



THE UNIVERSITY OF
SYDNEY

Climate Change (Net Zero Future) Bill 2023

Submission from The Net Zero Initiative & Sydney
Environment Institute



Introduction

It is our pleasure to provide this submission to Minister Penny Sharpe and the Committee addressing the Climate Change (Net Zero Future) Bill 2023. We are a team of academic staff at the University of Sydney leading the development of solutions and technologies that are part of our transition towards Net Zero futures. We are very pleased to provide some general background and strategies we are using to address the challenge of transitioning towards a net zero emissions future.

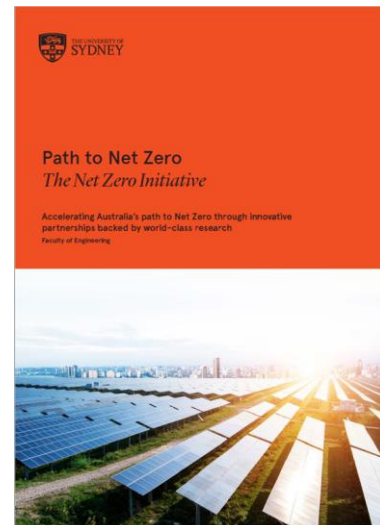
New ways of thinking and collaborating are required to expedite the broad-scale commercialisation and adoption of existing and emerging zero and low-emission technologies.

The University's [Net Zero Initiative \(NZI\)](#)¹ brings together a multidisciplinary and cross-sector community across engineering, science, urban planning, renewables, policy, carbon accounting, and behavioural science. Launched in 2022, the NZI aims to help government, industry and communities swiftly manufacture, deploy and adopt cost-effective, low emissions technologies at scale. The Net Zero Initiative's [White Paper, Path to Net Zero](#),² was recently released and is written to inform government and industry about the multidisciplinary and international program of work within the NZI which is aimed at building capacity, researching cutting edge solutions and translating these solutions to address the transition towards a Net Zero future.

The NZI functions as a central hub for pioneering multidisciplinary research and innovative thinking, forming the foundation for comprehensive solutions in the pursuit of net zero goals. Moreover, the NZI serves as a platform for fostering collaborative partnerships across various faculties and sectors, a crucial step in identifying holistic and investment-worthy solutions, and building the capacity necessary to translate these solutions into actionable outcomes.

The NZI has four major themes in Demand Reduction, Greenhouse Gas Removals, Climate Change Risk and Zero Emissions Energy and Industry.

The University's [Sydney Environment Institute \(SEI\)](#)³ is a world-leading environmental research institute leveraging expertise from across the University of Sydney and beyond to tackle the greatest environmental challenges of our time. We work with community, industry and government to create knowledge and deliver transformative climate solutions. The SEI works across three strategic pillars: transitioning systems, climate disaster and adaptation and biocultural diversities. These pillars are underpinned by concepts of environmental justices, the centering of First Nations knowledges and practices of environmental storytelling. The SEI identifies matters of critical environmental concern and engages with them through creative, collaborative projects designed for real impact. Central to the SEI's approach is meaningful community engagement.



¹ <https://www.sydney.edu.au/engineering/about/strategic-vision/net-zero-initiative.html>

² [How Australia can achieve net zero - The University of Sydney](#)

³ <https://www.sydney.edu.au/sydney-environment-institute/>

Endorsements and Recommendations

1. **Membership:** We endorse the establishment of the Net Zero Commission and recommend cross-sector membership as part of the Commission and its advisory groups.
2. **Targets:** We recommend the inclusion of milestones every 5 years up to 2050, and recommend that more specific and detailed targets be established: 50% in 2030, 65% in 2035, 80% in 2040, 95% in 2045 and 100% in 2050. We recognise that the last 5% is probably the most difficult, but we should be as aggressive as possible in achieving these goals. We also recognise that while every sector is on a different trajectory towards decreasing emissions, accountability through milestones and targets is an important lever to affect the deep emissions reductions cuts that are required.

Given the severity of climate change, and the opportunities before us, we recommend that the Commission be given the mandate to develop an additional set of strategies for presentation to Parliament and the public to achieve Net Zero by 2035. This will ensure that NSW is better prepared.

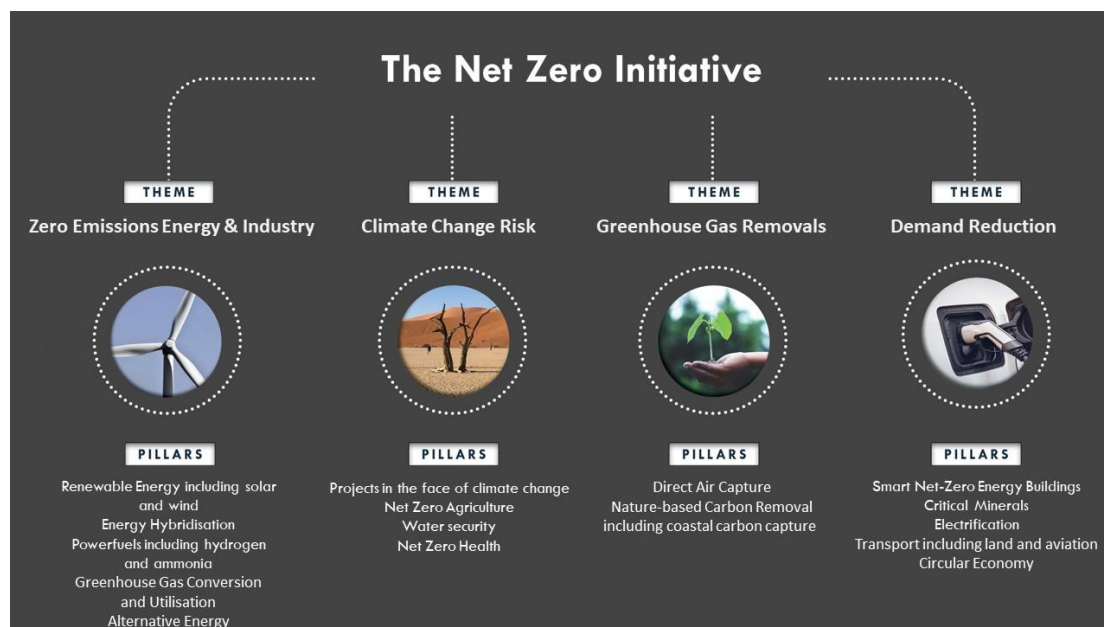
3. **Biodiversity:** We recommend biodiversity goals and targets be addressed as an integral part of the transition to the net zero targets.
4. **Strategies and Solutions:** We support a portfolio of solutions for net zero transition and recommend that all potential solutions need to 'be on the table' for objective assessment to address the challenges before us. The Net Zero Initiative has 4 major themes in Demand Reduction, Greenhouse Gas Removals, Climate Change Risk and Zero Emissions Energy and Industry. Within each of these themes are solutions that address the challenge (see Appendix 1).

We strongly recommend that the Act address the need to cease approvals of any new fossil fuel mining and export projects, as well as the need to phase out existing fossil fuel projects.

5. **Community Engagement and Consultation:** We recommend the inclusion of community engagement and consultation by way of community representatives (universities, local government, labor and business organisations, faith organisations, NGOs) in both the Net Zero and Adaptation elements of the Act.
6. **Education and Training:** We recommend that the tertiary education sector be strongly engaged co-designing and delivering education and training in critical areas for the net zero transition where there are skills shortages (e.g. engineering).
7. **Research:** We recommend that the research sector be strongly engaged in co-design of solutions for the net zero transition. The transition is critically dependent on sharing of best practice and knowledge to accelerate technical and scientific solutions, and develop a holistic ecosystem for responsible transformation. While some existing technologies for the transition exist, research innovations in these solutions are essential to optimise and improve efficiencies. Export of these home-grown innovations and technologies to the world will cement NSW as a globally leading centre for managing the energy transition.
8. **Coordination:** We strongly recommend that state-wide coordination of adaptation and resilience efforts be undertaken to clarify how NSW will coordinate existing efforts, these including the State's Reconstruction Authority and AdaptNSW, along with the numerous local and regional resilience efforts.

Appendix 1

Four themes of the Net Zero Initiative:



Contacts

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