CLIMATE CHANGE AUTHORITY

From agreements to assets:

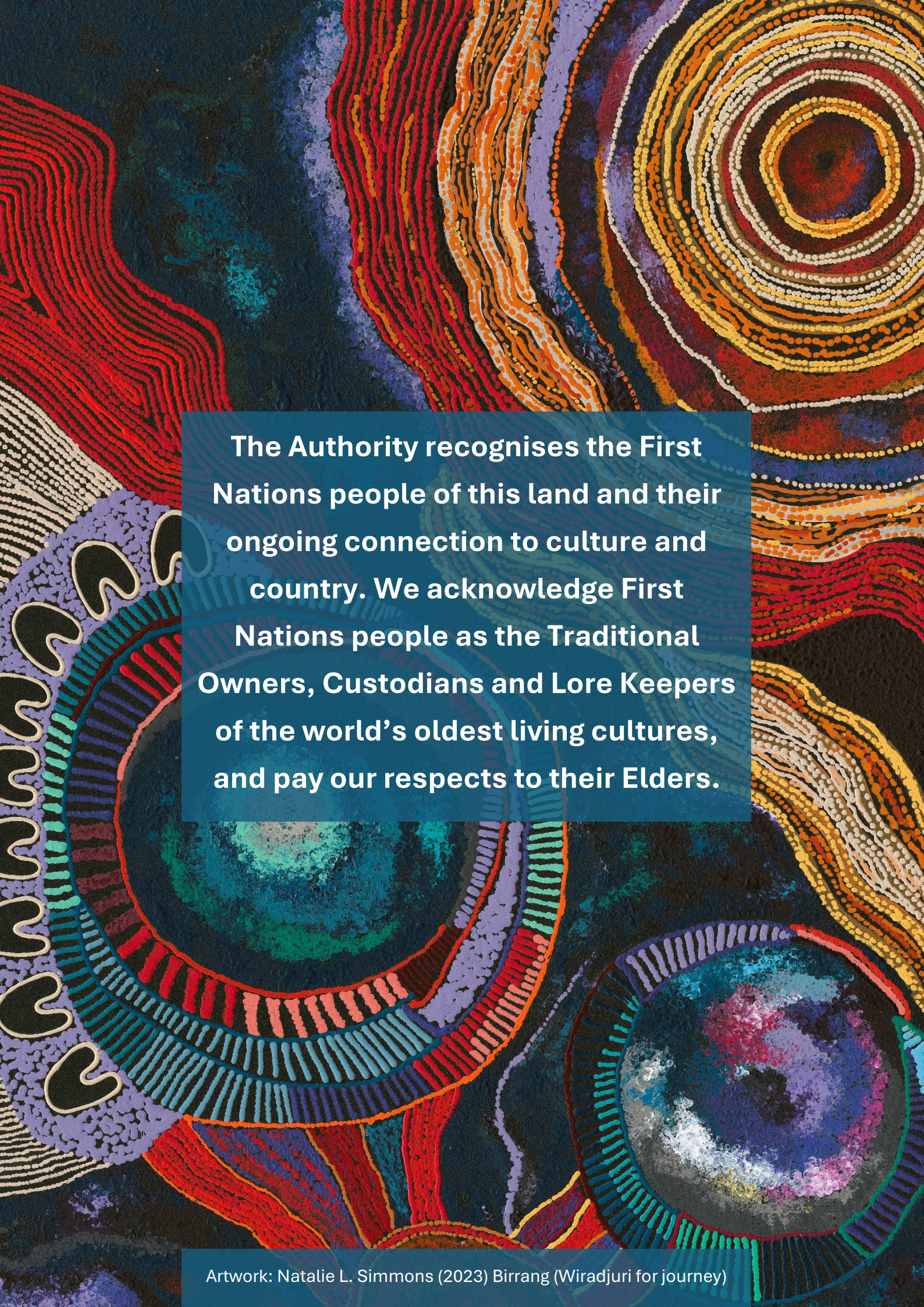
How governments can support investable clean industry value chains

November 2026



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The Authority recognises the First Nations people of this land and their ongoing connection to culture and country. We acknowledge First Nations people as the Traditional Owners, Custodians and Lore Keepers of the world's oldest living cultures, and pay our respects to their Elders.

Artwork: Natalie L. Simmons (2023) Birrang (Wiradjuri for journey)

Executive summary

The response to climate change is reshaping global trade, industry and supply chains. More than 84% of global GDP is covered by net zero commitments, leading to a global race to attract investment and create new low-carbon industries (DCCEEW, 2025). As countries compete for investment, those with complementary strengths must cooperate to unlock it. Global commodities depend on interconnected supply chains, and no country can decarbonise them alone. Building competitive, low carbon industries will require trading partners to align their respective strengths, investments and policy settings.

The opportunity is substantial, with clean industries representing an estimated $6.7 trillion global economic opportunity (MPP, 2026).[1] Yet only a small fraction of the global pipeline of announced clean industry facilities has reached final investment decision (FID). The challenge is turning ambition into investment, converting announced opportunities into bankable projects that attract private capital and reach commercial scale.

Capital is not the primary constraint. The challenge is establishing the commercial conditions needed for investment across entire value chains. Buyers need confidence that reliable supply will be available at a competitive price, while producers require demand certainty, infrastructure and supportive policy settings before they invest. The missing link is often a set of bankable commercial arrangements, such as long-term offtake agreements, revenue certainty mechanisms and risk-sharing arrangements, that give investors' confidence to proceed. Governments can play a catalytic role by reducing risk, coordinating investment and addressing coordination failures that no single actor can solve alone. This role becomes increasingly important where value chains span multiple countries.

International cooperation has laid the foundation. The next challenge is moving from agreements to assets. Existing bilateral and plurilateral partnerships can support project bankability by helping to mobilise investment, manage risk and strengthen demand certainty across value chains. Three case studies illustrate how international cooperation can support project bankability and investment:

- An **Australia-Japan green iron value chain** could deliver a substantial share of Japan's required reductions between 2030 and 2040 (Lowy Institute, 2025).
- An **Australia-Germany green iron value chain** could bolster industrial resilience by diversifying supplies of low carbon iron and reducing exposure to energy security risks.
- An **Australia-Singapore sustainable aviation fuel (SAF) value chain** could catalyse investment in Australia's emerging low carbon liquid fuels (LCLF) industry, which is projected to become a $36 billion market by 2050 (CEFC, 2025).

Success should be measured by tangible investment outcomes. These include committed private capital, bankable offtake agreements, recognised standards and certification frameworks, improved investor confidence, and projects reaching FID. Targeted government interventions can address early-stage risks, crowd in private capital and accelerate deployment, while reducing reliance on ongoing public support over time.

[1] All monetary values are expressed in AUD unless otherwise stated. Based on an indicative October 2026 exchange rate, US$4.7 trillion is approximately equivalent to A$6.7 trillion. According to MPP, the global clean industry pipeline comprises around US$4.7 trillion investment opportunity, including US$1.5 trillion in industrial assets and US$3.2 trillion in associated renewable energy and battery investment (MPP, 2026).

Such intervention should demonstrate public value through additional emissions reductions, commercial additionality, economic benefits and proportionate use of public resources.

Even with effective international cooperation, the transition will be challenging. Technology readiness, cost competitiveness and scalability remain significant constraints in sectors such as green iron and SAF. Outcomes will also depend on access to competitively priced clean energy, enabling infrastructure, supportive policy settings, long-term demand signals and commercially viable project economics. International partnerships can help reduce risk, coordinate investment and accelerate deployment, but success will ultimately depend on improving competitiveness and scaling technologies to commercial maturity.

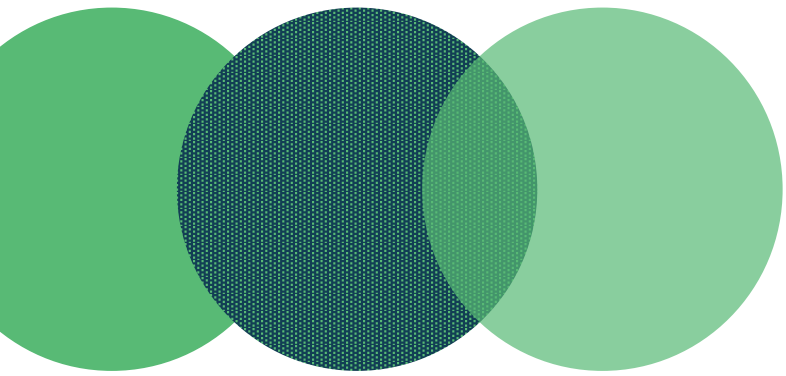
The report presents a practical 9 step framework for moving from agreements to assets. The framework outlines how governments can identify priority partners and value chains, align policy and regulatory settings, mobilise investment, coordinate risk-sharing arrangements and support projects through to commercial deployment. It recognises that successful cooperation requires more than dialogue or high-level agreements. Governments may need coordinated bilateral delivery mechanisms that align incentives, mobilise finance, support enabling infrastructure and create the conditions for projects to reach FID and commercial scale.

Purpose of this paper

International decarbonisation partnerships can help countries build new clean industries and cut global emissions faster than they could alone. As the *Climate Change Authority's 2035 Targets Advice* **(**2025) outlined, these partnerships complement national emissions targets by enabling Australia and its trading partners to shift from exporting embedded emissions to exporting abatement at scale.

The Authority explored this opportunity in more detail in its 2026 concept note on Australia-Korea cooperation. Since then, developments in Korea have accelerated considerably, with the country's industrial transition and investment commitments reinforcing the scope for deeper collaboration.

Building on that earlier work, this paper examines additional international case studies to identify how international cooperation can help translate global decarbonisation ambitions into new industries, investment opportunities and emissions reductions. Drawing on Australia's experience with key trading partners, it demonstrates how countries can work together to develop low carbon value chains by combining complementary strengths, sharing risks and coordinating investment across borders. The findings offer an Australian perspective on how international partnerships can advance global emissions reduction objectives while creating domestic economic opportunities.



Introduction

Globally, close to 1,000 clean industry projects have been announced, backed by investment of $2.7 trillion[2]. Australia has a $272 billion project pipeline with significant potential to support low carbon industries and exports (MPP, 2026). Despite strong project fundamentals, surveyed Australian project developers consistently cite uncertain future demand and lack of long-term offtake agreements as primary barriers to reaching FID (ITA, MPP, 2026).

The challenge is creating the market conditions needed to provide long-term investor confidence and enable project development. While governments have announced ambitious net zero targets and industries have identified project opportunities, investment decisions are delayed by:

- uncertain demand for low-emissions commodities and resulting revenue uncertainty (MPP, 2026)
- technology readiness, scalability, and the need for high-upfront capital investment
- lack of supporting infrastructure and competitively priced, firmed, low-carbon energy
- fragmented or misaligned climate, trade, investment and industrial policies
- limited coordination across global value chains.

This paper examines how governments can use international cooperation to develop investable projects that reach FID and attract private capital. Leveraging comparative advantages between producer and consumer countries can strengthen project economics, mobilise investment and unlock jobs and growth.

Beyond bilateral cooperation, multilateral and plurilateral initiatives can play an important role in supporting low-carbon industrial value chains over time. Examples include the Climate Club, the Industrial Deep Decarbonisation Initiative (IDDI) and the Global Green Industrialisation Agenda (GGIA).

Leveraging existing cooperation to support investment outcomes

Clean industrial partnerships can help address barriers to investment, strengthen market confidence and improve project bankability. This paper proposes 9 practical steps governments can take to mobilise investment and support projects reaching FID.

From cooperation to commercial deployment: A 9-step framework for governments

1. **Leverage existing bilateral agreements and plurilateral forums** – Use established bilateral partnerships, trade relationships and plurilateral cooperation frameworks to align emissions reduction, trade, investment and industrial objectives, with a stronger focus on implementation and project delivery.
2. **Identify priority partner countries** – Focus initially on key trading partners where joint action can deliver material global emissions reductions and where governments share strong incentives to decarbonise supply chains.

[2] Based on an indicative exchange rate as of October 2026, US$1.897 trillion is equivalent to approximately A$2.7 trillion.

3. **Select priority value chains for cooperation** – For each partner, jointly identify value chains where collaboration can unlock investment, strengthen competitiveness and reduce emissions at scale.
4. **Agree on shared transition objectives** – Establish shared objectives for reducing emissions intensity and supporting industrial transformation.
5. **Align domestic policy, regulations and delivery programs** – Coordinate policy settings, standards, funding and infrastructure across partner countries, and package support into joint delivery programs.
6. **Mobilise and coordinate public and private finance** – Coordinate public finance and risk-sharing mechanisms, including concessional finance, guarantees, first-of-a-kind project support and strategic infrastructure investment.
7. **Engage industry as delivery partners** – Work with industry to identify project pipelines, investment opportunities and commercial pathways, supported by transparent reporting against agreed objectives and metrics.
8. **Establish joint governance, delivery and review mechanisms** – Create joint government-industry structures, align relevant programs and funding mechanisms, monitor progress, resolve barriers and adjust settings as projects move from concept to deployment. Establish clear milestones, reporting arrangements and review points to maintain accountability and focus on investment outcomes.
9. **Demonstrate success through lighthouse projects** – Prioritise a small number of high-impact projects to demonstrate commercial viability, build investor confidence and provide practical models for deeper value-chain cooperation.

Integrated cross-border delivery programs can turn shared climate and trade ambitions into investable projects by aligning demand, supply and the enabling conditions across countries. Governments could establish a joint taskforce to work with industry and investors to design a program that makes a low-emissions supply chain commercially viable and scalable. The program could align and adapt existing policy measures to secure the demand and revenue needed to attract finance across the value chain, with governments and companies agreeing how to share risks and costs.

Joint governance arrangements would oversee implementation, monitor progress and recommend adjustments to resolve barriers and guide subsequent tranches of investment. The table below outlines how a coordinated program could address key challenges along the value chain.

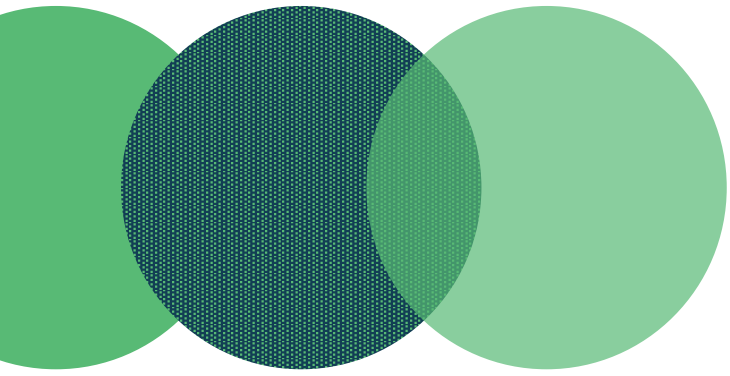
Table 1: Elements of an integrated delivery program

Challenge	Possible government response
Insufficient demand	Purchasing mandates, procurement commitments, contracts-for-difference, demand subsidies
Revenue uncertainty	Underwriting, guarantees, offtake support
High production costs	Production incentives, tax credits, grants
Infrastructure gaps	Shared infrastructure investment

Trading partners can build on complementary strengths and existing cooperation frameworks to improve project bankability, mobilise investment and deliver shared economic benefits. For example, Australia has abundant renewable energy resources, critical minerals and significant potential for low-carbon commodity production. This complements the industrial, technological and manufacturing strengths of countries such as Korea, Japan, Germany and Singapore, creating opportunities for mutually beneficial clean industry partnerships. By leveraging these strengths and existing market linkages, countries can strengthen demand certainty, accelerate technology deployment and unlock investment opportunities across shared value chains (Table 2).

Table 2: Leveraging existing cooperation frameworks to support project bankability

Trading partners	Commodity	Bankability challenge	Opportunities to leverage existing cooperation
Australia-Japan	Green iron	Demand certainty and green premium	• Build on existing energy and industrial cooperation to support offtake commitments and procurement initiatives. • Use existing financing partnerships to de-risk investment in first-of-a-kind projects. • Advance collaboration on green iron standards and certification frameworks.
Australia-Germany	Hydrogen, green iron	Investment certainty and supply chain diversification	• Build on existing hydrogen and industrial cooperation to coordinate public financing support. • Strengthen established industry partnerships and financing mechanisms to improve offtake pathways and market confidence. • Expand cooperation on standards, certification and supply chain development.
Australia-Singapore	Sustainable aviation fuel (SAF)	Commercialisation and demand certainty for SAF	• Build on existing cooperation to strengthen long-term demand signals for SAF. • Harness existing partnerships to support private capital mobilisation through public de-risking measures and demand commitments.



Australia-Japan: Green iron and steel

Why this value chain matters

Australia and Japan are longstanding strategic and economic partners, with deep cooperation across shared priorities including economic security, energy and critical minerals. In 2025, Japan was Australia's second largest export market, with exports valued at $65.1 billion. Japan is Australia's third largest trading partner overall, with 2-way goods and services trade reaching $97.5 billion (DFAT, n.d.-c). This strong trade relationship is underpinned by Australia's exports of energy, resource and agricultural commodities, including coal, iron ore, beef and copper. Japan is also a major supplier of imports to Australia, particularly motor vehicles, travel services and refined petroleum products.

Beyond its importance as a trading partner, Japan is pursuing a major industrial transformation to shape future demand for low emissions energy, critical minerals and green manufacturing inputs. The Japanese Government set a target of mobilising more than $3.2 trillion in public and private investment in strategic industries by 2040, including $36.5 billion earmarked for hydrogen-based and electric arc furnace steelmaking. This investment aims to establish a 3 million tonne per year green steel market and expand annual scrap processing capacity by 2 million tonnes by 2030 (Bloomberg, 2026).

Strategic value

The Australia-Japan green iron and steel value chain[3] presents a strategic opportunity to align demand, investment and industrial decarbonisation objectives. This approach could deliver shared climate, economic and trade benefits by reducing emissions, attracting investment and strengthening bilateral trade in lower-emissions industrial products (see Table 3).

The long-standing energy and resources trade relationship between Australia and Japan provides a strong foundation for deeper collaboration on industrial decarbonisation. Current Japanese steel decarbonisation strategies remain focused on reducing emissions from existing blast-furnace steelmaking through technologies such as carbon capture and storage (CCS), hydrogen injection and ammonia co-firing. Realising the full potential of an Australia-Japan green iron value chain would require greater recognition of green iron as a traded decarbonisation commodity. This would enable carbon abatement to be embodied in traded green iron products, allowing its decarbonisation value to be recognised and realised across international markets.

At the same time, the Middle East has emerged as a potential supplier of lower-emissions iron. However, geopolitical uncertainty may strengthen the case for diversifying supply chains through reliable and trusted trade partners such as Australia.

[3] Other value chains for future consideration include the production of green alumina, an example of which is Sumitomo and Rio Tinto's pilot project at the Yarwun alumina refinery (CSIRO, 2026; Lowy Institute, 2025).

Table 3: Strategic value of Australia-Japan green iron and steel value chain

Climate benefits	Trade benefits	Economic benefits
Japan		
• Lowy Institute (2025) modelling suggests that imports of Australian green iron could deliver almost half of Japan's required emissions reductions between 2030 and 2040 (Lowy Institute, 2025).	• Strengthen long-term, strategic energy and resource cooperation with a reliable and trusted trading partner, supporting supply chain resilience. • Enable preferential access to downstream markets that value low-embodied-carbon products.	• Enhance the future competitiveness of Japan's steel and manufacturing industries. • By 2030, importing emissions-abated iron feedstock could allow Japan to produce steel at $981 per metric tonne (real 2023), 31% cheaper than steel produced from hydrogen-based direction reduction paired with an electric arc furnace relying on imported feedstocks (BNEF, 2024).
Australia		
• Demand for green commodity production could underpin power purchase agreements, renewable energy investment and reduce coking coal exports previously used to reduce iron.	• Modelling suggests green iron exports to Japan could generate approximately $24 billion in annual revenue for Australia (Lowy Institute, 2025).	• Catalyses investment in renewable energy, infrastructure and industrial decarbonisation.

Existing foundations for cooperation

- **Australia–Japan Joint Statement on Energy Security Cooperation** (PM&C, 2026b) supports 2-way trade in energy resources and strengthens supply chain resilience. The statement commits to diversify energy sources and support the energy transition.
- **Australia-Japan Joint Statement on Elevated Critical Minerals Cooperation** (PM&C, 2026a) supports strategic coordination on critical minerals for advanced manufacturing, the energy transition and economic security.
  It facilitates closer collaboration across a shared pipeline of critical minerals projects, including:
  - Australian Government support of up to $1.3 billion, including non-binding Letters of Support to critical minerals projects involving Japan.
  - Japanese Government investments and grants of approximately $370 million for priority projects, with plans for further investment.

Leveraging policy cooperation to support project investment

Australia and Japan can deepen collaboration through coordinated policy settings and investment to de-risk early green iron projects and accelerate the transition to low-emissions steelmaking (see Table 4).

Table 4: Existing foundations and opportunities to leverage cooperation across the Australia-Japan green iron and steel value chain

Component	Australian government policy support or signal	Japanese government policy support or signal	Opportunities to strengthen cooperation
Demand	Procurement guidelines and measures are emerging, but further action is needed to advance green steel demand.	Green Transformation (GX), including downstream demand through subsidies for electric vehicles built with low-emission steel.	Build on existing cooperation to strengthen demand signals through offtake commitments and public procurement initiatives.
Supply	Future Made in Australia support, renewable energy infrastructure, industrial precincts and streamlined approvals.	Tax credit for domestic production and investment in sectors considered strategically important by the government, including green steel.	Identify priority bilateral green iron projects and establish a pipeline for joint industry investment.
Finance	Significant funding for green metals projects, including a $1 billion Green Iron Investment Fund (DISR, 2025). The Future Made in Australia Innovation Fund, including $750 million for green metals (ARENA, n.d.).	GX Economic Transition Bonds, JOGMEC, JBIC and the NEDO Green Innovation Fund provide financing and de-risking mechanisms, including export credit, grant funding and risk-sharing support, for green iron and other industrial decarbonisation projects.	Build on established financing relationships to coordinate public support, de-risk first-of-a-kind projects and mobilise private capital.

Lighthouse project: NeoSmelt

NeoSmelt is a collaboration between BHP, BlueScope, Mitsui Iron Ore Development, Rio Tinto and Woodside Energy to develop and test low emissions ironmaking technologies in Western Australia (Neosmelt, n.d.). Through a pilot-scale demonstration plant, the project is trialling a direct reduced iron-electric smelting furnace (DRI-ESF) pathway suitable for Pilbara ores. It will initially use fossil methane in the iron reduction process, with the potential to transition to hydrogen as supplies become available. This pathway could reduce emissions from ironmaking by around 80% compared with conventional blast furnace production. NeoSmelt is one of the first projects seeking to demonstrate a viable green iron pathway for Pilbara ores. It could help unlock green iron exports and support the development of a low-carbon iron and steel value chain globally.

NeoSmelt sits within a broader suite of Australia-Japan investments spanning renewable energy, green iron, and low-emissions steelmaking. Projects such as Murchison Green Hydrogen, Fortescue's Green Metal Project, and Nippon Steel's electric arc furnace investments illustrate emerging activity across the value chain, at different stages of development.

Australia-Germany: Green iron and steel

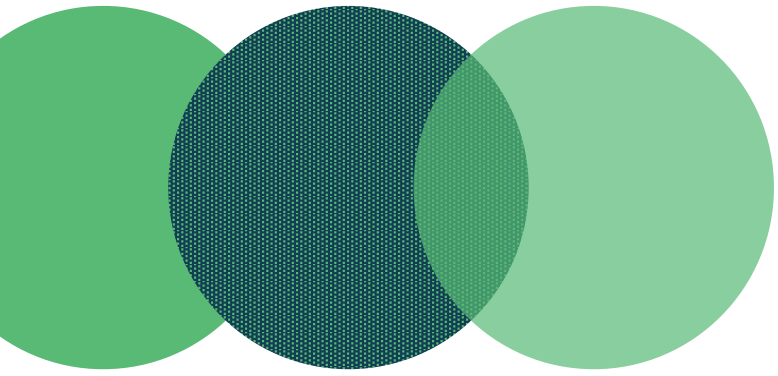
Why this value chain matters

Australia and Germany are close partners with a shared commitment to economic resilience, industrial competitiveness and the rules-based international order. Germany is Australia's sixth-largest source of imports and an important partner in advanced manufacturing, clean energy and critical minerals, with 2-way trade valued at approximately $29 billion in 2024 (DFAT, n.d.-b). Cooperation on renewable energy, hydrogen and critical minerals has become an increasingly important feature of the bilateral economic relationship.

Beyond its importance as a trading partner, Germany is pursuing a major industrial transformation to maintain competitiveness while reducing industrial emissions. The German Government has committed more than $8 billion to support industrial decarbonisation, including investment in low emissions steel production and other strategic industries (European Commission, 2026).

As Europe's largest steel producer, Germany's steel sector faces growing pressure from high energy costs, international competition and the need to transition to lower-emissions production pathways. At the same time, the implementation of the EU's Carbon Border Adjustment Mechanism (CBAM) is increasing demand for industrial inputs with lower embedded emissions and robust emissions reporting.

These trends are creating opportunities to strengthen Australia-Germany industrial cooperation across the iron and steel value chain. Australia's renewable energy resources, iron ore reserves and potential for green iron production complement Germany's established strengths in steelmaking, advanced manufacturing and industrial technology. Building on existing commercial partnerships, government cooperation can strengthen demand certainty and support project bankability across the value chain.



Strategic value

The Australia-Germany green iron and steel value chain presents a strategic opportunity to align demand, investment and industrial decarbonisation objectives (see Table 5).

Table 5: Strategic value of Australia-Germany green iron and steel value chain

Climate benefits	Trade benefits	Economic benefits
Germany		
• Could help Germany reach its 2030 and 2035 emissions targets. • Green hydrogen used as an alternative input to emissions-intensive steelmaking processes.	• Supply chain security through diversified supply of low-carbon products • Greater resilience to energy shocks through diversification • Creates demand for newer, green industries	• Support for EV, battery, steelmaking and renewable energy industries • Improved industrial competitiveness, with imported Australian green iron potentially reducing German steelmaking production costs by around 15% (Agora, 2025).
Australia		
• Demand for green commodities could underpin renewable energy investment and shift fossil fuel trade.	• Sustainable business case for greater value-add processing and refining	• Increased regional investment, expertise and jobs • Export diversification

Existing foundations for cooperation

- **Australia-EU Free Trade Agreement (A-EU FTA)** will boost trade and cooperation on critical minerals. It will eliminate EU tariffs on critical minerals, making Australian exports more competitive in the EU (DFAT, 2026). The A-EU FTA includes a binding commitment to implement obligations under the Paris Agreement on climate change.
- **Australia-Germany H2Global Joint Tender** has secured $660 million in funding to match Australian hydrogen production with European demand. A 2026 Joint Declaration of Intent strengthens bilateral cooperation to deliver the tender (DCCEEW, 2026a).
- **Enhanced Strategic Partnership** signed in 2021 between Australia and the Federal Republic of Germany provides an overarching framework for cooperation on climate, energy and critical minerals.
- Other cooperation avenues include the Australia-Germany Hydrogen Accord and collaboration on the Sustainable Steel from Australia and Germany (SuSteelAG) initiative, supporting technology development and industry collaboration (Australian Embassy, n.d.; UNSW, 2024).[4]

Leveraging policy cooperation to support project investment

Australia and Germany are already making progress across key elements of the green iron value chain. Building on these foundations through stronger policy coordination and investment partnerships could help de-risk early projects, accelerate deployment and support the emergence of a globally competitive green iron industry (see Table 6).

[4] The project – a partnership between the Australian Department of Climate Change, Energy, the Environment and Water (DCCEEW) and the German Federal Ministry of Education and Research (BMBF) – aims to explore the potential of creating a sustainable green iron and steel value chain between the two countries.

Table 6: Existing foundations and opportunities to leverage cooperation across the Australia-Germany green iron and steel value chain

Component	Australian government policy support or signal	German government policy support or signal	Opportunities to strengthen cooperation
Demand	• Current gap in Australian green iron policy settings. • Lack of domestic hydrogen offtake.	• Targeting 95-130 terawatt hours of annual hydrogen demand by 2030 (IEEFA, 2026).	• Build on existing cooperation to align demand signals through offtake commitments, co-investment and procurement policies.
Supply	• Future Made in Australia support • Renewable energy infrastructure • Industrial precincts.	• Germany is willing to import 50-70% of its total domestic hydrogen use by 2030 (Clean Energy Wire, 2025).	• Advance collaboration on green iron processing and trade to strengthen value chain integration.
Finance	• $1 billion Green Iron Investment Fund (DISR, 2025). • $2.25 billion for the Hydrogen Headstart program (DCCEEW, 2026). • The Future Made in Australia Innovation Fund, including $750 million for green metals (ARENA, n.d.).	• Many companies are investing in green steel production capability, such as Thyssenkrupp's $4.8 billion investment (Reuters, 2026). • Over $7 billion allocated to use H2Global to procure imports of green hydrogen and derivatives (IEEFA, 2026).	• Build on existing cooperation to advance co-investment, offtake arrangements and specialised investment vehicles for green iron value chains. • • Advance collaboration on enabling infrastructure and low-emissions shipping corridors.
Enabling regulation	• Australia's Guarantee of Origin scheme, with future expansion expected to include green metals. • Future Made in Australia, Hydrogen Headstart.	• Germany's National Hydrogen Strategy (German Government, 2026). • HySupply Partnership (GlobH2E, n.d.). • 2030 NDC (German Government, 2024).	• Build on existing cooperation to align standards and certification frameworks, particularly at the EU level.

Lighthouse project: Geraldton Green Iron Project

Progressive Green Solutions aims to transform Australia's abundant renewable energy resources and high-quality magnetite ore into green iron using 100% green hydrogen and leading German technologies. Located 20 minutes from Geraldton, the project is situated alongside existing rail, road and airport infrastructure, as well as operating mines capable of producing high-purity magnetite ore (>70% Fe, <1% SiO_2) suitable for hot briquetted iron (HBI) production. The project is targeting production of 50 million tonnes per annum (Mtpa) of green pellets and up to 10 Mtpa of green HBI for export, creating the potential for a significant new value-added Australian export industry while helping Germany decarbonise its steelmaking sector (Progressive Green Solutions, n.d.).

Supported by the Australian Government's green hydrogen initiatives and industrial decarbonisation policies, Progressive Green Solutions presents a strong opportunity for Australia and Germany to work together to build a low emissions industrial value chain.

By exporting value-added green iron, Australia can leverage its renewable energy advantage, diversify its export base and strengthen long-term energy and resource security. Germany will gain access to lower emissions industrial inputs while continuing to export advanced technologies and expertise. German partners are expected to play a central role in the project, with Thyssenkrupp offering 100% offtake of the green HBI, Thyssenkrupp Nucera and SMS Group providing core technology, and KfW IPEX-Bank supporting project finance.

This strategic partnership would strengthen a more integrated, secure and resilient green metals supply chain while delivering economic and decarbonisation benefits for both countries.

Australia-Singapore: Sustainable Aviation Fuel

Why this value chain matters

Australia and Singapore's Sustainable Aviation Fuel (SAF) value chain presents a compelling model for decarbonisation partnerships, supported by strong bilateral frameworks, complementary market strengths, and growing policy momentum. Singapore is Australia's largest fuel supplier, providing 55% of petrol imports, 15% of diesel imports, and 23% of aviation fuel imports (Minister for Foreign Affairs, 2026). This underscores the strategic importance of the partnership, supporting aviation decarbonisation, economic resilience and energy security.

Policy signals are strengthening on both sides of the market. Australia is supporting domestic production through ARENA's Cleaner Fuels Program, as well as consulting on a demand mechanism to accelerate uptake of low-carbon liquid fuels (ARENA, 2026; DCCEEW, 2026b). Singapore has created a clear demand pathway for SAF, with a mandated 1% uplift target from 2027 and ambitions to increase this to 3-5% by 2030 (Singapore Ministry of Transport, 2026). This commitment is reinforced by the establishment of SAFCo, which will facilitate the centralised procurement and supply of SAF (CAAS, 2026a). This example demonstrates how coordinated trade, industry and decarbonisation policies can connect emerging clean fuel supply with credible long-term demand.

Strategic value

The Australia-Singapore SAF value chain offers significant climate, trade and economic benefits for both countries, providing a strong foundation for deeper bilateral cooperation (see Table 7).

Table 7: Strategic value of Australia-Singapore SAF value chain

Climate benefits	Trade benefits	Economic benefits
Singapore		
• Could support delivery of Singapore's 20% reduction target in aviation emissions from airport operations by 2030, relative to 2019 levels, and net-zero emissions by 2050.	• Could strengthen Singapore's position as a regional SAF production, trading and distribution hub, while improving access to Australian feedstocks and low-carbon fuels.	• Could catalyse investment, SAF production, trading and long-term offtake arrangements across the Australia-Singapore corridor.
Australia		
• A mature LCLF industry in Australia could deliver approximately 230 Mt CO_2-e in emissions reductions by 2050 and support long-term decarbonisation of the domestic aviation sector (CEFC, 2025).	• Could strengthen Australia's role as a key feedstock supplier to Singapore and supports progression up the SAF value chain from feedstock exports to fuel exports.	• Singapore's SAF demand can improve project bankability, unlock private investment and accelerate deployment across Australia's LCLF project pipeline.

Existing foundations for cooperation

- The **Australia-Singapore Comprehensive Strategic Partnership 2.0 2025-35** (DFAT, n.d.-a) focuses on strengthening economic resilience, capturing emerging opportunities and deepening engagement with regional partners. The partnership prioritises collaboration on the green economy, digital economy, supply chain resilience and emerging technologies.
- The **Singapore-Australia Green Economy Agreement 2022 (SAGEA)** is a leading model for bilateral decarbonisation cooperation (DFAT, n.d.-d). The agreement provides a framework to advance trade, investment and regulatory cooperation across low-emissions goods, services and technologies, including:
    - green and digital shipping corridors
    - low carbon hydrogen and ammonia certification and trade
    - batteries and energy storage
    - cross-border electricity trade
    - cross-border movement of carbon dioxide for offshore geological sequestration.
- The **Protocol on Economic Resilience and Essential Supplies** (Minister for Foreign Affairs, 2026) under the Singapore-Australia Free Trade Agreement strengthens cooperation on energy security, critical supply chains and trade resilience.

Leveraging policy cooperation to support project investment

Existing policy settings, industry capabilities and market demand in Australia and Singapore provide a strong foundation for deeper collaboration on SAF. By connecting Singapore's growing SAF demand as a regional aviation hub with Australia's emerging low-carbon liquid fuels industry, the 2 countries can help strengthen demand signals, support project investment and accelerate value chain development. Collaboration across the

Australian and Singaporean SAF value chain, from feedstock suppliers and technology developers to airlines and refiners, could support the commercialisation and scale-up of SAF across the region (see Table 8).

Table 8: Existing foundations and opportunities to leverage cooperation across the Australia-Singapore SAF value chain

Component	Australian government policy support or signal	German government policy support or signal	Opportunities to strengthen cooperation
Demand	• Industry engagement to develop a market mechanism that accelerates LCLF uptake and reduces dependence on imported fuels.	• A binding mandate requiring 1% SAF use for passenger flights from 2027 and cargo flights from 2028, increasing to 3-5% by 2030, with SAFCo aggregating demand and procuring SAF on behalf of airlines through a levy-funded mechanism.	• Explore opportunities for Australian SAF projects to compete in SAFCo procurement processes and secure long-term offtake agreements, alongside other regional SAF suppliers.
Supply	• The Cleaner Fuels Program will provide up to $1.1 billion in grant funding to support the development of a domestic LCLF industry. Australia is also an existing supplier of SAF feedstocks, including tallow to regional producers (ARENA, 2026a).	• Singapore's policy levers are primarily demand focused. • Jurong Island provides integrated industrial infrastructure, logistics and utilities that support SAF production, alongside research and development support for alternative pathways such as Ethanol-to-Jet and Alcohol-to-Jet.	• Align Australian production incentives with Singapore's long-term SAF demand and refining capabilities to support investment across the Australia-Singapore SAF value chain.
Finance	• ARENA supports the commercialisation of SAF production through the Future Made in Australia Innovation Fund and Cleaner Fuels Program.	• $55 million Aviation Sustainability Programme to fund sustainable aviation projects (CAAS, 2026b). • Singapore Economic Development Board provides targeted tax schemes alongside direct grants to de-risk high-capital investments. • Sovereign and statutory–board green bonds to mobilise capital for net zero–aligned infrastructure, including low–carbon transport and aviation–related projects.	• Align Australian and Singaporean financing mechanisms to de-risk first-of-a-kind SAF projects, improve project bankability and crowd in private capital.
Enabling regulation	• The SAGEA promotes interoperability and reduces barriers to trade.	• The SAGEA promotes interoperability and reduces barriers to trade.	• Build on the SAGEA to improve regulatory interoperability and recognition of standards.

Lighthouse project: Project Ulysses

Jet Zero Australia's Project Ulysses seeks to demonstrate the technical and commercial viability of producing SAF in Australia. This will help support Australia's potential role in emerging domestic and regional SAF supply chains (ARENA, 2026b). Supported by ARENA funding, the project is expected to deliver emissions reductions of more than 70% compared with conventional aviation fuels. In addition, the project would support regional economic development, with Jet Zero estimating around 1,000 construction jobs and 100 ongoing operational roles.

Project Ulysses demonstrates growing international confidence in Australia's emerging SAF sector. Jet Zero has attracted investment from major international partners including POSCO International, and Airbus, highlighting the potential for Australia to become a strategic producer of low emissions aviation fuels for regional and international markets.

Through the Go-Green Co-Innovation Program, Jet Zero and Singapore-based Apeiron Bioenergy received support to undertake a feasibility study examining Australian feedstock pathways for SAF production (DFAT, n.d.-e). The collaboration demonstrates growing Australia-Singapore cooperation across the SAF value chain and the potential to develop integrated regional SAF supply chains.



Conclusion

Clean industry partnerships provide a practical mechanism for turning agreements into assets by aligning incentives, sharing risks and creating mutual benefits for trading partners. They build on the Authority's previous 2035 targets advice, which identified partnerships with key trading partners as a way to complement domestic abatement efforts (CCA, 2025). These partnerships can help decarbonise transnational supply chains, particularly in iron and steel.

The framework set out in this paper provides a pathway from cooperation to delivery. It begins by identifying value chains where participating countries have complementary strengths and a shared interest in decarbonisation. It then brings together producers, customers, financiers, infrastructure providers and governments to identify barriers to investment and develop a common understanding of the actions required to overcome them.

The next phase of green cooperation must focus on implementation. Governments and industry must determine who will produce, who will buy, what infrastructure is needed, how projects will be financed and how risks will be shared. Success will require integrated cross-border delivery programs that bring together commercial arrangements, finance, infrastructure, standards and policy support into a coherent pathway to deployment with durable, trusted governance arrangements. Long-term offtake agreements, demand-side incentives, production support, project finance and enabling infrastructure may all have a role, but only when combined in a way that gives producers, buyers and investors the confidence to act.

Governments have an important role in supporting this process. They can reduce policy uncertainty, align regulatory frameworks, coordinate infrastructure development, support market formation and help mobilise finance where commercial barriers remain. Public intervention should be targeted at overcoming barriers that markets alone cannot address, with clear accountability, transparent objectives and a pathway towards self-sustaining commercial activity.

Existing bilateral and plurilateral agreements provide a strong foundation for this work. COP31 offers an opportunity to apply the framework in practice by identifying priority partnerships and progressing them from dialogue to implementation. Ultimately, success will not be measured by the agreements we sign, but by the industries we build, the investment we unlock and the emissions we avoid.

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