2025 consultation

Submission type	Upload
Submitter	National Parks Association of NSW
Response ID	E22

Disclaimer

NATIONAL PARKS ASSOCIATION OF NSW

protecting nature through community action

Sydney Region Branch
sydney@npansw.org.au

11 July 2025

Ms M. McDonald
Interim chair
Net Zero Commission
4 Parramatta Square,
Parramatta, NSW 2150

By email to: contact@netzerocommission.nsw.gov.au

Dear Ms McDonald,

NET ZERO COMMISSION – CONSULTATION PAPER SUBMISSION

The National Parks Association of NSW (NPA) appreciates the opportunity to comment on the Net Zero Commission's – Consultation Paper 2025.

NPA's mission is protecting, conserving and restoring the integrity and diversity of nature. Our strengths include deep local knowledge through our State-wide network of regional and specialist groups, evidence-based input to policy and planning, and a respected track record since 1957. We also provide outstanding opportunities to experience and learn about nature through our unrivalled community program of bushwalking, field surveys, bushcare and other nature-based activities.

Introduction

The Sydney Region Branch is the largest NPA branch. We represent NPA members across the Sydney basin, bounded by, and including, the Blue Mountains, the coast (including the Hawkesbury Shelf Bioregion), the Hawkesbury and Georges Rivers. Our members have diverse interests in the enjoyment of nature and its protection, that include and extend beyond, the boundaries of prescribed protected areas (marine and terrestrial), ranging from their local natural urban areas to protection of nature across NSW. We also have a strong interest in conservation of urban biodiversity, healthy ecosystems, and public amenity of natural urban space. Our contribution to this consultation is mainly focussed on the role of nature, and its protection, as a means for achieving Net-Zero.

Q1. Impacts of Climate Change – Experience and Commission Response

The National Parks Association of NSW has observed first-hand the intensifying impacts of climate change on natural ecosystems, particularly within protected terrestrial and marine areas, with over 65 years' experience in nature conservation. Changes in vegetation patterns, biodiversity loss, and altered ecological interactions are increasingly evident. We encourage the Commission to consider how climate change undermines long-term conservation outcomes and to integrate the role of protected area stewardship into climate policy responses.

Q2. Community Engagement to Drive Net-Zero Transition

Effective engagement should build on the community's shared commitment to protecting nature for future generations. The Commission must clearly communicate how achieving net-zero emissions is integral to slowing anthropogenic climate change—recognising that ecological systems have not evolved to adapt at the pace of current changes. Framing mitigation as a means of safeguarding biodiversity may help build broader public support.

Q3. First Nations Knowledge in Adaptation

The Commission should prioritise early and respectful engagement with First Nations communities, recognising that building trust takes time and is essential for genuine knowledge-sharing. Cultural knowledge should be acknowledged as intellectual property, with appropriate compensation and co-ownership models where this knowledge informs policy or practice. The Commission must embed this engagement into a long-term, inclusive framework that values cultural heritage as part of a shared national identity.

Q5. Assessing Progress Toward Net-Zero Targets

When assessing progress towards reducing greenhouse gas emissions, the Commission should carefully consider the extent of land clearing required to implement various mitigation or adaptation options. Land use change remains one of the largest contributors to emissions in Australia, and unchecked clearing can negate emissions reduction benefits. Assessment frameworks must account for both direct and indirect emissions resulting from land clearing for agriculture, infrastructure, or energy projects.

It is vital to protect and retain existing carbon sinks across the landscape, including National Parks, Marine Parks, and other conservation areas. These regions already store significant volumes of carbon and provide essential ecological services. Safeguarding these areas from degradation or development is a cost-effective and immediate strategy to avoid emissions while also delivering biodiversity co-benefits.

Monitoring the transition from native forest logging—particularly in high-carbon old-growth forests—to more sustainable plantation-based forestry systems is essential. Old-growth forests provide irreplaceable carbon storage and ecosystem stability. The Commission should ensure that policies actively support the reduction and eventual cessation of native forest harvesting in favour of sustainable alternatives that maintain carbon integrity.

Securing new protected areas should be a core strategy for the state's net-zero planning, particularly to contribute to Australia's commitment to protect 30% of land and sea by 2030 (30x30 target). Expanding the protected area network can lock in carbon sequestration benefits while building ecological resilience and fulfilling international biodiversity obligations.

Q12. Enhancing Carbon Storage and Incorporating First Nations Knowledge

Any proposals to increase carbon storage in the land sector must begin with a full understanding of the land clearing footprint associated with those actions. While new developments or land-use shifts may support emissions reductions in the long term, their short-term impacts on vegetation and soil carbon stocks must be rigorously assessed and minimised. This requires a clear framework that evaluates land-based interventions from both emissions and ecological perspectives.

The retention of existing carbon sinks—especially those located in National Parks, Marine Parks, and other conservation areas—should be considered a top priority. These areas not only sequester large amounts of carbon but also provide co-benefits such as water regulation, biodiversity habitat, and cultural value. Their protection is an effective and low-risk pathway to maintaining and enhancing the carbon stock of NSW landscapes.

The ongoing transition from harvesting native forests, particularly old-growth stands, to sustainable plantations must be monitored for both its carbon impacts and its implementation effectiveness. Old-growth forests contain dense and long-standing carbon reserves, and their disturbance risks releasing centuries of stored carbon. By comparison, plantations—if managed sustainably—can provide long-term carbon sequestration with less ecological disruption.

Expanding the network of protected areas is also critical to increasing carbon storage capacity. This includes not just formal National Parks but also conservation covenants, public reserves, and Indigenous Protected Areas (IPAs). Growing the area under conservation management ensures that more land is dedicated to carbon stability and ecosystem resilience.

Finally, Indigenous Protected Area management should be more widely supported and integrated into NSW's climate planning. These areas are not only ecologically important but also serve as platforms for applying First Nations knowledge systems to land and fire management. This dual benefit—retaining natural carbon stores while embedding Indigenous leadership—should be recognised as a vital component of state-level emissions reduction and adaptation policy.

Q17. Reducing Emissions from Coal Mining

On-site abatement must be prioritised over offsetting in coal mining operations. Regulatory oversight must ensure approval conditions are enforced. The Commission should also support implementation of the Henry Review's recommendations into the NSW Biodiversity Conservation Act to strengthen biodiversity protection in mining approvals.

Q22. Monitoring Framework for Net-Zero

The Commission should incorporate land use change into the monitoring framework as a key driver of emissions. Tracking changes in land cover, vegetation clearance, and land degradation will provide insight into the underlying factors influencing NSW's emissions profile. Without capturing this data, the framework risks overlooking significant sources of carbon loss or sequestration opportunity.

Adoption of regenerative or low-emissions land use practices should be a core performance metric. Monitoring how many producers transition to sustainable farming, reforestation, or soil carbon projects will offer a clearer picture of actual progress in transforming the land sector. These indicators should be measurable, verified, and reported across relevant spatial and economic scales.

The framework must also assess how NSW is progressing in implementing national decarbonisation strategies. This includes alignment with national policy, consistency with sectoral roadmaps (e.g., energy, transport, agriculture), and integration of state-based programs. Such alignment ensures NSW is contributing meaningfully to broader national targets and benefits from shared infrastructure and knowledge.

Public engagement and awareness in climate policy should be treated as both a success factor and an accountability mechanism. Monitoring public perception—through surveys, participation metrics, or sentiment analysis—can help assess whether policies are understood, accepted, and supported. A well-informed public is essential for sustained climate action and behavioural change.

The framework should include independent verification and review processes to ensure data integrity and public confidence. Independent third-party audits and expert panels can play a role in verifying reported progress, identifying gaps, and recommending course corrections. These mechanisms enhance credibility and encourage continuous improvement.

Real-time or periodic data collection platforms should be developed to support timely and accurate decision-making. These systems can draw from satellite data, remote sensing, on-ground monitoring, and citizen science to provide dynamic insights into emissions trends and mitigation outcomes.

Dashboards and public reporting tools are essential to ensure transparency. Interactive, accessible platforms allow stakeholders—including government, industry, and the public—to track NSW's climate performance, hold actors accountable, and identify opportunities for intervention.

Finally, the use of scenario modelling and forecasting tools should be embedded within the framework to compare projected pathways with actual outcomes. These tools can inform policy adjustments and identify risks or shortfalls in meeting net-zero targets before they become entrenched.

Q23 & Q24. Defining and Tracking Climate Adaptation

A more resilient NSW should be defined not only in terms of economic or infrastructure readiness, but also by the health and integrity of its natural systems. The *Climate Change (Net Zero Future) Act* 2023 (NSW) provides a legislative framework for long-term, whole-of-economy adaptation to climate change, and explicitly recognises the role of nature-based solutions in building resilience. The Act calls for an integrated and science-informed approach to planning, which should incorporate biodiversity protection, ecosystem restoration, and climate adaptation in terrestrial and marine environments.

In particular, Section 10 of the Act includes the objective 'that New South Wales is more resilient to a changing climate'. This must be interpreted through the lens of ecological sustainability. The capacity of ecosystems—both land and sea—to recover from climate shocks, buffer against extreme weather events, and continue to provide services (e.g., clean air, water, biodiversity, carbon sequestration) is a cornerstone of true resilience.

The Commission should therefore ensure that key adaptation indicators include the extent and condition of native vegetation, progress toward the 30x30 conservation target, and the effectiveness of fire and invasive species management. Resilience also depends on ecological connectivity, so indicators should monitor fragmentation and habitat corridors across both terrestrial and coastal/marine environments.

Furthermore, the Act supports alignment with national and international climate obligations. This means that NSW adaptation planning should dovetail with Australia's national biodiversity strategy and global agreements such as the Kunming-Montreal Global Biodiversity Framework. Marine conservation in particular, should be guided by ecosystem-based management principles and science, an aspect of NSW marine protected area policy which is inadequately applied and we believe this area of policy needs to be significantly enhanced.

When assessing progress towards the adaptation objective, the Commission should include metrics that track the vulnerability of ecosystems to climate change, including species decline, coastal erosion, ocean acidification, and shifts in ecological community composition. This must be accompanied by evidence from state-wide biodiversity monitoring programs and input from Aboriginal knowledge holders and land managers, who bring deep insight into landscape-level change and resilience strategies.

In summary, a more resilient NSW is one where natural ecosystems are protected, connected, and actively managed to withstand and adapt to climate pressures, and where conservation—on land and at sea—is central to the broader adaptation strategy supported by the Act.

Q25. Using Climate Projections in Adaptation Planning

The NSW Government's climate projection platform, NARCliM (NSW and ACT Regional Climate Modelling), should be fully embedded into all levels of adaptation planning across government, industry, and community sectors. NARCliM provides high-resolution, region-specific climate projections tailored to NSW and the ACT. These projections offer crucial insights into future changes in temperature, rainfall patterns, fire weather, extreme heat events, and other key climate variables at both state and local scales.

To build meaningful resilience, adaptation planning must be based on robust, locally relevant climate science. NARCliM enables planners, policymakers, and land managers to move beyond generalised national models and engage with the specific climate risks and vulnerabilities affecting their regions. For example, projections for Sydney's urban heat trajectory will differ markedly from those for regions like coastal, alpine, or western plains. Using NARCliM's datasets allows decision-makers to tailor strategies that reflect the actual risk profiles of the places and communities they serve.

Government agencies should integrate NARCliM data into infrastructure design standards, emergency management planning, land use zoning, biodiversity conservation strategies, and water security planning. For instance, local councils can use NARCliM to inform floodplain risk management or identify areas of high bushfire exposure under future conditions. Conservation planners can use NARCliM to forecast the viability of native species in a changing climate and to prioritise areas for ecological connectivity or habitat restoration.

Embedding NARCliM in planning also ensures alignment with the requirements of the *Climate Change (Net Zero Future) Act* 2023 (NSW), which mandates the use of scientific evidence in climate adaptation decision-making. By basing adaptation plans on regional projections, NSW can promote consistency, transparency, and defensibility in climate-related policy and investments.

To strengthen its role, the NSW Government should continue to update and expand NARCliM's datasets, ensure training and capacity-building across public and private sectors, and provide user-friendly access to tools and interpretation guidance. Supporting local decision-makers in understanding and applying climate projections will ensure adaptation actions are proactive, evidence-based, and regionally appropriate.

NARCliM is a vital tool in enabling NSW to transition from reactive crisis management to forward-looking resilience planning. Its widespread and routine application will ensure that adaptation efforts are targeted, timely, and grounded in the best available climate science.

Q27. Preparing for Extreme Heat and Humidity and

Q19. Increasing Building Energy Efficiency

To prepare NSW communities for more frequent and severe extreme heat and humidity events, a multi-faceted and equity-focused approach is essential. These climate-driven extremes pose serious risks to human health, ecosystems, infrastructure, and economic productivity. Vulnerable groups including the elderly, young children, outdoor workers, people with pre-existing health conditions, and those living in poorly insulated or densely urbanised areas, are particularly at risk.

One of the most effective strategies to reduce urban heat is to increase vegetation cover across cities and suburbs. Urban greening initiatives, including the planting of street trees, creation of pocket parks, restoration of riparian corridors, and development of rooftop and vertical gardens, help reduce surface and ambient temperatures through shade provision and evapotranspiration. These efforts also improve air quality, support biodiversity, and offer co-benefits for community wellbeing. Greening strategies should prioritise low-income and high-density neighbourhoods, where exposure and vulnerability are often greatest, and must be integrated in to development policy and approvals.

In addition to vegetation, community cooling infrastructure should be expanded and diversified. This includes the development of public cool zones—such as air-conditioned libraries, community centres, and shaded outdoor areas—as well as investment in water-sensitive urban design elements like water features and misting stations. Such infrastructure should be accessible, well-publicised, and maintained year-round to support heat-stressed populations.

Public education and communication strategies are also crucial. Clear, timely information on heat health risks, early warning systems, and advice on staying safe during extreme heat events must be made available through culturally appropriate, multilingual channels. Community engagement programs can also empower residents to participate in urban heat mitigation efforts and advocate for changes in their own neighbourhoods.

To ensure long-term resilience, urban planning systems must embed climate adaptation principles, requiring heat-resilient building and urban design as standard practice. This includes use of reflective and permeable surfaces, energy-efficient insulation, passive cooling features, and building orientations that reduce heat load. Development controls and planning instruments should incorporate climate modelling—such as projections from the NARCliM platform—to forecast future heat stress patterns and ensure all new developments are designed with anticipated conditions in mind.

The increased use of remote sensing technology and other new innovations (e.g. wearables) are known to contribute to real-time monitoring of urban heat, leading to the ability to provide real-time hazard warnings and guidance, such as a cooler route to navigate urban streets, which aid the adaptation of citizens to a warming environment. These heat stress emergencies also need clear communication through a robust wide-ranging communications strategy (in multiple languages) to warn people of impending high heat events, and the precautions they should take, which should be disseminated through emergency services and the public broadcasters (ABC and SBS).

Responding to extreme heat and humidity requires a coordinated approach that integrates urban greening, cooling infrastructure, inclusive public health messaging, and climate-informed urban design. These measures will not only protect vulnerable populations, but also contribute to liveable, sustainable, and climate-resilient communities across NSW.

The factors mentioned above and the integration of nature into the built environment also contribute to building efficiency and reducing energy demand, particularly air-conditioning, which is likely to increasingly relied on as a result of climate change, and a warming planet. The application of innovations in advanced cool buildings materials are also known to help mitigate urban heat effects.

Summary

Much of the popular discussion on achieving Net-Zero targets focus on the role of emissions and move from coal-fired power generation to other, more sustainable sources. These are necessary advancements to reduce the accelerated anthropogenic impact on the earth's climate, and while solutions to these challenges must be pursued, the role and value of nature should not be underestimated. The importance of retaining (and expanding) existing vegetated carbon storage and significant reduction in urban heat are two examples where nature plays an important role in the path to Net-Zero. These are also intergenerational obligations which we must consider in adaptive planning. The importance of community engagement and adoption of indigenous knowledge build community awareness and appreciation of the value of nature, contributing to a better world for future generations.

I can be contacted at sydney@npansw.org.au

Yours sincerely

David Stead

President, Sydney Region Branch
National Parks Association of NSW
protecting nature through community action