2025 consultation

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To whom it may concern

City of Sydney submission - NSW Net Zero Commission Consultation Paper

The City of Sydney (the City) welcomes the opportunity to provide input to the NSW Net Zero Commission's work and advice.

This submission builds on our long advocacy and program delivery to reduce emissions, improve energy efficiency, and affordability for all residents, including renters, people on low incomes, and apartment dwellers.

We concur with the Commission that all sectors of the economy need to play their part in meeting NSW's legislated targets including net zero by 2050. It will take cooperation from governments at all levels, businesses of all sizes, households and the wider community. Local governments can play a key role but require resources.

Recommendations

This submission contains 28 recommendations with links for further information. We are open to discuss any aspects and ways we can share information and align key sustainability priorities.

About the City of Sydney

The City has a target for net zero emissions across the local area by 2035 and to reduce emissions by 70 per cent based on 2006 levels by 2030. As of June 2023, greenhouse gas emissions for the local government area were 41 per cent below our 2006 baseline.

For our own operations, we were the first government in Australia to become carbon neutral. We are electrifying our properties and fleet, improving energy efficiency, and using 100% renewable electricity. Our absolute emissions are 76% below 2006 levels.

Our community supports action to reduce emissions. More than 80 per cent of our residents live in apartment buildings, many are renters, and we have a high share living in social housing. We have gathered significant insights into the challenges and opportunities faced by residents and owners' corporations through our Smart Green Apartments[1] program.

[1] https://www.cityofsydney.nsw.gov.au/environmental-support-funding/smart-green-apartments

Many businesses in our Better Buildings Partnership[2] and CitySwitch[3] and Sustainable Destination Partnership[4] programs are actively moving away from gas and switching to renewable electricity.

To help our residents and businesses reduce impacts and come up with innovative solutions, we also provide Innovation and Ideas[5] grants and Green Building[6] grants.

Our net zero planning controls combine energy efficiency and the use of onsite and offsite renewables to move new buildings towards net zero energy use.

In June 2025, Council voted unanimously to fast-track all-electric new residential developments. That means from 1 January 2026, indoor gas appliances won't be able to be installed in new residences.

Separately, we have looked at how we ensure all types of new developments electrify. At the same council meeting, we endorsed draft planning controls to be placed on public exhibition requiring all new development, including offices, hotels, and serviced apartments buildings to be fully electric. These draft controls are not proposed to be implemented until 1 January 2027 to enable community consultation[7].

We are actively involved and hold memberships[8] with leading climate and energy groups. We helped to establish and highly value the Resilient Sydney program. We participate global networks including C40 Cities with reporting via CDP Cities.

Sustainable Sydney 2030-2050 is our overarching community strategic plan with key targets and directions. We recently adopted our Environmental Strategy 2025-2030 which complements our strategies for urban greening, climate resilience, the green economy, transport and access, waste and circular economy.

For more information about City of Sydney sustainability targets, progress, and programs - see our latest annual Green Report[9].

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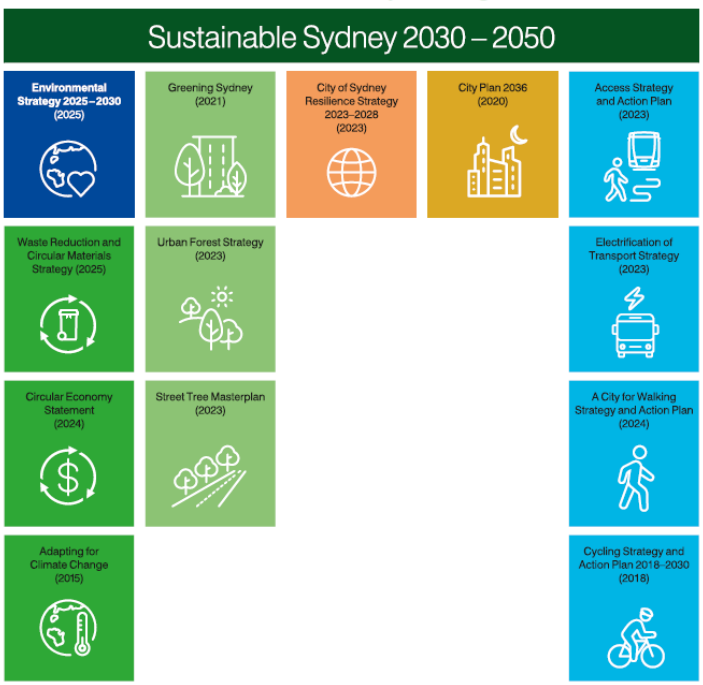
[2] https://www.betterbuildingspartnership.com.au/
[3] https://cityswitch.net.au/
[4] https://www.sustainabledestinationpartnership.com.au/
[5] https://www.cityofsydney.nsw.gov.au/cultural-support-funding/innovation-and-ideas-grant
[6] https://www.cityofsydney.nsw.gov.au/environmental-support-funding/green-building-grants
[7] https://meetings.cityofsydney.nsw.gov.au/ieDecisionDetails.aspx?AIId=19492 and https://meetings.cityofsydney.nsw.gov.au/ieDecisionDetails.aspx?AIId=19668
[8] https://meetings.cityofsydney.nsw.gov.au/ieDecisionDetails.aspx?AIId=17778
[9] https://www.cityofsydney.nsw.gov.au/surveys-case-studies-reports/green-reports



About the consultation paper

The Net Zero Commission's consultation paper seeks public input to guide NSW's transition to a net zero and climate-resilient future. Without accelerated action, the state risks missing its 2050 net zero and nearer-term emissions targets.

The document highlights that climate change is already affecting NSW through increased extreme weather events, heatwaves, and slow-onset processes like sea level rise and drought.

The Commission calls for substantial and integrated action across all sectors, including electricity and energy (the largest emitter), transport, agriculture, industry and waste, resources, and the built environment.

The paper highlights the importance of equity, resilience, and community engagement, and the vital role of First Nations peoples, whose millennia-old knowledge can inform adaptation and mitigation strategies.

Key sectoral insights include the need to accelerate renewable energy deployment, curb rising emissions from transport, address community concerns and benefit sharing around new infrastructure, and ensure people are meaningfully included.

The Commission seeks feedback on opportunities, ways for monitoring progress, effective adaptation strategies, and how to empower communities and First Nations in this transition.

The consultation paper is high level and open to ideas. The Commission would benefit from seeking further feedback on a more specific set of proposals that align with many existing strategies and programs by the NSW and Australian Governments.

Recommendation 1. The Commission conducts a second round of consultation with targeted options that incorporate feedback and integration with existing processes.

Response to the consultation paper

Climate change is happening now

***Question**: What can you tell us about your experience of the impacts of climate change and how can the commission seek to reflect and respond to this in its work?*

Climate change impacts in the City of Sydney local area are occurring sooner than anticipated.

For our own operations, more intense rainfall is testing the capacity of our stormwater and flood mitigation systems. Stormwater management for our area is shared by Sydney Water who are investing and maintaining infrastructure like trunk drains, without which widespread flooding would occur. The importance of properly funding Sydney Water for this essential resilience infrastructure cannot be understated.

Heat is putting pressure on our assets and services, for example passively cooled buildings are used less on the hottest days, and cool spaces such as libraries and pools are used more.

Through engagement with priority communities - those disproportionately impacted by climate change - there is deep concern about the impacts of climate change, especially heat. Many live in substandard housing or have chronic physical or mental health conditions, and most also have no agency to mitigate or adapt the climate impacts.

There are concerns within the community about the costs of keeping cool by running fans or air conditioning in homes as electricity bills climb. Renters and people on low incomes are especially impacted by climate change. This includes those in social or community housing.

We hear from people who would like to transition to zero emissions electricity and get off gas but are being left behind for a range of reasons including the costs of technologies like solar panels and batteries, renters whose owners won't engage, and strata processes being a barrier for people who live in apartment buildings.

Recommendation 2. Ensure climate equity is core to all NSW Government climate mitigation and adaptation policies and programs, with measures to support and track communities most impacted by climate change, and sufficient funding for agencies and organisations providing essential services

Informing and empowering change

***Question**: What actions can the commission take to engage across the community to help drive the shifts needed for the net zero transition and for effective climate change mitigation and adaptation?*

There are multiple issues and ways for the Commission to engage the community and make recommendations for the NSW Government to raise awareness and support for new and existing climate mitigation and adaptation programs and policies.

Support Local Government

The Australian Government joined the Coalition for High Ambition Multilevel Partnerships (CHAMP)[10] pledge at COP28 in 2023 to advance the integration of sub-national leaders in the planning, financing, implementation, and monitoring of climate strategies.

Local government is the closest level of government to the community, yet many are limited by jurisdictional control and resources to implement climate mitigation and adaptation support and communications to their communities.

Better outcomes can be achieved by involving and providing resources to local government in the design, delivery, governance of climate policies, programs, and communications.

Recommendation 3. Call on the Australian Government to deliver upon its pledge to involve and fund sub national governments in the design, governance, communication and implementation of key climate policies and programs.

First Nations and climate action

***Question**: What additional mechanisms, support, or incentives can meaningfully empower and enhance First Nations people's involvement in climate mitigation, adaptation and environmental stewardship?*

The City of Sydney has been purchasing an increasing number of carbon credits in recent years via the not-for-profit Aboriginal Carbon Foundation who have developed a Core Benefits Framework[11] to support Aboriginal people and communities to care for Country which is funded through carbon farming.

The Aboriginal Carbon Foundation has identified vast areas of NSW with Aboriginal interest where carbon farming could provide a sustainable source of funding with cultural, social, economic and environmental benefits.

Yet to date, we are not aware of a single carbon farming project in NSW on land which is owned or managed by Aboriginal communities, due in large part to the funding gap between the capital required upfront and the revenue from carbon credits.

Recommendation 4. Work with the Aboriginal Carbon Foundation and others to pilot and scale high-integrity carbon farming projects which benefit Aboriginal people in NSW.

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[10] https://www.cop28.com/en/cop28-uae-coalition-for-high-ambition-multilevel-partnerships-for-climate-action

[11] https://www.abcfoundation.org.au/carbon-farming/core-benefits

Enabling long term support for cultural burns by Aboriginal practitioners across the state is another key opportunity.

The Resilient Sydney Strategy 2025-2030[12] outlines how local and state governments are working with Dharug, Gundungarra, and Dharawal Traditional Custodians and cultural fire experts such as Firesticks Alliance[13] who are leading cultural burns in Western Sydney.

The Connecting to Jagun[14] healing and community resilience project outlined by the Commission is another example of ways to support cultural burns.

During the 2019 black summer fires, it was estimated that the equivalent of one years' worth of Australia's total greenhouse gas emissions was released to the atmosphere, in addition to the dreadful loss of human and animal lives.

Cultural burns have been shown to reduce the risk of unabated wildfires, resulting in reduced risks to people and properties, and significantly reducing greenhouse gas emissions.

Without intervention, more parts of the state will be more at risk and whole regions may become uninsurable. In a similar way that preventative health care reduces costs overall, the insurance industry could contribute funding for ongoing cultural fire practices to reduce risk and keep insurance premiums affordable.

Recommendation 5. Identify ways to support cultural burns across the state by working with the insurance industry to develop a significant and sustainable co-funding model.

Accelerating emissions reductions

***Question**: What additional information and evidence should the commission consider when assessing progress towards NSW's targets for reducing net greenhouse gas emissions?*

The City of Sydney Environmental Strategy 2025-2030 looked at the emissions associated with spend and consumption for our area. This considers emissions not counted by the boundary-based approach (which is the standard used for jurisdictions to avoid double counting).

We underwent this assessment because large city economies like ours rely heavily on products and services made elsewhere, and even if those emissions are allocated beyond our boundary, we can reduce these emissions by influencing demand.

We found that consumption-based emissions from goods and services produced outside our area were estimated to be more than 5-times our boundary-based emissions. The main sources include air travel, food, utilities, construction, and other goods and services.

The consultation paper did not include important emissions sources and opportunities that relate to consumption, specifically:

[12] https://www.cityofsydney.nsw.gov.au/governance-decision-making/resilient-sydney
[13] https://firesticks.org.au/
[14] https://www.jagunalliance.org.au/connecting-to-jagun

- Emissions from air travel
- Embodied carbon in building materials
- Scope-3 emissions resulting from the combustion of exported fossil fuels

Recommendation 6. Conduct a high-level assessment of consumption-based emissions for the state and identify ways to reduce emissions that occur beyond NSW.

Electricity and energy

***Question**: The speed of deployment of electricity generation and infrastructure is a key risk to emissions reduction targets. What more could be done to fast-track deployment? Are the measures now in place sufficient to ensure community engagement and benefit sharing from the build out of infrastructure for the energy transition?*

Consumer Energy Resources

The NSW framework to transform the electricity network by coordinating investment in transmission, generation, storage and firming infrastructure as coal-fired power stations close is to be commended.

The Renewable Energy Planning Framework and Benefit Sharing Guidelines should also ensure that communities receive benefits from projects built in their area.

NSW looks on track to meet its targets for at least 12 gigawatts of new renewable electricity generation and 2 gigawatts of long duration storage by 2030.

However, it is worth noting that these targets were developed around 2020 based on business-as-usual demand growth, and replacement of existing coal power stations with large scale infrastructure, mostly in regional areas with good solar and wind resources.

Since then, the cost of big transmission projects has increased, there are social licence issues in some regions, and the costs of battery storage and electric vehicles has fallen significantly.

Further, the targets probably didn't factor in significant growth for new and significant demands such as data centres to power AI, electrification of buildings and transport, and new industries like green steel and aluminium.

Recommendation 7. Assess increased demand for electricity due to growth in areas like electrification of buildings and transport, data centres, and new green industries.

These new demands may be substantially offset by strong growth in distributed and consumer energy resources, including rooftop solar, community and household batteries, and vehicle to grid technologies.

The National Energy Market (NEM) is under review[15] with early indications[16] there will be a bigger role for consumer and distributed energy resources such as home batteries and changes to distribution network tariffs that deter consumer participation.

[15] https://www.dcceew.gov.au/energy/markets/nem-wms-review
[16] https://theenergy.co/article/nem-review-chooses-contracts-over-capacity-eyes-network-tariffs-nobbling-cer

The Australian Energy Market Commission is investigating the role of electricity pricing[17] as consumers play an increasingly important role in the grid with an initial report[18] finding consumer energy resources could deliver $14 billion of annual system benefits by 2050.

Energy networks in NSW are also investigating[19] how renewable energy and storage may be installed in local distribution networks where there is spare capacity, closer to where the energy is needed, at lower cost than big regional projects with transmission.

Recommendation 8. Accelerate the implementation of distributed and consumer energy resources to meet future energy demand growth, including initiatives outlined in the NSW Government Consumer Energy Resources Strategy[20]

Demand flexibility

With increasing solar being installed, there are clear cost and emissions benefits by shifting energy demands to the middle of the day.

Designed well, this integral part of the energy system will reduce the need to oversize and curtail renewable energy, other forms of storage including pumped hydro and batteries, and costly transmission - lowering the energy system costs overall.

Grid interactive efficient buildings will play an increasingly important role in supporting the renewable electricity transition and managing peak loads, especially as more electric vehicles will be charging (and discharging) within buildings.

Buildings in aggregate should be considered as large-scale storage, using more energy at times when renewable energy is abundant, and using less (or putting energy back) at times when it is not. Only electric buildings can be grid interactive in this way.

The Buildings as batteries[21] work by Buildings Alive and the Australia Institute found that if buildings shifted one third of their peak electricity consumption to the middle of the day (for example by pre-cooling in the middle of the day rather than during afternoon peaks), it would save $1.7 billion annually.

Recommendation 9. Identify ways that load shifting and demand flexibility by buildings can be supported to contribute to NSW emissions and energy targets.

[17] https://www.aemc.gov.au/market-reviews-advice/pricing-review-electricity-pricing-consumer-driven-future
[18] https://energeia.au/unlocking-consumer-energy-resources/
[19] https://reneweconomy.com.au/missing-middle-local-networks-say-they-can-host-wind-and-solar-at-fraction-of-cost-of-new-transmission
[20] https://www.energy.nsw.gov.au/nsw-plans-and-progress/government-strategies-and-frameworks/energy-strategy
[21] https://australiainstitute.org.au/report/buildings-as-batteries/

Sydney as a renewable energy zone

In May 2025, the NSW Government announced[22] the Illawarra as the state's first urban renewable energy zone, focusing on solar, storage and local grid upgrades.

The Committee for Sydney released a proposal for Sydney as a renewable zone: A metropolis of energy equity, affordability and abundance[23] shortly after.

This would significantly increase the amount of local clean energy generation and storage, better utilise the local distribution network, and put less reliance on costly transmission and impacts in regional areas.

Recommendation 10. Recommend that the NSW Government declares Sydney as a renewable energy zone and allocate resources for planning and delivery.

Embedded networks

Well-managed, embedded networks have the potential benefit customers such as purchasing renewable energy, access to lower cost commercial tariffs, and enabling consumer energy resources, electrification, and grid interactivity.

However, there are significant concerns that customers on embedded networks are paying higher prices, with limited consumer rights, and cases where Owners Corporations and residents are prevented from purchasing renewable energy.

Recommendation 11. Ensure that embedded networks provide competitively priced renewable energy and consumer choice protections.

Transport

***Question**: What are likely to prove the most effective approaches to accelerate rapid decarbonisation across freight and passenger transport?*

The transport section of the consultation paper was very narrow in scope and the Commission needs to consider a broader range of opportunities and priorities.

The transport sector is the second major source of emissions in NSW, and emissions are increasing rather than decreasing. Significant changes are needed but this requires a comprehensive and integrated approach.

While transitioning from fossil fuelled vehicles to electric vehicles (powered by renewable energy) addresses some of the transport emissions, high levels of driving is still a fundamentally inefficient and unsustainable way to meet transport and access needs in urban areas.

Reducing emissions requires a shift away from private vehicles, not just a transition to electric vehicles. There needs to be a central focus on the emissions reductions by enabling walking, cycling and public transport, which also align with NSW Government broader economic, social, environmental and health goals.

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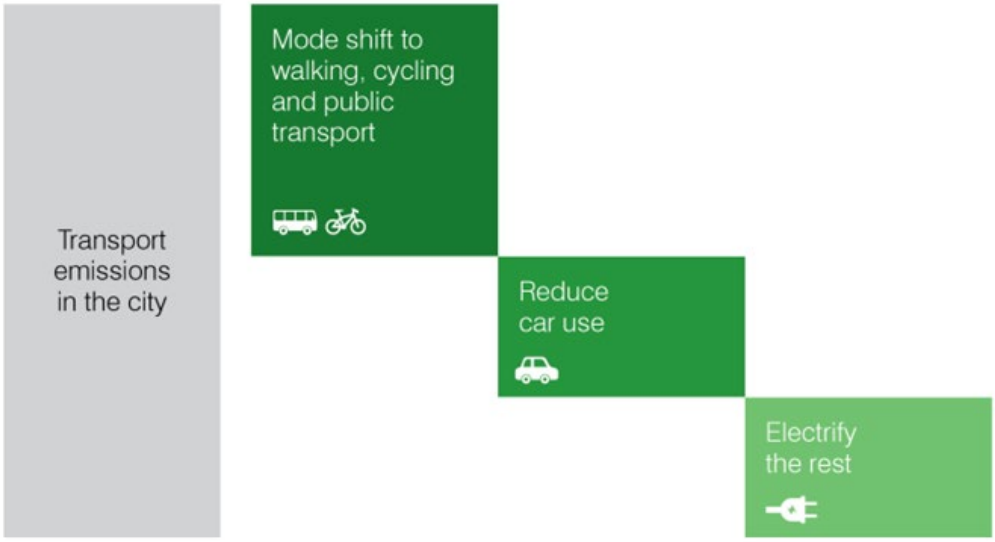
[22] https://www.abc.net.au/news/2025-05-24/illawarra-named-urban-rez-renewable-energy-shift/105330122

[23] https://sydney.org.au/wp-content/uploads/2025/06/Committee-for-Sydney-Sydney-as-a-renewable-energy-zone-June-2025.pdf

In Sydney for example, more than two million car trips taken every day are less than 2km. Shifting even a small proportion of these trips to walking, cycling or public transport can make a significant difference. In the City of Sydney, around 37 per cent of households do not own a car and the proportion of residents without a car is increasing.

The City of Sydney Electrification of Transport in the City: Strategy and Action Plan[24] provides a strategic approach which the Commission should consider.



Recommendation 12. Develop recommendations in line with a transport hierarchy, with support for active and public transport prioritised for urban areas.

The City would welcome further exchange with the Commission to align priorities and ways to enable outcomes, for example:

- More funding for walking and cycling infrastructure.
- Reduced delays at signals for people walking.
- Lower speed limits, such as 30km/h in city centres and pedestrian precincts.
- Grants or subsidies for electric bike purchases.
- Increasing public transport services in our area.
- Working with the Australian Government to secure High Speed Rail.
- Accelerating the rollout of zero emissions buses.
- Developing a framework for point-to-point fleets to transition, especially taxis.
- Reducing freight emissions e.g. off-street hubs and active transport for last mile.
- Road pricing to incentivise sustainable travel.

[24] https://www.cityofsydney.nsw.gov.au/strategies-action-plans/electrification-transport-strategy-action-plan

Industry and waste

***Question**: What short to medium term measures could be prioritised to address the systemic challenges regarding waste generation and resource recovery?*

The high-level opportunities outlined by the consultation paper to reduce organic waste, increase recycling, and improve landfill gas capture rates are important ways to reduce emissions.

Other significant opportunities have not been addressed, such as the energy and emissions that can be avoided by expanding circular economy opportunities, the need for a systemic approach to waste management, and other forms of waste treatment.

Reduce waste and improve circularity

Improving circularity and reducing the need for new materials can significantly reduce emissions associated with the extraction, processing, and transport of materials - especially where it displaces materials made from fossil fuels.

The City of Sydney Circularity Economy Statement[25] outlines opportunities and challenges in transitioning to a circular economy. The recently introduced NSW Product Lifecycle Responsibility Act 2025 is an important start to improve circularity, however it should be expanded to address more problem waste streams.

The NSW Government introduced a single use plastics ban in 2022; however better enforcement and ongoing education campaigns are needed. The NSW Government should also seek improvements to Australia's National Packaging Targets[26].

Recommendation 13. Expand the Product Lifecycle Responsibility Act 2025 to include problem streams such as textiles, furniture, and electronics, and call on the Australian Government to improve National Packaging Targets.

Resource recovery

The NSW Government needs to rapidly identify and deploy waste management alternatives to landfill for residual waste treatment which may include energy from waste.

In its recent options paper[27], the NSW Government acknowledges this technology is safe and effectively used globally and elsewhere in Australia yet continues to place geographic limitations and emissions standards that exceed international best-practice.

These inconsistencies are creating an unworkable regulatory environment, leading to costs and delays, and contributing to public misconceptions about the safety of alternatives to landfill.

The NSW Government has also recently published the first chapter of the Draft NSW Waste and Circular Infrastructure Plan[28]. This initial chapter is light on detail and failed to provide an actual long term strategic plan for waste infrastructure.

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[25] https://www.cityofsydney.nsw.gov.au/strategies-action-plans/circular-economy-statement
[26] https://apco.org.au/national-packaging-targets
[27] https://www.nsw.gov.au/have-your-say/nsw-energy-from-waste-framework-review
[28] https://yoursay.epa.nsw.gov.au/draft-nsw-waste-and-circular-infrastructure-plan

The NSW Government should develop a more comprehensive plan like Victoria's 2024 Recycling Infrastructure Plan.

The EPA has provided no indication of when the remaining chapters will be published. A long-term plan for waste and circular infrastructure is essential if waste emissions are to be reduced. The full draft Plan needs to be published for consultation as soon as possible.

Recommendation 14. Recommend that the EPA publish the full Draft NSW Waste and Circular Infrastructure Plan as soon as possible (including a more comprehensive waste infrastructure plan like Victoria's 2024 Recycling Infrastructure Plan) and urge the NSW Government to pursue pathways that will support the establishment of energy from waste facilities in NSW.

The City would welcome further exchange with the Commission should it be beneficial to understand initiatives we have been undertaking which could be applied across the state, for example:

- Turning food waste into fertiliser.
- Working with industry to reduce waste.
- Awarding grants for circular economy ideas.
- Using recycled materials in our projects.
- Reuse and repair events.
- Giving residents ways to recycle tricky items.

Built environment

***Question**: What additional measures could accelerate electrification and increase energy efficiency of new and existing buildings?*

Buildings play an increasingly important role in the transition to zero emissions by using and producing clean energy at times when it is needed most (outlined in the previous section), whilst using energy efficiently to reduce running costs, and maintaining occupant safety and comfort as climate impacts become more frequent and severe.

As buildings become all electric and highly efficient, the lines between stationary energy generation, consumption, storage, and mobility are blurring. Most electric vehicle charging is likely to be off-street in buildings, especially in urban areas, and how and when they are charged (and discharged) will need to support the grid.

Buildings are the places where most innovations and investments to reduce emissions and respond to climate change will occur, as well as where many of the emerging programs and technologies will be installed.

Buildings are also pivotal for the market transformation needed in other sectors, for example by using low embodied carbon or materials that sequester carbon and facilities to reduce waste.

New buildings are not without their challenges, however there will be instances where upgrading existing buildings will be a lot more complex and challenging, due to physical constraints like access and space, insufficient electrical capacity, and complexities like strata decision making.

Expand and improve key programs

There are many worthy programs already underway in NSW and Australia to reduce emissions in the built environment that were not covered in the consultation paper.

Notable examples are the highly lauded National Australian Built Environment Rating System (NABERS) and Commercial Building Disclosure (CBD) programs, Minimum Energy Performance Standards for appliances (MEPS), improvements to the National Construction Code (NCC), and a proposed framework for National Home Energy Ratings Disclosure, to list a few.

Recommendation 15. Identify ways to expand and improve existing policies and programs that deliver against NSW emissions targets.

Energy efficient housing attracts a significant premium. The Domain Sustainability in Property Report 2025[29] finds energy-efficient homes are a priority for buyers across all budgets and postcodes, on average attracting a 14.5% price premium for houses and 12% for apartments.

In 2025, over half of the houses and almost 40% of apartments sold across Australia had energy efficient features mentioned in the listing. Research indicates that middle income households play a key role in driving demand.

Whilst this demand for energy efficient homes is welcome, the additional upfront costs make affordability for new homeowners more difficult, even if more efficient buildings cost significantly less to run, exacerbating cost of living and inequality pressures.

It is for this reason that government policies and programs are needed in addition to market signals.

Building ratings, mandatory disclosure, and minimum rental standards

For existing buildings, a range of incentives and standards are needed to raise awareness leading to upgrades and other targeted and measurable actions.

For non-residential buildings, the Commercial Building Disclosure (CBD) Program is well established and proposed expansions the scheme are supported to build upon the energy and cost savings achieved to date for large commercial office buildings.

Disclosure at the point of sale or lease is a significant step towards transparency in energy performance. However, there may be instances where a periodic trigger for disclosure is required for building types and cohorts that are not frequently tenanted or exchanged where energy savings opportunities may be missed.
There are also significant opportunities to phase in minimum energy performance standards for building types that have first been subject to ratings and disclosure requirements.

For residential buildings, there is a long overdue need for a nationally consistent rating tool for home energy performance, mandatory disclosure (including for apartments), and minimum energy performance standards for rental properties.

Work is progressing to develop a nationally consistent framework for disclosure of home energy ratings. However, there are several issues that need to be resolved by the NSW

[29] https://www.domain.com.au/sustainability/

and Australian Governments, especially for apartment buildings, which is increasingly the dominate form of new housing.

Apartment buildings present unique challenges. Energy used by common property can be significant as a share of total energy, multi-occupancy buildings are more complex than individual dwellings, and strata decision making processes can be a significant barrier.

Designed well, a disclosure framework for apartment buildings will help to overcome some of these barriers. However, owners' corporations and individual strata dwelling owners will need support and communications, especially during pilot stages.

A major challenge is inconsistency between modelled versus operational aspects of different ratings tools. Success of the disclosure framework in NSW will be contingent on having a clear, consistent, and efficient approach. The NSW Government needs to design one or two tools that work for apartments which are consistent and user friendly.

For example, a modelled BASIX score up front, may not align with a subsequent NatHERS Existing Whole of Home Rating which uses different modelling, nor NABERS Energy and Renewable Energy Indicator ratings for common areas which are based on actual data.

- BASIX for upfront energy (score is percent reduction against 2003 baseline).
- NABERS Energy performance rating for common areas (out of six stars).
- NABERS Renewable Energy Indicator (out of 100)
- NatHERS Existing Whole of Home Rating (out of 100).

Having three or four incomparable rating schemes will create mixed signals and confusion to customers and undermine the scheme, exacerbate skills shortages, and create significant costs for buildings to conduct multiple assessments.

Another issue is that electric vehicle sales are increasing year on year, which will increase demand for electricity in buildings. The home energy rating and disclosure frameworks will need to carefully consider how this is reflected by ratings to prevent a situation whereby buildings are disincentivised to provide off-street charging.

Once resolved, energy ratings information, including for apartment common areas, could be included with conveyancing documentation and rental agreements. This would allow prospective buyers and renters to make informed decisions.

It is also recommended that NABERS ratings for common areas be conducted annually, with results publicly available through the NABERS website and on the NSW Strata Hub. This would avoid delays as apartments are leased or sold.

Recommendation 16. Ensure that emerging tools for home energy performance are robust, streamlined, and easy to understand, especially for apartment buildings.

Whilst building ratings and mandatory disclosure are urgently required to raise awareness and drive improvements in residential buildings, further targeted support and interventions are needed to ensure that people who are renting do not miss out on energy and emissions savings benefits.

Minimum standards for rental properties[30] and rental laws[31] could be expanded to include minimum energy efficiency and climate resilience measures such as maximum temperature and humidity limits.

To overcome the split incentive which prevents owners from investing in upgrades which may not be readily recouped by savings on renters' energy costs, there are various proposals which could be considered such as instant asset tax breaks.

Recommendation 17. Ensure that renters do not miss out on the benefits of energy efficient, safe, and resilient homes, such as by establishing minimum rental standards.

Support electrification

Electrification of buildings significantly improves energy performance because electricity is far more efficient than gas. The benefits also include improved air quality and human health, lower running costs, and enabling the renewable energy transition.

However, there are barriers and costs, especially to electrify existing buildings. Government support for timely electrification, especially for poorly performing buildings, would result in better ratings and less reluctance to mandatory disclosure.

Domestic gas used in homes and businesses is decreasing and the price of gas has tripled on the east coast since exports began. There are now widely available technologies to electrify homes and businesses.

Whilst the electricity grid is decarbonising at a rapid pace, the future for gas in non-industrial applications is incompatible with meeting NSW emissions targets and there are important cost and equity implications as fewer customers remain connected to gas.

Retrofitting existing buildings and decommissioning the gas network will be costly and challenging, made worse by the current lack of a plan for NSW, leading to ad-hoc disconnections, investment uncertainty for the gas network utilities, and higher prices for customers who remain connected.

Gas assets are long lived, and buildings that are connecting to the gas network today may remain connected for decades due to the cost and complexity of retrofitting. The priority should be to prevent new connections, except where there are compelling reasons to allow them.

This includes removing perverse incentives whereby developers avoid upfront costs by connecting new buildings to the gas network.

These and other issues and opportunities have been well articulated by well-respected organisations including:

- Australian Sustainable Built Environment Council (ASBEC) - Unlocking the pathway, why electrification is the key to net zero buildings[32]

[30] https://www.nsw.gov.au/housing-and-construction/rules/minimum-standards-for-rental-properties
[31] https://www.nsw.gov.au/departments-and-agencies/fair-trading/changes-to-rental-laws
[32] https://www.asbec.asn.au/research-items/unlocking-the-pathway-why-electrification-is-the-key-to-net-zero-buildings/

- Brotherhood of St Laurence - Enabling Electrification by lower-income households[33]
- Energy Consumers Australia (ECA) - Stepping Up to Smooth the Way for Decarbonisation[34]
- Grattan Institute: Getting off gas - Why, how, and who should pay?[35]
- Property Council of Australia (PCA) - Every Building Counts[36]

The forthcoming NSW Gas Decarbonisation Plan, due by late 2026, needs to ban new gas connections, phase out gas in existing buildings, end the sale of gas appliances, and plan for equitable gas disconnections,

A concerted community education campaign is also needed for people to understand why the gas grid is in decline, how it is leading to higher energy prices, and the health saving benefits of electrification.

Cost effective and equitable ways to support the rapid deployment of electrification and local renewable energy also need to be identified. One example by Rewiring Australia, the Electrify Everything Loan Scheme[37] proposes government backed, flexible and universal low-cost finance to upgrade homes, including rental properties.

The NSW Government has developed bespoke support for apartment buildings through its Electric vehicle ready buildings[38] and Solar for apartment residents[39] programs. These programs should be continually reviewed and improved.

Recommendation 18. Provide key recommendations to the NSW Gas Decarbonisation Plan which includes a ban on new gas connections (particularly in residential), a state-wide communications campaign, ways to support electrification, and equitable sharing of costs to safely decommission gas networks.

Appliance standards

Expanding the scope and updating Minimum Energy Performance Standards (MEPS) for appliances and equipment used in buildings is cost-effective and complimentary to building energy ratings, disclosure, and electrification.

Setting MEPS standards that are ambitious, achievable, and reflect latest technological advancements leads to innovation and makes efficient solutions more cost competitive.

There are also significant cost of living and equity considerations. The Institute for Energy Economics and Financial Analysis[40] for example has identified that continued installation of inefficient gas and resistive electric appliances is locking Australian consumers into $3.4 billion in unnecessary costs each year.

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[33] https://www.bsl.org.au/research/publications/enabling-electrification/
[34] https://energyconsumersaustralia.com.au/news/stepping-up-to-smooth-the-way-for-decarbonisation
[35] https://grattan.edu.au/report/getting-off-gas/
[36] https://everybuildingcounts.com.au/
[37] https://www.rewiringaustralia.org/eels
[38] https://www.energy.nsw.gov.au/business-and-industry/programs-grants-and-schemes/electric-vehicles/electric-vehicle-ready
[39] https://www.energy.nsw.gov.au/households/rebates-grants-and-schemes/solar-apartment-residents
[40] https://ieefa.org/articles/appliance-standards-delays-costing-australians-34bn-year

Recommendation 19. Support improvements to Minimum Energy Performance Standards (MEPS) for appliances and equipment used in buildings.

Embodied carbon

According to Infrastructure Australia, the embodied carbon from buildings and infrastructure made up 10% of Australia's carbon emissions in 2023[41].

The Australian Government estimates that use of more sustainable materials could reduce upfront emissions by one quarter as soon as 2027, with more savings possible through better design and by building less.

As operational emissions decline due to electricity grid greening, embodied carbon is on track to be the largest source of emissions in the building sector.

The NABERS Embodied Carbon tool[42] and emissions database has provided a significant uplift in industry capacity to assess and identify ways to reduce embodied carbon emissions in the built environment.

Another key initiative, the Materials and Embodied Carbon Leadership Alliance (MECLA) has been supported by the NSW Government as an effective network of materials users and suppliers, to exchange information and lead to market transformation.

Recommendation 20. Provide ongoing support for the NABERS Embodied Carbon tool and the Materials and Embodied Carbon Leadership Alliance (MECLA).

Carbon Dioxide Removal (CDR)

In addition to materials, designs, and reuse that avoid or reduce embodied carbon, there are materials emerging that go further and sequester carbon more carbon from the atmosphere than are produced in their manufacture. These products are likely to play an increasingly important role for decarbonisation, especially in urban areas.

There are also other opportunities beyond materials that can be used to permanently remove carbon from the atmosphere including:

- Biochar
- Direct air capture
- Natural carbon sinks
- Enhanced rock weathering
- Mineralisation
- Alkalinity enhancement
- Bioenergy with carbon capture & storage

Some of these technologies are unlikely to be cost effective or scalable, whereas other technologies have multiple benefits, such as avoiding waste, improving the chances to become viable.

Recommendation 21. Identify potentially viable Carbon Dioxide Removal (CDR) opportunities and options for NSW Government to support, including pilot projects.

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41 https://www.infrastructureaustralia.gov.au/reports/embodied-carbon-projections-australian-infrastructure-and-buildings

42 https://www.nabers.gov.au/ratings/our-ratings/nabers-embodied-carbon

***Question**: How could social equity be better addressed in the transition to an electrified built environment?*

In addition to recommendations made earlier to increase renewable energy and improve the energy performance of buildings generally, there needs to be a focus on ensuring that priority communities do not miss out on energy cost savings and other opportunities.

Our experience also shows that cost is a major barrier. Government grants and incentives, for assessments and capital upgrades, are effective ways to support better building performance.

To ensure that no one is left behind, more NSW Government investment is needed for low-income housing energy upgrades and opportunities for equitable sharing of consumer energy resources.

Recommendation 22. Implement programs and incentives for building upgrades and access to clean and affordable energy by priority communities including renters, apartment dwellers, and low-income households.

***Question**: What approaches could NSW consider to eliminate refrigerants with a GWP >10 from buildings?*

The Australian Government is obligated under the Kigali Amendment to the Montreal Protocol to phase out high global warming potential (GWP) refrigerant greenhouse gases used largely in refrigeration and air conditioning equipment.

Whilst the industry considers how to move away from high GWP refrigerants, there are significant unknowns in how buildings will be designed and operated, especially as demand for cooling increases with rising temperatures.

The Green Building Council of Australia (GBCA) and the Australian Institute of Refrigeration Air Conditioning and Heating (AIRAH) are investing implications for buildings during the phase down period.

Parramatta City Council[43] was the first local government in Australia to mandate all new air conditioning and refrigeration equipment use refrigerants with a GWP of less than 10. The NSW Government could implement similar requirements such as through the State Environmental Planning Policy (Sustainable Buildings).

Other opportunities are to provide information and training for low GWP solutions and consider disclosure of refrigerants in building disclosure programs.

Recommendation 23. Work with key industry stakeholders to implement ways to eliminate high GWP refrigerants, including through the planning system.

[43] https://www.cityofparramatta.nsw.gov.au/environment/built-for-the-future/energy-carbon/natural-refrigerants-in-air-conditioning-systems

Developing our monitoring framework to assess progress

***Question**: What should be included in a monitoring framework for NSW in the context of the transition to net zero, including any specific metrics and indicators?*

Local governments in NSW use a variety of systems, data sources and methods to report emissions. These are not directly comparable and cannot be used to ladder up or compare against NSW Government reporting and targets.

The NSW Government previously maintained a Net Zero Emissions Dashboard[44] with state and local government area level detail, which was discontinued in 2021.

Reinstating a robust system that reports emissions consistently at the state and local government levels would be cost effective, efficient use of resources, and provide valuable insights and opportunities to align, track, and implement programs and policies.

Other opportunities that are readily implementable by the NSW Government include:

- Mandate utilities to publicly report gas and electricity consumption data by suburb and local government area levels.
- Including suburb and local government area search fields in key NSW Government data sets.
- Including building energy information such as NABERS Energy ratings on the NSW Government Strata Hub digital platform.

Recommendation 24. Develop a robust, publicly available, energy and emissions monitoring tool with consistent information available by local government area.

Adapting to a changing climate

***Question**: The adaptation objective is for NSW to be more resilient to a changing climate. The Act allows for regulations to further define the adaptation objective. What does a more resilient NSW look like to you?*

The City of Sydney Resilience Strategy 2023-2038[45] defines a more resilient city as one where our community can thrive in the face of climate impacts, where social cohesion and support is at the heart of adaptation, and climate risks to our infrastructure, services, and community are well established and communicated in a clear and actionable way.

A more resilient NSW is where everyone benefits from climate adaption. This includes infrastructure access, participation in mitigation and adaptation, and building of personal resilience though preparation and understanding roles in the state's resilience and adaptation to a changing climate.

It also means that climate mitigation and adaptation actions are identified and properly funded. Local governments could do a lot more with support by the NSW Government (as outlined in Recommendation 3).

A barrier to overcome for systematic and cohesive progress on adaptation and measurement is better coordination between NSW government agencies and local governments.

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[44] https://www.seed.nsw.gov.au/net-zero-emissions-dashboard
[45] https://www.cityofsydney.nsw.gov.au/strategies-action-plans/resilience-strategy

For example, more could be done to assess how local governments are already measuring, formally or informally, the impacts of their climate adaptation, and closer involvement in designing systems and measurements which meet their needs.

NARCliM 2.0 contains valuable information, however many local governments do not have staff who are climate scientists, and struggle to use the information for climate adaptation programs and monitoring.

The Monitoring, Evaluation, Reporting and Improvement (MERI) Framework developed for the NSW Climate Change Adaptation Strategy provides a good starting point, however it needs continuous and iterative updates based on experiences using the framework as well as adaptation programs and projects.

Delivering reporting frameworks and data without involving local governments risks lower utilisation and therefore a lesser ability to reliably track how NSW is adapting to climate change.

Recommendation 25. Work with local governments to design climate adaption programs and measures, and continuously improve state-wide monitoring, evaluation & reporting.

***Question**: What additional information and evidence should the commission consider when assessing progress towards the adaptation objective?*

Climate risk is increasingly understood to place disadvantaged communities at higher risk with greater losses incurred, exacerbating social and economic inequalities.

For example, a recent study[46] of the 2022 flooding in the Northern Rivers region of NSW found that flood risk is generally concentrated in areas where homes are worth less, incomes are lower and indicators of social disadvantage more prominent. Other studies show that young people are more likely to migrate after a major climate event.

The Resilient Sydney Strategy 2025-2030[47] outlines frameworks for climate responsive planning which intersects with building social capital, emergency preparedness, affordable and quality housing, First Nations knowledge and self-determination, and other aspects which are relevant for the Commission to consider.

Recommendation 26. Apply an equity lens to climate adaptation planning and measurement.

Effective use of climate change projections

***Questions**: How can adaptation planning better use the NSW Government's climate change projections (NARCliM)? What other information or tools are needed to support decision-makers in NSW?*

Very few local governments have climate science expertise in house, nor the resources to engage a consultant to interpret how NARCliM data can be used for local level climate planning, programs, and measurement.

[46] https://www.sciencedirect.com/science/article/pii/S0921800925001697#s0045
[47] https://www.cityofsydney.nsw.gov.au/governance-decision-making/resilient-sydney

Regional snapshots provided by NARCliM are useful, however application at the local level is limited. As outlined earlier, there are opportunities to provide information in a form that is more useable by local government.

More granular data can be made available to local governments upon request; however, this ad-hoc approach could be streamlined and the data provided in ways that require a lower level of expertise to develop actionable insights.

In a recent example, the City of Sydney needed to engage a specialist consultancy to undertake analysis of local level NARCliM data for a suburb level heat and flood study.

Making NARCliM data for local government areas available as GIS layers which Councils can use in their own systems would be helpful, along with other tools and layers to facilitate climate risk assessments, such as the Heat Vulnerability Index (which is available in GIS format), vegetation maps, and historical flood data.

Recommendation 27. Provide local level climate projections and related data in formats that are readily useable by local governments for adaptation planning and processes.

NSW's preparation and responses to extreme heat events

***Question**: What initiatives should the commission consider in assessing NSW's preparation and responses to extreme heat and humidity events in NSW?*

There are multiple initiatives the Commission should consider in assessing NSW preparedness to extreme heat and humidity events.

The Bureau of Meteorology (BOM) definition of a heat wave is no longer fit purpose. The current definition may prevent or delay local governments to trigger services to prepare or support vulnerable communities during heat events. Only one extreme hot day and night can be sufficient to cause injury and death.

This highlights how heat and humidity events are health events. Health related data sources need to be refined and fit for use. For example, NSW Health does not gather data or have a line-item for people admitted to hospital suffering from heat-related injuries, including exasperated mental health episodes and cardiac issues.

De-identified health information should be up to date and easily available to local governments, researchers, and non-health state agencies. Reduction in health injury should be a key KPI for progress on adaptation initiatives.

Better community alerts and communications methods that reach as many members of the community as possible are also needed, prioritising those most vulnerable in the community.

Community education should focus on identifying signs of heat-illness or injury, how to plan for heat and humidity events, and what people can do. This can also build social cohesiveness and inclusion which is needed to adapt.

There is also a need to reduce urban heat for example by investing in urban greening, tree canopy, and water-sensitive design, and banning dark roofs in heat prone areas.

As outlined in earlier sections, reliable clean energy, grid stability, demand flexibility, efficient buildings, and minimum standards are also needed to ensure business

continuity and community access to safe and cool places during heat events, including community resilience hubs.

A 2021 study commissioned by Waverley Council[48] shows that building standards will need to be significantly improved. Current standards would fail to meet thermal comfort requirements for occupants by 2030, and by 2070 cooling loads would increase by 308% on average above current levels.

Other recommended initiatives

- WSROC - Greater Sydney Heat Taskforce[49] and Greater Sydney Heat Smart City Plan[50]
- City of Sydney / University of Western Sydney - Mapping summer microclimates[51]
- Sweltering Cities[52]

Recommendation 28. Identify and support initiatives that help communities, businesses, local governments, and individuals to be prepared for extreme heat and humidity events.

Conclusion

The City of Sydney is committed to achieving net zero emissions by 2035.

We urge the Commission to adopt ambitious, evidence-based policies that empower local governments, accelerate the transition to clean energy and transport, and ensure a just transition for all communities - especially renters, apartment dwellers, and those on low incomes.

We look forward to ongoing collaboration with the NSW Government and the Net Zero Commission to deliver a sustainable, resilient, and equitable future for our city.

Thank you for considering our submission.

Should you wish to speak with a Council officer about this submission, please contact Nik Midlam, Manager Carbon Strategy on [redacted] or at nmidlam@cityofsydney.nsw.gov.au.

Yours sincerely

P. M. Barone

Monica Barone PSM
Chief Executive Officer

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48 https://www.waverley.nsw.gov.au/__data/assets/pdf_file/0011/2432/FPRCC_Stage_1_Report.pdf
49 https://wsroc.com.au/projects/project-turn-down-the-heat/greater-sydney-heat-taskforce
50 https://wsroc.com.au/projects/project-turn-down-the-heat/greater-sydney-heat-smart-city-plan
51 https://www.cityofsydney.nsw.gov.au/research-reports/mapping-summer-microclimates
52 https://swelteringcities.org/