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Research Report

PROJECT RP3.006

POLICIES AND REGULATORY DRIVERS OF EMBEDDED EMISSIONS ACCOUNTING FOR AUSTRALIAN HEAVY INDUSTRY LOW-CARBON TRANSITION: THE CASE OF THE IRON AND STEEL SECTOR

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RP3.006 Certification and verification to enable a successful low-carbon transition for heavy industry

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1. INTRODUCTION

1.1 BACKGROUND

Australia's heavy industry sector is undergoing a pivotal transition towards low-carbon operations, driven by both domestic commitments and international pressures to reduce greenhouse gas (GHG) emissions. Key industries such as steel, cement, and mining are among the largest contributors to Australia's emissions, highlighting the urgency of their decarbonisation. At the same time, the low carbon transition presents a major opportunity for Australia's iron and steel industry (see Box 1). Whether viewed as an environmental necessity or an economic opportunity there is no denying that Australian heavy industry is facing every-increasing market and regulatory pressure to decarbonise their production.

Increasingly, verification and certification of emission embedded/embodied in products therefore have a central role in both "carrots" and "sticks" in regulatory and market regimes. Policymakers, consumers and investors see 'embedded emissions'[1] as a key criterion in initiatives aimed at creating a "level playing field" in the low carbon transition. Figure 1 illustrates from of the key trade-relevant initiatives for Australian iron and steel supply chains. Successful transition, therefore, will depend on companies' ability to efficiently and effectively verify their product embedded emissions and use this verification to navigate emerging regulatory and market regimes.

Companies that can demonstrate their products' low-carbon credentials will also benefit from being able to obtain regulatory and market "carrots" including:

- Access to Australian and international government procurement schemes for low-carbon products, Access to premium private markets dominated by environmentally conscious consumers,
- Access to concessional financing from both public and private "green banks" and investment funds,
- Superior international market access due to lower trade barriers for agreed "environmental goods" (e.g. under the Singapore-Australia Green Economy Agreement), and access to subsidies and tax breaks under green industrial policies.

Box 1 : The opportunity for low-emission/low-carbon iron & steel for Australia

Australia has a significant opportunity to increase its share of global steel exports by transitioning to low-emissions steel production as the world moves toward net-zero emissions. As noted in various industry submissions and reports, countries like the European Union are implementing carbon border adjustment mechanisms (CBAM), which will impose additional costs on high-emissions steel imports. This creates a competitive advantage for Australian producers who can deliver green steel products, including green iron, produced with low emissions.

Reports also highlight the growing global demand for sustainable steel, particularly in sectors such as automotive and construction, where net-zero commitments from suppliers are becoming increasingly mandatory. For example, the UK has introduced measures requiring net-zero emission pledges for all firms bidding for major government contracts, a trend expected to spread to other regions. This presents Australia with an opportunity to meet these market demands and position itself as a preferred supplier of low-emissions steel.

In addition, countries like China are tightening regulations on carbon emissions, with the National Development and Reform Commission (NDRC) favoring low-emissions steel in its carbon neutrality guidelines. As a result, Australian steelmakers face increasing pressure to reduce emissions to maintain market access. However, if Australia moves swiftly to adopt low-emissions steelmaking technologies, it can avoid potential carbon border adjustments and secure a stronger foothold in global markets.

Australia's role as a major iron ore exporter further strengthens this opportunity. With iron ore constituting around 20% of Australia's export earnings, there is substantial economic incentive to add value by transforming this resource into low-emissions steel. By leveraging its abundant renewable energy resources and advancing green steel production through technologies like green hydrogen, Australia can meet international demand for sustainable steel and maintain its competitive edge.

[1] Please refer to P3.006: Industry brief #1 *What are embedded emissions accounting frameworks (EEFS)?* for what are embedded emissions, and embedded emissions accounting frameworks (EEFs).

1.2 OBJECTIVE OF THE REPORT

The aim of the report is to inform HILT partners' engagement with Embedded Emissions Accounting Frameworks (EEFs) by mapping existing and emerging regulatory and market initiatives in Australia and internationally that rely on embedded emissions accounting. Specifically, we aim to inform HILT partners: why EEFs matter and help them to decide which EEFs to engage with, and what features they should recommend for inclusion in emerging EEFs.

By mapping out these regulations, the report offers a valuable knowledge base for industrial partners to understand and anticipate changes that may affect their market competitiveness and sustainability reporting. It also captures the Australia's domestic policies and aligns them with relevant international regulations, offering a holistic view of the complex landscape.

1.3 APPROACH FOR MAPPING REGULATORY AND MARKET INITIATIVES

This report adopts a comprehensive approach to mapping regulatory and market initiatives related to embedded emissions accounting, particularly within the heavy industry sector of iron and steel. The methodology combines desktop research and literature review of existing policies, regulations, market initiatives at national, regional, and global levels, international agreements on trade and partnerships, carbon taxes and carbon related measures, demand side mechanisms, and financial support mechanisms. Key sources of information include policy documents and regulatory filings from government agencies and international bodies (e.g., European Commission, Australian Government), as well as industry reports and academic literature focused on embedded emissions, life cycle assessment (LCA), and carbon accounting methodologies.

The analysis of the public and private initiatives is based on the key components, which include:

- An assessment of the scope and coverage of the initiative.
- Timeline for implementation and compliance.
- Direct/potential relevance to EEFs[2], such as alignment with international standards (e.g., ISO, GHG Protocol), to assess whether it claims to conform to the relevant EEF standard. Direct relevance means that a policy/regulation specifies the need or methodology of embedded emissions accounting or carbon intensity of the steel product; potential relevance implies that the need of EEF is anticipated and reflected in guiding documents, may be reflected in different way, or likely to occur in future.

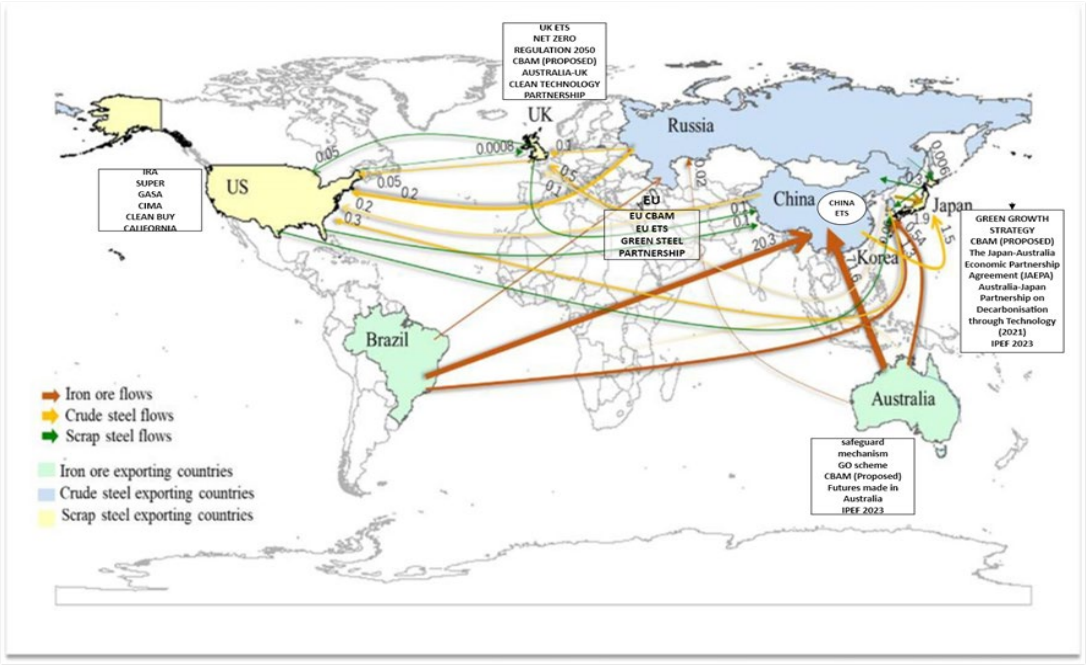

Figure 1: Snapshot of policies and regulations along the global trade route of iron and steel (Source: Author, map adapted from Liu, Y. et.al 2021[2])

[2] Stocktake of all EEFs for iron and steel are provided in HILT Industry brief #3. P3.006.

2. POLICIES AND REGULATIONS RELEVANT TO AUSTRALIAN INDUSTRY

2.1 AUSTRALIAN DOMESTIC POLICIES AND TOOLS

Australia's approach to Embedded Emissions Accounting Frameworks (EEFs) is shaped by evolving national policies aimed at enhancing transparency and consistency in emissions reporting. By aligning local regulations with global climate goals, Australia can ensure its industries are equipped to meet both domestic and international market demands for low-carbon products. This alignment not only supports Australia's export competitiveness but also drives innovation in carbon reduction technologies and practices across key sectors like Iron and Steel.

Table 2.1 Australia's domestic policies and regulations with relevance to EEFs

Policies/regulations	Description	Coverage and timelines	Relevance to EEFs
Australia's Guarantee of Origin Scheme (GO)	GO is an internationally aligned program that tracks and verifies the emissions of products made in Australia, encouraging sellers to reduce carbon intensity; Increasing transparency for consumers; Establishing stronger markets for green manufacturing.	Under the Australian Government's "Future made in Australia National Interest Framework", a recent "Future made in Australia bill 2024" has been proposed to establish the legistlative framework for GO scheme which will provide for the certification of low-emission products. May 2024 budget announcement provides an intention of this bill to expand to green metals such as green iron, steel, alumina and aluminum-required to support the energy transition, globally and domestically.	Directly Relevant The Australian Product GO is an example of a public EEF. It aims to certify the information about a product's embedded (supply chain) emissions. This information can then be used to satisfy requirements of some of the other Australian policies listed here. If Aus Gov can negotiate recognition, it may also be able to be used to meet requirements of trade partners' policies. GO certificates may also be directly useful to attract customers and investors.
Carbon Leakage Review	This review examines strategies to address the risk of carbon leakage within the Australian economy and investigates policies that support the competitiveness of domestic energy intensive industries through incentives, subsidies, or innovation grants for low-carbon technologies. This approach aims to enhance Australia's position in global low-carbon markets and reduce reliance on carbon-intensive processes.	Currently undergoing Consultations and Stakeholder Engagement since 2023.	Potentially relevant If implemented, a CBAM may start to be phased in around 2025-2026, with the goal of aligning with broader international practices, such as those being developed by the European Union. A CBAM will need to be calculated based on the embedded emissions in imported products – that is – it will rely on information from specified EEFs.
Safeguard Mechanism (SGM) mechanism	. provides a framework for Australia's largest emitters to measure, report and manage their emissions. It does this by requiring large facilities, whose net emissions exceed the Safeguard threshold, to keep their emissions at or below emissions baselines set by the Clean Energy Regulator	SGM was commenced in 2016, reformed in 2023, applies to industrial facilities emitting more than 100,000 tonnes of carbon dioxide equivalent (CO_2-e) per year.	Potentially relevant The SGM involves an "intensity baseline". If SMG reporting requirements and GO reporting requirements are designed with each other in mind, it is possible that duplication of reporting - and thereby regulatory burden - could be reduced.

Climate Active	CA is a voluntary Australian government program that offers a clear framework for companies seeking to quantify and reduce the emissions associated with their products and services.	Was launched in 2007 by the Australian Government, undergone significant reforms in 2023.	Directly Relevant CA includes a specific "Carbon Neutral Standard for Products and Services," which provides guidelines on how to calculate, reduce, and offset the emissions across a product's entire life cycle—from production to disposal. In other words, it contains its own EEF.
National Australian Built Environment Rating system (NABERS) Embodied Carbon rating tool	It provides a standardised method to assess the embodied carbon emissions associated with building materials and construction processes, ensuring consistency across the industry. The tool covers major emission sources like the superstructure, substructure, and building envelope, while promoting material reuse and using certified emission data from Environmental Product Declarations (EPDs).	Launched in November 2024, tool will officially launch after pilot testing and is set to become widely available by the end of 2024. the rating system is expected to be integrated into existing frameworks like Green Star and the Climate Active Carbon Neutral Buildings Standard. In New South Wales, the tool is set to gain legislative backing under the State Environmental Planning Policy (Sustainable Buildings) 2022. The Australian Building Ministers have agreed to include a voluntary pathway in the 2025 National Construction Code for commercial buildings to measure and report on embodied carbon using the NABERS tool. This move signifies a step towards integrating embodied carbon considerations into national building standards.	Directly relevant Rating system relies on data from EPDs which are an established form of EEF.

2.2 INTERNATIONAL BILATERAL AGREEMENTS AND POLICIES

Australia's bilateral agreements and policies are underpinned by the growing need for robust Embedded Emissions Accounting Frameworks (EEFs), reflecting a commitment to both environmental sustainability and economic competitiveness. Australia's proactive stance in developing robust, tailored embedded emissions accounting systems is reflected in such cooperation agreements, outlined in table 2.2).

Table 2.2 Australia's international bilateral policies with relevance to EEFs

Policies/regulations	Description	Coverage and timelines	Relevance to EEFs
Australia-China Memorandum of Understanding on Climate Change Cooperation	Bilateral agreement, emphasising cooperation in energy efficiency, technology transfer, emissions data reporting, and the development of low-carbon technologies.	First signed in 2014	Potentially relevant The MOU includes goals to improve emissions tracking and reporting, which may intersect with efforts to measure and report carbon intensities of products.

Indo-Pacific Economic Framework for Prosperity (IPEF)	A first-of-its kind regional agreement which sets the framework for regional clean economy cooperation into the future to boost the net zero transition. It has 3 pillars: - IPEF supply chain agreement - IPEF Clean economy agreement - IPEF fair economy agreement	Announced in November 2023 with several initiatives and work programs being launched.	Directly relevant IPEF clean economy agreement has key initiative with Australia- an "emissions intensity accounting work program", announced in June 2024, to explore and share information on interoperable regional methodologies that can better classify, assess, identify and trade emerging low emissions products.
Singapore-Australia Memorandum of Understanding for Cooperation on Low-Emissions Technologies and Solutions (2020)	Fosters bilateral collaboration on advancing low-emissions solutions, including the development of emerging technologies.	Signed in 2020- designed to foster collaboration key areas such as low-carbon hydrogen, carbon capture, utilisation and storage (CCUS), renewable energy trade, and emissions monitoring and reporting.	Potentially relevant includes working on measurement, reporting, and verification (MRV) of emissions, which aligns with efforts to enhance transparency and accountability in emissions reductions.
Singapore-Australia Green Economy Agreement	Builds on bilateral cooperation on existing areas such as MoU on low-emission technologies and solution,	Signed on 18 October 2022, spanning over key areas such as decarbonisation, trade and investment, standards and conformance, engagement and partnerships.	Potentially relevant It recognises that standards, technical regulations, and conformity assessment procedures enhance system compatibility, interoperability, and trade, supporting a green economy.
Australia-UAE Comprehensive Economic Partnership Agreement (CEPA)	aims to significantly enhance trade ties and investment opportunities between Australia and the UAE, include tariff elimination on 99% of Australian exports, access to UAE's government procurement market, and a focus on areas such as food security, emissions reductions, and climate-smart farming technologies.	Finalised in September 2024 and currently covers a broad range of sectors, including sustainable agriculture, digital trade, renewable energy, and intellectual property.	Potentially relevant it includes a commitment to reducing carbon emissions and investing in green technologies like renewable energy and green hydrogen, aligning with both countries' net-zero targets by 2050; may include sectors like iron and steel in future too.

3. REGIONAL AND DOMESTIC POLICIES AND REGULATIONS IN KEY ECONOMIES

3.1 REGIONAL AND DOMESTIC INITIATIVES IN KEY ECONOMIES

Regional and domestic policies in key economies play a pivotal role in setting the direction for Embedded Emissions Accounting Frameworks (EEFs). For Australia, these policies are significant as they shape the regulatory and market conditions of its major export destinations, particularly for carbon-intensive products like iron and steel. Aligning with these policies ensures that Australian industries remain competitive in evolving low-carbon markets, while also minimising risks related to trade barriers such as carbon border adjustment mechanisms (CBAMs).

Table 3.1 Regional and domestic policies and regulations with relevance to EEFs

REGION/COUNTRY	POLICY/REGULATION	RELEVANCE TO EMBEDDED EMISSIONS, EMISSION INTENSITY TARGETS	SCOPE AND COVERAGE	IMPLEMENTATION TIMELINES AND	COMPLIANCE (VOLUNTARY OR MANDATORY)
EU	EU CBAM	No explicit reduction target, but aims to equalise carbon pricing between EU and non-EU regions. The target is to prevent carbon leakage by including the carbon intensity of imported steel.	CBAM adjusts the price of carbon for imported goods (including steel) to align with the EU's carbon pricing. Targets depend on the carbon pricing adjustments for imports.	2023-2026 (gradual implementation, full implementation by 2026).	Mandatory (for imports to the EU)
	EU-U.S. Joint Statement on Steel and Aluminium (2021)	Negotiating on The Global Arrangement on Sustainable Steel and Aluminium (GASA) on carbon intensity-based tariffs and establishing policies to ensure transparent emissions accounting, as these sectors are among the largest emitters globally.	Statement was passed in 2021 and currently negotiating GASA. It is designed to be inclusive, allowing countries with similar environmental goals to join in, and aims to negotiate shared rules over a two-year period (2021-2023). By the end of this phase, the participating countries intend to set common standards and practices to address carbon intensity and foster fairer competition through sustainable trade[3]		

[3] https://ec.europa.eu/commission/presscorner/api/files/document/print/en/ip_21_5724/IP_21_5724_EN.pdf

United States (US)	Inflation Reduction Act (IRA)	IRA specifies embedded emissions accounting rules for hydrogen which is critical input for producing green steel through the H2-DRI process.	Includes EPA labelled program and funds to identify and label products and materials with low embedded carbon, This specifically includes steel, and program to support reporting and measurement of embedded carbon (through grants, technical assistance. www.epa.gov/greenerproducts/label-program-low-embodied-carbon-construction-materials.	2030 targets for the US overall.	Voluntary (incentives for industry
	Buy Clean California Act (BCCA)	First US state to pass green procurement initiatives on product-level accounting	Specifies the product category rule (PCR), and EPD, publish GWP and independent verification system for embedded emissions accounting for steel products.	Signed into law in 2017, and became effective in 2018, with major developments in GWP limits in 2021-2022.	Mandatory for public projects, requires state agencies to consider the embodied carbon emissions of specific construction materials when awarding contracts.
	Federal buy clean initiative in US	Reduction of embodied carbon in federal procurement (exact target varies by material, including steel).	Aims to reduce the carbon intensity of construction materials purchased by the federal government, including steel.	2023 and ongoing for federal procurement	Mandatory (for federal procurement)
	United States-Mexico-Canada Agreement (USMCA)	Provides framework for cross-border emission reduction strategies, including steel.	Provides guidelines for measuring and reporting emissions in cross-border trade, particularly steel.	Ongoing, with ongoing implementation under the trade agreement framework.	Mandatory (under trade agreements)

Japan	Carbon Border Adjustment Mechanism (CBAM) (Proposed)	A proposed mechanism that could impose carbon pricing adjustments on steel imports to Japan, encouraging low-carbon production Aims to mitigate carbon leakage.	As with all CBAMs, will rely on embedded emissions information generated by some sort of EEFs.	Proposed, likely in the coming years	Mandatory (for imports)
	China/Baowu Low Carbon-Embodied emission steel standard	Developed in collaboration with 44 entities across entities, based on the principles of lifecycle assessment, accounting for various carbon reduction techniques, and encouraging a diverse range of decarbonisation technologies	Market based approach, cradle to gate boundary (products) and covers all GHGs.	Released on 18 October 2024	Voluntary (industry-driven)
	China iron and steel association PCR-product category rules		Market based approach, cradle to gate boundary (products), and with recycling, cradle to grave.		Voluntary (industry-driven)
	China National Standards	GB/T 30052-2013- Life cycle assessment specification on steel products Product category rules	cradle to gate boundary (products) with recycling	Developed by the Standardisation Administration of the People's Republic of China in 2013	
Singapore	Carbon Tax (2019)	$10-$20 per ton of CO2 by 2024	The tax applies to industrial emitters, including steel, based on their carbon intensity.	2030 for interim reduction goals, 2050 for net-zero.	Voluntary (industry-driven)
United Arab Emirates	UAE industrial strategy "operation 300bn"	17 initiatives of strategy including establishing standards negotiating reciprocal trade agreements and work to control the classification system of traded products for export and import.	In alignment with UAE's circular economy policy 2021-2031, to boost industrial sector's competitiveness.		

	Carbon Border Adjustment Mechanism (CBAM) (Proposed)	This will initially apply to imports of certain goods and selected precursors whose production is carbon intensive and at most significant risk of carbon leakage: cement, iron and steel, aluminium, fertilisers, electricity and hydrogen			
United Kingdom	Carbon Border Adjustment Mechanism (CBAM)	No specific reduction target, but aimed at addressing carbon leakage.	Under consideration, this mechanism may affect imports from non-EU countries, including steel, by adjusting prices based on carbon intensity.	Under consideration, potential future policy	Mandatory (for imports)

3.2 TRANSNATIONAL INITIATIVES

Several transnational initiatives are actively shaping the development and implementation of Embedded Emissions Accounting Frameworks (EEFs) for steel products. As a significant exporter of materials like iron and steel, Australia's active participation in these initiatives is critical to aligning domestic practices with evolving international standards. This engagement ensures that Australian industries remain competitive in low-carbon markets while contributing to global decarbonisation efforts.

Table 3.2 Transnational initiatives with relevance to EEFs

Initiatives	Description	Australia's participation	Relevance to EEFs
The Global Breakthrough Agenda	countries representing more than 50% of global GDP set out sector-specific 'Priority Actions' to decarbonise power, transport and steel: Develop common definitions for low-emission and near-zero emission steel.	Represents more than 45 countries including Australia. www.iea.org/reports/breakthrough-agenda-report-2024	Potentially relevant By addressing the challenges of affordability, accessibility, and coordination across sectors, the agenda underscores the importance of integrated standards and market mechanisms, which could involve embedded emissions accounting frameworks in future regulatory initiatives.
GSA low embodied-carbon steel standards in US	Aims to support the transition to sustainable steel production globally. Includes the establishment of a technical working group to develop a shared methodology for measuring the carbon intensity of steel and aluminium products, along with data sharing between the EU and U.S. It emphasises collaboration to ensure that domestic policies support the decarbonisation of these industries.	Australia's engagement with low-embodied-carbon (LEC) steel standards under the U.S. General Services Administration (GSA) framework, such as those enabled by the Inflation Reduction Act (IRA), is indirect but significant in global context.	Directly relevant A forthcoming agreement (Green Steel Club) to promote sustainable steel production internationally. Forthcoming, likely in the next 1-2 years.

The Mission Possible Partnership (MPP)	An alliance of leading climate organisations released 2030 Milestones for seven hard-to-abate industrial and transport sectors, following publication of transition strategies endorsed by more than 200 industrial companies.	Australia is not formally a national member, Australian stakeholders, and industries like steel, aviation, aluminium are engaged in MPP initiatives. www.missionpossiblepartnership.org/action-sectors/steel/	Directly Relevant For HILT partners, this partnership represents an important example of how industry can work together to define actionable, transparent frameworks for emissions reduction.
Steel Standards Principles endorsed by producers, industry groups and WTO at COP28 (2023)	At COP28, the Steel Standards Principles emphasised the need for a unified definition of near-zero emissions steel, ensuring that industry standards for decarbonisation are consistent across borders and technologies, which is crucial for global progress. Secondly, the principles called for performance-based emission standards that are flexible and technology-agnostic, allowing different steelmaking methods to meet decarbonisation targets. Lastly, these principles advocated for interoperability between emissions measurement methodologies, highlighting the importance of aligning various approaches to ensure a smooth and effective global transition in the steel industry	Only Australian companies and industrial associations are likely to be engaged. www.wto.org/english/tratop_e/envir_e/steel_standards_principles_e.htm#:~:text=Ngozi%20Okonjo%2Dlweala%20at%20COP28,role%20in%20achieving%20climate%20targets.	Directly relevant Marked as a key milestone in unifying how greenhouse gas emissions are measured across the steel sector. These principles, endorsed by over 35 stakeholders, including major steel producers and international organisations, aim to establish common methodologies that promote transparency and interoperability, vital for decarbonisation.
SteelZero	A global commitment for companies to transition to net-zero carbon steel by 2050, promoting the adoption of low-emission technologies.	Australia's participation supported by major steel producers like BlueScope Steel. www.theclimategroup.org/steelzero	Directly Relevant It is aligned with the global push for transparent and standardised emissions accounting frameworks in the steel sector, and complements emerging frameworks like the Steel Standards Principles, which were also endorsed at COP28
Mission Innovation	A global initiative to accelerate clean energy innovation, including decarbonisation in the steel sector.	Include 23 countries including Australia	Potentially relevant Australia's role in Mission Innovation aligns with its National Hydrogen Strategy and other decarbonisation initiatives in the steel sector, promoting the development of green steel and low-carbon technologies. https://mission-innovation.net/
IEA Steel Technology Roadmap	Provides a framework to decarbonise the global steel industry and reduce emission intensities by adopting innovative technologies.	www.iea.org/reports/iron-and-steel-technology-roadmap	Potentially relevant Engaging with frameworks like this, as well as with emerging global certifications and carbon intensity metrics, will be crucial for steel producers to navigate evolving market and regulatory landscapes.

Global Steel Climate Council (GSCC)	A coalition is working to reduce emissions in the steel industry through carbon pricing and low-carbon technologies.	Australia is not listed as a formal member but maybe engaged through industry. https://globalsteelclimatecouncil.org/	Directly relevant GSCC has launched key initiatives such as 'The steel climate standard', which offers criteria for certifying steel products as lower-carbon based on their carbon intensity. This certification process includes third-party verification and provides labelling templates to promote transparency for consumers and end-users.
Industrial Decarbonisation and Development Initiative (IDDI)	A global initiative focused on advancing the decarbonisation of heavy industries like steel through collaboration, policy advocacy, and funding for low-carbon technologies.	www.unido.org/IDDI Works with Australia as a part of clean energy ministerial (CEM).	Directly relevant One of its goals is to develop clear definitions, methodologies, and guidelines that can be universally applied to sectors that are difficult to decarbonise, like steel.
First Movers Coalition (FMC) by the World Economic Forum (WEF)	A global initiative aimed at accelerating the adoption of low-carbon technologies, including in steel, by creating a demand-side pull for net-zero emissions solutions.	Australia joined in 2023, amongst the 13 governments. https://initiatives.weforum.org/first-movers-coalition/home	Potentially relevant This market driven approach could shape EEFs when the global demand signals from FMC begin to shape regulatory frameworks.
World Steel Association	The World Steel Association, known as worldsteel, represents a significant portion of the global steel industry, with members that collectively account for approximately 85% of global steel production.	Australian Steel Institute (ASI) represents Australia's steel supply chain. https://worldsteel.org/	Directly relevant Offers two methodologies: i) global world steel life cycle inventory (LCI) methodology; ii) guidelines for GHG chain of custody principles
Responsible Steel	The global, multi-stakeholder certification initiative focused on promoting sustainable practices across the steel supply chain, including over 100 members. Through initiatives like SteelZero, a partnership with the Climate Group, Responsible Steel encourages members to commit to sourcing 100% net-zero steel by 2050.	The Green Building Council of Australia's Green Star "Responsible Products Framework" formally recognises Responsible Steel certification. BSI Australia is approved as the first AU/NZ based certification body for the Responsible Steel™ standard. www.responsiblesteel.org/	Directly relevant Globally recognised international standard in providing a globally consistent, verifiable basis for comparing GHG emissions from steel products.
Climate Bonds Initiative	The initiative lays out a Steel Criteria and requirements: climate bond standard for Steel production, contain Mitigation Requirements, Adaptation & Resilience Requirements and Transition Requirements.	www.climatebonds.net/	Directly relevant Climate bonds steel criteria methodology

4. CONCLUSION

The emergence of Carbon Border Adjustment Mechanisms (CBAMs) and the proliferation of Embedded Emissions Accounting Frameworks (EEFs) are key developments that will significantly shape market dynamics, regulatory landscapes, and industry strategies both in Australia and internationally. EEFs are becoming a cornerstone of a variety of public and private market initiatives that will influence market access, green subsidies, and sustainable investment taxonomies. For HILT partners, understanding the relevance of EEFs is crucial, as they will increasingly govern the constraints and opportunities in these markets.

However, different and inconsistent accounting methodologies and the lack of conformity between existing and emerging EEFs, particularly across different countries, presents a substantial challenge. This inconsistency could result in increased regulatory burdens and inefficiencies. While initiatives like Responsible Steel certification are important, they currently lack significant influence on the design of EEFs in both governmental and cross-sectoral initiatives. Hence, they may not be sufficient to address important sources of regulatory burden and trade barriers.

Governments, including Australia, should strive to develop consistent EEFs that serve multiple regulatory purposes, reducing complexity and improving market clarity. The Australian Government's progress in this area, particularly through its Guarantee of Origin (GO) framework, provides an exemplary model. If Australia moves forward with a CBAM, it should seek to align its accounting rules with the GO approach to ensure consistency and reduce friction in cross-border trade.

Given these dynamics, our research highlights the importance of interoperability and mutual recognition of CBAM accounting rules across countries, fostering global cooperation and minimising the potential for trade barriers. This strategic engagement will not only streamline regulatory processes but also ensure that emerging EEFs are harmonised to support the global transition to low-carbon industries.

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