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Carbon Border Tax: How the CBAM could hold great potential for Australian Business

Institute for International Trade

Carbon Border Tax: How the CBAM could hold great potential for Australian Business

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Introduction

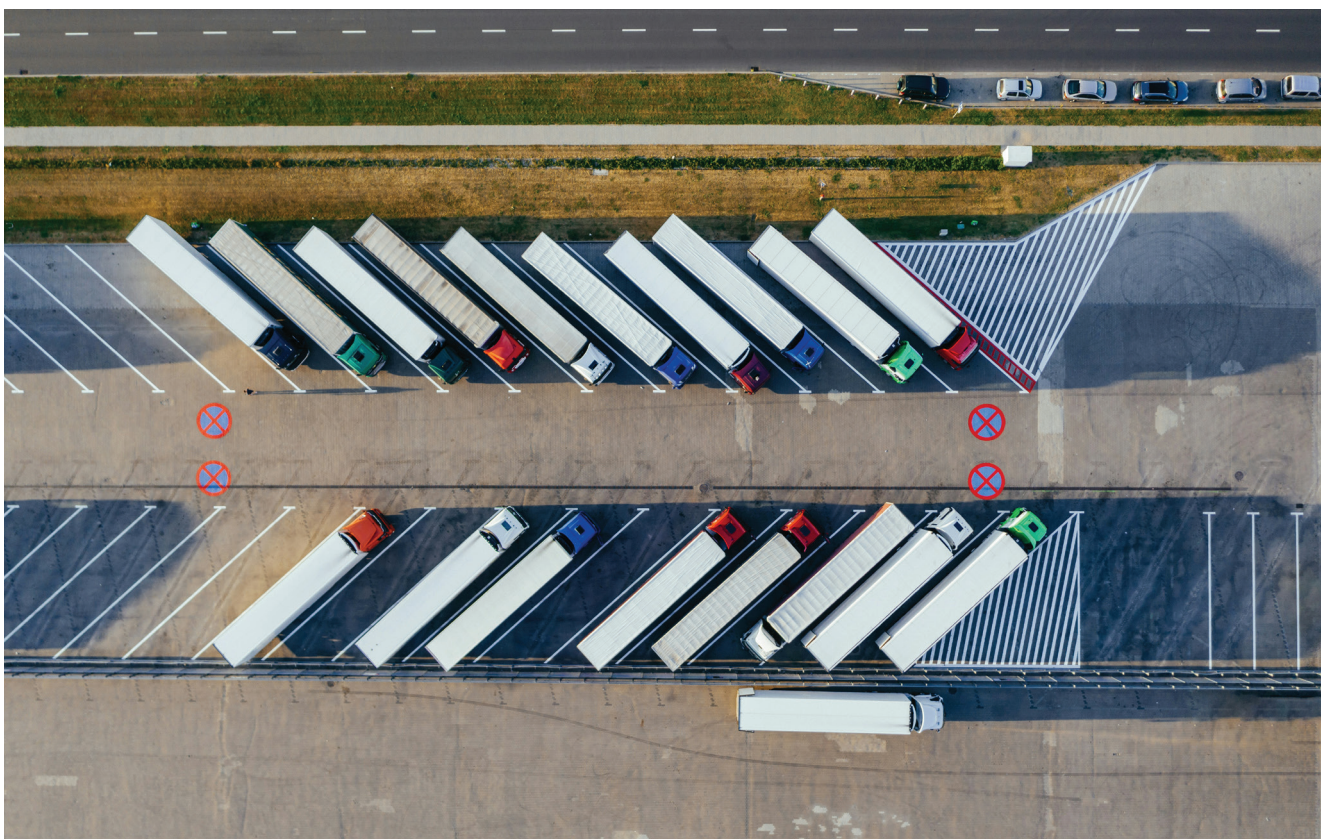
Despite the recent collapse of the Australian-European Union (EU) trade talks, one should not assume the European market is not important for Australia.

In 2022, the EU ranked as Australia's third largest trading partner, behind China but ahead of the United States (US). Imports from the EU totalled almost AUD77 billion and accounted for 14.5 percent of Australia's total imports, a 19% increase over 2021. Exports to the EU are smaller, accounting for only 4.7% of

the total, but grew faster than any other trading partner, increasing 67.5% over 2021 levels and 8% over the past 5 years.

These numbers show that currently Australia relies on EU imports more than the EU relies on imports from Australia. Thus neither market is substantial enough to create pressure to compromise and may have contributed to the EU's unwillingness to meet Australian demands for improved access on agricultural goods in the recent trade talks – and why Australia was willing to walk away. However, there are still significant opportunities for Australian businesses in the EU market. Among the most important, especially from South Australia's perspective, are the opportunities arising from the imposition of the EU's Carbon Border Adjustment Mechanism, or CBAM.

This may seem counter-intuitive. Most businesses are lamenting the introduction of the CBAM as another regulatory and tax hurdle to overcome; an added expense to servicing the EU market. However, there are opportunities for the forward-looking exporter. While the actual CBAM tax won't be applied until 2026, the period starting from October 2023 allows both businesses and EU authorities to get used to the new reporting and assessment requirements. This learning period can provide Australian businesses with the necessary time and space to adopt not just the necessary methods and processes to access the EU market, but also adjust to what is inevitably coming: a global demand for carbon reporting. In the short term this means carbon measurement and reporting, and in the longer term reduction if not outright elimination.



Where does the CBAM come from?

The EU carbon market is the world's largest and oldest. In 2023, the EU's Emissions Trading System (ETS) traded over EUR750 billion, or almost AUD1,255 billion, in carbon credits.

Box 1: The EU's Emissions Trading Scheme

The ETS covers greenhouse gases (GHG) emitted from specific activities that can be measured, reported, and verified with a high level of accuracy. These include:

- **carbon dioxide (CO₂)** from
 - electricity and heat generation
 - energy-intensive industry sectors, including oil refineries, steel works, and production of iron, aluminium, metals, cement, lime, glass, ceramics, pulp, paper, cardboard, acids and bulk organic chemicals
 - aviation within the European Economic Area and departing flights to Switzerland and the United Kingdom
 - maritime transport, specifically 50% of emissions from voyages starting or ending outside of the EU and 100% of emissions from voyages between two EU ports and when ships are within EU ports.
- **nitrous oxide (N₂O)** from production of nitric, adipic and glyoxylic acids and glyoxal
- **perfluorocarbons (PFCs)** from the production of aluminium.

Participation in the EU ETS is mandatory for all companies in these sectors. The EU ETS sets an annual maximum (or cap) emission level, based on the maximum volume of GHG emissions that can be emitted by the operation of covered power plants, factories, or aviation activities. Each emission allocation, or allowance, gives participants the right to emit 1 tonne of carbon dioxide equivalent. Companies participating in the EU ETS can trade their emissions allowances in an auction to cover the GHG emissions from their operations if they have an excess or a deficit of allowances.

According to the European Commission (EC), the EU ETS has reduced emissions from power generation and energy-intensive industries by nearly 37 percent since 2005.¹ While companies do buy these allowances, most are freely allocated. To the extent that these allowances are freely allocated, the incentives for participating companies to lower their carbon emissions is limited. To remove this disincentive, the EC has been gradually replacing the free allocation of allowances with an auction system of trading carbon permits. However, as the freely allocated permits are phased out, highly emitting firms

will face higher costs of production as they are forced to buy permits. There is thus the risk that these firms will move production outside the EU, producing products under less stringent regulations and importing them back to the EU. Or they, or their customers, may start importing inputs from existing producers in these less stringent jurisdictions. Either way, the more rigorous regulation in the EU may simply lead to increased emissions elsewhere, thus creating what is referred to as "carbon leakage".

The CBAM addresses carbon leakage by taxing emissions from sources not directly under the control of the ETS. The gradual introduction of the CBAM has been aligned with the phase-out of free emissions allowances to help ensure the decarbonisation of EU industry does not lead to increases in emissions elsewhere in the world. The CBAM is meant to ensure a price has been paid for the embedded carbon emissions generated in the production of all covered goods imported into the EU. This way the carbon price of imports is equivalent to the carbon price of domestic production, maintaining a level playing field and ensuring the EU's climate objectives have not been undermined.

How does the CBAM work?

The EU CBAM seeks to ensure a price has been paid for the carbon embedded in certain imported goods. Importers must buy CBAM certificates based on the current EU ETS price. When a good is imported, certificates equal to the amount of emissions embedded in that import will be owed. To avoid needing CBAM certificates, importers can either show that a carbon price has already been paid or that there is no carbon embedded in the imported good.

Much has written about the CBAMⁱⁱ since it was first proposed in 2019 under the EU Green Deal.ⁱⁱⁱ The CBAM is seen as a 'second best' substitution for a broader ETS. While the EU ETS sets a cap on the total amount of emissions within the system, the CBAM does not establish such a limit on the embedded emissions that can be imported into the European Union through its product imports. Also, the EU ETS applies to the installations producing certain products in the EU while the CBAM covers specific imported goods defined by the programme. So they are not, strictly speaking, identical.

Much of the discussion around the CBAM has been about its impact on global trade. By increasing the cost of market access, especially for developing countries, it has been argued that the measure will distort trade patterns and cause emissions increases for those countries outside the CBAM's trading reach, as trade is diverted to these now relatively cheaper production sites. In addition, its legality under World Trade Organisation rules has been called into question with many observers expecting challenges to be launched when the system goes "live" in 2026.^{iv}

The current CBAM "transition period" will run until the end of 2025. This

transition period is to allow both importers and EU authorities to understand how the process is likely to work in practice. During the transition phase, the documentation submission process will be evaluated in order to collect useful information that can refine methods for the "real" implementation to begin 1 January 2026. At that time, importers will be required to buy CBAM certificates. During this transition, importers of goods in the scope of the new rules will only have to report GHG emissions embedded in their imports (direct and indirect emissions), without making any financial payments or adjustments. Indirect emissions will be covered in the scope after the transitional period for some sectors (cement and fertilisers), on the basis of a defined methodology outlined in the Implementing Regulation published on 17 August 2023, and its accompanying guidance.^v

The Implementing Regulation on reporting requirements and methodology provides for some flexibility when it comes to the values used to calculate embedded emissions on imports during the transitional phase. During the first year of implementation, companies will have the choice of reporting in three ways: (a) full reporting according to the new methodology (EU method); (b) reporting based on equivalent third country national systems; and (c) reporting based on reference values. However as of 1 January 2026, only the EU method will be accepted.^{vi}



The Commission is also developing dedicated online tools to help importers perform and report these calculations, as well as in-depth guidance, training materials and tutorials to support businesses during the transitional period. While importers will be asked to collect fourth quarter data as of 1 October 2023, their first report will only have to be submitted by the end of January 2024.

In the first stage, the CBAM applies to goods whose production is at a higher risk of carbon leakage, notably the iron and steel, aluminium, hydrogen, electricity, cement, and fertilisers sectors. These goods are often referred to as emission-intensive trade exposed, or EITE, goods. As these goods are exposed to international competition, the ability of EU producers to pass through carbon costs in a varying regulatory environment, is limited. Thus, the CBAM is seen as a way to ensure the competitive environment remains as unaffected as possible. It is expected that the CBAM's scope will be broadened over time to cover other products related to activities subject to the EU ETS.

The global environment for emission pricing

There is little doubt the world is heading toward greener production, whether through market or regulatory pressure. For most EITE businesses, the question of tracking and reporting emissions is not so much one of why but when. Any country considering establishing ambitious carbon action in a highly traded sector risks shifting those emissions abroad as market shares change. This is spreading the appeal of CBAMs globally. Indeed, in August the Australian Government announced a review exploring the potential introduction of a CBAM in Australia.^{vii} An evaluation of policy options and the feasibility of an Australian CBAM are likely to be finalized by October 2024. Brazil, Canada, China, the United Kingdom, and Vietnam are considering CBAMs, while Taiwan established a carbon pricing mechanism which comes into force in 2024.

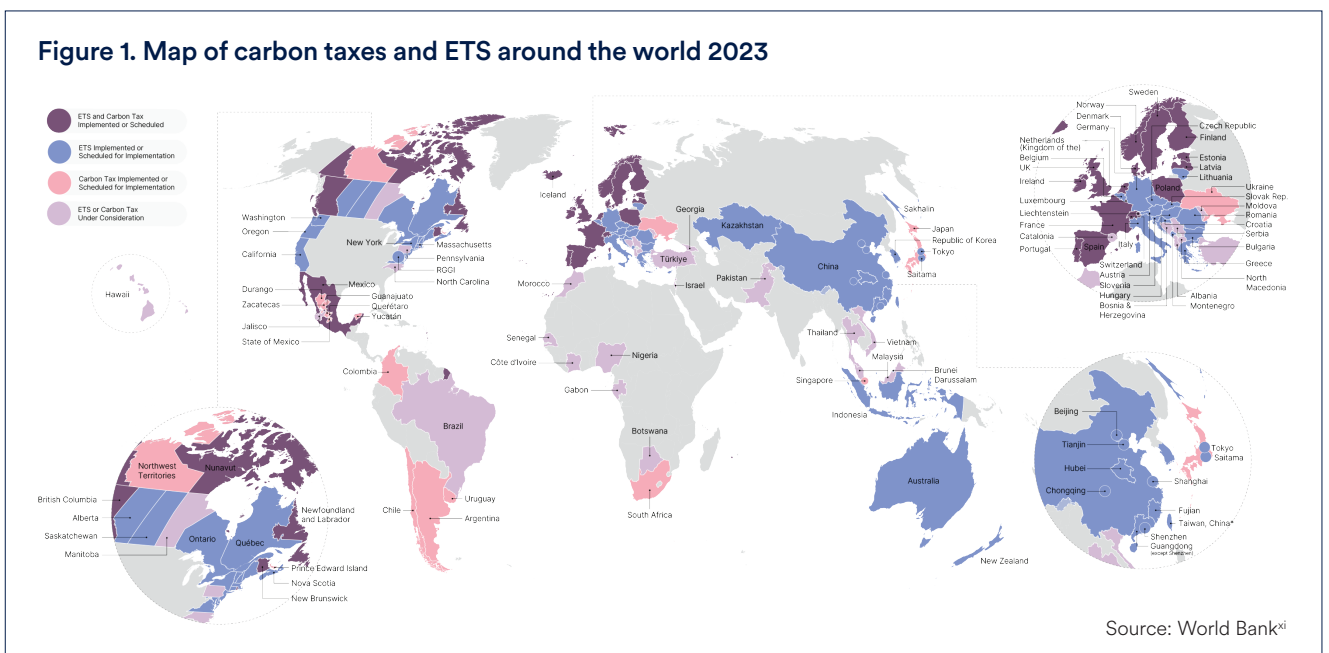
Most economists agree that the most effective way to control for global carbon emission is to establish a global market for carbon. Carbon pricing has long been recognised as an effective policy to underpin an economically efficient transition to a low-carbon economy. To be most effective, it needs to be accompanied by well-aligned incentives across policy domains and supported by a package of policies for innovation. Figure 1 shows that the jurisdictions (countries/ groups of countries) already covered by some carbon pricing mechanism represent more than 70% of global gross domestic product (GDP), the latest being the Indonesian ETS launched in 2023.

While carbon pricing mechanisms have been spreading worldwide, most carbon prices globally have been too low to significantly align low-carbon investments with climate goals and encourage citizens

and investors to make cleaner choices.^{viii} One explanation for relatively low carbon prices has been persistent concerns about industry competitiveness. There is nevertheless evidence that relevant carbon prices have acted to reduce emissions, for example in Sweden^{ix} and more generally across the OECD.^x

While carbon pricing schemes have been spreading globally, it remains that these schemes including the EU ETS, only have jurisdiction over those companies operating within the relevant domain. They have no regulatory power over those operating outside the scheme's boundary. In addition, while the growth in ETS systems globally will help alleviate the concern around carbon leakage and a global race to the environmental "bottom", the lack of consistency across these systems continues to allow room for exploitation.

Figure 1. Map of carbon taxes and ETS around the world 2023



Source: World Bank^{xi}

The market for green goods

While the growing awareness of the need to address the climate crisis has led many countries to adopt some sort of emission pricing scheme, it has not always translated into developing an approach to low-emission production. However, developing this capacity is the competitive advantage of the future, so countries are adopting policies to help support industries to decarbonise. One way to do that is through trade.

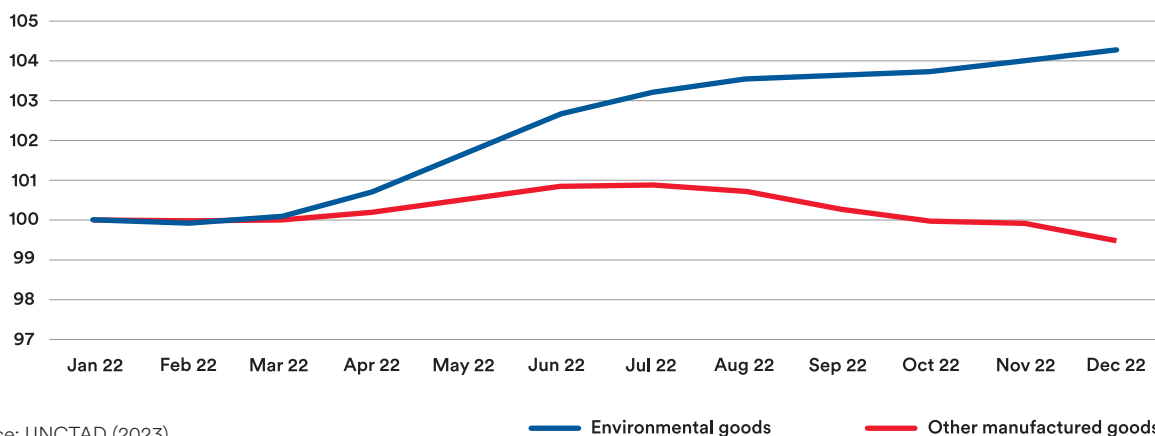
There is little doubt that expanding trade in energy-related environmental goods and environmentally preferable products would result in a net reduction in CO2

emissions, but by how much? World Trade Organization (WTO) simulations indicate that although opening trade in energy-related environmental goods and environmentally preferable products would increase trade and global GDP, the net effect could be a reduction in global CO2 emissions by only 0.58 per cent relative to the baseline in 2030. However, this projected fall captures only CO2 reductions resulting from increased energy efficiency and replacing non-renewable energy sources with renewable ones. The modelling does not include the potential knock-on effects of accelerating

the spread of environmental innovation, including by increasing the demand for ancillary services relating to the sale, delivery, installation and maintenance of environmental technologies.^{xii}

The demand for environmental goods globally has experienced a strong increase (Figure 2). Defying the more general downward trend for manufactured goods, trade in such environmental goods grew by about 4% in the second half of the year. Their combined value hit a record \$1.9 trillion in 2022, adding more than \$100 billion compared to 2021.

Figure 2. Trade Growth in Environmental Goods



Source: UNCTAD (2023)

Among green goods that performed especially well were electric and hybrid vehicles (+25%), non-plastic fuel packaging (+20%) and wind turbines (+10%).^{xiii} Global investment in the low-carbon energy transition totalled over US\$1 trillion in 2022 – a new record and a 30% increase over levels in 2021. Investment in low-

carbon technologies appears to have reached parity with capital deployed in support of fossil fuel supply.^{xiv}

Renewable energy, which includes wind, solar, biofuels and other renewables, remained the largest sector in investment terms, achieving a record US\$495 billion in commitments in 2022, up 17% from the year prior. However, electrified

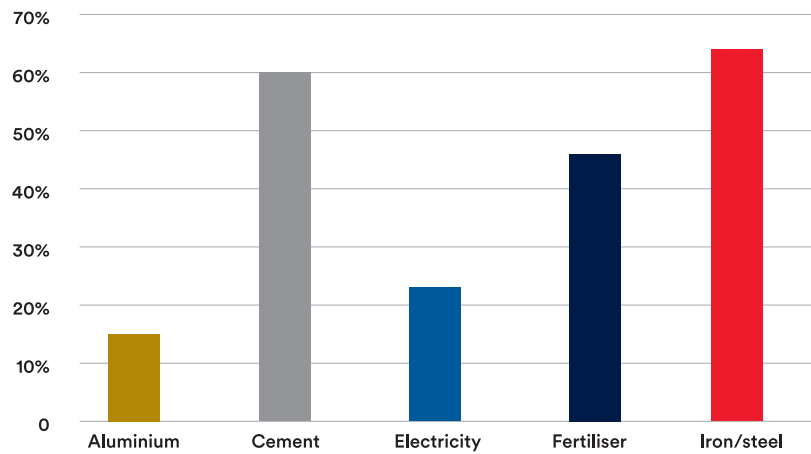
transport, which includes spending on electric vehicles and associated infrastructure, came close to overtaking renewables, with US \$466 billion spent in 2022 – an impressive 54% increase year-on-year.^{xv} Thus, both in terms of investment and trade, there is significant growth and opportunity in green trade.

What does this mean for Australia?

According to the World Bank's CBAM Exposure Index^{xvi}, Australia will not be overly impacted by the CBAM. Given Australia's limited exports of effected products, this is not surprising. This Index measures a country's exposure to the CBAM by looking at that country's carbon emissions intensity and its exports of CBAM products to the EU. The index measures the additional cost of CBAM certificates for exporters compared to the average EU producer, adjusted by the proportion of that country's exports to the EU market. The aggregate relative index represents the trade-weighted relative exposure across all CBAM products. What these data show is that Australia is most exposed to the CBAM through its aluminium exports where it ranks 15 out of 105 countries facing CBAM exposure. However, many of the countries Australia exports to are more highly exposed. For example, Bahrain and South Africa, constituting 17% and 7% of Australian aluminium ores and alumina exports, respectively, are among the top 10 countries exposed to the CBAM. Thus indirectly the measure will impact Australian trade.

More broadly, and thinking ahead, Australia ranks high in emission content for all of the goods affected by the CBAM. And as long as Australia harbours ambitions to bring more of this processing onshore, these intensity figures matter. While the EU may not be a top export market for Australia, it is only a matter of time before the markets to which we export adopt similar measures. Figure 3 shows that Aluminium production in Australia is in the top 15% of emission intensity globally. Iron and Steel rank better, but that is because the processing is mainly done elsewhere.

Figure 3. Rank by Carbon Emission Intensity



Source: Data taken from World Bank CBAM Exposure Index

Australia, however, has the potential to bring processing home. The CBAM provides a great opportunity for Australian businesses to gain scale for both its renewable goods as well as its technologies. The question remains as to whether Australia is positioned to take advantage and be at the forefront of trade opportunities that renewable technologies present. The sectors initially covered by the CBAM (steel, iron, aluminium, cement, hydrogen and fertiliser) have an estimated market value of AUS\$600 billion and are markets Australia knows well. This is not an opportunity Australia can afford to ignore.

Australia has already taken an important step in joining the Climate Club, an international initiative focused on industrial decarbonisation and pursuing net zero emissions. The Climate Club was formed in 2022 by German

Chancellor Olaf Scholz.^{xvii} The Club aims to achieve net zero emissions by 2050 but there are factions within the club that would like to push this to 2035.

While joining the Club is a good first step, Australia needs to do more to become a leader in low carbon exports. Australia must take deliberate action to ensure it meets the stringent demands of overseas markets. Currently, Australia's emissions reduction targets remain weaker than Europe's, the US, and other members of the Climate Club. This means even more pressure on Australia if it wants to be a serious contender for green markets. As the demand for the workhorse of Australian traditional exports – fossil fuels – falls, new markets will be needed to take their place. Even as demand continues for some these minerals, the way they are extracted and processed will need modernisation.

While there are large deposits of lithium, copper, and recently identified rare earths, the growing calls to diversify our contribution along these value chains remain strong. And while mining only accounts for roughly 2.1% of the Australian workforce, it constitutes roughly 15% of GDP and AUD\$273 billion worth of exports. Taxpayer royalties amount to over AUD\$30 billion annually.^{xviii} Much of this is made up from extraction of iron ore, coal, and alumina. Being able to extract these still highly demanded minerals in a clean way would create movement along the value chain and assure Australia's place in these markets into the future.

To achieve prominence in a future green goods market, Australia must have the technology to apply clean energy to these processes. And here too, Australia has a head start. The South Australian government has invested over \$1 billion in technology centres such as Lot Fourteen and the Tonsley Innovation District, where businesses are making solid strides in green energy and robotics. The State is also home to the Australian Institute for Machine Learning and a joint program with the Massachusetts Institute of Technology (MIT) on Connection Science. The market potential offered by the CBAM provides opportunities to generate scale for these so-far largely fledgling efforts.

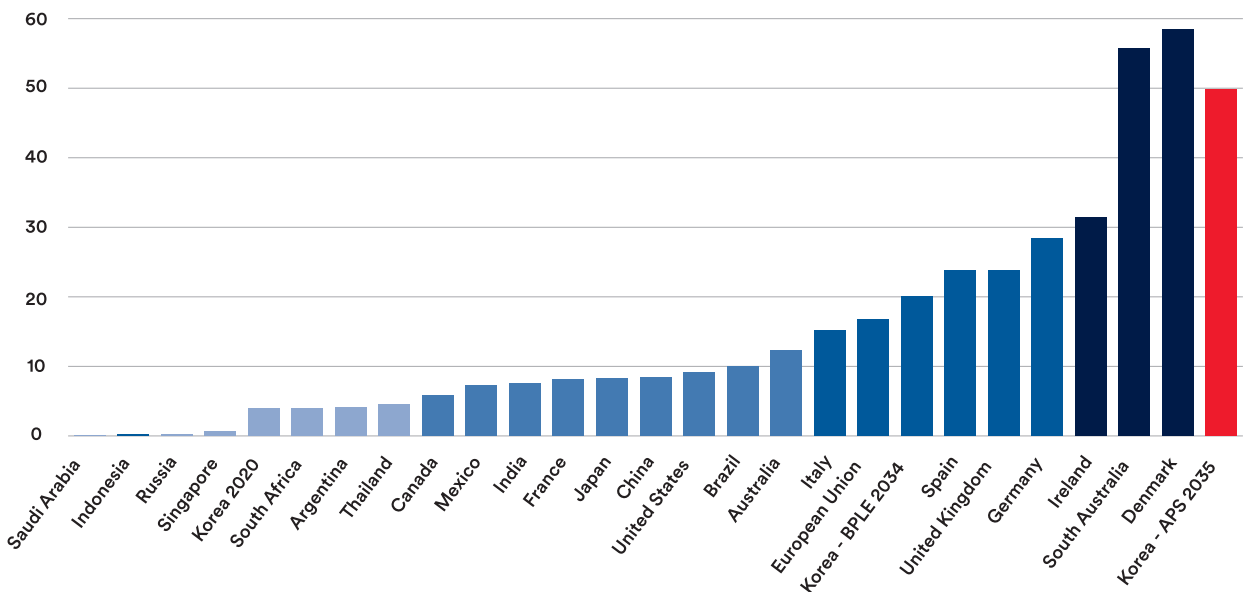
Only by generating scale can businesses reduce costs and introduce competitively priced products and services not just to the European market, but globally.

According to the Australian Institute, there are currently 43 manufacturing processes that are considered EITE in Australia.^{xix} While these currently account for only a small share of Australia's total exports - worth \$20.1 billion or 5% (in 2019-20) - there is clearly room for growth. Not surprisingly, processes involving primary metals account for nearly 90% of Australia's EITE exports. However, this small export value is indicative of the underdevelopment of primary metals processing in Australia. Currently most of the primary metal goods are produced directly for export markets with little or no value added at home. Over 80% of alumina and 92% of aluminium produced in Australia are exported. These minerals make up over 50% (by value) of EITE exports, worth on average about \$12 billion annually. Last year, 64% of aluminium (as well as 40% of Australia's steel) was exported to countries where carbon prices are in place or under consideration. Currently alumina and aluminium made in Australia are highly emissions-intensive compared to competitors (outside of China). Switching these processes to renewable

energy would provide a competitive edge to Australian industry as well as provide opportunities to perform more value-added manufacturing at a competitive rate. Not that making such a switch will be easy, or cheap, but doing it sooner will give Australian producers a competitive edge as well as a leg-up on other producers. Being early-to-market will also guarantee the market shares necessary to bring costs down for viable long run production. But Australia must quickly marry its competitive advantage in resource extraction with its competitive advantage in renewables to exploit the gap. As it is a gap that is closing swiftly.

According to the Australian Renewable Energy Agency (ARENA), renewable energy currently provides around 10 per cent of direct (non-electricity) energy use in Australian industry. That number is estimated to be closer to 23% in the EU.^{xx} However, South Australia has a much higher share than Australia as a whole. In just over 16 years South Australia's electricity mix has shifted from below 1% renewables to more than 70% of energy generated by wind and solar, supported by innovative battery storage technologies and gas (Figure 4). By 2025-26 the Australian Energy Market Operator forecasts this could rise to approximately 85%.^{xxi}

Figure 4. VRE energy as a share of total energy generation*



Notes: South Australia is in Phase 4 where VRE makes up almost all generation in some periods. Korea is projected under plan.^{xxv}
 *Variable renewable energy (VRE) is energy produced from sources with variable supply. Source: IEA



Efforts to exploit Australia's renewable ambitions to solid market opportunities in the EU are already underway. The current government has developed plans to work with Germany on developing green industry with an emphasis on exporting Australian green hydrogen and critical minerals to Germany. The hydrogen partnership between the two countries started in 2021 relying on German technology and demand for Australian resources.

While this partnership has been touted as a boon for Australia exports – currently Fortescue Future has an MOU with German energy company E. On to supply 5 million tonnes of green hydrogen a year – there are greater opportunities for Australia to provide products as well. While hydrogen received the least financial commitment for renewables in 2022, at just \$1.1 billion or 0.1% of the total, it is the fastest-growing sector with investment more than tripling over the year before.

The current Australian Government is backing what it calls a world-first renewable hydrogen project at Yarwun Alumina Refinery in Queensland to help reduce emissions for Australia's alumina industry. ARENA is investing nearly 30% in the AUD\$111.1 million Yarwun renewable hydrogen calcination trial by Rio Tinto and Sumitomo Corporation. Using renewable hydrogen could eliminate emissions from the calcination process, which represents up to 30% of alumina refining emissions.

As a critical part of the aluminium supply chain, a metal used in countless

products across the economy – from kitchen utensils and food and drink cans to window frames, cars and aircraft — parts using this process to produce alumina has the potential to reduce emission embedded in a large number of consumer products.

Alumina refining is an energy-intensive process, consuming more than twice the energy used by Tasmania and currently accounts for about 3% of Australia's emissions. Australia is the largest exporter of Aluminium ores and concentrates. Beyond 2022, world primary aluminium consumption is forecast to grow at an annual average rate of 1.7%, to reach 69 million tonnes by 2024.^{xxii} A significant driver of aluminium demand is expected to come from cars, particularly energy-efficient vehicles and electric vehicles (EVs) — which contain a higher proportion of aluminium. It is estimated that EV passenger car sales will rise from 6.8 million units in 2021 to 17.6 million units in 2024 globally. With an estimated average aluminium content of 250 kilograms per electric vehicle, aluminium usage in EVs is forecast to increase from 2.8 million tonnes in 2022 to about 4.4 million tonnes in 2024.^{xxiii}

In South Australia, the proposed Port Bonython "hydrogen hub" includes plans for major export capacity. The government expects the local industry to produce as much as 1.8 million tonnes of hydrogen by 2030, and said it could also power green steel production at the nearby Whyalla steelworks. The green steel would then take advantage of the

proximate export hub for global shipping. The global green steel market is expected to reach almost \$75 billion by 2030.

Finally, by being at the forefront of green production, Australia all but guarantees a prime place at the standards-setting table. One of the most contentious issues has been setting the mechanisms which will govern the trade in green products. The carbon footprint product regulations and standards (CPRS) process is a global one, with organisations such as the United Nations (UN), International Monetary Fund (IMF), Organisation of Economic Cooperation and Development (OECD), and the World Trade Organisation (WTO) launching various initiatives, not to mention regional fora. The EU and US talks on a Global Arrangement on Sustainable Steel and Aluminium or GASSA illustrate the difficulty of coming to agreement. The talks, which began in 2021, were aimed at reaching an agreement on carbon intensity of imported steel and aluminium, as well as addressing global overcapacity.^{xxiv}

One of the main sticking points of the GASSA talks has been an inability to reach consensus on GHG intensity standards. With the deadline for the GASSA negotiations approaching, the EU's CBAM entering its transition phase, and an increase in domestic green industrial subsidies, there is growing need to align standards for low-carbon industrial production and harmonize trade policies in order to prevent overcapacity and ensure a level playing field, ultimately contributing to global emissions reductions. While the EU and US are making promising strides towards industrial decarbonization and climate-aligned trade policies, it is imperative to coordinate with other heavy industry producing countries to achieve climate objectives.

Australia is in a strong position to play a pivotal role in these negotiations. Ensuring that EU-US negotiations result in solutions that can be extended globally will be critical in fostering international cooperation that goes beyond this transatlantic relationship. By actively participating in the production and trade of green EITA goods, Australia can help identify ways to accommodate differences as we move toward common goals, while at the same time, securing its place in this important trade.

Endnotes

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- xxiv. Steel production accounts for approximately 8% global emission and while aluminium accounts for 4%.
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Kaurna acknowledgement

We acknowledge and pay our respects to the Kaurna people, the original custodians of the Adelaide Plains and the land on which the University of Adelaide's campuses at North Terrace, Waite, and Roseworthy are built. We acknowledge the deep feelings of attachment and relationship of the Kaurna people to country and we respect and value their past, present and ongoing connection to the land and cultural beliefs. The University continues to develop respectful and reciprocal relationships with all Indigenous peoples in Australia, and with other Indigenous peoples throughout the world.