney, 2021; CC&NH SEPP submission, 2026);
- energy and community resilience, demonstrated when home batteries and vehicle-to-load kept essential services running during recent extreme-weather blackouts (Sydney as a Renewable Energy Zone, 2025, p. 15);
- water security, where data-centre growth requires circular-water systems and full-cost water pricing (Data Centres Inquiry submission);
- local jobs and industry in green steel, green cement and electric-bus manufacturing and depots (Priorities for a Net Zero Sydney, 2021; Carbon Budget, 2021); and
- biodiversity and living infrastructure, which reduce hazard risk while supporting decarbonisation (CC&NH SEPP submission, 2026).

A further outcome to plan for now is resource recovery: with most solar panels having a useful life of around 20 years, product stewardship and recycling pathways for panels and batteries should be built into the pathways from the outset (Sydney as a Renewable Energy Zone, 2025, p. 44).

*Q8. Do you have any other comments or information you would like to provide?*

We strongly endorse the Commission's core task: NSW should manage to a carbon budget with transparent, regularly reviewed sectoral trajectories, as the Committee argued in 2021.

The pathways should explicitly recognise metropolitan Sydney as a decarbonisation actor in its own right. There is currently no metropolitan-scale governance mechanism to coordinate the city's distributed energy potential.

The Committee for Sydney would welcome the opportunity to discuss this submission and to make our research and member network available to support the Commission's work.

Yours sincerely,



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### **Committee for Sydney sources referenced**

Committee for Sydney (2021) Priorities for a Net Zero Sydney.

Committee for Sydney (2021) It's Time to Set Our Own Carbon Budget in NSW.

Committee for Sydney (2022) Decarbonising Sydney: The role of transport, buildings and grid infrastructure on Greater Sydney's path to net zero.

Committee for Sydney (2023) Nature Positive Sydney – valuing Sydney's living infrastructure

Committee for Sydney (2024) Submission on the Consumer Energy Resources (Households) Strategy, NSW DCCEEW.

Committee for Sydney (2024) Burning Money: the rising cost of heatwaves for Western Sydney

Committee for Sydney (2024) Submission: Towards Net Zero for Transport and Infrastructure, to the Australian Government.

Committee for Sydney (2025) Submission to the NEM Wholesale Market Settings Review.

Committee for Sydney (2025) Submission to the NSW Net Zero Commission Consultation Paper.

Committee for Sydney (2025) Sydney as a Renewable Energy Zone: A metropolis of energy equity, affordability and abundance

Committee for Sydney (2025) Transforming Sydney's Economy

Committee for Sydney (2026) Submission on the Data Centres Inquiry.

Committee for Sydney (2026) Submission on the Climate Change and Natural Hazards SEPP (Explanation of Intended Effect)