

LOW EMISSION TECHNOLOGY AUSTRALIA SUBMISSION TO THE NET ZERO FUND CONSULTATION

INTRODUCTION

Low Emission Technology Australia (LETA) welcomes the opportunity to contribute to the Government's consultation on the design and delivery of the Net Zero Fund. The establishment of the Net Zero Fund is an important step towards ensuring that Australia can meet its emissions reduction targets while continuing to sustain the industries and communities that rely on trade-exposed heavy industry.

As an exporting nation, our wealth is underpinned by our natural resources as well as key strategic industries like steel, cement, fertiliser and alumina. These exports support tens of thousands of jobs as well as generating billions of dollars in GDP. However, these critical parts of our economy are also our most emissions intensive. To remain competitive as the world transitions to net zero, these industries must find ways to decarbonise.

The Net Zero Fund provides an opportunity to support these industries while helping to demonstrate to investors and our trading partners that Australia is serious about building a credible pathway to reducing the emissions associated with the use of our exports.

To achieve this, LETA makes two key recommendations on the design and implementation of the Fund:

1. LETA recommends that the Fund explicitly support carbon capture, utilisation and storage (CCUS), ventilation air methane (VAM) abatement, and low-carbon hydrogen with CCS – technologies recognised globally as essential to reducing emissions from hard-to-abate sectors. Without them, industries will face an untenable choice between closure or offshoring.
2. In addition, LETA urges the creation of a dedicated stream for scope 3 emissions reduction. These downstream emissions are generated when Australian exports are used overseas. Addressing them requires co-investment with customer nations, strengthening both emissions outcomes and trade partnerships.

Independent economic modelling underscores the opportunity that could be harnessed by supporting greater investment in low emissions technologies. A recent report by EY-Parthenon shows that an east-coast CCS industry could capture 50 million tonnes of CO₂ annually, add \$66 billion to GDP and create over 15,000 jobs.

International evidence points in the same direction. A study by the Electric Power Research Institute (EPRI) has demonstrated that Australian coal, when paired with CCS, can be converted into clean hydrogen at globally competitive prices – under USD \$4 per kilogram – while capturing more than 90 per cent of emissions.¹ This finding is significant not only for its economics but also for trade: it confirms that Australian exports can remain competitive in Asia’s emerging hydrogen and clean fuels market while meeting stringent emissions standards.

The Net Zero Fund is the mechanism through which government can unlock this potential. By explicitly backing CCUS, VAM abatement and low-carbon hydrogen, and by establishing a dedicated stream for scope 3 emissions reduction, the Fund can help ensure that Australia remains a competitive exporter, a credible climate partner that invests in supporting our customers to reduce their own emissions, and a nation that secures jobs and prosperity for Australians through the global energy transition.

AUSTRALIA’S INDUSTRIAL CHALLENGE AND EXPORT EXPOSURE

Australia faces the critical task of aligning economic growth with our international obligations to meet net zero targets by 2050. Investing in low-emission technologies is essential to maintaining the competitiveness of our key industries in a global market that increasingly values sustainability and low-carbon operations.

Industries such as steel, cement, minerals, and power generation are significant contributors to the Australian economy. The minerals industry alone contributed a record \$455 billion in export revenue during the 2022-23 financial year, accounting for 13.7% of GDP. These industries also provide substantial employment opportunities, with the resources sector directly employing over 287,000 people as of 2024.

However, these sectors are emissions-intensive, with limited short- and medium-term pathways to decarbonise. To ensure their long-term viability in a net-zero-consistent economy, it is imperative to reduce their emissions while sustaining their economic contributions. Failing to do so risks offshoring Australian jobs and emissions-intensive production to jurisdictions with weaker climate safeguards, undermining both domestic industry and global climate outcomes.

Low-emission technologies—such as carbon capture, utilisation and storage (CCUS), clean hydrogen production, and ventilation air methane (VAM) abatement—offer scalable, cost-effective ways to decarbonise heavy industry. According to the International Energy Agency, CCUS alone could deliver up to 15% of the global emissions reductions needed by 2070.

Crucially, the transition to net zero represents not just a cost, but an opportunity to grow high-value, future-facing industries. Recent analysis from EY-Parthenon (explored further below) shows that scaling up CCUS deployment along Australia’s east coast could:

¹ See, Electric Power Research Institute, *Powering Japan’s Future: Australia’s Coal Advantage*, 2025, available at: etaustralia.com.au/reports/powering-japans-hydrogen-future-australias-coal-advantage-with-ccs.

- Create over 15,000 additional full-time jobs, particularly in regional communities,
- Grow Australia's GDP by more than \$66 billion by 2050, and
- Strengthen supply chains in construction, chemicals, electricity, and defence manufacturing.

Many of these jobs will be in high-skill occupations—engineers, geologists, trades, and technical services—with strong overlap between the capabilities of the resources sector and those required for the design and operation of CCS and hydrogen infrastructure. This makes CCS and associated technologies a logical and job-rich diversification strategy for coal and gas regions.

The Net Zero Fund represents a clear opportunity to back this transition. Technology-neutral support – including funding for shared infrastructure and early-stage projects –can unlock private capital, create new markets for Australian innovation, and help safeguard jobs in the face of accelerating global decarbonisation.

LETA's collaborative approach – working with industry, government, research institutions and international partners – is central to achieving this vision. Our co-investment approach enables shared risk, speeds up project demonstration and technology commercialisation, and ensures solutions are tailored to the needs of both the economy and the climate. As Australia confronts the dual challenge of emissions reduction and economic resilience, this model provides a proven and pragmatic pathway forward.

Other major economies are advancing similar strategies. Japan has committed AUD\$19b to its decarbonisation efforts, including funding for CCUS; the United Kingdom has funded large-scale CCUS clusters; and Canada continues to expand its storage infrastructure. The table below highlights measures adopted by a range of countries to support the development of CCUS technologies. These measures are a snapshot of financial and regulator policies currently in place around the world.

Jurisdiction	Stated role for CCUS in Net Zero	Dedicated government funding (\$AUD)	Volume target (CO ₂ Mt/yr)	National CCUS strategy
Australia	X - Limited	\$117m over six years (down from A\$250m)	X	X No unified national CCUS strategy
United Kingdom	✓ - Central	\$40b over 25 years	20-30 (by 2030)	✓ CCUS: A vision to establish a competitive market 2023
European Union	✓ - Central	\$15-25b across member states	50 (by 2030) – mandated by law	✓ Industrial Carbon Management Strategy 2024

United States	✓ - Central	\$60b via Inflation Reduction Act	X	✓ Department of Energy Carbon Management Strategy 2024
Canada	✓ - Central	\$13.6b	X	✓ Canada's Carbon Management Strategy 2023
Japan	✓ - Central	\$9-19b as part of GX transition bonds	120–240 (by 2050)	✓ Green Transformation Strategy and the CCS Business Act
South Korea	✓ - Central	\$150-160m	11.2 (by 2030)	✓ CCUS Act, Carbon Neutrality Master Plan
Norway	✓ - Central	\$5.1b	>5 (by 2028)	✓ Full-Scale CO2 Management Project
Netherlands	✓ - Transitional	\$3.3b	2.5	✓ Carbon Dioxide Removal Roadmap 2025
China	✓ - Central	State-owned enterprise support, provincial pilots	20–30 (by 2030, large scale-up by 2060)	✓ Development Roadmap for Carbon Capture/CCUS 2024

Table 1: Outline of global policies supporting CCUS development

As this table demonstrates, the investments in low emission technologies by many of our partners and competitors are significant, and to remain competitive, Australia will need to increase support for low-emission technologies like CCUS. The Net Zero Fund offers a mechanism to support this transition - helping heavy industry decarbonise, safeguarding regional jobs, and maintaining Australia's position as a reliable and responsible trading partner.

THE ECONOMIC AND TECHNICAL CASE FOR INVESTMENT

Independent economic and technical modelling demonstrates that government investment in low-emission technologies is an effective way to reduce emissions while strengthening Australia's industrial and export base.

Modelling conducted by EY-Parthenon on the economic potential for CCUS in Australia's eastern states found that large-scale deployment of CCS could capture around 50 million tonnes of CO₂ annually, while delivering a \$66 billion uplift to GDP and creating more than 15,000 ongoing jobs.² The report concluded that CCS could help decarbonise existing

² See, EY-Parthenon, *Beneath the Surface: The economic potential for carbon capture and storage in Australia's eastern states*, 2025, available at: etaustralia.com.au/reports/the-economic-potential-for-carbon-capture-and-storage-in-australias-eastern-states.

industries such as steel, cement, fertiliser and power generation, while also underpinning new clean energy supply chains such as low-carbon hydrogen and ammonia.

The analysis highlights the importance of hub-based development, where multiple emitters share transport and storage infrastructure to reduce cost and risk. This approach achieves strong economies of scale and enables smaller industrial facilities to access decarbonisation pathways that would otherwise be commercially unviable. EY's modelling also demonstrates that with deployment scale and experience, the cost of capture and storage is expected to fall significantly over time. When deployed in hub configurations, total abatement costs could fall by up to A\$40 per tonne of CO₂ relative to early-stage projects.

Analysis conducted by the Electric Power Research Institute (EPRI) demonstrates the technical and commercial feasibility of using Australian coal to produce low-carbon hydrogen at globally competitive prices.³

EPRI examined an end-to-end supply chain linking Australia and Japan. In this model, Australian coal is gasified to produce hydrogen, with more than 90 per cent of the resulting CO₂ is captured, compressed and shipped for permanent storage in offshore geological formations. The process uses established industrial technologies that are already proven at commercial scale in other parts of the world. By integrating capture and storage, the hydrogen produced from Australian coal can achieve a carbon intensity below 3.4 kilograms of CO₂ per kilogram of hydrogen, meeting Japan's standards for "clean" hydrogen.



Figure 1: Illustration of the CCS value chain with shipping and offshore direct injection that was included in cost modelling (EPRI, 2025).

The study found that this approach can deliver hydrogen for under USD \$4 per kilogram, making it competitive with other low-emission production pathways such as renewable hydrogen and natural gas reforming with CCS. EPRI also highlighted that this pathway aligns with Japan's emerging clean hydrogen certification framework, ensuring that Australian hydrogen produced in this way would be eligible for the country's tax credits and policy incentives. The analysis shows that coal-to-hydrogen with CCS can play a key role in the early stages of building a hydrogen export industry by providing large-scale, reliable supply while renewable hydrogen capacity continues to grow.

EXPANDING ELIGIBILITY TO CCUS, VAM ABATEMENT AND LOW-CARBON HYDROGEN

³ See, Electric Power Research Institute, *Powering Japan's Future: Australia's Coal Advantage*, 2025, available at: etaustralia.com.au/reports/powering-japans-hydrogen-future-australias-coal-advantage-with-ccs.

For the Net Zero Fund to succeed, it must be designed with a clear recognition of the technologies that are indispensable for decarbonising heavy industry. As Australia's own sector pathway plans recognise, these technologies include carbon capture, utilisation and storage as well as ventilation air methane (VAM) abatement. These technologies address emissions sources that cannot be mitigated through renewables or efficiency alone. If they are excluded, the Fund will be undermined from the outset.

As discussed above, carbon capture, utilisation and storage is essential for industries such as cement, steel, fertilisers and chemicals. These sectors produce emissions from chemical reactions as well as combustion. No amount of renewable electricity can eliminate these process emissions. CCUS is the only technology capable of capturing them at scale. The International Energy Agency and the Intergovernmental Panel on Climate Change both state that net zero is impossible without widespread deployment of CCS.⁴ By explicitly recognising CCS in the Fund's eligibility, government can give industry the certainty to invest in infrastructure like shared pipelines and storage hubs that are already technically viable but commercially constrained.

VAM abatement is another critical technology. Australia's underground coal mines are a significant source of fugitive methane emissions. Methane is more than 25 times as potent a greenhouse gas as CO₂. Traditional ventilation systems dilute and release this methane unabated into the atmosphere.

Regenerative Thermal Oxidisers (RTOs) are currently the most developed option for treating VAM. They work by passing mine air over ceramic beds heated to very high temperatures – usually around 1,000°C – so that methane is oxidised into carbon dioxide and water. Once operating steadily, the system relies on the heat from this reaction to keep itself hot.

LETA is also investing in catalytic abatement technology which trigger oxidation at lower temperatures, usually around 500°C. Because they need less heat, they can work at lower methane concentrations. Demonstrating and deploying these technologies would not only cut emissions but also show that Australia is serious about supporting regional coal communities to decarbonise while they remain economically significant.

As highlighted by modelling undertaken by EPRI, low-carbon hydrogen from coal with CCS could play a significant role in decarbonising Australia's scope 3 emissions.⁵ While renewable hydrogen will play a major role in the future, it is unlikely to scale fast enough or at low enough cost to meet the demand expected in Japan, Korea and other key markets. EPRI's research shows that Australian coal gasified with CCS can produce hydrogen for under USD \$4 per kg, capturing more than 90 per cent of emissions. This is competitive with

⁴ IEA, *CCUS in Clean Energy Transitions*, "Reaching net zero will be virtually impossible without CCUS. CCUS contributes both to reducing emissions in key sectors directly and to removing CO₂ to balance emissions that are difficult to avoid."

"All global modelled pathways that limit warming to 1.5 °C or well below 2 °C involve the use of carbon dioxide removal (CDR) methods to compensate for residual emissions.": Intergovernmental Panel on Climate Change (2022), AR6 Working Group III, Summary for Policymakers, p. 36.

⁵ See, Electric Power Research Institute, *Powering Japan's Future: Australia's Coal Advantage*, 2025, available at: letaaustralia.com.au/reports/powering-japans-hydrogen-future-australias-coal-advantage-with-ccs.

green hydrogen today and provides a credible pathway for exports to customer nations that are counting on Australia to remain a reliable supplier.

LETA recommends that government allow for project proponents developing CCUS, VAM abatement and low-carbon hydrogen to access the Net Zero Fund. Including these technologies would demonstrate that Government is serious about tackling the hardest challenges, not just the easiest wins. It would show workers and communities that their industries have a future, and it would prove to our trading partners that Australia intends to remain a trusted supplier in a decarbonising world.

A SCOPE 3 EMISSIONS REDUCTION FUND

One of the clearest gaps in the current policy landscape is the absence of a mechanism to deal directly with scope 3 emissions. From 2025, Australian companies will be required to report on these emissions, and for our export industries, this represents a profound shift.⁶ For coal, LNG, steel and aluminium, scope 3 emissions are generated when our commodities are used overseas — in Japanese power plants, Korean steelworks, or European factories.

Industry cannot manage this challenge alone. Scope 3 emissions occur outside Australia's borders, and are the responsibility of the nations in which they occur (they are that nation's scope 1 emissions) yet they are important to the future competitiveness of our our commodity exports, and in turn the sustainable prosperity of all Australians.

LETA recommends that Government establish a dedicated Scope 3 Emissions Reduction Fund, either within or closely linked to the Net Zero Fund. This would provide a vehicle for co-investment between Australian exporters and their overseas customers, sharing the responsibility for decarbonising value chains.

For example, with appropriate supports in place to help establish supply chains, Australian coal could be exported to Japan for use in the creation of low-carbon hydrogen with CCS. This process has the potential to turn one of our most emissions-intensive products into a source of clean energy for our largest customer. Through other investments that LETA is exploring, iron ore could be incorporated into low-carbon steelmaking technologies in Korea.

A Scope 3 Fund would strengthen Australia's diplomatic relationships by showing that we are not exporting our emissions problem but partnering with others to solve it. It would attract foreign investment, as customer nations would co-invest alongside government and industry. It would also build credibility for our climate commitments by supporting Australia playing a constructive role in addressing these emissions (while ensuring, at all times, responsibility remains with the nation in which the emissions occur).

To succeed, LETA recommends that a Scope 3 Fund:

⁶ See, Australian Sustainability Reporting Standards.

- Incorporates measurable outcomes. Projects funded under the scheme should demonstrate a reduction in emissions intensity per tonne of product, verified independently.
- Requires co-investment from overseas customers and/or project proponents as a condition of support, ensuring shared responsibility.
- Prioritises projects that align with strategic trade relationships and that unlock follow-on private investment.
- Is integrated within the Net Zero Fund to allow projects to address both scope 1/2 and scope 3 emissions.

There are significant potential diplomatic benefits to enacting a Scope 3 Fund. Japan's Basic Hydrogen Strategy explicitly identifies low-carbon hydrogen imports as critical to its net zero pathway. Korea has set targets for industrial decarbonisation that will reshape steel and chemical imports. The EU's CBAM will begin imposing costs on carbon-intensive imports from 2026. If Australia acts decisively, we can position ourselves as a partner of choice. If we do not, we risk losing access to key markets and undermining our trade relationships.

CONCLUSION

The Net Zero Fund presents a timely and practical opportunity for government to align emissions reduction with economic resilience. By investing in technologies that can deliver deep decarbonisation while sustaining Australia's industrial base, the Fund can help ensure that climate action strengthens, rather than undermines, national prosperity.

Low-emission technologies such as carbon capture, utilisation and storage (CCUS), ventilation air methane (VAM) abatement, and low-carbon hydrogen with CCS are proven, scalable and globally recognised as essential to achieving net zero. They are critical for hard-to-abate sectors that underpin regional economies, provide high-value jobs and contribute billions to national GDP. Including these technologies within the Fund's scope will demonstrate that Australia is serious about addressing the full spectrum of emissions challenges – not just those that are easiest to solve.

Equally, establishing a dedicated Scope 3 Emissions Reduction Fund would enable Australia to play a productive role in Working with our trading partners to reduce their emissions. By co-investing with customer nations, government can ensure that Australian commodities remain competitive in a world where low-carbon supply chains increasingly determine market access.

Together, these measures would position Australia to meet its climate objectives while maintaining the strength of its export industries. They would provide a clear signal that government intends to back practical, high-impact solutions capable of delivering sustained emissions reduction, regional investment and international competitiveness.