2025 consultation

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NSW Net Zero

Commission Submission

Date: July 8th 2025

Attention: NSW Net Zero Commission

Beyond Zero Emissions (BZE) thanks the NSW Net Zero Commission for the opportunity to make a submission to feed into the Commission's advice to the NSW government. Beyond Zero Emissions is an independent think tank creating and identifying solutions for a prosperous zero-emissions Australia. Our most recent research has been focused around decarbonising Australia's industrial regions with Renewable Energy Industrial Precincts (REIPs) and building clean manufacturing industries and supply chains.

Our current research is the "National Action Plan" (NAP). The NAP is taking a place based approach to assessing the readiness of Australia's industrial regions to become Renewable Energy Industrial Precincts using our Critical Success Criteria with 55 indicators to measure progress (see Appendix).

Powering up the Hunter is the first research report in the NAP project and is a summary of the results of the first 19 indicators assessed. *The Hunter Regional Readiness Assessment* is the full assessment document. This current research has findings that directly relate to the Commission's questions in the Consultation paper. Our responses can be found below.

Yours Sincerely,

[redacted]
[redacted]
Beyond Zero Emissions

Q5) What additional information and evidence should the commission consider when assessing progress towards NSW's targets for reducing net greenhouse gas emissions?

The International Energy Agency has clearly stated in its Global Energy Transition Stocktake that to meet the Paris Commitments of limiting average global temperature to 1.5 degrees of warming above pre-industrial levels, as of 2021 there can be no new oil or gas fields, no new coal mines, and that fossil fuel demand can be met from existing assets[1]. The Intergovernmental Panel on Climate Change (IPCC) has also made this clear in its 2023 Synthesis report and 2022 Climate Change Mitigation reports[2] [3].

BZE's recent Hunter research found that overall NSW policy is moving in the right direction however conflicting signals such as fossil fuel expansions alongside zero emissions targets are creating uncertainty for investors and challenges for medium and long term workforce development[4].

As noted in the Net Zero Commission's consultation paper, the coal mines are heavy emitters, 97% of the resources sector emissions. While BZE did not include Hunter coal mines in our final analysis on the Hunter's industrial decarbonisation, we did report that inclusion of coal mining would have significantly lowered the region's score[5]. The heavy lifting of emissions reduction is being left to other sectors, such as manufacturing while the coal mines continue to operate business as usual.

This contradicting support of fossil fuel and zero-emission economies sends conflicting signals to investors and the energy sector, with the fossil fuel industry maintaining a distinct advantage in the absence of appropriate mechanisms to curtail expansion and mitigate emissions[6].

BZE recommends one clear consistent policy direction with more ambitious targets to build NSW's long term economic resilience.

Q6) The speed of deployment of electricity generation and infrastructure is a key risk to emissions reduction targets. What more could be done to fasttrack deployment?

BZE's research *Powering up the Hunter* and the *Hunter Regional Readiness Report's* findings align with the Commission's findings that key electricity infrastructure and transmission is not on track to meet emission reduction targets.

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[1] IEA, Net Zero by 2050 A Roadmap for the Global Energy Sector, 2021
[2] IPCC,2023 https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf
[3] IPCC 2022 https://www.ipcc.ch/report/ar6/wg3/
[4] Beyond Zero Emissions (2025) Powering Up the Hunter, Beyond Zero Emissions
[5] ibid
[6] Beyond Zero Emissions (2025) Hunter Regional Readiness Report, Beyond Zero Emissions

While much good progress has been made, the failure of the timely delivery of key infrastructure will have major impacts on communities like the Hunter that are working to diversify their economies. Projects such as the Port of Newcastle's Clean Energy Precinct need the Hunter Transmission project to be delivered on time to remain on track and maintain investor confidence. Tomago Aluminium needs renewable energy and cannot remain competitive with coal fired electricity[7]. BZE's research found approval processes are a major bottleneck for renewable infrastructure - 74% of projects are yet to receive planning approval, a process that currently requires 5-8 years. Of the projects approved, less than one third are under construction.

Beyond Zero Emissions recommends:

- More streamlined approvals for renewable infrastructure
- Tighter coordination between renewable energy projects and transmission rollout to ensure grid connection without delay.

BZE also found that distribution providers like Ausgrid are required to manage more complex energy systems, including two-way flows with regulations written for historic old energy systems.

There is significant untapped potential in the distribution network that could fast track renewable energy deployment at GW scale. NSW regional distribution company Essential Energy has almost "10,000 kilometres of fully operational high voltage network capable of hosting utility scale renewable generation projects." [8] Per Essential Energy:

> *We have identified six locations across our network... which are able to host approximately 8.4 gigawatts of new large-scale renewable generation projects…It's a major opportunity to progress renewable generation projects quickly and at scale….*
>
> *Using the existing distribution network will help accelerate new renewable generation projects, mitigate the risks of transmission planning delays and supply chain bottlenecks and… help ensure adequate generation is in place as coal fired generators exit the system and help NSW meet its 2030 Electricity Infrastructure Roadmap targets.* [9]

[7] Crop R, Coorey P, (2025, June 6) "Rio pushes for "eye watering" Tomago bailout" Australian Financial Review *Tomago*
https://www.afr.com/policy/energy-and-climate/rio-pushes-for-eye-watering-tomago-bailout-20250606-p5m5ih
[8] Cleland J, (2024, August 14) "Future-proofing Energy for Regional NSW: Unlocking Essential Energy's Sub-Transmission Thermal Capacity, K Regional Australia Institute National Summit, Canberra, 2024
[9] ibid

Q14) What measures could accelerate industrial heat electrification in NSW, where technology is viable?

BZE supports Renewable Energy Industrial Precincts (REIPs). We recommend government funding for collaborative projects. Instead of a facility-by-facility approach, funding should lean towards backbone infrastructure that serves multiple facilities in precincts.[10]

The NSW Clean Manufacturing Precinct Project as part of the Net Zero Industry and Innovation Program did some excellent collaborative work in the Hunter and Illawarra industrial communities, however the final Industrial Decarbonisation Plans have never been released. It is recommended the Commission ask for the public release of this work, as planning for efficient heat electrification in precincts may already exist.

Several solutions for electrification of industrial heat processes are outlined in BZE's Electrifying Industry report, and coordinated infrastructure provision will speed up the delivery of these solutions.[11]

BZE recommends fostering an Australian heat pump supply chain. BZE's research shows that deployment of renewably powered heat pump technology at speed could reduce 10% of Australia's industrial sector emissions by 2030[12] . Deployment of industrial process heat pump units can be driven with demand-side incentives for heat pumps. Incentivising large-scale heat pump deployment in industry and businesses will achieve emission reductions and improved energy efficiency:

Beyond Zero Emissions' Heat Pump Supply Chain Briefing Paper recommends:

- Tax Breaks for Early Adopters: Provide tax deductions, up to $3 million, spread over a two to three-year period for businesses with annual revenues below $50 million. This strategy directly addresses the initial cost barrier associated with installation and internal network upgrades. By opting for a tax write-off scheme instead of direct subsidies, the government can minimise its initial expenditures, accelerate deployment, and effectively support its decarbonisation objectives.
- Green Proving Ground program for industrial heat pumps: BZE recommends establishing a dedicated "Green Proving Ground" program specifically for piloting and testing industrial heat pump applications.

Q22) 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?

As discussed, Beyond Zero Emissions is using the 55 indicators in our National Action Plan's Critical Success Criteria framework to assess regional readiness for Renewable Energy Industrial Precincts across Australia's Industrial Regions. These indicators were developed in

[10] Beyond Zero Emissions, (2023) Safeguarding Our Future, Beyond Zero Emissions.
[11] ibid
[12] Beyond Zero Emissions, (2024) Heat Pumps Supply Chain Briefing Paper, Beyond Zero Emissions.

collaboration with industry, academics, government and community (see Critical Success Criteria Table in Appendix p5).

The Indicators in blue have been developed and tested in the Hunter. BZE is seeking partnerships with experts to develop other indicators as we continue to apply the National Action Plan across other regions. Please refer to:

Powering Up the Hunter (Summary Document)

Hunter Regional Readiness Assessment (Full assessment)

National Action Plan Regional Assessment Process version (Methodology)

Beyond Zero Emissions' research team would be happy to brief the Net Zero Commission on the Critical Success Criteria and how we developed them if more information is required.

Appendix: Beyond Zero Emissions' Critical Success Criteria