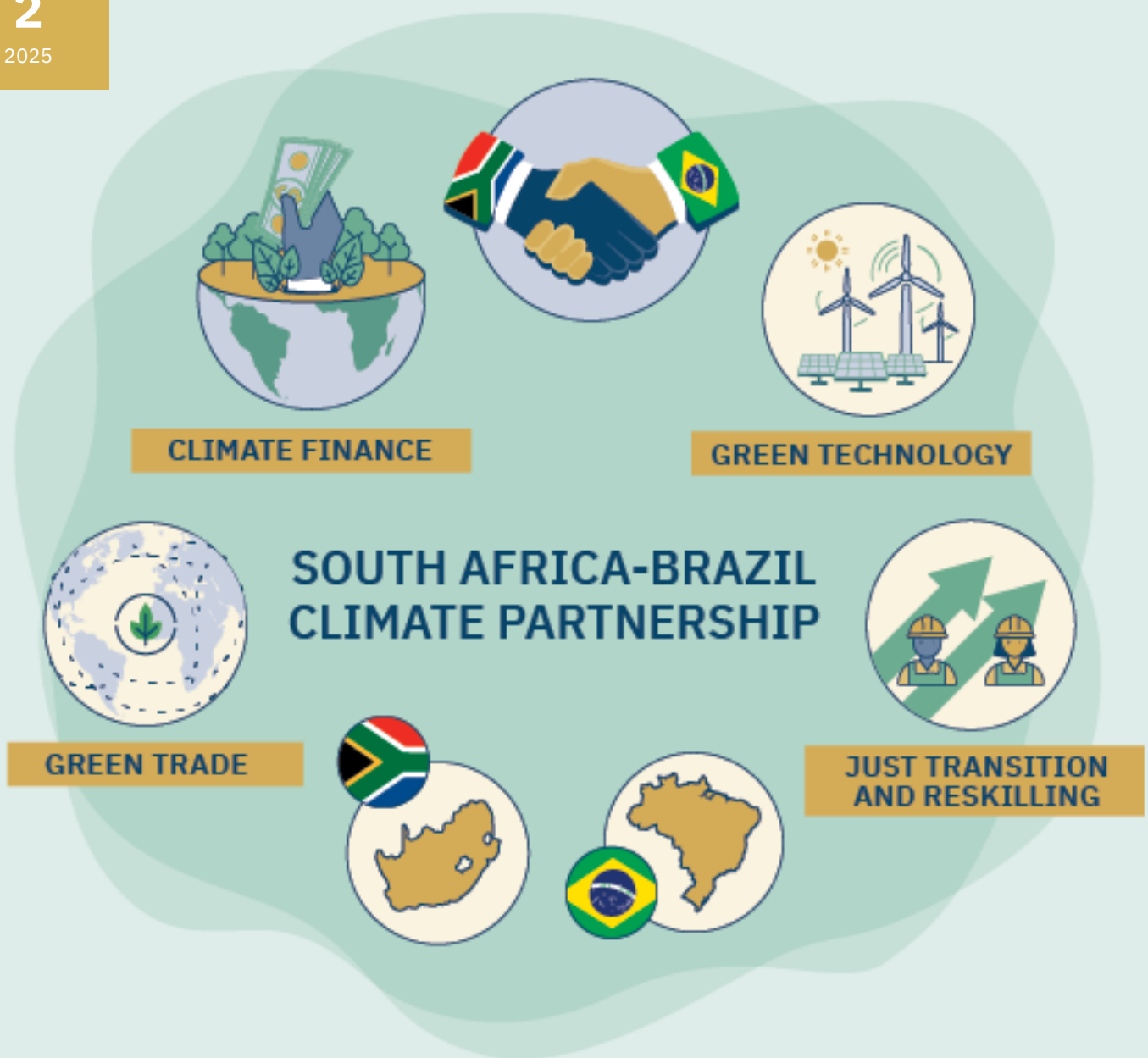




Strengthening the Multilateral Trade System for Green Growth and Development: South Africa and Brazil within the WTO

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About this project

In partnership with the South African BRICS Think Tank and the National Institute for the Humanities and Social Sciences, the South African Institute of International Affairs (SAIIA) has initiated a research project entitled 'BRICS Shaping Economic Cooperation for Green Growth, Development and the Just Transition: Partnership between Brazil and South Africa'.

The objective of the project is to contribute towards shaping a Global South economic cooperation agenda that supports green growth, development and a just transition in targeted countries and in global economic governance forums. This will be achieved through research, policy dialogues, network development and capacity-building activities centred on Brazil's and South Africa's approaches to the just transition.

A study of Brazil and South Africa can provide important shared learnings regarding the interconnectedness of climate change responses with other instruments relating to trade, technology, social protection and financing. Such learnings are relevant in terms of how BRICS and other developing countries shape their own transitions to a new economic and social paradigm, as well as how they engage and help transform the global climate and economic governance architecture.

The project focuses on four key themes:

- strengthening the multilateral trade system for green growth and development;
- climate finance for green growth and development;
- reskilling of affected communities in the fossil fuel-intensive sector; and
- technology for green growth and industrialisation.

Among the project outputs will be the following:

- a Brazil–South Africa climate and just transition dialogue platform to contribute towards a community of practice focused on the green growth, economic cooperation and development concerns of the Global South;
- a series of working papers on each of the project themes;
- an edited volume; and
- a foresight workshop exploring the trajectory for the development of a Global South-friendly climate governance architecture through enhanced BRICS economic cooperation.

The project will support the appointment of a South African research fellow, who will complete the fellowship at SAIIA and the project's Brazilian partner institute, the Institute of Applied Economic Research/Instituto de Pesquisa Econômica Aplicada (IPEA).

Introduction

As climate imperatives reshape the global trade architecture, the nexus between decarbonisation and trade governance demands renewed analytical and policy attention. Instruments such as the EU's Carbon Border Adjustment Mechanism (CBAM) and the Inflation Reduction Act in the US are not merely technical tools – they represent a broader reconfiguration of international political economy, wherein trade policy is increasingly harnessed to achieve environmental objectives. Yet their design and deployment have exposed deep tensions between industrialised and developing countries, particularly concerning fairness, policy space and the distribution of adjustment burdens. At the World Trade Organization (WTO) – especially during the 13th Ministerial Conference in Abu Dhabi – Brazil and South Africa voiced concerns that such measures risk entrenching green protectionism and undermining the principle of common but differentiated responsibilities and respective capabilities (CBDR-RC). Both countries have called for transparent rulemaking, transition support and greater multilateral oversight of climate–trade interactions. Their interventions, often coordinated through plurilateral forums such as BASIC¹ and BRICS,² reflect the broader struggle to align environmental ambition with developmental equity and to embed climate action within a multilateral trading system that remains institutionally and historically asymmetrical.

As countries of the Global North ramp up their climate ambitions, there is an increasing call for their trade partners to do the same, regardless of their capacity. Recently, calls have taken the form of trade measures. The most prominent of these is the CBAM – a policy that seeks to prevent carbon leakage by ensuring that the carbon price of goods entering the EU market is equivalent to that of goods that are manufactured in the EU. The implementation of the CBAM is expected to result in a shift in EU importer preferences – from importing from carbon-intensive countries to sourcing from within the EU or importing from countries with more stringent emissions regulations.

As developing countries have limited green economy capacity, the CBAM is viewed as punitive, and there is growing dissatisfaction among countries of the Global South. Generally, developing countries consider international climate policies unfair, since the commitments prevent them from achieving prosperity in the same manner as developed countries did during their process of industrialisation, ie, by exploiting fossil fuel-intensive processes. The argument is that using fossil fuels will allow equitable development without prior large investment in green energy technology.

Adding to developing countries' frustrations is the fact that developed countries, particularly the US and some in the EU, are historically responsible for the majority of cumulative greenhouse gas (GHG) emissions. This while developing regions, including Africa, Asia and Latin America, disproportionately experience the detrimental impacts of catastrophic climate events.³ Increasing costs imposed on carbon-intensive imports entering the EU adds insult to injury, particularly within the context of significant shortfalls in the climate funding made available to developing countries from their developed counterparts. Given the impacts of climate change

¹ Brazil, South Africa, India and China.

² Brazil, Russia, India, China and South Africa, and recently expanded to include Indonesia, Ethiopia, Iran, Egypt and the United Arab Emirates.

³ Leandro Vigna and Johannes Friedrich, "[9 Charts Explain Per Capita Greenhouse Gas Emissions by Country](#)", World Resources Institute, May 8, 2023; UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, [The Impact of Climate Change on the Development Prospects of the Least Developed Countries and Small Island Developing States](#), Report (N-OHRLS, 2009).

on developing countries, insufficient financing has been delivered both for adaptation and towards compensating for loss and damage.

Due to the manner in which the CBAM has been designed, some scholars have argued that it goes against key principles of important multilateral agreements, including those of the WTO and the UN Framework Convention on Climate Change (UNFCCC). Despite a multitude of concerns raised, within the WTO forum and outside it, the international trade rules body remains ambivalent on the CBAM issue – indicating support for carbon pricing while stating that it must be non-discriminatory.⁴

This paper seeks to determine whether there are opportunities for collaboration between Brazil and South Africa – influential emerging economies in their respective regions – in strengthening Southern voices in shaping the global trade architecture to support economic growth and sustainable development.⁵ Given their position among the economic and political leaders of their respective geo-political spaces (BRICS, BASIC and G20) and the Global South in general, in conjunction with their own climate mitigation challenges, South Africa and Brazil share a responsibility for representing those countries that may not possess the bargaining power to negotiate at the global level.

This paper finds multiple overlaps between the perspectives of South Africa and Brazil – and their Global South partners – regarding the trade landscape as it evolves within the context of increased climate ambitions. Broadly, it finds that both South Africa and Brazil perceive measures such as the CBAM as protectionism under the guise of climate mitigation, going against rules of the General Agreement on Trade and Tariffs (GATT) that underwrite the WTO and key provisions of the Paris Agreement. This is a sentiment that is echoed at the BRICS and BASIC levels.

This paper comprises four core sections, the first of which outlines the challenges faced by developing countries in developing a green economy, with a particular focus on South Africa and Brazil. It shows that a multitude of barriers have prevented the expansion of a green economy in both countries. Given the reliance on carbon-intensive industrial processes, key sectors of these economies are vulnerable to negative economic shocks from CBAM imposition.

The second section provides a high-level understanding of the CBAM and its potential impact on the South African and Brazilian economies. In the short term, both countries' iron and steel industries are at risk. With product coverage under the CBAM set to broaden, failure to adapt will leave more industries exposed to the negative shock. In light of the likely economic impact, South Africa, Brazil and their BRICS and BASIC partners have expressed their opposition to the CBAM, and the section examines their responses. As the CBAM seems likely to conflict with WTO rules, this section also looks at the WTO's position on the measure and engagements by BRICS countries on the topic.

The third section draws on findings from the research presented throughout the paper to find areas for collaboration between South Africa and Brazil in strengthening Southern voices. This section

⁴ Non-discrimination is a key principle behind the current (if fragmented and increasingly distorted) world trade system. One of the major misgivings regarding the CBAM is that it may constitute a convenient non-tariff barrier to trade, which is essentially discriminatory.

⁵ Economic growth, as measured by GDP, is under extensive scrutiny (outside neoclassical economics) as being fundamentally at odds with sustainable development, as issues such as deforestation, which fundamentally undermine sustainability, are not adequately accounted for in the production of goods and services that end up constituting GDP. Nonetheless, developing countries are committed to pursuing GDP growth on the assumption that it will produce broad-based development.

outlines several areas for collaboration, including global advocacy, knowledge sharing and bolstering the domestic green economy. The final section offers the conclusion.

Key challenges in green economy development for South Africa and Brazil

Across most of the developing world, financial, technological and capacity-related barriers prevent a smooth transition to a low-carbon future. Financially, countries encounter significant challenges in securing adequate funding to achieve their Nationally Determined Contributions (NDC) without sacrificing economic growth, as developed nations provide only a fraction of the required funds. In addition, vulnerability to economic shocks – such as the COVID-19 pandemic and multiple wars – has strained the fiscal space, limiting developing nations' ability to prioritise climate resilience. The relaxation of controls on international capital mobility has led to volatile cross-border capital flows, impacting public infrastructure projects, export strategies and debt-fuelled investments essential for structural transformation.⁶ Moreover, developing countries often face higher external financing costs,⁷ hindering low-carbon investments and impeding the green transition.⁸

Technologically, the concentrated ownership of intellectual property predominantly favours advanced economies, restraining green technology innovation in developing countries and leaving them in disadvantaged positions in global value chains. Reluctance to share technology further impedes global intervention. Furthermore, the risk of stranded fossil fuel assets adds to the challenges, creating a lose-lose situation for developing countries.⁹

In terms of capacity, challenges include restricted energy access, increased informal employment and governance issues around natural resource management. Trade and investment rules can also constrain industrial policy interventions needed for green structural transformation. These rules could be created domestically, as seen with local content requirements for South African renewable energy infrastructure, or externally, as in the case of the CBAM.¹⁰

Being developing countries, South Africa and Brazil also face challenges in greening their economies. As a result, they are among the top GHG emitters in the world.¹¹ However, unlike in the US or the EU – which are also much larger economies – GHG emissions in South Africa and Brazil are not commensurate with the countries' economic size. As shown in Figure 1, although emissions in the US, for example, are significantly higher than in Brazil and South Africa, the economic activity driving those emissions is also driving high living standards. The same cannot be said for Brazil and South Africa, considering their emissions relative to their per capita GDP.

⁶ An important series of articles has been published by the *Daily Maverick* in South Africa by Dr Michael Power that shows the destructive effects of volatile capital (portfolio) inflows and outflows, which often buoy stock markets at the expense of investments in productive capacity (real foreign direct investment). See Michael Power, "[Capital vs Trade: The Stark Economic Divide Threatening South Africa's Future Prosperity](#)", *Daily Maverick*, June 9, 2025.

⁷ See Elizabeth Sidiropoulis, "[South Africa's G20 Presidency: Placing African Concerns on the Global Table](#)", *International Banker*, June 27, 2025.

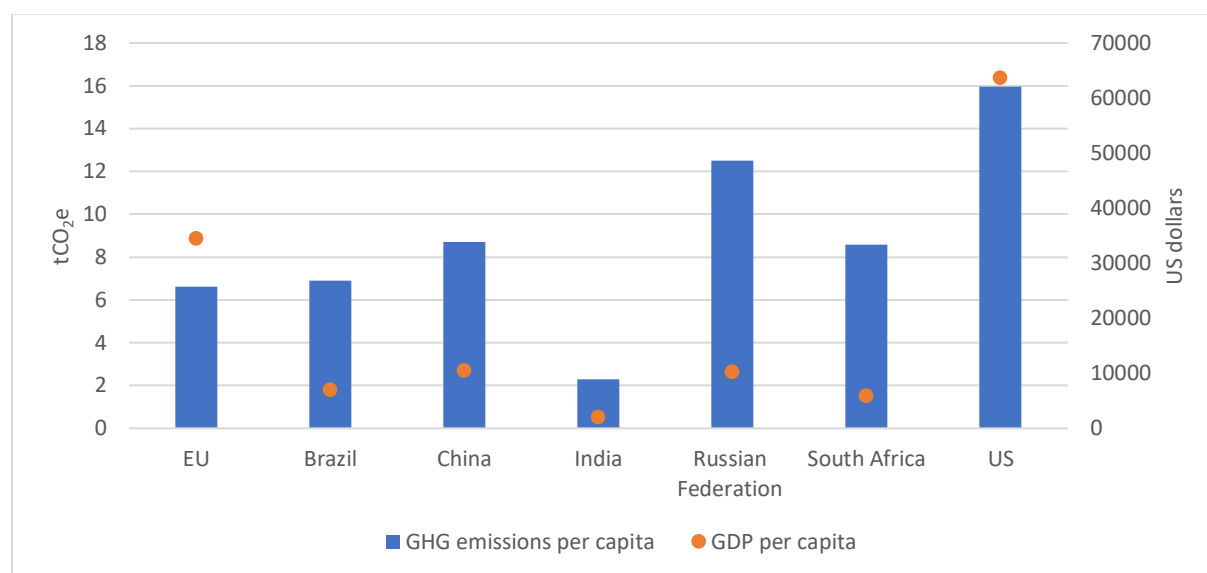
⁸ UN Conference on Trade and Development, "[A Global Just Transition: Climate and Development Goals in a World of Extreme Inequalities](#)" (Background Note, COP27 High-Level Event Series, UNCTAD, n.d).

⁹ UNCTAD, "A Global Just Transition".

¹⁰ UNCTAD, "A Global Just Transition".

¹¹ Johannes Friedrich et al., "[This Interactive Chart Shows Changes in the World's Top 10 Emitters](#)", World Resources Institute, March 2, 2023.

Figure 1. GHG emissions per capita vs. GDP per capita since 1990



Sources: Climate Watch, "Historical GHG Emissions", accessed September 12, 2025, https://www.climatewatchdata.org/ghg-emissions?end_year=2020&start_year=1990; World Bank, "World Bank World Development Indicators", accessed September 12, 2025, <https://databank.worldbank.org/source/world-development-indicators#>

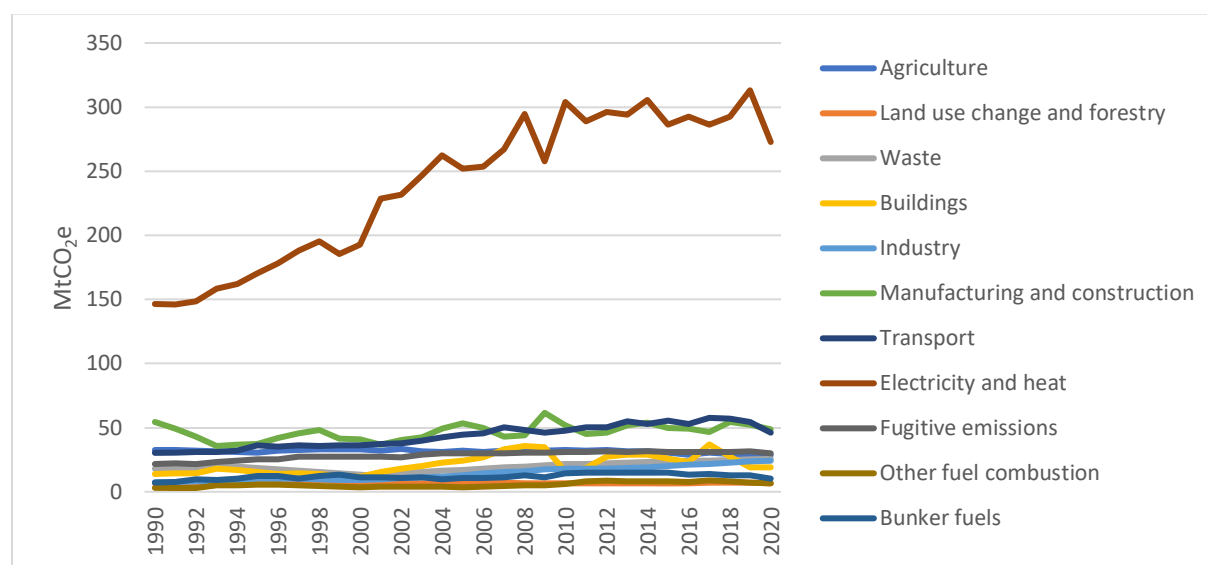
Challenges in South Africa

South Africa's economy is carbon-intensive due to the historical interdependencies between the energy and mining industries – known as the minerals energy complex. At present, GHG emissions are driven by coal-generated electricity, fossil fuel-based transportation and energy-intensive industries.¹² As a result of its fossil fuel dependence, South Africa contributes significantly to global emissions – it is currently the 14th highest global emitter of CO₂ (as of 2023). South Africa's emissions per capita is substantially higher than its GDP per capita. This implies a carbon-inefficient economy that has been unable to drive economic growth and improved living standards for a large segment of the population.¹³

¹² Government of South Africa, Department of Forestry, Fisheries and the Environment, [Perspectives on Advancing an Inclusive and Sustainable Green Economy in South Africa](#), Report (DFFE, 2021).

¹³ DFFE, *Perspectives on Advancing*.

Figure 2. GHG emissions in South Africa, by sector (1990–2020)



Source: Our World in Data, "Greenhouse Gas Emissions by Sector, World", accessed September 12, 2025, <https://ourworldindata.org/grapher/ghg-emissions-by-sector>

South Africa's flagship green economy programme is the Just Energy Transition (JET). The JET refers to the gradual decarbonisation of the electricity industry – the leading contributor to South African emissions – by decommissioning and/or repurposing coal-fired power stations while ensuring livelihoods that depend on the value chain therein remain intact. While the JET is relatively young, in its recent history South Africa has developed several policies, strategies and plans, including the introduction of a carbon tax, aimed at climate change mitigation (Appendix, Table 1). However, the expansion of a green economy has been constrained by several barriers. Broadly, these are institutional, technological, financial, political economy and skills related.¹⁴

In addition to the minerals energy complex, the government's reluctance to embrace a rapid low-carbon transition is complicated by high unemployment rates, elevated poverty levels and deep inequality – otherwise known as the triple challenge. In addition, there are problems concerning a shortage of skills, influential trade unions that have intensified productivity challenges and an inefficient state-owned electricity company, Eskom.¹⁵ This state-owned entity was also the primary site of state capture and has been linked to multiple cartels and corrupt deals that essentially stripped it of its productive capacity. The upshot is that electricity prices have soared while supply has been constrained. Unpredictable supply and high relative costs (in global terms) deter potential foreign direct investment. The problem, therefore, is carbon-intensive

¹⁴ Manisha Gulati, Louise Naudé and Prabhat Upadhyaya, "[Barriers to Greening the South African Economy](#)" (Futures Food for Thought Paper, WWF-SA, 2018).

¹⁵ Tendai Gwatidzo and Witness Simbanegavi, "[Building a Competitive and Dynamic Green Industrial Sector in South Africa after COVID-19](#)" (Working Paper WP21/11, South African Reserve Bank, 2021), 12. See also Ross Harvey, Stuart Morrison and Pranish Desai, "[Is South Africa Afflicted by the Resource Curse?](#)," *The Extractive Industries and Society* 23 (September 1, 2025): 101678.

electricity production with high opportunity costs that has blocked the uptake of greater levels of renewable energy.¹⁶

Within the context of a low-carbon transition, it is important to consider the employment tied to the coal-fired electricity value chain. Decommissioning Eskom facilities would result in a substantial reduction in domestic coal demand, leading to the loss of associated jobs, currently estimated at roughly 90 000 direct jobs, in the context of 480 000 in the mining industry. Although the expansion of the renewable energy sector is anticipated to generate new employment opportunities, challenges in skills adaption may hinder labour mobility between sectors – coal-associated skills are not likely to be directly transferable to the renewable energy sector. In addition, if newly created jobs in the renewable energy industry require retraining, unemployment could increase as displaced workers may face difficulties navigating the transition from one energy sector to a vastly different one, if indeed that is the route they choose.¹⁷

The current system of coal-fired electricity is not serving South Africa's employment and economic growth imperatives, while simultaneously undermining the country's climate obligations. Rolling blackouts due to ageing electricity infrastructure have cost the country greatly in terms of GDP and employment. In 2022, load-shedding cost the economy an estimated ZAR¹⁸ 1.23 trillion (approximately \$71 billion) with more than 650 000 jobs lost and, in 2023, those numbers were expected to increase to ZAR 1.6 trillion (\$93 billion) and 850 000 jobs, respectively.¹⁹ The impact of load-shedding compounds years of economic hardship, underscored by state capture, the COVID-19 pandemic and the July 2021 unrest.

Given its economic hardships – including a difficult recovery from the COVID-19 pandemic, a failing manufacturing sector and a sharp fiscal deficit – South Africa also faces substantial financial barriers to green energy adoption. While the International Partners Group pledged \$8.5 billion to South Africa's JET at COP26, the funds have been deemed insufficient. According to the Just Energy Transition Investment Plan, South Africa requires ZAR 1.5 trillion (\$87 billion) over the 2023–2027 period to finance its low-carbon transition. Given the precarious nature of the South African economy, internal financing is unlikely. Thus, greater financial assistance from abroad is a necessity.²⁰

Closely linked to South Africa's financial barriers to building a green economy is a technological one. Much of South Africa's industrial capacity to produce renewable energy technology (wind turbines, batteries, solar panels and so forth) is dormant, with renewable energy developments largely furnished by the Renewable Energy Independent Power Producer Procurement

¹⁶ Ruth Bookbinder, "[Politicising Energy Transitions: The Political Economy of Reducing Dependence on Coal in South Africa's Minerals Energy Complex](#)", *Environmental Politics* 34 (November 2024); Marie Blanche Ting and Rob Byrne, "[Eskom and the Rise of Renewables: Regime-Resistance, Crisis and the Strategy of Incumbency in South Africa's Electricity System](#)", *Energy Research and Social Science* 60 (February 2020): 101333.

¹⁷ Tendai Gwatidzo and Witness Simbanegavi, "[Building a Competitive and Dynamic Green Industrial Sector in South Africa after COVID-19](#)" (Working Paper Series WP/21/11, South African Reserve Bank, June 28, 2021).

¹⁸ Currency code for the South African rand.

¹⁹ Unathi Nkanjeni, "[More than 850,000 Jobs Will Be Lost as a Result of Load-Shedding', Says Ramokgopa](#)", *Times Live*, May 12, 2023; Denene Erasmus, "[Power Cuts Could Wipe Out R77bn in Tax Take](#)", *Business Day*, August 8, 2023. For the Reserve Bank's estimate on the cost of load-shedding, see Chris Loewald, "[Reflections on Load-Shedding and Potential GDP](#)", *SA Reserve Bank Occasional Bulletin of Economic Notes*, June 2023.

²⁰ Government of South Africa, The Presidency, *South Africa's Just Energy Transition Investment Plan (JET IP)* (The Presidency, 2022).

Programme (REIPPPP).²¹ The country thus remains reliant on imported parts or finished products, which leaves it vulnerable to economic shocks that may constrain the associated supply chain.

The persistence of these barriers has proven a hindrance for South Africa's pursuit of green economic transformation. The country's manufacturing sector is currently incapable of producing renewable energy technology and remains reliant on carbon-intensive processes to produce its limited set of tradable goods, rendering the carbon intensity of its exports unusually high (Figure 4).

Challenges in Brazil

Like South Africa, Brazil has a history as a GHG-intensive economy, with GHG reduction efforts also facing various challenges. These challenges can be summarised as political, economic and financial. Unlike South Africa, however, emissions from Brazil are predominantly from agriculture and land-use change (or deforestation), rather than from mining and burning coal for electricity.

Deforestation in the Amazon has been primarily driven by agricultural expansion – most notably cattle ranching – which alone accounts for an estimated 80% of deforested land in the Brazilian Amazon. Complementary pressures stem from soy cultivation, infrastructure development such as roads and dams, and extractive activities such as mining. These drivers often operate simultaneously, amplifying forest loss and accelerating feedback loops that increase fragmentation, biodiversity decline and GHG emissions. Weak governance, land speculation and fluctuating commodity prices further exacerbate deforestation by incentivising short-term economic gains over long-term sustainability.²² Under president Jair Bolsonaro (2019–2022), deforestation in the Brazilian Amazon rose sharply, reaching a 12-year high by 2022. This was largely attributed to policy rollbacks, weakening of enforcement agencies and increasing impunity for illegal land clearing. In contrast, President Luiz Inácio Lula da Silva's return to office in 2023 marked a sharp reversal: by mid-2023, deforestation had decreased by more than 55% compared to the previous year, due to revitalised enforcement institutions and renewed monitoring commitments.²³ This underscores the importance of political leadership and institutional capacity. However, structural challenges remain, particularly resistance from agricultural elites, such as soy farmers, who have mobilised ideologically against zero-deforestation policies.²⁴

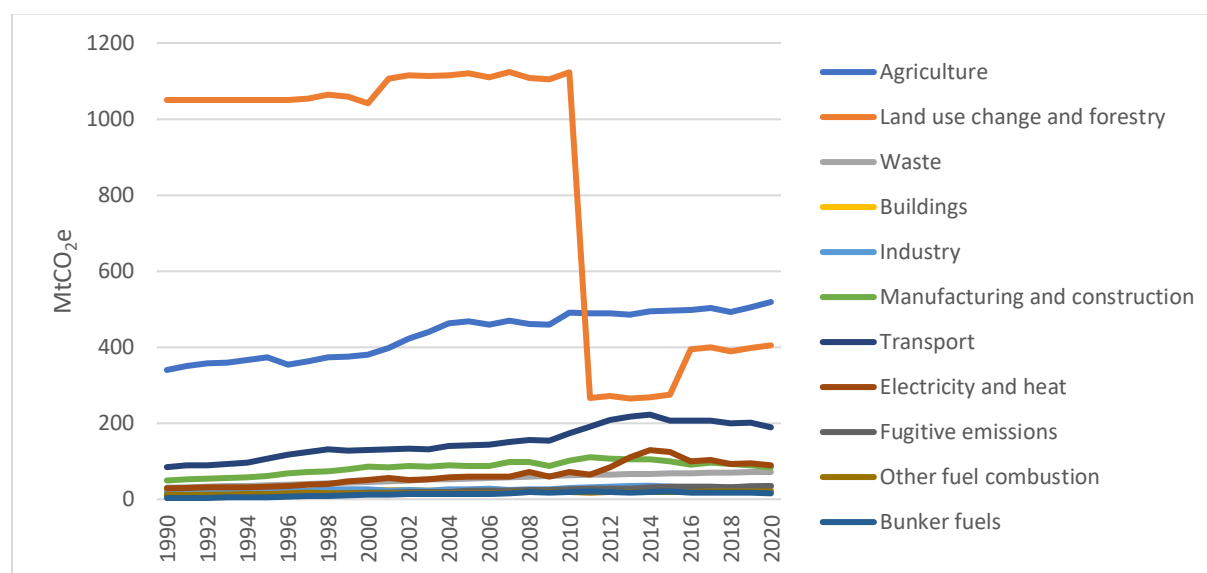
²¹ While initially successful, the REIPPPP experienced major difficulties between 2015 and 2019, largely due to politically motivated blockages during the "state capture" era. Since then, national transmission grid capacity constraints and lack of appropriately positioned ingestion points, along with local content requirements, have marred the rollout of renewable energy infrastructure in bid windows of the REIPPPP. The upshot is that South Africa can significantly increase the proportion of renewable energy into the electricity mix but continues to face structural and political impediments. For a theoretical explanation that accounts for why this happens in many countries under certain conditions, see Daron Acemoglu and James A Robinson, "[Economic Backwardness in Political Perspective](#)", *American Political Science Review* 100, no. 1 (2006): 115–31.

²² E Berenguer et al., "[Drivers and Ecological Impacts of Deforestation and Forest Degradation](#)", chap. 19 in *Amazon Assessment Report 2021* (Science Panel for the Amazon, 2021).

²³ Felipe S.M. Nunes et al., "[Lessons from the Historical Dynamics of Environmental Law Enforcement in the Brazilian Amazon](#)", *Scientific Reports* 14 (2024): 7132.

²⁴ Rafaela Barbosa de Andrade Aragão et al., "['Greenlash' and Reactionary Stakeholders in Environmental Governance: An Analysis of Soy Farmers Against Zero Deforestation in Brazil](#)", *Forest Policy and Economics* 166 (2024): 103144.

Figure 3. GHG emissions in Brazil, by sector (1990–2020)



Source: Climate Watch, "Historical GHG Emissions", accessed September 12, 2025, https://www.climatewatchdata.org/ghg-emissions?end_year=2020&start_year=1990

Agriculture is a major contributor to Brazil's GHG emissions, primarily due to land-use change rather than direct food production for domestic needs. A significant share of deforestation in the Amazon and Cerrado regions is linked to the expansion of soy cultivation – primarily used as feed for cattle – and the conversion of forest land into pasture.²⁵ This expansion has been driven by international demand for beef and soy, rather than domestic food security, highlighting a deep connection between global commodity markets and regional environmental degradation.²⁶ These patterns make mitigation especially challenging, as reducing emissions requires addressing entrenched political-economic interests and rethinking the structure of export-driven agribusiness.

Although Brazil's electricity mix is often cited as among the lowest in carbon intensity globally – due primarily to its reliance on hydropower – this obscures the broader reality of its overall energy mix, which remains heavily dependent on fossil fuels, particularly oil.²⁷ In 2023, more than 60% of Brazil's electricity was generated by large-scale hydroelectric plants, with smaller contributions from wind, solar, nuclear and natural gas. However, the ecological and social costs of hydropower are significant: the construction of large dams has resulted in extensive deforestation, community displacement and disruption of aquatic ecosystems, undermining its environmental credibility as a 'clean' source of energy. Meanwhile, oil remains central to Brazil's energy economy. The state-controlled oil company, Petrobras, has signalled its ambition to become a global leader in offshore oil production by 2030²⁸ – a move that has drawn criticism from Brazil's environment minister, who advocates for capping fossil fuel extraction. The energy minister has defended oil

²⁵ Florian Gollnow and Tobia Lakes, "Policy Change, Land Use, and Agriculture: The Case of Soy Production and Cattle Ranching in Brazil, 2001–2012", *Applied Geography* 55 (2014): 203–211.

²⁶ Dario Caro et al., "Land-Use Change Emissions from Soybean Feed Embodied in Brazilian Pork and Poultry Meat", *Journal of Cleaner Production* 172 (2018): 2744–2752.

²⁷ International Energy Agency, "Brazil: Energy System of Brazil", accessed September 12, 2025, <https://www.iea.org/countries/brazil>.

²⁸ Michael Pooler, "Petrobras Aims to Transform Brazil into Global Energy Power", *Financial Times*, November 19, 2023.

expansion as a necessary strategy to generate fiscal resources to fund Brazil's energy transition and decarbonisation efforts.²⁹

According to the World Economic Forum, Brazil will require approximately BRL³⁰ 1 trillion (roughly \$200 billion) in climate finance to meet its 2030 decarbonisation targets.³¹ However, the volume of climate investments currently committed to Brazil remains well below this threshold, highlighting a substantial funding gap. Bridging this divide will require not only scaling up public and private capital flows but also improving institutional frameworks to channel finance efficiently into low-carbon infrastructure, agriculture and industrial decarbonisation.

As Brazil has a relatively clean electricity-generating process, the carbon intensity of its manufactured products is lower than that of its BRICS partners and comparable with that of developed countries such as the US and some in the EU. Nevertheless, some industries, such as steelmaking, rely on fossil fuels for energy, resulting in a notable carbon intensity of exports (Figure 4).

This section explored the green economy barriers facing developing countries, with a focus on South Africa and Brazil. It has shown that a variety of barriers prevent the expansion of the green economy, leaving these countries vulnerable to international carbon pricing measures. The following section examines the CBAM, its potential impact on South Africa and Brazil, and the manner in which they, and their partners, have responded.

The CBAM is a prominent and controversial example of this evolving trade–climate interface. While it is often justified on environmental grounds – particularly to prevent carbon leakage and incentivise global decarbonisation – its design, implementation and broader geopolitical context raise pressing questions about distributive justice, legal consistency and developmental equity. Analysing the CBAM in depth therefore provides a useful lens through which to understand how climate imperatives are being operationalised through trade instruments, and what this means for emerging economies such as Brazil and South Africa.

Concerns regarding the CBAM

The CBAM is a climate measure, part of the EU Green Deal, to prevent 'carbon leakage'.³² It seeks to equalise the price on carbon emissions embedded in goods entering the EU and to encourage environmentally friendly industrial processes in non-EU countries. Under the CBAM, EU importers of carbon-intensive products will be required to pay the difference between the carbon price that prevails in the country from which they are importing and the carbon price that is guided by the EU Emissions Trading Scheme (ETS). The difference will be paid for each metric ton of carbon dioxide equivalent embedded in a product.³³ This is meant to incentivise a shift in preferences among EU importers towards purchasing goods from countries with cleaner industrial processes, or a relatively higher domestic carbon price, thereby assisting the EU's goals of carbon neutrality.

²⁹ Bryan Harris, "[Brazil Environment Minister Demands 'Ceiling' on Oil Production](#)", *Financial Times*, December 26, 2023.

³⁰ Currency code for the Brazilian real.

³¹ World Economic Forum, "Finding Pathways, Financing Innovation: Tackling the Brazilian Transition Challenge" (White Paper, WEF, 2023).

³² Carbon leakage refers to a situation where stringent climate policies in one jurisdiction – such as the EU – lead to a relocation of production or investment to countries with weaker emissions regulations, thereby undermining global emissions reductions. It may also occur when domestic low-carbon products are displaced by more carbon-intensive imports, reducing the environmental effectiveness of unilateral climate action.

³³ European Commission, "Carbon Border Adjustment Mechanism", accessed September 12, 2025, https://taxation-customs.ec.europa.eu/carbon-border-adjustment-mechanism_en.

Countries presently engaged in exports to the EU that lack these characteristics are expected to face adverse economic repercussions.

The CBAM entered its transitional phase on 1 October 2023 and will, initially, apply to imports of goods that pose a significant carbon leakage risk. These products include steel, iron, hydrogen, electricity, fertilisers, cement and aluminium.³⁴ During the transitional phase, EU importers are required to report their import volumes and the emissions embedded therein without incurring the associated costs. Importers will incur the cost of the emissions embedded in their imports once the permanent system enters into force on 1 January 2026. Should importers fail to report embedded emissions during the transitional phase, however, they will incur fines.

According to the European Commission (EC), the CBAM is compatible with WTO rules. However, the CBAM may be inconsistent with the WTO's principles of non-discrimination, as it is likely to leave less developed countries that struggle to green their economies in a disadvantaged trading position.³⁵

The CBAM is designed as a unilateral effort to curb carbon leakage by equalising the carbon price between EU-produced goods and imports in emissions-intensive sectors such as steel, cement, aluminium and fertilisers. Ecologically, the CBAM's effectiveness depends on its ability to incentivise global producers exporting to the EU to decarbonise, rather than simply redirect emissions through trade to less stringent destinations. However, the mechanism's environmental credibility may be compromised by the exclusion of high-emitting domestic sectors, such as transport and agriculture, which account for a large share of the EU's own emissions. This inconsistency raises concerns that the CBAM may function more as a trade defence instrument (non-tariff barrier) than a coherent climate policy. From a legal perspective, the CBAM faces scrutiny under WTO law, particularly GATT Articles I and III, which prohibit discrimination among trading partners and between domestic and imported goods. Yet Article XX offers exceptions for measures necessary to protect human, animal or plant life or to conserve exhaustible natural resources. Scholars argue that the CBAM could qualify for such exceptions if it were implemented transparently, proportionately and in good faith as part of broader EU decarbonisation efforts.³⁶ Still, the risk remains that the CBAM may disproportionately burden developing countries, especially if it is not accompanied by climate finance and technology transfer to support their low-carbon transitions.³⁷

For similar reasons, under the Paris Agreement the CBAM is likely in conflict with the notion of CBDR-RC, as it will punish developing countries that are unable to green their economies at a sufficient pace.

Various studies have analysed the strengths and weaknesses of the CBAM. Some have questioned its effectiveness in reducing worldwide emissions and others have expressed concern regarding its impact on developing country welfare. In addition, fragmentation of international trade and the complexities of implementation within global supply chains have also been flagged.³⁸ Should

³⁴ EC, "Carbon Border Adjustment Mechanism".

³⁵ Bart Le Blanc and Isaac de Leon Mendoza, "[Potential Conflicts between the European CBAM and the WTO Rules](#)", Norton Rose Fulbright, February 2023.

³⁶ Giulia Claudia Leonelli, "[Carbon Border Measures, Environmental Effectiveness and WTO Law Compatibility: Is There a Way Forward for the Steel and Aluminium Climate Club?](#)", *World Trade Review* 21, no. 4 (2022).

³⁷ Cecilia Bellora and Lionel Fontagné, "[EU in Search of a WTO-Compatible Carbon Border Adjustment Mechanism](#)" (Working Paper 2022-01, CEPII, 2022).

³⁸ Melinda Martinus, "[Carbon Border Adjustment, Trade and Climate Change: Emerging Issues at COP28](#)", *Fulcrum*, December 15, 2023.

the CBAM be fully implemented without addressing these conflicts, entities and economies that do not enforce stricter environmental regulations will be adversely impacted.

Economic impact of the CBAM on South Africa and Brazil

South Africa

South Africa's export exposure under the CBAM is significant, given the high carbon intensity of its manufacturing base and its low effective carbon pricing. The country exports roughly 20–25% of its total goods to the EU, with annual values exceeding \$25 billion, making the EU one of its most important trading partners.³⁹ According to a TIPS analysis, \$2.8 billion worth of South African exports are vulnerable in the short term – especially iron, steel and aluminium, which are produced using Eskom's coal-fired electricity and carry some of the world's highest embedded emissions.⁴⁰ While a recent deal between Eskom and domestic aluminium smelters seeks to secure stable electricity supply, its climate benefits remain uncertain. Unless the underlying electricity source becomes significantly less carbon-intensive, such arrangements risk entrenching carbon lock-in rather than mitigating CBAM exposure.

Box 1. South Africa's Carbon Tax Pricing

Although South Africa's carbon tax was set at ZAR 120 per ton of carbon dioxide equivalent (tCO₂e) (EUR 5.84 (\$6,79)/tCO₂e) in 2019, increasing to ZAR 134/tCO₂e (EUR 6.52 (\$7,58)/tCO₂e) in 2022, the effective rate was less than ZAR 7/tCO₂e (EUR 0.34 (\$0,40)/tCO₂e). This is due to the tax-free thresholds that have been granted. In 2023, the International Monetary Fund (IMF) estimated that, despite the anticipated rise in the headline official rate, the effective rate is expected to remain below ZAR 8 (\$0,47)/tCO₂e until the end of 2025.⁴¹ In contrast, the EU's carbon price, under the EU's Emissions Trading System (EU-ETS), is expected to hover between EUR 65 (\$75,59)/tCO₂e and EUR 95.50 (\$111,09)/tCO₂e in 2024.⁴² Should the disparity between South Africa's carbon price and that of the EU remain beyond the transitional period, EU importers could favour imports from a region with a higher carbon price or cleaner production processes to avoid the costs associated with importing from South Africa.

South Africa's iron and steel is highly carbon-intensive, largely due to coal usage. The carbon intensity of South Africa's metal exports is about 6 000tCO₂e per \$1 million, surpassing its BRICS partners. As a result of its carbon intensity, exports face considerable risk, with 19% covered by the CBAM.⁴³ In 2021 South Africa was the 32nd largest crude steel producer in the world. The associated

³⁹ See Observatory for Economic Complexity, "South Africa", accessed July 3, 2025, <https://oec.world/en/profile/country/zaf?selector359id=HS4>

⁴⁰ Seutame Maimele, "Responding to the European Union's Carbon Border Adjustment Mechanism (CBAM): South Africa's Vulnerability and Responses" (Paper, TIPS, 2023).

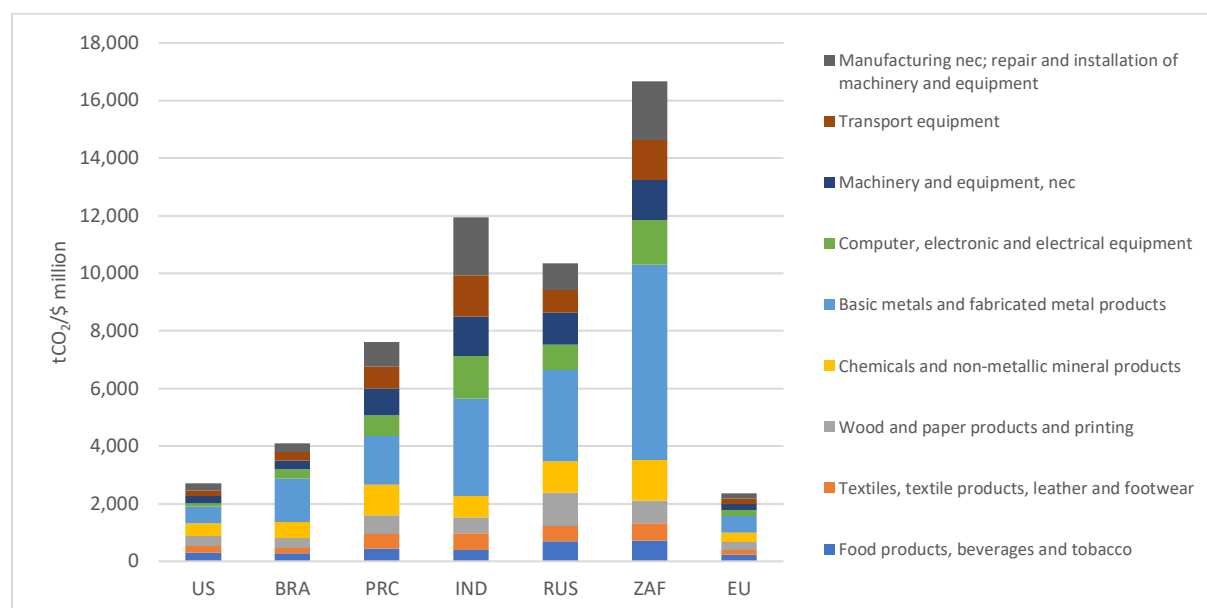
⁴¹ International Monetary Fund, *South Africa: Selected Issues*, IMF Country Reports (IMF, 2023).

⁴² Scott Chen, "Bearish EU Carbon Prices to Continue in 2024 on Lower Power Emissions, Oversupply", S&P Global Commodity Insights, December 28, 2023.

⁴³ Maimele, "Responding to the European Union".

value chain is economically important. Steelmaking contributed 1.5% to the GDP and employs 190 000 people, while basic iron and steel products contributed 0.4% to GDP.⁴⁴

Figure 4. Carbon intensity of total gross exports, by industry, BRICS, US, EU (2018)



Source: OECD, "Data Explorer", accessed September 12, 2025, https://stats.oecd.org/Index.aspx?DataSetCode=IO_GHG_2021#

Aluminium production is another energy-intensive industry in South Africa that is at risk under the CBAM. The primary source of GHG emissions in the South African aluminium value chain is coal-fired electricity. Hillside Aluminium, a primary aluminium producer, is dependent on Eskom. As a result, its carbon intensity is higher than the global average, particularly in indirect emissions. The potential inclusion of indirect emissions poses challenges for the industry, with approximately 28% of South African aluminium exports covered by the CBAM. In 2019 the aluminium industry contributed 0.7% to GDP and in 2017 it employed over 40 000 people directly and indirectly.⁴⁵ In a context of persistently high structural unemployment of approximately 33%, every job is valuable, as it creates provision for many dependents. Any job loss, therefore, has strong socio-political implications. Part of the difficulty in the context of climate change is that South Africa's manufacturing sector is already exhibiting signs of 'premature deindustrialisation',⁴⁶ and the CBAM will render the sector even more globally uncompetitive.

Given the economic significance of the industries that are at risk in the early stages of the CBAM, aligning with the mechanism – or exerting sufficient pressure to have its rules relaxed – is crucial to avoiding a disruption to the livelihoods of those who depend on these value chains. Should South Africa choose to fall out with the EU over the CBAM rules, other benefits, such as preferential market access under the SA–EU Economic Partnership Agreement, could be compromised.

⁴⁴ Government of South Africa, Department of Trade, Industry and Competition, "[Government Notices: Publication of the Steel Market Inquiry Draft Terms of Reference in Terms Of Section 43\(B\) of The Competition Act 89 of 1998 \(As Amended\)](#)" (DTIC, 2023).

⁴⁵ Maimele, "Responding to the European Union".

⁴⁶ Harvey, Morrison and Desai, "Is South Africa Afflicted".

In anticipation of rising trade exposure under the CBAM, major South African industrial emitters have begun to articulate decarbonisation strategies. ArcelorMittal South Africa, the country's largest steelmaker, has pledged to reduce its carbon intensity by 25% by 2030 and by 86% by 2050, aligning itself with global group targets.⁴⁷ Similarly, Hillside Aluminium has entered into a memorandum of agreement with Eskom to buy nuclear-generated electricity from Koeberg. This agreement is intended to preserve access to carbon-sensitive markets such as the EU and does not represent a shift toward genuinely renewable energy, nor does it reduce lifecycle emissions. These strategies indicate some responsiveness to international carbon pricing signals but fall short of structural transformation.⁴⁸

As some scholars have argued, South Africa's industrial decarbonisation remains constrained by a path-dependent energy regime, high carbon lock-in from Eskom's grid and the absence of clear carbon pricing that could incentivise capital reallocation.⁴⁹ In this context, unless firms commit to sourcing genuinely low-carbon electricity or adopt cleaner production processes, their current measures are unlikely to substantially mitigate the dual risks of ecological degradation and trade exclusion.

Brazil

Despite Brazil's relatively low-carbon electricity mix – largely owing to its high share of hydropower and other non-fossil sources – the carbon intensity of its manufactured exports varies significantly by sector. On aggregate, Brazil's exports are less carbon-intensive than those of most of its BRICS counterparts and approach levels observed in the EU and the US. However, its iron and steel industry remains a conspicuous outlier, with production still heavily dependent on coal and charcoal. Although Brazilian steel shows a lower carbon footprint than most its BRICS peers, it remains more emission intensive than China's steel exports – despite China's larger production scale – due in part to differences in technological modernisation and carbon pricing regimes. This lack of a domestic carbon price in Brazil further weakens its competitive position under the CBAM. As a result, the Brazilian iron and steel sector faces acute trade exposure, with an estimated \$2 billion in exports to the EU at risk under the CBAM framework.⁵⁰ The absence of a national CBAM response plan, coupled with the EU's exclusion of its own high-emission sectors (eg, oil and gas), adds to the perception of asymmetry and potential green protectionism. Without calibrated investment in emissions tracking, low-carbon process innovation and transitional support for exporters, the CBAM may reinforce structural trade imbalances rather than spur equitable decarbonisation.

Evidently, the CBAM poses a serious challenge for South Africa and Brazil. As other developing countries face a similar set of potential consequences, there is significant opposition to its implementation.

⁴⁷ ArcelorMittal, [Decarbonisation Roadmap](#), Report (ArcelorMittal, January 2023).

⁴⁸ Martin Creamer, "[Pathways Being Laid to Secure Lower Carbon Electricity for Hillside Aluminium](#)", *Engineering News*, August 24, 2023.

⁴⁹ Summaya Goga, "[Economic Power and the Transition to Renewables in South Africa](#)" in *Energy Regulation in Africa: Dynamics, Challenges and Opportunities*, eds. Ishmael Ackah and Charly Gatete (Springer, 2024).

⁵⁰ UNCTAD, [A European Union Carbon Border Adjustment Mechanism: Implications for Developing Countries](#), Report (UNCTAD, 2021).

Opposition to the CBAM: South Africa, Brazil, BRICS and BASIC

South Africa is among the countries that oppose the CBAM, not least due to its potential negative economic impact. In a letter to the EC, the Department of Trade, Industry and Competition referred to the CBAM as coercive and outlined the adverse socio-economic impact of its implementation. The department further argued that the CBAM undermines the principles of the Paris Agreement and the associated notion of CBDR-RC. Moreover, the letter stated that the CBAM could violate WTO provisions on non-discrimination.⁵¹

South Africa's BRICS and BASIC partners have also taken issue with the mechanism. At COP28, The Brazilian government described the mechanism as discriminatory, adding that it may hinder climate mitigation efforts.⁵² As explained above, this argument has merit if countries that are adversely affected simply shift their exports elsewhere instead of taking steps to reduce the carbon intensity of manufacturing. China's ambassador to the EU has argued that the CBAM is viewed by developing countries and the US as 'another green trade barrier'. Likewise, the Indian government has bashed the CBAM, referring to the mechanism as an ill-conceived tax.⁵³

At the BRICS level, in 2022 the influential bloc described the CBAM as the 'politicization of climate change issues' and emphasised that such unilateral measures violate the principles of the Paris Agreement. BRICS further argued that the CBAM is incompatible with WTO rules as it would restrict trade and investment and create trade barriers under the veil of climate change mitigation.⁵⁴ It is not clear whether these objections have considered the fact that GATT Article XX (b and g) allows exceptions for measures 'necessary to protect human, animal or plant life' or related to 'conservation of exhaustible natural resources'. The CBAM may be justified under these clauses, particularly if designed transparently and proportionately, and applied indiscriminately to all countries exporting to the EU. Nonetheless, in the 2023 BRICS Summit Declaration, the group expressed concern about 'coercive unilateral measures' that harm the developing world and emphasised that low-carbon transitions would be aligned with the principles of the CBDR-RC.⁵⁵

Within its climate-focused forum, BASIC, in a 2021 joint statement, expressed 'grave concern regarding the proposal for introducing trade barriers, such as unilateral carbon border adjustment, that are discriminatory and against the principles of Equity and CBDR-RC'.⁵⁶ Ahead of the COP28 proceedings, BASIC submitted a written request for the CBAM to be included in the COP28 agenda. According to reports, the group explicitly referred to 'unilateral carbon border taxes'.⁵⁷

Ultimately, South Africa, Brazil and their BRICS and BASIC partners assert that the CBAM is a coercive measure that undermines important international rules. Although South Africa and Brazil have been vocal in the recent past about their opposition to CBAM, their engagements within WTO forums have been limited. In contrast, Russia and China have questioned the CBAM's compatibility since the early days of the concept. The following section examines concerns raised within the Council for Market Access by South Africa, Brazil and their BRICS partners.

⁵¹ Government of South Africa, DTIC, [EU Green Deal: Reporting Obligations During the Transitional Period of the Carbon Border Adjustment Mechanism – ARES \(2023\)4079551](#) (European Commission, 2023).

⁵² Zia Weise, "[Brazil's Anger over EU Carbon Tax Infiltrates COP28](#)", *Politico*, December 5, 2023.

⁵³ Alice Hancock and Sylvia Pfeifer, "[How Global Trade Could Fragment After the EU's Tax on 'Dirty' Imports](#)", *Financial Times*, January 9, 2024.

⁵⁴ BRICS 2022 China, "[Joint Statement Issued at the BRICS High-level Meeting on Climate Change](#)", May 24, 2022.

⁵⁵ BRICS 2023 South Africa, "[XV BRICS Summit Johannesburg II Declaration](#)", August 23, 2023.

⁵⁶ Government of South Africa, DFFE, "[Joint Statement issued at the conclusion of the 30th BASIC Ministerial Meeting on Climate Change Hosted by India on 8th April 2021](#)", April 8, 2021.

⁵⁷ Weise, "Brazil's Anger over EU Carbon".

Engagements within the WTO: BRICS vs. the CBAM

Historically, the WTO has stayed clear of climate-related discussions – the issue of climate change had not been explicitly discussed in WTO agreements. Likewise, the UNFCCC avoided discussions related to global trade. However, COP28 saw the end of silo-like operations from these entities. For the first time, the international climate negotiations hosted a 'Trade Day'.

Box 2. The WTO's Trade Policy Tools for Climate Action

At the annual climate negotiations in 2023, the WTO unveiled its Trade Policy Tools for Climate Action. This is a 10-point toolkit that seeks to assist in climate change mitigation by integrating trade policy tools into national strategies.⁵⁸ Policy tools include:

- trade facilitation
- government procurement
- services
- regulations and certification
- subsidies
- import tariffs
- trade finance
- internal taxation and carbon pricing
- food and agriculture
- sanitary and phytosanitary (SPS) measures

Some of these policy tools, such as trade facilitation measures, provide developing countries with the opportunity to improve their infrastructure and business environment, which would help to reduce GHG emissions. However, other proposed tools appear not to have accounted for the stages of development in these countries. The redirecting of state subsidies, for example, from fossil fuels to renewable energy infrastructure could be counterproductive for those African states that rely on exports of oil and gas for foreign earnings and economic development.⁵⁹ However, many oil-exporting African nations that do not produce their own refined fuel and end up importing it as well as subsidising its consumption, have failed thus far to diversify their economies or deliver broad-based development. It is not clear, then, that the CBAM will significantly undermine development efforts. Redirecting state subsidies towards renewable energy technology production may well catalyse the economic diversification required to move these countries away from oil dependence and stranded asset risk.

Another point made against the proposed set of tools is that reducing tariffs on green products may undermine domestic manufacturing in developing countries, as only a handful have the capacity to compete with imports. In addition, it may also impede the ability to meaningfully participate in global value chains by perpetuating their status as exporters of the critical materials needed for the manufacture of renewable energy components and importers of renewable energy technology.⁶⁰

⁵⁸ World Trade Organization, [Trade Policy Tools for Climate Action](#) (WTO, 2023).

⁵⁹ Olabisi D. Akinkugbe, "[Trade Rules and Climate Change: Africa Stands to Lose from Proposed WTO Policy Tools](#)", *The Conversation*, December 17, 2023.

⁶⁰ Akinkugbe, "Trade Rules and Climate Change".

The WTO, as a multilateral rules-based institution, does not take policy positions per se, but rather adjudicates member commitments under agreements such as GATT. While the WTO legal framework permits trade-related environmental measures – such as carbon pricing mechanisms – these must conform to principles of non-discrimination and proportionality. Specifically, measures such as the CBAM must comply with GATT Articles I and III but may potentially be justified under the general exceptions clause in Article XX, provided they are not applied arbitrarily or as disguised protectionism. Several major developing countries – including Brazil, South Africa, India, China and Russia – have submitted concerns to COP, arguing that CBAM may conflict with WTO obligations and fails to adequately reflect the principle of CBDR-RC.⁶¹ These submissions underscore the broader tension between climate ambition and equitable treatment in global trade governance.⁶²

In a late 2020 submission, China flagged the CBAM's inconsistency with WTO rules, with Russia reiterating these concerns and arguing that the CBAM does not align with international climate agreements. At this meeting, South Africa stated that it shared these concerns. In 2021, China argued that, to address the climate challenge, WTO members must remain committed to multilateralism and the CBDR-RC and should not create green barriers that cause disruption to international trade.⁶³ At the same time, Russia repeated its concerns about WTO rules and Paris Agreement incompatibility and asked that the EU provide various clarifications on how the CBAM would be compatible. During this meeting, India and Brazil also expressed views on the issue. India also stated that, although a thorough legal examination is required, the CBAM appeared to be inconsistent with WTO rules. It further argued that such measures must be consistent with the notion of CBDR-RC. Brazil stated that quantifying carbon emissions based on EU benchmarks would unjustly disadvantage non-EU entities and that CBDR-RC must not be ignored.⁶⁴

In a 2022 meeting, Russian representatives stated that the CBAM is a protectionist measure that seeks to enhance the EU business environment by localising industrial processes. In addition, the Russians brought attention to various articles of the UNFCCC that the CBAM neglects, including CBDR-RC, cooperation and independent choice when determining climate mitigation measures.⁶⁵

The international discourse surrounding the CBAM highlights its problems. As developing countries navigate this hurdle, coordination among like-minded nations is essential. These countries can strengthen their collective pushback against the CBAM by forming strategic alliances and engaging in constructive dialogues with proponents. By advocating for the recognition and upholding of international rules, they can contribute to shaping a more equitable global framework for carbon pricing. Although South Africa's and Brazil's WTO engagements have been limited to date, they are likely to grow more vocal in their opposition. By working together, they can contribute to improved outcomes for all potentially affected nations.

⁶¹ Martinus, "Carbon Border Adjustment".

⁶² WTO, Trade Concerns, "European Union: Carbon Border Adjustment Mechanism", accessed September 12, 2025, <https://tradeconcerns.wto.org/ES/stcs/details?imsId=49&domainId=CMA>.

⁶³ WTO, Trade Concerns, "European Union".

⁶⁴ WTO, Trade Concerns, "European Union".

⁶⁵ WTO, Trade Concerns, "European Union".

Opportunities for collaboration between Brazil and South Africa

There are several opportunities for collaboration between Brazil and South Africa aimed at strengthening Southern voices to shape the global trade architecture for economic growth and sustainable development. Given their influential positions as major players in the Global South, Brazil and South Africa can jointly champion fair and inclusive global trade policies. This collaboration would empower them to represent the interests of developing nations, particularly in forums where trade measures related to climate are deliberated.

Both South Africa and Brazil have voiced their opposition to the CBAM, expressing concerns about its potential adverse economic impacts and violations of international agreements. This stance is shared by the members of BRICS/BASIC, albeit as individuals. Recognising its inevitability, South Africa and Brazil, along with their closest and most influential partners, should advocate for restructuring the CBAM to be cognisant of the varying green economy capacities across developing countries. Moreover, while the EU seems confident that the CBAM is non-discriminatory and justifiable under the exemption clauses of GATT XX, it might serve countries like South Africa and Brazil to rather focus on what emissions the CBAM currently omits, which exposes potential hypocrisy. The effectiveness of the CBAM remains constrained by several structural limitations. These include its narrow sectoral scope during the initial implementation phase and the absence of comprehensive lifecycle carbon accounting, particularly the exclusion of indirect (Scope 3) emissions. Another limitation is the omission of key high-emission sectors such as agriculture and transport (the EU's own sources of emissions), which are central to ecological sustainability. While the CBAM is an innovative step toward aligning trade with climate objectives, its current design renders its ecological impact partial and potentially symbolic, unless it is broadened and integrated into a more holistic global decarbonisation regime.

While it is unlikely that a delay in the implementation of the CBAM will materialise, South Africa and Brazil, in collaboration with their BRICS partners, can insist on technological support to help developing country economies build less carbon-intensive manufacturing sectors. As many countries, including South Africa and Brazil, have plans to significantly reduce emissions by 2030, delaying the CBAM until at least then would provide leeway for heavy emitters to reduce their emissions before adjustment charges are imposed.

Outside of the BRICS group, countries from Eastern Europe, Asia and South America have also voiced concerns about the CBAM. Given their negotiating power relative to that of some of their regional neighbours, BRICS countries can provide a platform for the less powerful to express opposition. In a similar vein, with Saudi Arabia and Argentina also questioning the CBAM's compatibility with international rules, advocacy efforts can be channelled through what is envisioned as 'BRICS+'. Expanding the coalition of countries pushing for a coherent narrative will amplify the impact of advocacy efforts.

It is crucial to note that advocating for less stringency in the trade arena does not imply that developing countries should neglect the development of a green economy. In light of the inevitable CBAM and legislative measures such as the Inflation Reduction Act in the US, South Africa and Brazil must prioritise emission reductions to remain competitive in an increasingly climate-ambitious world. This necessitates a review of their industrial policies concerning energy sources.

While South Africa's Industrial Policy Action Plan indicates the intention to green various industries, the scale of this transformation is currently insufficient. Incentivising the move away from emission-intensive processes or the deployment of emissions reduction technology may be more effective. To support this, the government can consider raising the domestic carbon tax. This would exert pressure on heavy emitters to adopt environmentally friendly processes, potentially averting negative CBAM effects for domestic industry.

Bringing the effective rate of the carbon tax closer to the price of carbon equivalent under the EU-ETS also implies that EU importers face lower adjustment costs for South African products. Furthermore, South African emitters would pay for their emissions within their own jurisdictions. While an increase in the effective carbon tax rate could lead to higher prices for consumers, proper government appropriation of funds could alleviate other societal burdens.

Accelerating the greening of the electricity mix in South Africa will significantly reduce the carbon intensity of products that are manufactured using electricity as an energy source. This requires finalising and implementing the draft Integrated Resource Plan 2023 and addressing bottlenecks in the REIPPPP process such as transmission grid capacity. The finalisation and implementation of the South African Renewable Energy Masterplan (SAREM) could provide an ideal platform to bolster green economy development.

Although SAREM does not prioritise the production of renewable energy technology for export, its rapid implementation could position South Africa as a renewable energy technology hub on the continent. Once South Africa achieves this status, it could leverage the opportunities presented by SADC and the African Continental Free Trade Area to assist the development of green economies in the region and across the continent. Until SAREM is finalised and implemented, South Africa could seek assistance from Brazil, leveraging the MERCOSUR-SACU Preferential Trade Agreement to receive technology.⁶⁶

The Cabinet's approval of SAREM in March 2025 marks a critical step toward operationalising South Africa's green industrial transition. As a strategic framework grounded in inclusive industrialisation, SAREM aims not only to support the roll-out of 3–5GW of renewable energy annually but also to catalyse domestic manufacturing of key components (such as solar panels, wind turbine towers, inverters and batteries) and generate over 25 000 jobs by 2030. Importantly, the plan aligns with the country's climate obligations under the Paris Agreement and the 2024 Climate Change Act while emphasising a just energy transition. Although final implementation has been delayed pending the inclusion of investor incentives and green hydrogen standards for international aviation and maritime fuel blends, the plan signals South Africa's intent to anchor its competitiveness within the global renewable energy value chain. Rapid implementation will be essential not only for domestic decarbonisation but also to secure South Africa's positioning as a continental hub for clean energy innovation and export.⁶⁷

In conclusion, collaboration between Brazil and South Africa holds promise for strengthening Southern voices in shaping a global trade architecture that supports both economic growth and sustainable development. By addressing common challenges, advocating for fair trade policies and fostering green initiatives, these nations can contribute to creating a more equitable global trade landscape.

⁶⁶ BNamericas, "[Can Brazil Become an Industrial Hub for the Global Solar Market?](#)", September 4, 2023.

⁶⁷ Brigitte Baillie, Ernst Muller and Pawan Maharaj, "[South African Cabinet Approves Renewable Energy Masterplan](#)", Herbert Smith Freehills LLP, May 15, 2025.

Conclusion and recommendations

Global trade and climate policy are intersecting more explicitly than ever before. As industrialised countries embed climate objectives into trade frameworks – most notably through instruments like the CBAM – developing countries such as South Africa and Brazil face a dual burden. This burden consists of the pressure to decarbonise rapidly and the economic risks of doing so under externally imposed mechanisms. These challenges are not limited to emissions intensity or trade exposure; they reflect deeper asymmetries in financial capacity, technological access and rule-making power. Both countries have raised legitimate concerns about the unilateral character of emerging climate–trade instruments, their compatibility with WTO principles and their failure to reflect the doctrine of CBDR-RC. Yet defensive postures alone will not secure equitable outcomes in this rapidly evolving trade–climate order.

Despite the legacy of historical carbon accumulation and ongoing inequities in the global economy, the imperative now is to avoid further transgression of planetary boundaries. Climate-aligned trade should not function as a new form of green protectionism but as a mechanism for collective decarbonisation and inclusive global development. Achieving this requires that countries like Brazil and South Africa not only respond to current instruments but also shape the institutional frameworks – at the WTO, the UNFCCC and beyond – that will govern climate and trade in the decades ahead.

Policy recommendations

Strengthen South–South collaboration on trade and climate justice

South Africa and Brazil, through forums such as BRICS, BASIC and the G77, should lead coordinated advocacy to ensure that global climate-trade mechanisms are equitable, transparent and inclusive. Joint submissions to the WTO and UNFCCC could emphasise the need for just transition financing, technology transfer and capacity-building mechanisms tied to CBAM implementation.

Leverage multilateral reform windows at the WTO and COP

Both countries should actively shape the evolving trade–climate interface by proposing WTO-compatible climate provisions that integrate development needs. This includes championing a WTO work programme on trade and climate that centres on the needs of low- and middle-income countries and ensuring loss and damage financing and technology transfers are explicitly addressed in COP negotiations.

Operationalise national decarbonisation frameworks

Rapid implementation and enforcement of Brazil's Forest Code, as well as its transition away from deforestation-driven agriculture, is crucial. In South Africa, executing SAREM and reforming the electricity mix (and transmission grid) to reduce the carbon intensity of exports must be immediate priorities. Public investment should focus on renewables-linked infrastructure and green industrial development.

Reform carbon pricing architecture

South Africa's effective carbon price remains far below that of the EU-ETS. A phased increase in carbon taxation, aligned with social protection and industrial competitiveness support, could reduce CBAM exposure risk while advancing domestic climate goals. Brazil, too, should consider formalising a national carbon pricing regime to prepare for future CBAM expansion and improve export resilience.

Invest in green export competitiveness and traceability systems

Developing emissions accounting, certification and traceability systems –especially for high-risk sectors such as steel, aluminium and agri-exports – will be essential to navigate future CBAM phases and retain market access. Both countries can benefit from joint technical cooperation to standardise and lower the cost of compliance systems.

Integrate climate finance and trade diplomacy

International climate finance pledges must be linked more directly to trade resilience. South Africa and Brazil could demand that carbon border mechanisms be accompanied by transitional finance to support affected sectors and communities. CBAM-related revenues in the EU, for instance, could partly be channelled into dedicated adaptation and green industrial funds for lower-income trade partners (or partners locked into carbon-intensive production for historical reasons).

Recognise the common planetary imperative

While South Africa and Brazil are legitimately entitled to defend their economic interests, they must also accept their shared responsibility, as regional leaders, in preventing further climate breakdown. Crafting cooperative solutions that reconcile climate ambition with inclusive development is not optional but existential.

Appendix

Table 1. Policies supporting a low-carbon transition in South Africa

Year of publication	White paper, strategy or policy	Responsible department
1998	White Paper on Environmental Management Policy for South Africa	Department of Environmental Affairs
2000	White Paper on Integrated Pollution and Waste Management	Department of Environmental Affairs
2003	Annual Industrial Policy Action Plans	Department of Trade and Industry
2005/2015	National Energy Efficiency Strategy	Department of Energy
2011	The National Climate Change Response Policy	Department of Environmental Affairs
2011	Green Economy Accord	Economic Development Department (now the Department of Trade and Industry)
2011	Independent Power Producer Procurement Programme	Department of Energy
2016	Integrated Energy Plan of 2016 (plus earlier iterations)	Department of Energy
2017	National Climate Change Adaptation Strategy	Department of Environmental Affairs
2019	Carbon Tax Policy	National Treasury
2019	Integrated Resource Plan 2019 (plus earlier iterations)	Department of Energy
2023	The South Africa Renewable Energy Master Plan (Draft)	Department of Mineral Resources and Energy; Science and Innovation; Trade, Industry and Competition
2023	Electric Vehicles White Paper	Department of Trade, Industry, and Competition
2024	Integrated Resource Plan 2023 (Draft)	Department of Mineral Resources and Energy

Source: Author's elaboration using Tendai Gwatidzo and Witness Simbanegavi, "Building a Competitive and Dynamic Green Industrial Sector in South Africa after COVID-19" (Working Paper WP21/11, South African Reserve Bank, Pretoria, 2021), 12.

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