

Low Emission Technology Australia

Transboundary Carbon Capture and Sequestration – Establishing Bilateral Instruments

Key points

- Low Emission Technology Australia (LETA) is a \$600 million fund established in 2006 by the Australian black coal industry to invest in technologies that significantly reduce emissions and support the transition to a low emission global economy, in line with the Paris Agreement.
- LETA welcomes the opportunity to provide a submission to the Department of Climate Change, Energy, the Environment and Water (DCCEEW) on its *Transboundary Carbon Capture and Sequestration – establishing bilateral instruments* consultation paper.
- LETA's members are primarily greenhouse gas (GHG) stream providers, rather than storage site developers, with potential participation in international CCS hubs where emissions from industrial processes are captured and transported for offshore storage.
- LETA supports Australia establishing bilateral instruments that enable the safe, effective and commercially practical import and export of CO₂ streams for permanent geological storage. The proposed Australia-Singapore instrument is an important first step. It should also establish a scalable model that can be adapted promptly for other regional trading partners, particularly Japan and Korea.
- The Government should progress the Australia-Singapore instrument without delay, while pursuing bilateral instruments with other priority partners – particularly Japan and Korea – in parallel. Australia should not adopt a sequential, country-by-country approach that delays otherwise viable projects or weakens Australia's position in a rapidly developing regional market.
- LETA recommends, in establishing bilateral instruments, the Government should:
 - Use an objectives-based, technology-neutral and source-neutral framework. Eligibility should not depend on the industrial source of the CO₂ stream, but ensure it meets transparent environmental, safety and technical requirements.
 - Allocate responsibilities clearly across capture, export, transport, transfer, injection, storage, monitoring, leakage response and long-term stewardship. The point of transfer should be explicit and capable of being reflected consistently in permits and commercial contracts.
 - Avoid regulatory duplication. The instrument and implementing arrangements should recognise equivalent information and approvals provided under relevant legislation, the National Greenhouse and Energy Reporting Scheme and the exporting country's laws.
 - Establish interoperable measurement, monitoring, reporting and verification, CO₂ stream characterisation and emissions-accounting arrangements. These should support mutual recognition, avoid double counting and reflect international practice.
 - Provide predictable processes, service standards and practical implementation guidance. Regulatory certainty and timely government-to-government coordination are essential to project bankability and early private investment.
 - Enable aggregation and open-access infrastructure. International CO₂ volumes can improve utilisation and lower average costs for pipelines, terminals and storage hubs, supporting access for Australian hard-to-abate industries.
 - Maintain rigorous environmental protection and community consultation while ensuring requirements are proportionate, evidence-based and capable of adapting as science, technology and industry practice evolve. LETA also encourages greater harmonisation of requirements and provides specific examples of opportunities in this submission.
- LETA would welcome the opportunity to discuss the issues raised in this submission and to contribute to the development of the bilateral instruments and their implementing arrangements.

1. Introduction

Low Emission Technology Australia (LETA) is a \$600 million fund established in 2006 by the Australian black coal industry to invest in a range of technologies that significantly reduce greenhouse gas emissions and support the transition to a low emission global economy, in line with the Paris Agreement and Australia's emissions reduction targets.

LETA partners with government, research institutions, universities and industry locally and internationally to develop projects that can, over time, reduce and remove greenhouse gas emissions from large-scale industrial processes such as power generation, steel and cement manufacturing, mining, and energy sources such as cleaner (low-carbon) 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 Department of Climate Change, Energy, the Environment and Water (DCCEEW) on its *Transboundary Carbon Capture and Sequestration – establishing bilateral instruments* consultation paper (the consultation paper).

LETA's submission focuses on specific aspects of the consultation paper and complements our broader engagement with DCCEEW and CSIRO on the interim and draft Offshore CCS National Action List (NAL) during 2024 and 2025.

LETA has coordinated its response with CO2CRC¹, the Global CCS Institute² (GCCSI) and CCUS Network Australia³ (CCUSNA). It also builds on our June 2024 submission on the interim Draft Offshore CCS NAL, our September 2025 submission on the Draft Offshore CCS NAL, and the joint letter sent to Ministers by CCUSNA, with LETA's support, on 26 June 2026.

LETA and its members are exploring opportunities to work with a range of trading partners, which could lead to the development of capture hubs in countries like Japan and Korea. In these hubs, emissions from various industrial facilities – such as steel, chemical, and similar industrial processes, many of which are supplied by Australian coal and natural gas – would be captured, liquefied at a central location, and transported by specialised carbon dioxide (CO₂) vessels for storage at a suitable site⁴.

¹ See co2crc.com.au for more information.

² See www.globalccsinstitute.com for more information.

³ See ccusna.com.au for more information.

⁴ As an example of LETA's work, see the report released on 12 September 2025. *Powering Japan's Hydrogen Future: Australia's Coal Advantage with CCS*, prepared by the Electric Power Research Institute (EPRI) for LETA, examines how Australian black coal could be used to produce low-carbon hydrogen in Japan using carbon capture, transport and storage. The study is based on a simulated Japanese reference site selected for its established coal import infrastructure. Under the modelled pathway, captured CO₂ is conditioned for transport by ship and permanently stored in offshore geological formations in Malaysia. The study finds that producing hydrogen in Japan from Australian coal with carbon capture, combined with offshore CO₂ storage in Malaysia, is technically practical and cost-competitive with other low-carbon hydrogen production pathways. Key findings include: cost-competitive hydrogen: a levelised cost of hydrogen of less than US\$4 per kilogram, including the costs of CO₂ capture, transport and storage; alignment with environmental benchmarks: a carbon intensity below Japan's threshold for clean-hydrogen subsidies; technical and deployment readiness: the required technologies are commercially established or under development, with conditions supporting near-term deployment if timely action is taken; potential for large-scale deployment: delivery at scale will depend on permitting, supporting infrastructure and bilateral arrangements under the London Protocol for the transboundary transport of CO₂. See letaaustralia.com.au/media-releases/australian-coal-with-ccs-could-deliver-clean-hydrogen-to-japan-securing-thousands-of-mining-jobs for more information and letaaustralia.com.au/api/media/file/Powering-Japans-Hydrogen-Future-Australias-Coal-Advantage-with-CCS-Report.pdf for a copy of the report.

LETA's perspective is therefore a relatively unique one – representing members who are unlikely, at least in the short-term, to become storage site developers. Instead, they are more likely to participate in commercial arrangements with key trading partners and potential storage service providers, acting as sources of greenhouse gas (GHG) streams for storage.

This potentially includes GHG streams from power generation (such as coal-fired power) and industrial processes – such as cement manufacturing, steelmaking, chemical production, minerals processing, and hydrogen/ammonia production – where Australian coal has played a key role over many decades in the development of these industries, including in key trading partners like Japan and Korea.

In considering these opportunities, the ability to advance project proposals of this nature depends on bilateral arrangements that are technically workable, internationally recognised and sufficiently certain to support long-term commercial agreements and investment decisions.

With the right policy and regulatory settings, Australia could become a leading regional provider of secure geological CO₂ storage services. This would strengthen established energy and resources partnerships, support responsible carbon stewardship across Australian export supply chains, including coal exports to major trading partners, and attract private investment in regional jobs and infrastructure. Australian coal exports were valued at well over \$90 billion in 2023-24⁵. Access to imported CO₂ volumes could also provide the scale and commercial certainty needed to accelerate shared transport and storage infrastructure, creating capacity that could subsequently be used by Australian emitters.

2. Overall approach to bilateral instruments

Support for the proposed Australia-Singapore instrument

LETA supports the proposed treaty-level instrument with Singapore and the consultation paper's objectives-based and technology-neutral approach. The instrument should establish the government-to-government architecture needed to satisfy the London Protocol while leaving project-specific environmental, safety and technical assessments to the relevant domestic approval processes.

The instrument should facilitate projects rather than duplicate or pre-empt domestic approvals. It should clearly identify the information each country must provide, which authority is responsible, how decisions will be communicated and how differences will be resolved.

A regional and parallel work program

LETA recommends that the Government treat the Singapore instrument as the first component of a broader regional framework and prioritise negotiations with Japan and Korea. These negotiations could be advanced through the Australia-Japan Special Strategic Partnership, the Australia-Korea Comprehensive Strategic Partnership, and established leaders', ministerial, energy, resources and economic dialogues.

⁵ See www.industry.gov.au/publications/resources-and-energy-quarterly-june-2026 for more information.

There is a strong case for Australia to progress parallel arrangements with Japan and Korea. As well as being Australia's second and fourth largest trading partners⁶, both countries are supporting the development of transboundary CCS value chains and advancing frameworks with competing storage jurisdictions, including Indonesia and Malaysia.

Delayed Australian action could redirect investment and foundation storage volumes to those jurisdictions. Timely bilateral instruments with Japan and Korea would diversify their CO₂ storage options while strengthening Australia's established energy and resources relationships with both countries.

Principles for the instruments

LETA recommends the following principles be used to inform the Government's negotiation of bilateral instruments.

1. **Technology and source neutrality:** Requirements should apply according to risk and performance, not the capture technology, transport configuration, industry or fuel source.
2. **Environmental integrity:** Projects must comply with the London Protocol and applicable domestic environmental and storage laws, supported by rigorous, risk-based assessment and monitoring.
3. **Commercial practicality:** Government processes should be clear, coordinated and timely, with sufficient certainty to support financing and long-term service contracts.
4. **Regulatory interoperability:** Data, assessments and assurance from each jurisdiction should be recognised wherever possible.
5. **Adaptability:** Detailed procedures should be capable of update through agreed guidelines or a joint committee without reopening the treaty for routine technical changes.
6. **Scalability:** The framework should accommodate multiple emitters, carriers, terminals and storage sites, and changes in project scale over time.

3. Recommended elements of the bilateral instrument

Allocation of responsibilities and point of transfer

The instrument should allocate responsibility across the complete value chain. As a minimum, it should identify the competent authority responsible for capture and aggregation, export approval, loading, maritime transport, entry into Australian waters, offloading, conditioning, pipeline transport, injection, storage, measurement, monitoring, reporting and verification (MMRV), incident response and long-term stewardship.

Responsibility for the GHG stream should transfer at a clearly defined point or event. The framework should permit project-specific transfer points where justified, provided there is no gap or overlap in legal responsibility. The agreed point should align with permits, custody-transfer measurement, emissions accounting, insurance and commercial contracts.

⁶ The latest Australian Bureau of Statistics data (available at www.abs.gov.au/statistics/economy/international-trade/international-trade-supplementary-information-calendar-year/latest-release) highlight the importance of Japan and South Korea as export markets for Australia. In 2025, Australia exported \$65.1 billion in goods and services to Japan, equivalent to 9.8 per cent of total exports, and \$44.2 billion to South Korea, equivalent to 6.7 per cent of total exports.

CO₂ stream qualification and characterisation

Australia must be able to determine that an imported stream satisfies the London Protocol and Australian requirements. The bilateral framework should therefore provide for agreed sampling, analysis, certification, chain-of-custody information and notification of material changes in stream composition.

Detailed specifications should not be frozen in the treaty. They should be contained in adaptable procedures that recognise Australia's Offshore CCS National Action List (when it is finalised) and project-specific storage and transport requirements. Requirements should accommodate the full range of industrial capture sources and avoid limits that impose costs.

Measurement, monitoring, reporting and verification

The parties should agree common principles for measurement at relevant custody-transfer points, verification of quantities received and injected, monitoring of storage performance, treatment of measurement uncertainty, data retention and independent assurance. Data should be collected once and used for multiple regulatory purposes where possible.

The instrument should support reciprocal access to information needed by each country's regulators while protecting commercially sensitive information and critical infrastructure data.

Emissions accounting

Clear and durable emissions-accounting rules are essential. The framework should identify how captured, transported, injected, stored quantities will be reported by each country under the Paris Agreement and UNFCCC frameworks and under domestic schemes (such as NGERs).

It should prevent double counting and ensure that a storage country is not attributed emissions that remain the responsibility of the source country, except where internationally agreed accounting rules provide otherwise. Australia should also ensure that domestic reporting and crediting arrangements recognise verified permanent storage and are compatible with the exporting country's policies. These matters should be settled early enough to avoid becoming a barrier to final investment decisions.

Liability, financial security and long-term stewardship

The instrument should distinguish operational responsibility, civil liability, regulatory liability, emissions-accounting consequences and long-term stewardship. It should avoid imposing duplicative financial security or insurance requirements where equivalent obligations already apply under domestic law.

Transfer of long-term stewardship to government should remain governed by Australian storage legislation and project approvals. The bilateral instrument should clarify how the exporting country will be informed of a transfer and how records will be preserved.

Governance and implementation

LETA supports a joint governance and consultative mechanism. It should include representatives of all relevant portfolios and regulators and have authority to adopt or update technical procedures, resolve implementation issues and coordinate regulatory timetables. An industry advisory mechanism should be established to help ensure procedures remain workable as projects mature.

The parties should publish non-confidential implementation guidance, competent-authority contacts, information requirements, indicative assessment stages and decision-making timeframes. A regular review provision should test whether the instrument remains fit for purpose and aligned with international practice.

4. Regulatory coordination and efficiency

Transboundary projects will interact with the *Environment Protection (Sea Dumping) Act 1981*, *Offshore Petroleum and Greenhouse Gas Storage Act 2006*, *Environment Protection and Biodiversity Conservation Act 1999*, *National Greenhouse and Energy Reporting Act 2007*, maritime regulation and state or territory requirements. The bilateral instrument should not create an additional project approval process over these regimes.

LETA recommends a coordinated whole-of-government pathway led by a designated Australian authority. The Department and NOPSEMA should undertake a joint mapping of information and approval requirements and publish a consolidated statement of requirements. Where the same matter is assessed under more than one regime, proponents should be able to submit a single core document and regulators should recognise each other's findings within their statutory responsibilities. This mapping exercise should outline:

- A common project description and agreed terminology across agencies.
- A single data room or secure information exchange for government submissions.
- Aligned consultation and assessment schedules where practicable.
- Mutual recognition of validated sampling, laboratory and verification methods.
- Early regulator engagement and a case-management process for first-of-a-kind projects.
- Published service standards and escalation arrangements for inter-agency issues.

5. Economic, industry and regional benefits

Imported CO₂ volumes can act as foundation demand for shared terminals, ships, pipelines and storage hubs. Higher and more predictable throughput can reduce average transport and storage costs, improve infrastructure utilisation and accelerate investment. This can make CCS services more accessible to Australian facilities that may not support standalone infrastructure.

A successful transboundary CCS industry can support regional jobs, specialised engineering and maritime services, research capability and investment in ports and common-user infrastructure. It can also underpin lower-emissions value chains in steel, cement, chemicals, hydrogen, ammonia and other trade-exposed industries.

The benefit is broader than the sale of storage services. Australia has long supplied energy and resources, such as coal, to regional partners. Enabling secure storage provides an avenue to help manage emissions associated with their use, maintain trusted trading relationships and support the development of lower-emissions products using Australian resources⁷.

⁷ EY-Parthenon's July 2025 report for LETA, *Beneath the surface: The economic potential for carbon capture and storage in Australia's eastern states*, found that a fully networked CCS industry across eastern Australia could generate around \$66 billion in economic activity, support up to 15,250 additional jobs and capture up to 50 Mt of CO₂ annually, in addition to the benefits of existing projects in Western Australia and South Australia. These results, focussed on the potential for Australia's eastern states, would be in addition to the economic benefits and emissions reductions flowing from commercial CCS projects operating in Western Australia and South Australia. See letaaustralia.com.au/reports/the-economic-potential-for-carbon-capture-and-storage-in-australias-eastern-states for a copy of the report and letaaustralia.com.au/media-releases/ccs-industry-presents-major-economic-opportunity-for-eastern-australia for the associated media release.

6. Environmental and community safeguards

LETA supports robust environmental protection, transparent decision-making and meaningful engagement with relevant communities, Traditional Owners, marine users and other stakeholders. These safeguards are fundamental to public confidence and durable project development.

Requirements should nevertheless remain risk-based, proportionate and coordinated. Bilateral instruments should rely on Australia's established project-level environmental and storage approval processes rather than duplicate them. Technical requirements should reflect baseline environmental conditions, site-specific risk and evolving scientific understanding.

Consistent with LETA's previous submissions on the interim and draft Offshore CCS National Action List⁸, implementing guidance should provide maximum transparency, avoid unnecessary prescription and support harmonisation between DCCEW and NOPSEMA. Where modelling methods or technical standards remain under development, the Government should publish interim guidance, commission further work and retain flexibility for review rather than create uncertain or unachievable approval tests.

7. Responses to consultation questions

LETA offers the following responses to the four consultation questions set out on page 15 of the consultation paper.

1. *What are the expected or anticipated impacts to you or your community of any of the elements in the proposed bilateral instrument with Singapore for transboundary offshore CCS?*

The proposed elements are expected to have positive impacts for LETA members and the industries and trading relationships in which they participate. Clear allocation of responsibilities, information requirements, transfer arrangements, MMRV and accounting rules can reduce sovereign and regulatory risk and enable commercial negotiations. Conversely, unclear or duplicative arrangements would increase cost, delay investment and risk international CO₂ volumes being committed to competing jurisdictions.

2. *What additional elements (i.e., anything not included in the list above) should Australia seek to include in the bilateral instrument to support and ensure safe, effective and accountable transboundary offshore CCS cooperation with Singapore, and why?*

LETA recommends the following additional elements be considered:

- A commitment to timely, coordinated regulatory processes and publication of implementation guidance and service standards.
- A mechanism for mutual recognition of equivalent regulatory information, technical standards, sampling and verification undertaken in either country.
- Protection and controlled sharing of commercially sensitive information and critical infrastructure data.
- Explicit treatment of off-specification streams, temporary interruption, force majeure, emergency response and cessation of operations.

⁸ See letaaustralia.com.au/api/media/file/LETA-submission-Interim-National-Action-List-for-offshore-carbon-dioxide-sequestration.pdf and letaaustralia.com.au/submissions/leta-submission-offshore-carbon-capture-and-sequestration-ccs-under-the-environment-protection-sea-dumping-act-1981 for more information.

- Arrangements for multi-user and multi-jurisdictional value chains, including CO₂ streams aggregated from more than one facility.
 - A regular review mechanism and authority for a joint committee to update technical procedures without unnecessary treaty amendment.
 - An industry advisory channel to identify implementation problems and emerging technical or commercial practices.
3. *What environmental, regulatory, operational, financial or liability impacts associated with transboundary offshore CCS should Australia consider in developing a transboundary offshore CCS framework?*
- Environmental: site selection, stream composition, baseline conditions, leakage prevention, monitoring, corrective action and transparent reporting.
 - Regulatory: overlap between legislation and agencies, sequencing of approvals, recognition of exporting-country regulation and consistency of permit conditions.
 - Operational: custody transfer, specification management, shipping interfaces, terminal availability, temporary storage, business continuity and incident response.
 - Financial: project-bankability impacts of approval uncertainty, infrastructure scale, access arrangements, financial security, insurance and potential duplicated compliance costs.
 - Liability: clear responsibility at every stage, interaction between public law and contracts, and long-term stewardship.
 - Market development: the need for foundation volumes, open-access infrastructure and timely bilateral engagement with multiple regional partners.
4. *What technical, monitoring, reporting, verification, information sharing or governance provisions and measures should Australia seek to establish with Singapore to support the transport, transfer and offshore sequestration of CO₂ streams across jurisdictions?*

Australia should seek common custody-transfer measurement rules; agreed sampling and analysis protocols; certification of stream quantity and composition; notification of changes and non-conformance; interoperable storage MMRV; independent assurance; secure data exchange; regulator access; aligned record-retention periods; incident notification; periodic reconciliation of national reports; a joint committee; technical working groups; dispute escalation; and regular review. Detailed methods should sit in adaptable procedures under the instrument and should recognise relevant international standards and project-specific requirements.

8. Recommendations

LETA recommends the Australian Government:

- Finalise an effective Australia-Singapore bilateral instrument as soon as practicable.
- Prioritise and progress Australia-Japan and Australia-Korea bilateral instruments in parallel, using established bilateral leaders', ministerial and departmental forums.
- Ensure instruments are objectives-based, technology-neutral, source-neutral, scalable and adaptable.
- Create clear, gap-free allocation of responsibility and an explicit custody and liability transfer point.
- Establish interoperable CO₂ stream characterisation, MMRV, information-sharing and emissions-accounting arrangements.
- Avoid duplication through mutual recognition and coordinated administration across Australian legislation and agencies.

- Publish practical implementation guidance, regulatory pathways, decision stages and indicative timeframes.
- Accommodate aggregation, multi-user hubs and open-access infrastructure to support scale and domestic industry access.
- Maintain robust, proportionate environmental and community safeguards and update technical guidance as science and practice evolve.
- Engage industry through a standing advisory mechanism (in addition to the public consultation process) during negotiation and implementation.

Conclusion

LETA supports establishing a safe, transparent and practical framework for transboundary offshore CCS. Australia should move quickly to complete the Singapore instrument and use it as the foundation for a broader regional program, with Japan and Korea as immediate priorities. Well-designed bilateral instruments can protect environmental integrity while providing the certainty required to mobilise investment, develop shared infrastructure and support the long-term competitiveness and decarbonisation of Australian and regional industries.

LETA would welcome the opportunity to discuss the issues raised in this submission and to contribute to the development of the bilateral instruments and their implementing arrangements.