

## SUBMISSION TO THE GENERAL REVIEW OF THE China-Australia Free Trade Agreement

<b>Submitter</b>	Cetacea Carbon Pte Ltd (Singapore, UEN: 202608524D)
<b>Principal</b>	Anthony Coles Australian national CEO, Cetacea Carbon Pte Ltd / GreenGold Ventures Pty Ltd
<b>Address</b>	160 Robinson Road, Singapore 068914
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<b>Note on standing</b>	<i>This submission is made by an Australian national operating a Singapore-incorporated entity with a China-side WFOE. That structure is itself evidence of the bilateral friction this submission seeks to address: the absence of a ChAFTA framework that recognises cross-border green economy instruments has driven green economy business formation offshore. ChAFTA's General Review is the opportunity to bring it home.</i>

### 1. Bilateral Trade Structural Emissions Imbalance

Australia's domestic greenhouse gas emissions are approximately **437 million tCO<sub>2</sub>e per year**, forming the basis of its **Nationally Determined Contribution (NDC)** and domestic policy frameworks such as the **Safeguard Mechanism**.

In parallel, Australia is a major exporter of carbon-intensive commodities - with downstream combustion emissions associated with these exports estimated at approximately **1.15 billion tCO<sub>2</sub> per year**. (Australia's Scope 3)

These emissions occur outside Australia's national inventory boundary but are increasingly material in the context of global supply chain decarbonisation, including downstream customers Scope 3 reporting, international carbon border adjustment mechanisms (EU), and product-level carbon disclosure requirements (PCF).

This structural dynamic is not currently addressed within the ChAFTA framework but is becoming increasingly relevant to the long-term competitiveness of bilateral trade.

#### The numbers, plainly stated:

Australia domestic emissions (2025 NDC boundary)	~437 Mt CO <sub>2</sub> e / year
Metallurgical coal exports - combustion downstream	~560 Mt CO <sub>2</sub> / year
Thermal coal exports - combustion downstream	~443 Mt CO <sub>2</sub> / year
LNG exports - combustion downstream	~231 Mt CO <sub>2</sub> / year
Total Australian exported fossil fuel CO <sub>2</sub>	<b>~1,150 Mt CO<sub>2</sub> / year</b>
Ratio: exported ÷ domestic	<b>2.6×</b> <b>Australia is the world's 2nd largest exporter of embodied carbon</b>

Sources: Climate Analytics 2024; DCCEEW National GHG Inventory Q2 2025; ANU ICEDS 2025

This is the elephant in the room that every ChAFTA trade framework, every bilateral investment discussion, and every clean energy superpower announcement politely avoids.

Australia and China are each other's largest trading partners however they are currently trading in a way that makes **both** of their net zero commitments harder to achieve.

The current arrangement - Australia ships raw materials, China burns them in industrial value-adding processes - is a relationship where both parties are making each other's problems worse while calling it "Free Trade".

This submission argues that the 2026 ChAFTA's General Review is the moment to acknowledge that reality, and to propose a different arrangement, one that a genuine strategic partnership would make.

## 2. What Friends Would Do: Net Zero Faster, Together

The alternative to the current arrangement is not a trade disruption. It is a trade **realignment**. One that serves both countries' "National interest", and their stated climate commitments.

Consider what happens if Australia and China agree to use ChAFTA's General Review to address the structural emissions relationship between them:

- **China gets:** a verified low-carbon feedstock, eg: Australian magnetite processed to certified green HBI via renewable hydrogen, that reduces its steel sector's **1.8 billion tonne annual CO<sub>2</sub> problem**, reduces industry ETS compliance costs and reduces its CBAM exposure to Europe.
- **Australia gets:** non-equity infrastructure investment (ie: green finance) it needs but cannot self-fund, a replacement export sector for the coal and hematite iron ore that will structurally decline as China's blast furnaces are retired, and the ability to say it is reducing its exported emissions, not just its domestic ones.
- **The bilateral relationship gets:** a trade architecture that aligns with both countries' climate commitments, and a template for the broader RCEP region.

### The numbers are clear.

China's steel sector currently carries **~RMB 180 billion pa (~AUD 37 billion)** in mandatory ETS compliance obligations. Capital currently being spent domestically in China on allowance purchases (ETS) and fines (CBAM) that produce zero upstream decarbonisation.

The full mine-to-port electrification of, say, a 5 Mtpa South Australian magnetite green iron corridor (inc. of renewables, green hydrogen, DRI furnaces, pelletisation, green transport, green port), is in the vicinity of **AUD 34 billion in total capital**.

**That infrastructure capital requirement for 5Mt of certifiable green iron resource is equivalent to just 1 year of China's steel industry current mandatory ETS spend.**

Post-2027, (with new absolute caps), this annual liability lifts to RMB800/ tonne.

On 1 billion tonnes pa of steel production - that's a A\$160 Billion green capital market.

Australian upstream decarbonisation is a small fraction of a year's compliance costs.

*China is already paying for Australian iron decarbonisation. It's just paying it as fines locally.*

This suggests a potential structural alignment between existing compliance-driven capital flows in China’s ETS and the investment requirements of upstream decarbonisation opportunities in Australia.

China ETS liability pool (annual, today)

~USD 25bn/yr

Rising to ~USD 55–110bn post-2027

SA 5 Mtpa green iron corridor (total capex)

~AUD 34bn

One-time build. Funded in ~1.5 years of ETS spend

Realising this alignment would require appropriate regulatory frameworks, verification standards, and safeguards within a bilateral context.

The ore already exists - South Australia has billions of tonnes of high-grade magnetite suited to green hydrogen DRI without sintering. The renewable energy already exists - South Australia already runs on over 80% renewable electricity. The customer relationships already exist - exporters already trading to Chinese steel mills.

The only thing that does not yet exist is the **accounting framework** that lets both countries recognise what they are doing for each other.

A bilateral standard that allows China's mandatory ETS compliance capital to flow upstream into Australian green infrastructure.

ChAFTA's Green Economy Chapter could be the foundation for that accounting framework.

### 3. What China did with Coal - and what it means for Australia

The legitimate concern about this argument is the impact on Australia's coal industry. It deserves a direct answer. China has already addressed this. Between 2015 and 2024, China shut down more than **150 gigawatts** of coal-fired power capacity - more than Australia's entire installed electricity generation fleet.

It did so while **growing its economy by over 60%**, and while creating new industries - solar panels, wind turbines, electric vehicles, batteries, green hydrogen - that now employ tens of millions of people and dominate global markets.

China did not manage the coal transition by protecting coal. It managed it by building what comes next fast enough that coal workers had somewhere to go. The just transition was economic, not rhetorical.

Australia's metallurgical coal exports are already on a structural decline path. China approved no new blast furnace capacity in the first half of 2024 for the first time since its dual-carbon goals were announced.

Every EAF and DRI plant approved in China is a blast furnace, and coking coal purchase, that does not happen. This is not a policy prediction. It is current investment data.

#### The trajectory without action:

<b>Met coal exports (2023–24)</b>	AUD 54 billion
<b>Met coal exports (2024–25)</b>	AUD 39 billion (declining)
<b>Met coal exports (2029–30, forecast)</b>	AUD 33 billion (structural decline)
<b>Australian Ore Exports (2025)</b>	150Mt AUD\$100billion
<b>50 Mtpa Magnetite As certified decarbonised green HBI</b>	~AUD\$5 billion ~AUD\$20 billion

Sources: DISR Resources and Energy Quarterly Dec 2025; Sunshot/WWF Australia 2023

The question is not whether Australia's coal export volumes decline. That is already happening, driven by Chinese investment decisions beyond Australia's control.

The question is whether Australia **has something to replace them with** when they do.

Green iron is that replacement. South Australia, with world-leading renewable penetration, multiple undeveloped magnetite deposits, existing port infrastructure, and the political will demonstrated by Premier Malinauskas's green iron strategy, is where the replacement can be built first. The challenge is a capital attraction, and technology and human capacity one.

The ChAFTA Green Economy Chapter is the bilateral instrument that makes the capital flow to build this new infrastructure.

#### 4. The Decade That Changed Everything

ChAFTA was negotiated in a world where climate was a career-limiting policy ambition.

It now operates in a world where carbon is simultaneously a compliance cost, a financial instrument, and a product attribute.

The agreement's architecture reflects none of this.

Domain	2015: When ChAFTA 1.0 entered into force	2026: Current bilateral reality
<b>China Carbon Market</b>	CCER pilots. No national ETS.	National ETS live (2021). Expanded to steel, cement, aluminium (2025). Absolute cap from 2027.
<b>China PCF Standards</b>	No product-level carbon framework.	111 PCF standards under GB/T 24067-2024 across 13 industries. Full rollout 2027.
<b>China industrial parks</b>	Parks compete on cost and logistics.	15,000+ parks required to seek zero-carbon certification. 52 national parks announced 2026.
<b>EU CBAM</b>	Not proposed.	Live from 1 January 2026. Default penalty escalates to 30% from 2028.
<b>EU Battery Passport</b>	Not proposed.	EV batteries: PCF mandatory since Feb 2025. Industrial batteries: Feb 2026. Full passport: Feb 2027.
<b>Australian export risk</b>	None: carbon not yet a trade variable.	A\$143bn annual export base entering carbon-regulated supply chains with no verified PCF data.

China has not simply enacted policy. It has built a parallel data infrastructure for its entire industrial economy.

***The 111 GB/T Product Carbon Footprint standards are the product-level expression of the same empirical programme that produced Chapter 4 of China's Ecological Environment Code.***

ChAFTA has not kept pace.

## 5. China's Green Economy Leadership: An Asset, not a Threat

China is now the world's largest producer and consumer of renewable energy, the dominant manufacturer of EVs, batteries, wind and solar, and the architect of an industrial decarbonisation system covering 80% of its industrial output.

This creates a specific opportunity for Australia.

China's domestic ETS compliance costs, and the gap between China's carbon price (~€10/t) and the EU ETS price (~€70/t) its exporters face at CBAM, represent trapped value that a bilateral standards framework can unlock.

### The CBAM arithmetic: why verified Australian data has real dollar value

Chinese steel exporter using EU **default** emission values: ~€390/t CBAM liability

Chinese steel exporter using verified actual embedded emissions: ~€36/t CBAM liability

**For a mid-size Chinese steel mill exporting 1 Mt/yr to the EU, the difference is €354/t**

That's a 10× gap driven entirely by verified provenance data that Australian producers currently cannot supply due to methodology inoperability.

The same dynamic applies to battery materials.

Australian lithium (62% of China's imports) arriving in China without verified mine-to-gate PCF data forces Chinese battery manufacturers (through domestic and EU legislation) to apply **worst-case default emission factors**, increasing the declared PCF of the finished battery, and weakening its EU market position where PCF tiers drive procurement from 2027.

China's green economy leadership, properly engaged through ChAFTA, gives Australia a structural advantage in the supply chains of the new economy.

Managed poorly, or ignored, it turns Australia's raw material exports into disadvantaged inputs that default to penalty emission factors while competitor markets certify.

## 6. The Structural Problem: Carbon Standards Are Not Interoperable

The core technical barrier is not ambition. It is methodology.

HILT CRC (ANU, 2025) research documented the proliferation of competing **Embedded Emissions Frameworks** across the steel sector globally, concluding that the absence of interoperability 'increases costs for producers, complicates market access, and raises concerns about greenwashing.'

Three structurally distinct carbon accounting regimes exist across the EU, China and Australia. They do not interoperate.

Australian exporters sit upstream of all three, providing data to none.

### 6.1 The Methodology Gap

China's ETS is intensity-based (emissions per unit of output). EU CBAM requires absolute embedded emissions. The two methodologies produce different numbers from the same physical process. China is addressing this imbalance.

China's national grid emission factor (0.6205 kg CO<sub>2</sub>e/kWh) differs from EU default assumptions. Using the wrong factor produces a PCF declaration that satisfies one system and fails the other. China is addressing this imbalance also.

Australia has no bilateral agreement with either China or the EU on methodology equivalence. Each exporter navigates both systems independently.

## 6.2 The Verification Gap

TCI's like SGS and Bureau Veritas hold dual recognition (EU CBAM authorised list and CESI in China). Germany's announced (2026) it will accept CESI-verified PCF declarations.

Operators like Cetacea have created 'higher order' certification that 'translates' currently independent domestic reporting into an internationally interoperable financial unit of tCO<sub>2</sub>e.

The technical pathway exists. What is absent is a bilateral framework defining equivalence. ChAFTA is the correct instrument to establish it.

## 6.3 The Agricultural Dimension

Australian agricultural exports - beef, wheat, wool, barley - are also entering Chinese supply chains where Scope 3 emission accounting is reaching farm-gate level.

Australian agricultural exporters are no better positioned than their industrial counterparts - no verified PCF data, no bilateral recognition framework, no ChAFTA mechanism.

A Green Economy Chapter should explicitly extend to agricultural goods.

## 7. The Threat to Australian Exporters: Industrial & Agricultural

Australia's A\$143 billion annual export base to China is not at uniform risk. The risk profile differs by commodity, timeline, and mechanism - but the direction is consistent.

Commodity	2025 Export Value	Carbon Risk Mechanism	Urgency
Iron ore	A\$~103bn	CBAM pass-through liability; zero-carbon park supplier exclusion lists forming now	<b>Critical - Now</b>
LNG	~A\$21bn	Scope 3 in Chinese energy-intensive production; park energy mandates shifting to renewables	<b>High - 2026-27</b>
Coking coal	~A\$39bn	Structural: CBAM penalises BF steel; China approving EAF/DRI, not BF. Demand shift underway.	<b>High - Structural</b>
Lithium	~A\$4.6bn	Battery Passport PCF traceability mandatory Feb 2026. Full Digital Passport Feb 2027.	<b>Critical - Now</b>
Copper	~A\$2.6bn	Outside CBAM today. Expansion likely 2027-2030. First-mover window open.	<b>Medium</b>
Alumina/bauxite	~A\$3bn est.	CBAM direct on aluminium; indirect pressure from smelter clients.	<b>Medium-High</b>
Agricultural	~A\$8bn est.	Scope 3 reaching farm-gate in Chinese corporate ESG reporting. Premium categories first.	<b>Medium - 2027-28</b>

Conservative annual at-risk value if no action: **A\$3-6 billion.**

Certified Iron ore potential upside (Day 1) pre HBI (A\$5/t on ~750 Mt): **A\$4 billion upside.**

The risk is not that Australia's exports will be banned. It is that they will be progressively disadvantaged: passed over in supplier selection, forced onto penalty emission factors, or excluded from zero-carbon park approved supplier lists without any single visible trigger.

## 8. Green Economy Architecture: ChAFTA's Missing Node

Australia has already assembled the foundations of a green economy treaty network. Just not one with our No.1 trading partner.

The Singapore–Australia Green Economy Agreement (SAGEA) commits to standards convergence and carbon market cooperation.

The EU–Australia FTA introduces legally enforceable sustainability commitments and a green goods schedule with zero tariffs.

However, none of these agreements contain any common carbon standards interoperability.

*A ChAFTA green standard that travels through Singapore into ASEAN and aligns with the EU-AU FTA's green goods schedule gives Australia something no competitor currently has: a certified green economy standard simultaneously recognised in China, the EU, and ASEAN.*

That is not a bilateral concession. It is a strategic architecture. ChAFTA's General Review is the moment to build it.

## 9. Recommendations

Cetacea makes the following recommendations to DFAT for inclusion in the ChAFTA General Review:

### Recommendation 1: Negotiate a Green Economy Chapter

Mandate a standalone Green Economy Chapter within ChAFTA covering carbon instrument recognition, green goods tariff classification (green channel), cross-border ecological value certificates, MRV services recognition, and digital data infrastructure for verified trade.

**Recognise China's Ecological Environment Code Chapter 4 on Green Development** as foundational to bilateral standards equivalence.

### Recommendation 2: Mutual Recognition of Carbon Instruments

Establish a bilateral framework under which Chinese CCER / ecological value instruments and Australian-origin instruments are mutually recognised for defined compliance purposes: EU Battery Passport PCF declarations, IFRS S2 Scope 3 disclosure, China ETS compliance.

### Recommendation 3: Green Goods Tariff Classification: Green Channel

Introduce a 'green goods' sub-classification for commodities accompanied by a recognised bilateral PCF certificate, attracting preferential tariff treatment (Green Channel). Eg: battery materials (spodumene/lithium chemicals), iron ore and magnetite concentrate, HBI/green iron, and qualified agricultural exports. Align with EU Battery Regulation PCF tiers to enable a single compliance document to satisfy both bilateral and EU requirements.

### Recommendation 4: Non-Equity Green Investment Framework

Amend ChAFTA's investment chapter to provide legal recognition for cross-border "ecological value" certificates and forward-purchase agreements as **green finance instruments**, for the purposes of Australian supply chain decarbonisation investment. This provides a FIRB-compliant mechanism for Chinese industrial capital (mandatory ETS and CBAM compliance obligations) to be allocated to certified Australian infrastructure investment (non-equity) through certified contracts.

### Recommendation 5: Joint Working Group on Standards Equivalence

Establish a standing Australia–China Joint Regulatory Working Group reporting annually to the ChAFTA Joint Commission. Mandate the Group to publish bilateral methodology equivalence assessments, maintain a recognised instrument register, and engage IOSCO, ISSB, VCMI, and ICVCM for multilateral recognition of bilateral determinations. Identify the gap. Determine the shared value. Address the regulatory requirements. Action.

## 10. Conclusion: A Trade Relationship Worth Having

ChAFTA's first decade delivered what it was designed to deliver: reduced tariffs and greater legal certainty for conventional bilateral trade. Australia benefited from it greatly.

***The second decade will be defined by something ChAFTA was not designed to address: the carbon content of traded goods, the interoperability of verification systems, and the financial instruments that sit between them.***

Australia and China are not just trading partners - they are each other's largest trading partners, ***operating inside each other's supply chains, each other's compliance regimes, and each other's net zero ambition timelines.***

The current trade architecture treats carbon as an externality as did the fossil fuel era it was created in.

The next one must treat carbon as the asset/ liability that it is.

### **The proposition can be summarised as follows:**

Australia transitions from exporting predominantly carbon-intensive raw materials, towards higher-value, lower-emissions industrial products. Certified decarbonised export products.

China reduces downstream emissions intensity liabilities by directing a portion of existing compliance-related capital toward upstream decarbonisation. In Australia as a priority.

***Net zero faster, together.***

Australia designed the world's first container deposit scheme to accelerate its circular economy and pioneered the use of REC (STC/ LGC) architecture to encourage renewables.

Both were dismissed at the time as over-engineered for a problem not then recognised.

Both became global design templates.

The same opportunity is available now, in bilateral green economy standards.

Doing this with China, our No.1 trading partner and No.1 receiver of 'exported tCO<sub>2</sub>e', before compliance deadlines harden and the global first-mover advantages close.

Cetacea Carbon Pte Ltd welcomes the opportunity to brief DFAT officials on its established solutions addressing these gaps and providing technical evidence to the review process.

As an active participant in the first ChAFTA, we are prepared to present to any consultation forum convened as part of the General Review of ChAFTA 2.0.

Regards

Anthony Coles, Founder & CEO

**Cetacea Carbon Pte Ltd**

160 Robinson Road, Singapore 068914 | UEN: 202608524D

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## Annex A: Key Terms

<b>ACCU</b>	Australian Carbon Credit Unit, issued under the Carbon Credits (Carbon Farming Initiative) Act 2011
<b>CBAM</b>	EU Carbon Border Adjustment Mechanism, live from 1 January 2026, covering steel, aluminium, cement, fertilisers, hydrogen
<b>CCER</b>	Chinese Certified Emission Reduction. China's voluntary carbon market instrument, administered by MEE
<b>CESI</b>	China's national carbon verification body, required for PCF declarations accepted by China's ETS and GB/T framework
<b>DRI / HBI</b>	Direct Reduced Iron / Hot Briquetted Iron, used for green steelmaking inputs compatible with Electric Arc Furnace routes
<b>EAF</b>	Electric Arc Furnace, the steelmaking route compatible with green hydrogen and recycled scrap; displacing blast furnace
<b>ECRU™</b>	Ecological Carbon Reduction Unit (生态循环减排单元): a cross-border ecological value certificate (1 tCO <sub>2</sub> e), issued by Cetacea Carbon against verified industrial decarbonisation data in existing projects in China.
<b>ETS</b>	Emissions Trading Scheme. China's national carbon market, administered by MEE; expanded to steel, cement, aluminium March 2025
<b>GB/T 24067-2024</b>	China's national PCF standard framework. The umbrella standard under which 111 sector-specific PCF standards are being issued across 13 industries to 2027
<b>GPIPC</b>	Green Partnership of Industrial Parks, China. 国家级经济技术开发区绿色发展联盟, the national alliance of China's state-approved green/ zero-carbon economic and technology development zones
<b>PCF</b>	Product Carbon Footprint: total greenhouse gas emissions attributed to a product across its lifecycle, expressed in kg CO <sub>2</sub> e per functional unit
<b>SCMI</b>	Supply Chain Material Carbon Intensity: proposed metric for total embedded GHG emissions per unit of functional industrial output, operating consistently across jurisdictional carbon accounting regimes
<b>Baiji Renew™/ 白鬃再生™</b>	Baiji Renew™, Cetacea Carbon's ZCF and PCF certification label for certified decarbonised materials. Digital Certificate. Travels with materials. Decouples carbon from product.