

The LETA logo is displayed in a large, white, sans-serif font. The letters are bold and evenly spaced. The background of the entire page is a dark teal color with a pattern of lighter teal, curved, wavy lines that create a sense of motion and depth.

LETA

Low Emission
Technology
Australia

2025-2026 Pre-Budget Submission

JANUARY 2025

Foreword

Low Emission Technology Australia (LETA) is a A\$700 million fund established in 2006 by the Australian black coal industry to invest in technologies that can significantly reduce emissions and support the transition to a low emissions global economy, in line with the Paris Agreement.

LETA partners with government, research institutions, universities and industry locally and internationally to develop projects that reduce and remove greenhouse gas emissions from large scale industrial processes such as power generation, steel and cement manufacturing, mining, and future energy sources such as clean (low emissions) hydrogen. Further information about LETA can be found on our website, at www.letaaustralia.com.au.

LETA welcomes the opportunity to provide a submission to the Treasury to assist in the preparation of the 2025–2026 Federal Budget.

LETA's submission focusses on those areas that are important for the development and implementation of low emissions technology in Australia, the contribution these technologies make to reducing emissions and the role the federal government, through the 2025–2026 Budget, can play in supporting these technologies and their application.

LETA would welcome the opportunity to discuss our submission with the department. If you have any queries, please feel free to contact Damian Dwyer, Director External Affairs at damian.dwyer@letaaustralia.com.au.

Overview

Low Emission
Technology
Australia (LETA)
welcomes the
opportunity to
contribute to
the 2025–2026
Federal Budget.

As a not-for-profit investment fund dedicated to accelerating the development and deployment of technology solutions to reduce and remove greenhouse gas emissions from critical industries, LETA plays an important role in Australia's transition to a low emissions economy.

LETA's approach is rooted in bipartisanship and pragmatism, focusing on scalable solutions that enable economic growth while reducing Australia's carbon footprint. While there is an ongoing and important debate about the future of Australia's resources exports, LETA's role is to focus on developing technologies that can address our immediate and ongoing need to decarbonise in line with Australia's emissions reduction targets under the Paris Agreement.

To support Australia to decarbonise, LETA makes five key recommendations for inclusion in the Federal Budget.



1

Implement
a national
carbon capture,
utilisation, and
storage (CCUS)
strategy.

2

Expand the
Carbon Capture
Technologies
Program.

These recommendations are designed to facilitate a seamless transition towards a low emissions economy, recognise the ongoing competitive advantage of Australia's resource exports in a cleaner energy future, ensuring that Australia remains globally competitive while meeting its emissions reduction targets. Strategic investment and policy support in these areas will not only reduce emissions but also stimulate economic growth, create jobs, and position Australia as a leader in low emissions technologies.

3

Adopt a technology-neutral approach to support for hydrogen production.

4

Support mines to decarbonise by partnering with industry on scope one emissions abatement projects.

5

Include coal mining as an activity qualifying for treatment as a trade-exposed industry under the safeguard mechanism.

1

Economic imperative

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

Industries such as steel, cement, mining, and power generation are significant contributors to the Australian economy. The mining industry alone contributed a record \$455 billion in export revenue during the 2022–2023 financial year accounting for 13.7 per cent of GDP. These industries also provide substantial employment opportunities, with the resources sector directly employing over 287,000 people as of 2024.

However, these industries are emissions-intensive with, in many cases, limited pathways to decarbonise in the short-medium term. To ensure their long-term viability and competitiveness in a net zero consistent economy, it is imperative to reduce their greenhouse gas emissions while sustaining their economic contributions. Failure to adapt may result in some of Australia's trade exposed and emissions-intensive industries being forced offshore, to jurisdictions with fewer mechanisms to constrain CO₂ emissions. This risks both the loss of what would be efficient economic activity and growth in Australia as well as higher global greenhouse gas emissions.

Investing in low emissions technologies, such as carbon capture, utilisation, and storage (CCUS) and advanced hydrogen production methods, can mitigate emissions from these hard-to-abate sectors of the Australian economy. According to the International Energy Agency (IEA), CCUS is a critical component in achieving global net zero emissions targets, potentially accounting for nearly 15 per cent of cumulative emissions reductions by 2070. Additionally, the global hydrogen market is projected to reach US\$201 billion by 2025, offering significant export opportunities for Australia if we can develop both a product and a customer base for this emerging clean energy source. For example, under the International Energy Agency's Net Zero Emissions

by 2050 Scenario (NZE Scenario), hydrogen demand reaches almost 150 Mtpa by 2030, 45 per cent of which is low emissions hydrogen where Australia could be competitive.

The economic benefits of investing in low emissions technologies include stimulating technological innovation, creating high-skilled jobs, and attracting both domestic and international investment.

The 2025–2026 Federal Budget presents an opportunity for the Australian Government to provide technology neutral support industries in transitioning to a net zero emissions future. Prioritising funding and policy support for low emissions technologies will facilitate this transition, helping to safeguard jobs, promote economic growth, and meet international emissions-reduction commitments under agreements like the Paris Agreement. It will also signal the government's wider support for these emerging industries, industries that build on Australia's longstanding and demonstrated competitive advantages, and technologies that international and domestic energy and climate agencies recognise as crucial to achieving net zero.

LETA is focused on developing and deploying technology solutions to reduce and remove greenhouse gas emissions from key industries. Our collaborative approach aims to deliver scalable solutions that align with both economic and environmental objectives.

Implementing the recommendations outlined in this submission will support industries in achieving emissions reductions while maintaining economic competitiveness. Investing in these solutions is essential for securing Australia's economic future and positioning the nation as a leader in sustainable industrial innovation.

2

The role of low emissions technology in mitigating climate change

There are several ways in which low emissions technologies can contribute to Australia's clean energy transition:

Carbon capture, utilisation, and storage (CCUS):

Retrofitting carbon capture units to existing power and industrial facilities and installing them as part of new facilities to separate and capture greenhouse gas emissions.

Reducing emissions in hard-to-abate sectors:

Supporting industries like cement, steel, and chemicals manufacturing—where Australia holds competitive advantages—to decarbonise effectively.

Low emissions hydrogen production:

Producing clean hydrogen through both electrolysis using renewable energy and through using coal or natural gas as the feedstock, combined with technologies like CCUS, providing least-cost options in several regions.

Ventilation air methane (VAM) abatement:

Capturing and using methane emissions from coal mining operations, reducing a potent greenhouse gas.

Almost all advanced economies have committed to reach net zero greenhouse gas emissions by 2050 or earlier. Both the International Energy Agency (IEA) and the Intergovernmental Panel on Climate Change (IPCC) have emphasised that achieving net zero without a portfolio of advanced technologies—including CCUS, hydrogen, and methane abatement—will be ‘virtually impossible.’ In Australia, the Climate Change Authority has similarly recognised that technologies like carbon sequestration and low emissions hydrogen are essential for rapid decarbonisation, presenting significant opportunities for the nation.

Australia’s commitments to reduce emissions by 43 per cent below 2005 levels by 2030 and achieve net zero by 2050 (along with any interim emissions reduction commitments) underline the need for economically competitive industries that leverage cleaner energy solutions. Access to diverse low emissions technologies will be crucial to sustaining economic growth, improving productivity, and ensuring Australia’s energy future is secure and sustainable.

For many industries covered under the Safeguard Mechanism, low emissions technologies represent some of the most viable pathways to abatement. CCUS, for example, offers a cost-effective option for decarbonising industries like steel and cement that employ over 100,000 workers, while also

enabling the production of low-carbon hydrogen. Similarly, methane abatement technologies can play a critical role in mining operations, reducing emissions while creating opportunities for resource utilisation.

Given the volume of emissions reductions required by 2050, deploying these solutions at scale will be essential. In 2022, 94 million of the 95 million tonnes of global hydrogen were produced using coal and gas, highlighting the urgent need for technologies like CCUS to decarbonise these processes where renewable-based hydrogen is not yet cost-competitive. Ventilation air methane abatement offers another complementary solution, turning an environmental challenge into an emissions reduction opportunity.

Active policy support from the Australian government is essential to unlocking the full potential of these technologies. A technology-neutral approach that embraces all commercially viable solutions, underpinned by market-based mechanisms and coordinated policy, is the most effective way to ensure Australia meets its climate commitments while maintaining international competitiveness. Low emissions technologies like those mentioned above are intended to work in tandem with, not instead of, the suite of ‘green’ technologies that currently receive significant levels of financial backing from government.

3

Australia's CCUS opportunity

CCUS is not new technology and includes a suite of technologies that have been used to capture, compress and transport CO₂ since 1972 to be used in a range of applications or for injection into geological formations where it is trapped and permanently stored.

Australia has a natural competitive advantage to implement CCUS with known high-quality, stable geological storage basins, existing infrastructure, world-class technical expertise and regulatory regimes (including environment protection, carbon accounting and reporting, financial services).

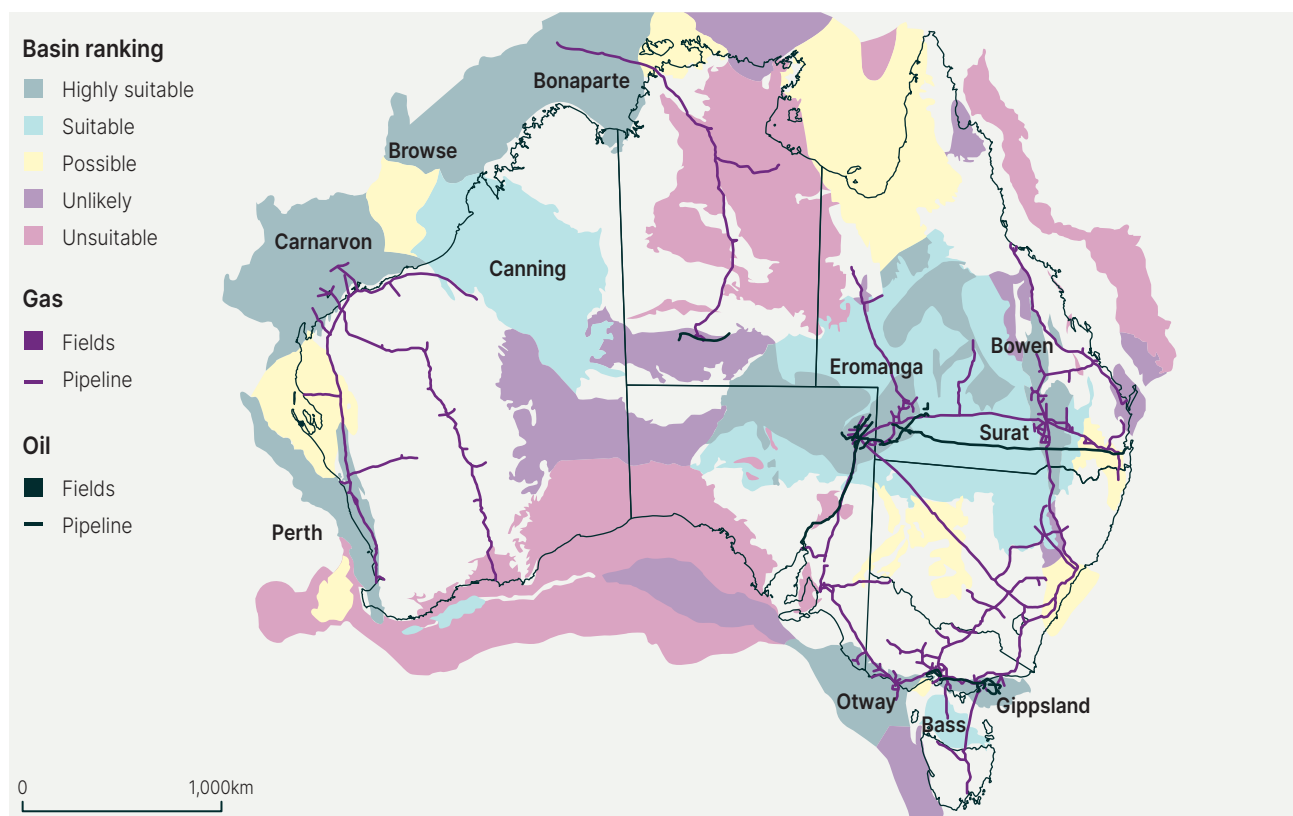
A benchmark study from 2004 found that, at a regional scale, Australia has a CO₂ storage potential of more than 1,600 years of annual total net emissions. More recently, Geoscience Australia, the University of NSW and the University of Queensland have all completed extensive work in this field. LETA notes and is supportive of the government's existing commitment to fund

Geoscience Australia to conduct pre-competitive mapping of suitable locations for carbon sequestration within Australia's geology.

Figure 1, produced by Geoscience Australia from work by the Carbon Storage Task Force, identifies potential storage locations at a national and basin level.

There are currently two large-scale CCS projects in operation in Australia, Chevron's Gorgon Project (currently the world's largest dedicated CCS project) and Santos' Moomba project. A range of other Australian projects are in the development stage, mostly located on Australia's west coast.

Figure 1: National and basin scale assessment of Australia's potential for CCS



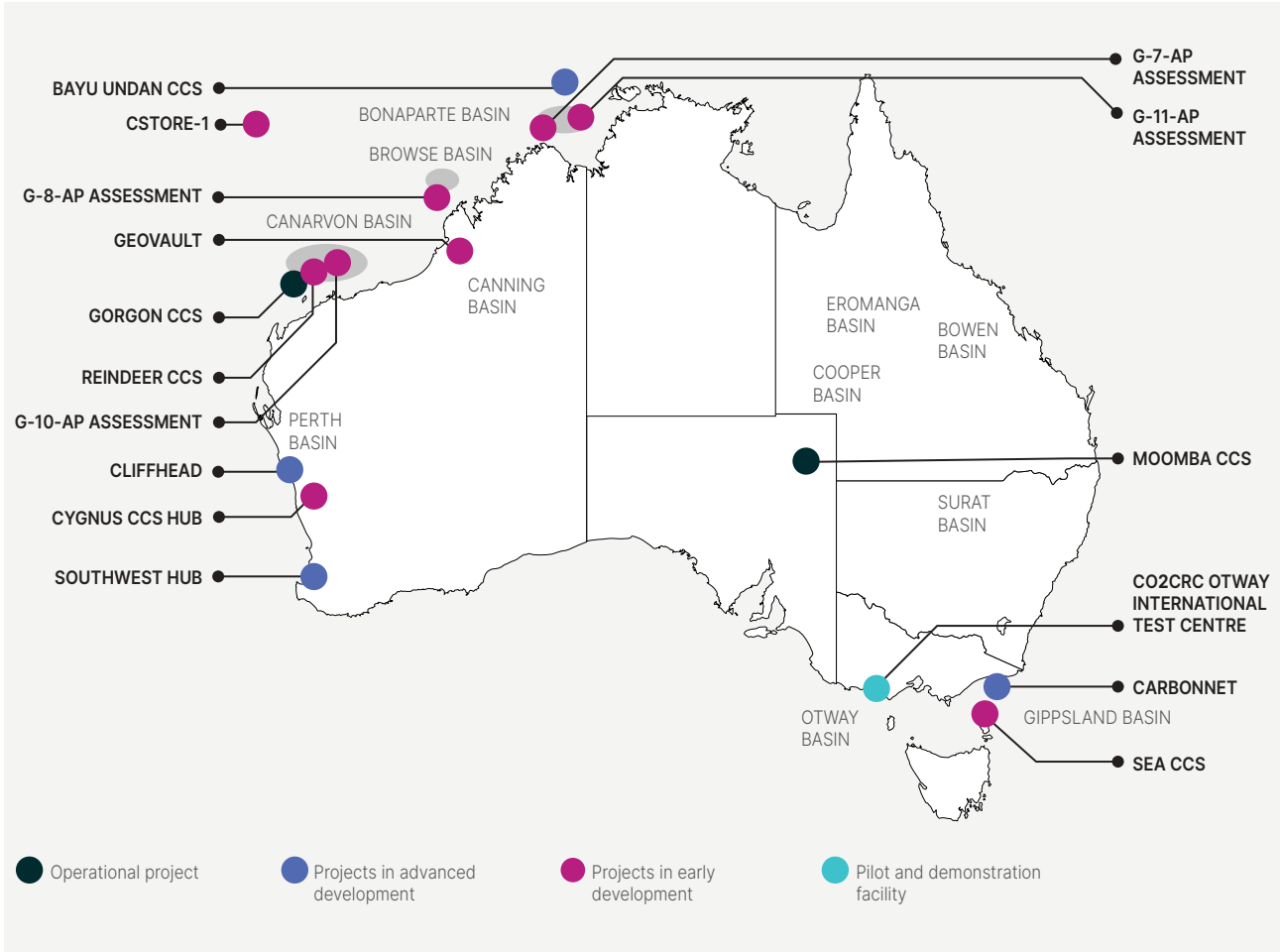
SOURCE: GEOSCIENCE AUSTRALIA (2004).

Figure 2 illustrates CCS projects currently underway or under development in Australia as of 2024. This includes the CO2CRC test injection project operating at the Otway International Test Centre where CO2 is injected into a saline aquifer.¹ We note that this illustration does not include Glencore’s now cancelled CTSCo project which, if in operation, could have demonstrated the potential for CO2 storage on Australia’s east coast. Unfortunately, this project was rejected by the former Queensland Government on the basis of concern raised by some sectors of the agricultural community and corporate agricultural interests, in spite of assurances from Australia’s leading scientists, including the CSIRO and University of Queensland that the impacts of CCS are isolated, contained and negligible.

Recent analysis by the CO2CRC released in April 2024 shows the number of proposed CCS projects in Australia had risen from five to 17 in 2020. LETA is committed to supporting the growth of CCS through projects like CTSCo. Around the world, 41 CCS projects are in operation, capturing an impressive 49 million tonnes per year of CO2 (equivalent to taking around 7 million cars off the road), with another 351 projects currently in construction and development.

Many countries are looking towards Australia, with our favourable geology, to take advantage of this technology. In 2022 IEA Executive Director Dr Fatih Birol singled out CCS, renewable energy and hydrogen as areas that Australia should be prioritising.

Figure 2: Australian CCS Projects, 2024



SOURCE: CO2CRC (2024).

1 CO2CRC recently injected its 100,000th tonne of CO2 safely underground—the equivalent of taking 22,000 cars off the road.

4

Australian technology could reduce emissions around the world

Australia has a significant opportunity to lead the deployment of low emissions technologies, reducing greenhouse gas emissions both domestically and internationally.

Many of Australia's key trading partners—including Japan, South Korea, Vietnam, China, and India—have set ambitious net zero targets for 2050, 2060, and 2070. Achieving these goals at the lowest cost while maintaining energy security and economic stability is a shared priority for these nations.

These countries, with rapidly growing economies, depend heavily on Australia's coal for energy and industrial production. Many also operate relatively modern power plants and industrial facilities, including steel, alumina, and cement plants. This creates an important role for low emissions technologies.

These technologies enable countries to transition to cleaner energy systems while maintaining the energy security provided by traditional energy sources. Regional solutions, such as shared infrastructure for transport and storage of captured carbon, will also become increasingly critical to meet global emissions reduction goals.

To achieve net zero emissions at the lowest cost while sustaining economic growth, a combination of local and regional solutions is essential.

Local solutions: Leveraging cost-effective storage and abatement technologies where available, taking into account factors such as CO₂ point sources, transport infrastructure, and geological storage capacity.

Regional solutions: Countries with limited storage capacity could still utilise low emissions hydrogen or other feedstocks derived from fossil fuels, with storage occurring in resource-rich nations such as Australia or Indonesia.

LETA is actively exploring collaborative opportunities with trading partners such as Japan and South Korea. These initiatives include the development of CO₂ capture hubs targeting emissions from industrial facilities like steel and chemicals production, which frequently rely on Australian coal and natural gas resources.

This approach allows Australia to maintain its energy exports while helping trading partners achieve their net zero goals. The benefits are two-fold:

For trading partners: Assured energy security and access to clean energy solutions.

For Australia: New opportunities in CO₂ storage and broader low emissions technology deployment, leveraging its existing strengths in energy and resources.

5

Policy recommendations

Implement a national carbon capture, utilisation, and storage (CCUS) strategy.

Recommendation: Allocate funding and resources to develop and implement a cohesive and comprehensive national CCUS strategy in collaboration with industry and scientific agencies.

Australia requires a unified approach to CCUS to effectively meet its emissions reduction targets and facilitate the transition to a lower-emissions economy. A national CCUS strategy would streamline regulations by simplifying and harmonising regulatory frameworks across federal, state, and territory governments. This simplification would reduce red tape and provide much-needed clarity for investors, thereby encouraging significant private sector funding due to the certainty and stability it provides.

Internationally, likeminded countries are investing heavily in CCUS technologies to reduce emissions and stimulate economic growth. For instance, the United Kingdom has committed £22 billion (approximately A\$40 billion) towards the common user infrastructure that will be required to establish two major carbon capture hubs—HyNet and the East Coast Cluster. This funding backs new carbon capture and CCUS-enabled hydrogen projects with a combined capacity to reduce over 8.5Mtpa of CO₂. These projects have the potential to create 4,000 new jobs, bolster key British industries, and attract approximately £8 billion in private investment.

This support significantly reduces the financial barrier, removing the need for each and every project to invest in their own infrastructure, and

instead utilise common pipelines and storage facilities. These UK Hub projects are projected to create thousands of new, skilled jobs, unlock billions of pounds in further investment, and support the UK's transition to net zero emissions.

Similarly, the United States has made significant strides through the Inflation Reduction Act, which includes expanded tax incentives ranging from US\$55 to US\$85 per tonne of captured CO₂. These incentives apply to a broad range of industries, including hydrogen production, steel manufacturing, and cement, demonstrating a substantial federal commitment to CCUS technologies. While the future of the IRA is uncertain under the Trump administration, tax credits introduced to incentivise the development of technologies like CCUS have received bipartisan support in the United States and there are currently no indications that US intends to roll back its support of low emissions technologies.

By investing in a comprehensive national CCUS strategy, Australia can keep pace with these global advancements. Such a strategy would foster innovation by leveraging the expertise of Australia's scientific agencies, like Geoscience Australia and CSIRO, to provide updated research into the safety and efficacy of CCUS technologies. It would set national standards for site selection and project development and establish incentives and financial support mechanisms that promote best practices. This investment would position Australia as a leader in carbon capture technologies, capitalising on natural resources while significantly reducing the carbon footprint.

2

Expand the Carbon Capture Technologies Program.

Recommendation: Renew and expand the Carbon Capture Technologies Program, providing increased grants to support technological innovation and accelerate the deployment of large-scale CCS projects.

Renewing and expanding the Carbon Capture Technologies Program is crucial for Australia to balance its energy security with its emissions reduction goals. An expanded program would drive innovation by supporting the development of new CCS technologies and bridging the gap between research and commercialisation. This would create pathways for promising innovations to reach widespread adoption.

By signalling the government's commitment to the future of CCS, the program would attract investment, encouraging long-term private sector funding and fostering partnerships with industry. This commitment would help build an ecosystem of innovation and collaboration. Additionally, the expansion of the program would create high-skilled jobs in engineering, manufacturing, and operations, thereby supporting a sustainable low emissions economy.

In the international context, countries like the United States and the United Kingdom are investing heavily in CCS technologies, recognising their role in emissions reduction and economic growth. For instance, the UK has allocated £22 billion for two carbon capture hubs, creating thousands of new jobs and unlocking further investment. Australia must keep pace with these global advancements to maintain its competitiveness.

The previous round of funding under the Carbon Capture Technologies Program was A\$65 million over eight years. LETA recommends that this funding be an ongoing annual grant.

3

Adopt a technology-neutral approach to support for hydrogen production.

Recommendation: Implement a technology-neutral policy framework for hydrogen production support mechanisms, including the Hydrogen Production Tax Incentive (HPTI) and the Hydrogen Headstart program.

Adopting a technology-neutral approach will encourage innovation by supporting a range of hydrogen production methods, including renewable hydrogen and low-carbon hydrogen produced from coal or natural gas with CCS. This will allow the most efficient, scalable, and cost-effective technologies to emerge naturally, fostering a globally competitive hydrogen sector.

By maximising resource utilisation, Australia can leverage its unique natural resources and existing infrastructure, such as renewable energy assets and carbon capture capabilities. This approach enhances competitiveness by creating a level playing field that accelerates the deployment of commercially viable hydrogen projects across various production methods.

Ensuring flexibility within the hydrogen industry is vital for its resilience and ability to adapt to future technological advancements. A technology-neutral policy framework will build a more robust industry, capable of responding to market demands and technological innovations.

Adjusting existing funding programs to be inclusive of all low emissions hydrogen production technologies would not necessarily require additional budget allocation but would involve policy changes to existing frameworks. Providing equitable financial incentives, regardless of the production method—if they meet emissions reduction criteria—ensures fair support across the industry. Allocating resources for research and development across different hydrogen technologies would further stimulate innovation and industry growth.

4

Support mines to decarbonise by partnering with industry on scope one emissions abatement projects.

Recommendation: Allocate funding and establish partnerships with the mining industry to implement scope one emissions abatement projects, such as ventilation air methane (VAM) abatement.

Methane emissions from coal mines represent approximately 6 per cent of annual national emissions. Addressing these emissions through abatement projects is essential for significant environmental impact. Partnering with industry to deploy VAM abatement technology will enable the mining sector to transition to lower emission operations without compromising economic growth or jobs.

This support promotes innovation by encouraging the adoption of advanced technologies within the sector. It helps protect jobs by allowing the mining industry to continue its contribution to the economy sustainably. Furthermore, it enhances Australia's global standing as a leader in sustainable resource management, showcasing a commitment to reducing emissions in traditionally high-emitting industries.

Funding would be required for pilot projects and the broader deployment of VAM abatement technologies. Financial incentives or subsidies could be offered to offset the initial costs of implementing these emissions reduction technologies, making them more accessible to mining operations. Additionally, supporting collaborative initiatives between government, industry, and research institutions would necessitate allocated resources to facilitate these partnerships.

LETA would welcome the opportunity to co-fund VAM abatement projects with the Australian Government.

5

Include coal mining as an activity qualifying for treatment as a trade-exposed industry under the Safeguard Mechanism.

Recommendation: Amend the Safeguard Mechanism to include coal mining as an emissions-intensive, trade-exposed industry (EITE); qualifying for treatment as trade-exposed, baseline-adjusted (TEBA) facilities.

Coal mining is one of Australia's most trade-exposed industries, with over 90 per cent of production exported to key trading partners like Japan, Korea, China, India, and Taiwan. These exports, valued at over A\$91 billion in 2023–2024, enter highly competitive global markets where Australia vies with countries such as Indonesia and South Africa. At the same time many of our international competitors in the global coal export market impose little to no obligations to reduce greenhouse gas emissions.

Including coal mining under the EITE framework as TEBA facilities would maintain the industry's competitiveness in global markets while allowing it to reduce emissions. It would provide a lower baseline decline rate under the Safeguard Mechanism, giving the industry the necessary time and flexibility to invest in low emissions technologies.

This inclusion is crucial for supporting employment in regions dependent on coal mining and ensuring the ongoing contribution of coal exports to the Australian economy. It facilitates emissions reduction without imposing undue burden on the industry, aligning economic and environmental objectives.

Adjusting policy settings within the Safeguard Mechanism to include coal mining as an EITE would not require direct budget expenditure but would involve administrative efforts. Resources would be needed for policy amendment processes and for monitoring and compliance activities to ensure the effectiveness of the revised mechanism.



