UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

A Positive Trade and Environment Agenda for the BRICS

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EXECUTIVE SUMMARY

The economic weight of the BRICS countries has grown steadily over the past decades, with their combined GDP reaching 26% of the world's output in 2022 and their share of global trade reaching 21%. Inevitably, greenhouse gas (GHG) emissions from BRICS have also increased over the years with each individual BRICS economy now on the list of top 20 emitters. However, based on overall emissions and on a per capita basis, the BRICS contribution remains much lower than that of the developed economies.

The accelerating pace of climate change demands a collective effort across all countries based on the principles of the Paris Agreement and in line with the Sustainable Development Goals. However, the resort to unilateral, trade-related measures to address climate change in the developed world risks damaging development prospects in developing countries, including the BRICS. One such unilateral measure is the use by the European Union of a Carbon Border Adjustment Mechanism (CBAM) which would impose a carbon tariff on imports into the EU from non-EU countries, based on the level of carbon emissions generated in the production of the imported products.

UNCTAD estimate that the impact of CBAM on reduction in GHG emissions will be small (less than 0.1%) but would significantly impact energy-intensive exports from BRICS countries to the EU, with falls from between 15% to 26% depending on the carbon pricing scenarios adopted. The real income of BRICS may fall between $4 billion to $7 billion with maximum fall in Russian Federation ($2.5 billion), followed by India ($1.6 billion) and South Africa ($1.3 billion). Such measures which reduce real incomes in BRICS will make it more challenging for these countries to progress on their climate goals.

With the pace of climate change accelerating, the costs of adaptation are becoming enormous. Undoubtedly, economic diversification, technological progress, robust government finances and reliable sources of foreign exchange are the preconditions for successful climate change adaptation and mitigation strategies in the developing world. The economies of the BRICS, taken together, can offer considerable leverage, on both environmental conditions and those shaping trade and finance, to the benefit of other developing countries.

This paper assesses the evolution and extent of trade and financial interactions within the BRICS, and by extension within the Global South, given the pivotal role of BRICS economies in their respective regions. While BRICS economies have steadily increased their contributions to global growth in recent decades, these countries and their partners must do more to promote and support growth models that are more consistent with endogenous capacities and with a production matrix that uses physical and labour endowments to the fullest extent possible. This transformation will require a more balanced approach between domestic productive sectors in each economy and more cooperation between BRICS members to benefit from each other's capacities as well as to alleviate financial and technological constraints. While trade integration has been palpable, a more balanced approach will need to integrate plans for climate change mitigation and adaptation, more fully with policies to promote green industrialization and structural transformation, to enhance the development of *affordable* technologies, and increase investments in physical and social infrastructure.

In this vein, BRICS member states could consider **a Positive Trade and Environment Agenda for BRICS Cooperation**, fleshed out in this paper, that creates a policy framework to provide incentives, rather than punitive measures, to promote environmentally sustainable trade both, both among BRICS and in their trade globally. This agenda could include cooperation in green industrialization to build resilient supply chains; expand climate financing; facilitate affordable green technology transfers; encourage collaboration in R&D; and carve out incentives and policy space for green transition in international fora such as the UNFCCC and the WTO.

Inevitably, the scope for success of a development, growth and environmentally sustainable agenda mediated by the BRICS is limited if multilateral trade and financial arrangements, where the support of advanced economies is critical, are not altered. In this respect, the BRICS members, and developing economies more generally, must not lose sight of influencing the role exerted by the major economies. Crucially, BRICS and the Global South should strive to interact with the rest of the world from a position of strength, with sufficient policy space, as well as with a spirit of cooperation firmly anchored in the fact that the natural environment and particularly its climate are intrinsically global.

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Chapter 1: Introduction

Balancing economic growth and environmental sustainability, as affirmed in the UN 2030 Agenda, is the shared mission of the international community, which requires dedicated economic policies and effective cooperation including for financing, technology innovation and transfer, and trade.

The BRICS constitute an important grouping that includes major developing countries. In 2021, the combined GDP of BRICS countries was around 26% of the world GDP; its members jointly accounted for 21% of total global merchandise exports and 12% services exports. BRICS economic performance has generally been dynamic in recent decades. Despite the variation among the individual members, the average growth rate among BRICS has exceeded the world average since 2001. Along with the economic growth, GHG emissions from BRICS have also increased. Against the backdrop of global efforts in addressing climate change, BRICS members have also identified addressing climate change as one of their priorities and are designing strategies to reach dual development goals, namely maintain sustained economic growth and deliver on their climate commitments.

All BRICS members have approved the Paris Agreement and have submitted their National Determined Contributions (NDCs) commitments, which include their key climate goals and actions in both mitigation and adaptation. All BRICS members have announced their timetable for reaching the net zero emissions level that is essential for the global efforts toward the Paris Agreement ambition: “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”.

However, BRICS member states may still face challenges achieving these dual goals. At the national level, pushing forward low carbon energy mix transition, mobilizing climate finance, encouraging green innovation and technological development are among the key tasks. At the international level, emerging topical discussions on trade and environmental issues may pose additional pressure on BRICS – not only on their progress towards climate goals but also on their economic growth and exports.

Building on the analysis of their economic and trade performance as well as climate goals and actions, this report outlines a BRICS cooperation framework on trade and environment. Though focused on BRICS, this agenda could apply to the wider developing world. This agenda highlights possible cooperation among the BRICS members for green industrialization, which will build synergies to diversify intra-BRICS trade, forge resilient supply chains, enhance climate finance, facilitate affordable green technology transfers, and promote R&D and innovations. Also, strengthened solidarity among BRICS countries would strengthen their ability to carve out policy space for developing countries in international fora such as the UNFCCC and WTO.

The report is organized as follows: **Chapter 2** analyzes the economic and trade performance of BRICS and focuses on intra-BRICS trade composition and potential for future diversification of trade. **Chapter 3** summarizes the key challenges facing BRICS in updating their global trade and environment agenda to include the impact of trade-related unilateral environmental measures like the Carbon Border Adjustment Mechanism (CBAM) on exports and real income of BRICS countries. **Chapter 4** proposes a Positive Trade and Environment Agenda with a set of policy recommendations for BRICS cooperation framework. **Chapter 5** concludes.

Chapter 2: Pattern, Composition and Potential of BRICS Global and Intra-BRICS Trade

2.1. BRICS Share of Global Trade

BRICS constitutes an important grouping as measured by their size and share in global output and trade. In 2022, the combined GDP of BRICS was around 26% of the world GDP, while its exports comprised 21% of global merchandise exports. China accounts for the biggest share of BRICS GDP, 70%, followed by India (13%), Brazil and Russian Federation (7% each) and South Africa (2%). But the annual GDP growth rate of BRICS has been declining since 2007, when it was highest at 11%, to about 5% in 2019. In 2021, BRICS achieved 7.5% growth, a strong rebound from the pandemic shock in the previous year (-0.02%). All BRICS countries saw negative rates of growth in 2020, except China, which recorded a growth rate of 2.4%.

In trade, for 2022, BRICS accounted for 21% of the world total merchandise exports and 12% of global services exports (see figure 2.1a and 2.1b). Their share of imports was 16% and 13% for goods and services trade respectively.

Figure 2.1a: BRICS Share of Global Trade in Goods

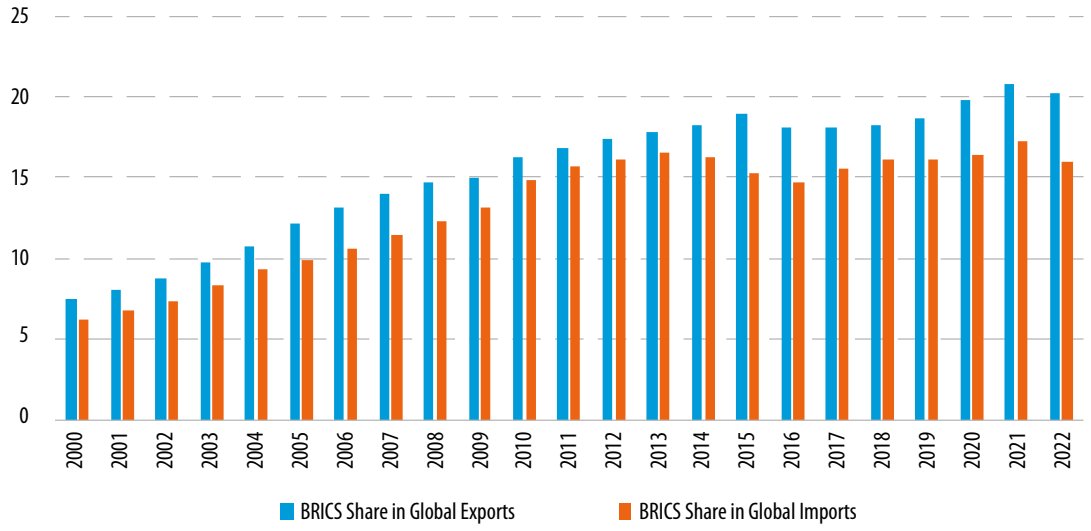
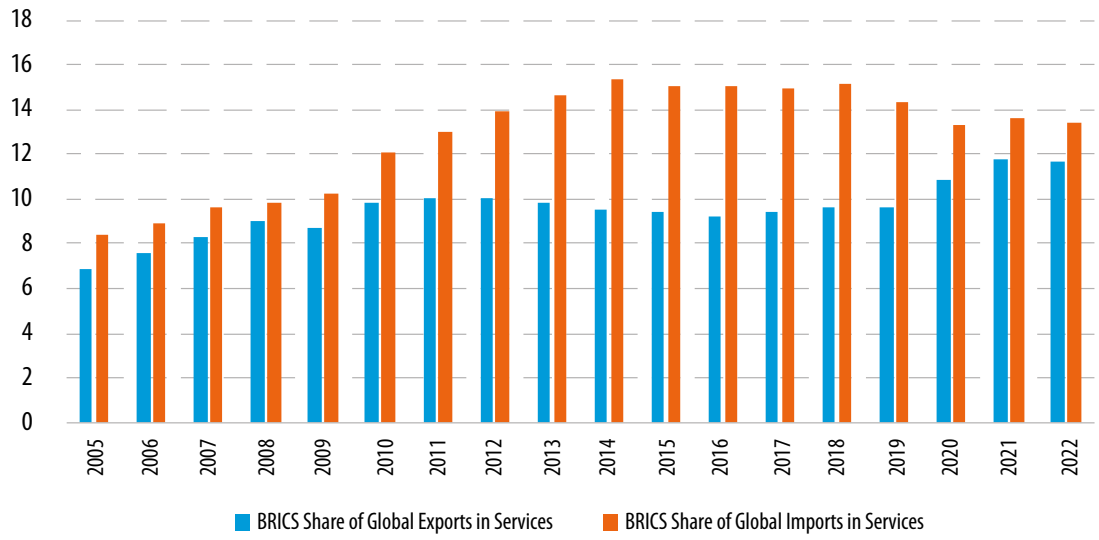


Figure 2.1b: BRICS Share of Global Trade in Services



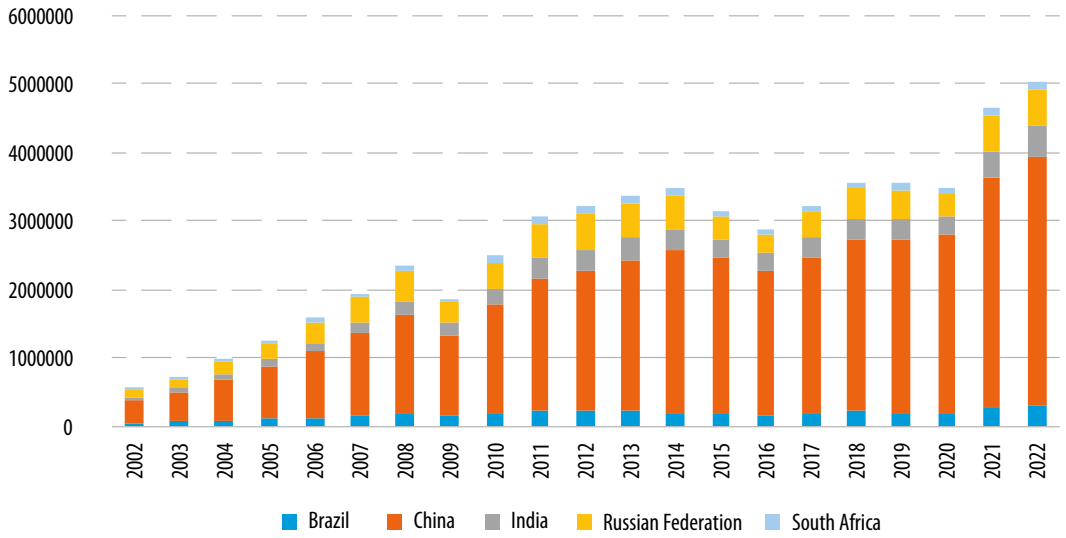
Source: UNCTADStat.

BRICS members are together a net exporter of goods to the rest of the world, with exports amounting to almost US$4.5 trillion in 2022 and imports of US$ 3.7 trillion. BRICS global exports are mainly driven by China.

2.2. *Intra-BRICS Trade has Grown Faster than BRICS Trade with Non-BRICS countries*

Intra-BRICS trade in goods represents 11.5% of BRICS global trade. However, intra-BRICS trade has increased faster than BRICS trade with rest of the world over time. Intra-BRICS exports have increased from $92 billion in 2006 to $434 billion in 2022, an annual growth rate of 9.8%. Intra-BRICS exports dropped during the pandemic to $340 billion. China has the major share of intra-BRICS exports followed by Brazil, Russian Federation, India, and South Africa.

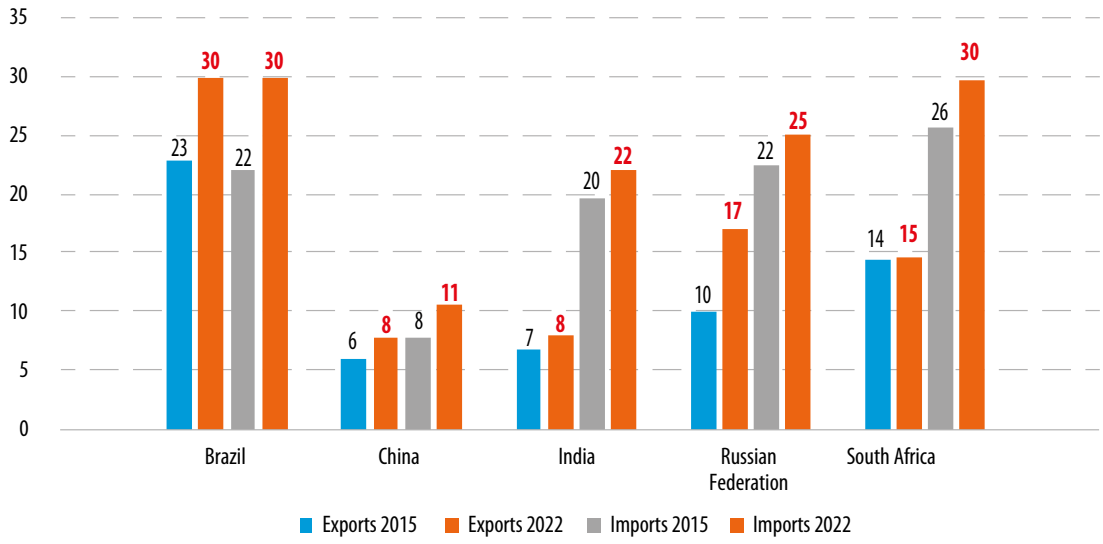
Figure 2.2: Share of Countries in Intra-BRICS Exports: 2002-2022



Source: World Integrated Solutions (WITS), COMTRADE.

BRICS has emerged as an important trading partner for all BRICS countries. The share of BRICS in total exports and imports of all BRICS countries has increased over time (Figure 2.3).

Figure 2.3a: BRICS as a Partner in Exports and Imports of BRICS Countries: 2006-2022

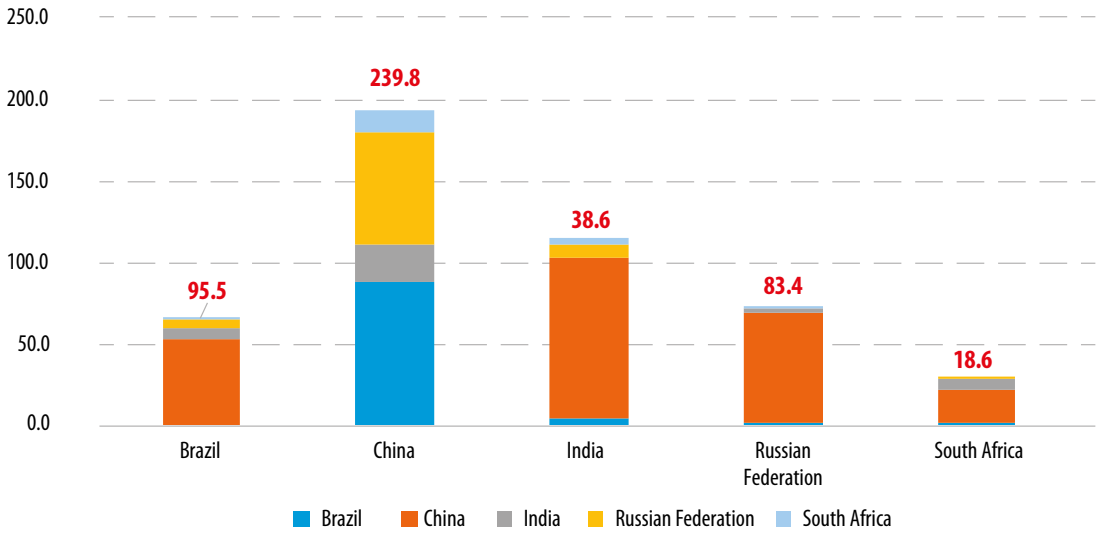


Source: World Integrated Solutions (WITS), COMTRAD.

2.3. Direction of Intra-BRICS Trade

China is the major destination for exports of goods for all BRICS countries, while India has emerged as the major export destination for China followed by Russian Federation. After China, the second-largest export destination for BRICS countries is India.

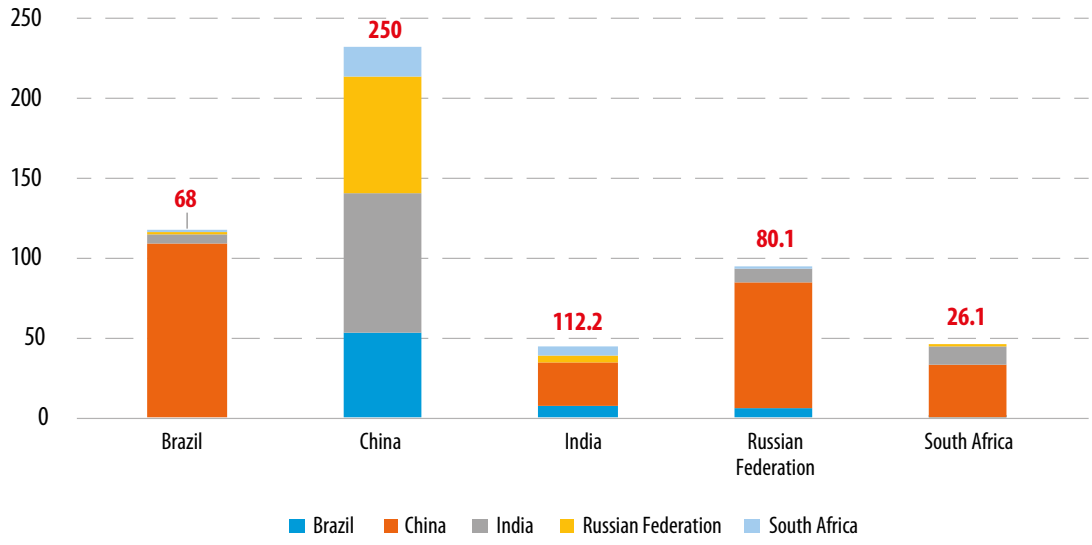
Figure 2.4a: Exports to BRICS in 2022 ($Billion)



Source: World Integrated Solutions (WITS), COMTRADE.

China is also the major destination for imports for all BRICS countries, while Brazil is the major destination for imports for China followed by Russian Federation. India emerges as the second largest destination for imports for all BRICS countries.

Figure 2.4b: Imports from BRICS in 2022 ($Billion)



Source: World Integrated Solutions (WITS), COMTRAD.

2.4. Composition of BRICS Global and Intra-BRICS Trade

BRICS countries have very similar global export baskets. The share of top five products (at HS 2-digit level) constitutes 73% of total exports in Russian Federation, 65% in South Africa, 57% in Brazil, 55% in China and 41% in India (Table 2.1). Mineral fuels appear in top five products in all BRICS countries except China, while mineral ores are amongst the top exports of Brazil and South Africa. Iron and steel are prominent exports for Brazil, India, and Russian Federation; and vehicles figure in top five exportable for China and South Africa. Machinery and mechanical appliances are amongst the top five exports for China, India and South Africa.

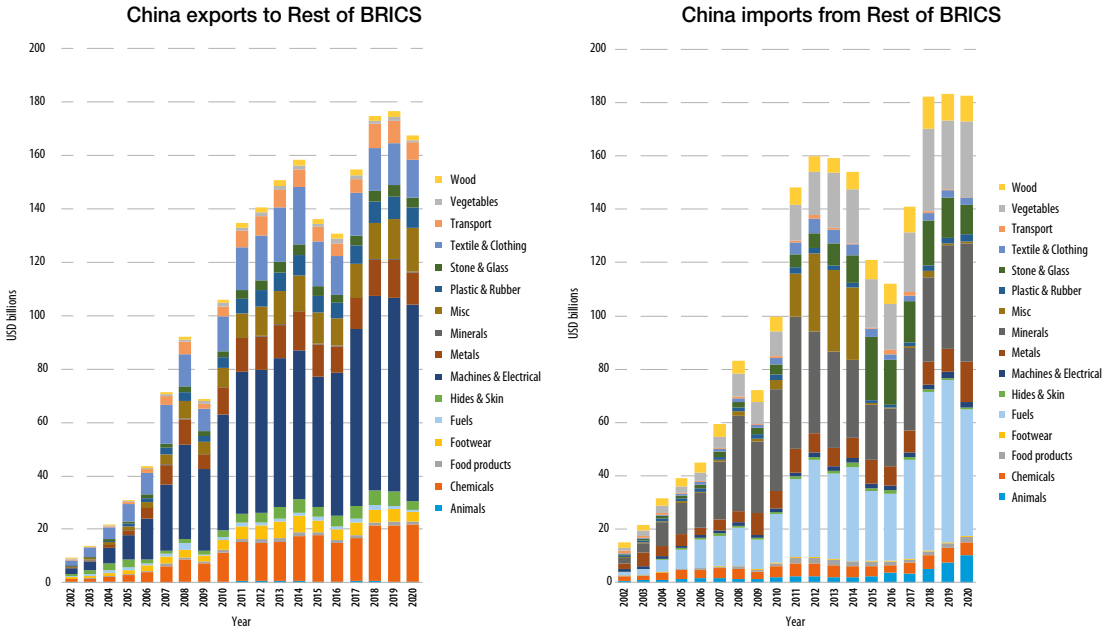
Table 2.1: Composition of BRICS Global Export Basket in 2021: Top Five Exports

Brazil	China	India	Russian Federation	South Africa
Ores, slag and ash-HS26	Electrical machinery and equipment and parts thereof-HS85	Mineral fuels, mineral oils and products of their distillation-HS27	Mineral fuels, mineral oils and products of their distillation-HS27	Natural, cultured pearls; precious, semi-precious stones-HS71
Oil seeds and oleaginous fruits-HS12	machinery and mechanical appliances; parts thereof-HS84	Natural, cultured pearls; precious, semi-precious stones; coin-HS71	Commodities not specified according to kind-HS99	Ores, slag and ash -HS26
Mineral fuels, mineral oils and products of their distillation-HS27	Furniture, bedding, mattresses, mattress supports-HS94	machinery and mechanical appliances; parts thereof-HS84	Natural, cultured pearls; precious, semi-precious stones-HS71	Vehicles; other than railway or tramway rolling stock-HS87
Meat and edible meat offal-HS2	Plastics and articles thereof-HS39	Iron and steel-HS72	Iron and steel-HS72	Mineral fuels, mineral oils and products of their distillation-HS27
Iron and steel-HS72	Vehicles; other than railway or tramway-HS87	Organic chemicals-HS29	Fertilizers-HS31	machinery and mechanical appliances; parts thereof-HS84
57% of total exports	55% of total exports	41% of total exports	73% of total exports	65% of total exports

Source: World Integrated Solutions (WITS), COMTRAD.

In terms of composition of exports and imports within BRICS, China mainly exports capital goods to BRICS partner countries, followed by consumer goods and then intermediate goods (mainly machines and electrical products), followed by chemicals, and textiles and clothing. China mainly imports raw materials, and after that, intermediate goods, from BRICS countries. The main import for China from BRICS is fuels, which includes petroleum oils and natural gas, followed by minerals (such as iron ore, manganese ore, and copper) and vegetables and food products (including soya beans and beef). Other significant imports include diamonds and wood.

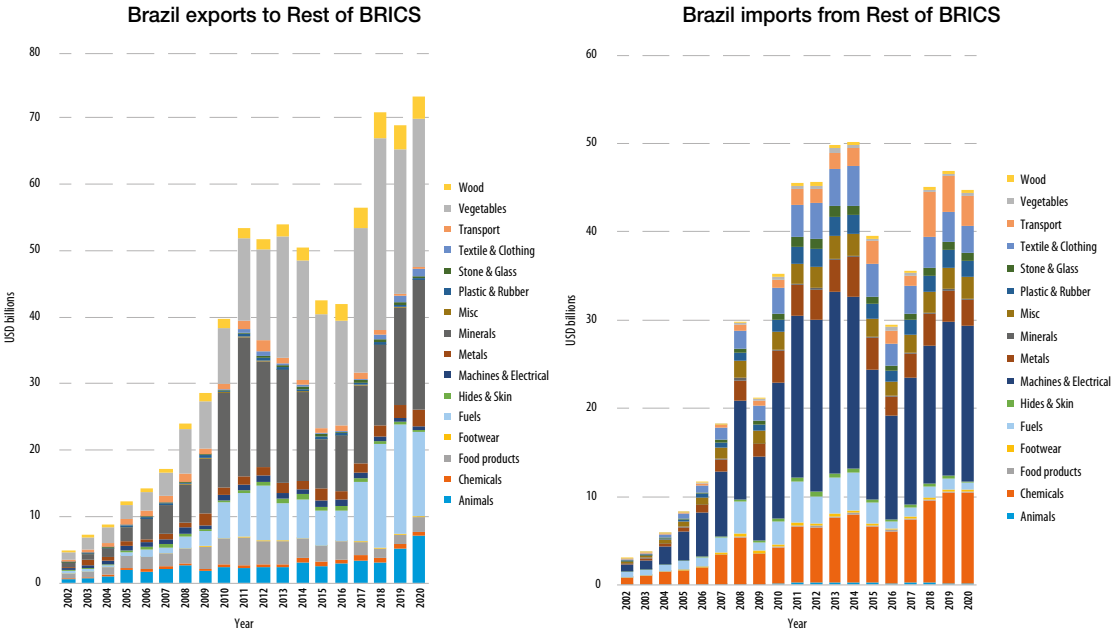
Figure 2.5: Composition of China's Exports to BRICS



Source: World Integrated Solutions (WITS), COMTRADE.

Brazil exports primarily raw material to BRICS countries, mainly vegetables and food products (such as soya beans, beef, poultry, swine, and sugar), followed by minerals (iron ore) and fuels (petroleum products). It imports capital goods from BRICS partner countries, followed by intermediate products. Within capital goods, it primarily imports machines and electrical goods (such as drilling equipment, computers, smartphones, semiconductor chips and broadcasting equipment) followed by chemicals (including potassium chloride, insecticides and herbicides).

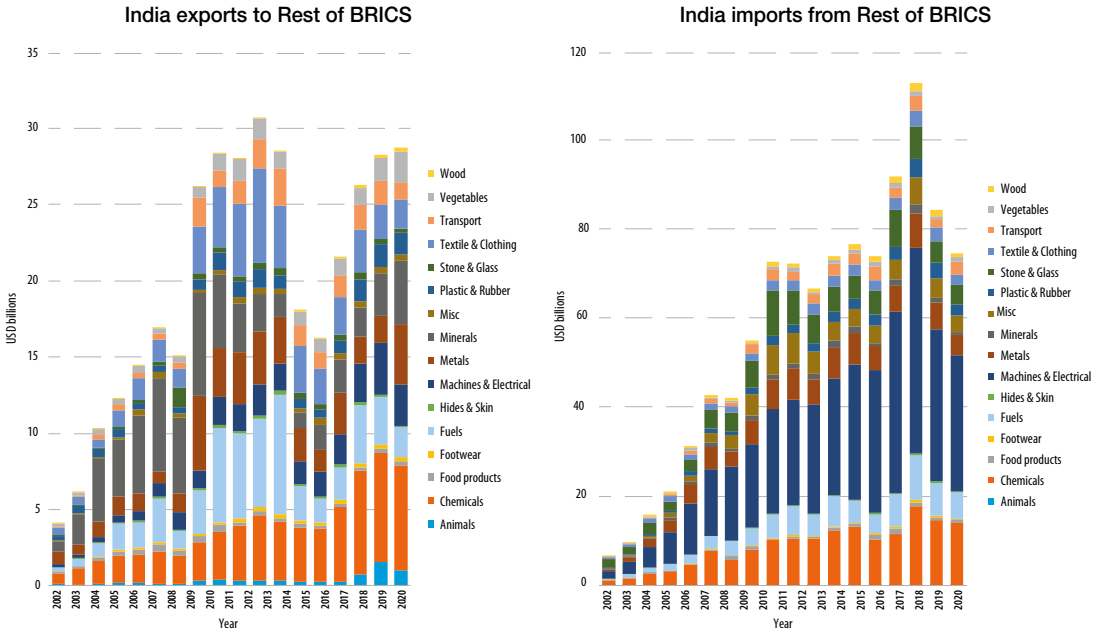
Figure 2.6: Composition of Brazil's Exports to BRICS



Source: World Integrated Solutions (WITS), COMTRADE.

India exports mainly intermediate goods to BRICS partner countries, followed by consumer goods and then raw materials. These consist of chemicals (such as hydrocarbon products, and insecticides), minerals, and metals (primarily iron ores). India's other significant exports include petroleum products, medications, and seafood**.** India's main import from BRICS countries has been machines and electrical goods (such as computers, smartphones, semiconductor devices, broadcasting equipment, and display equipment). Other significant imports include coal and petroleum products, gold, and diamonds.

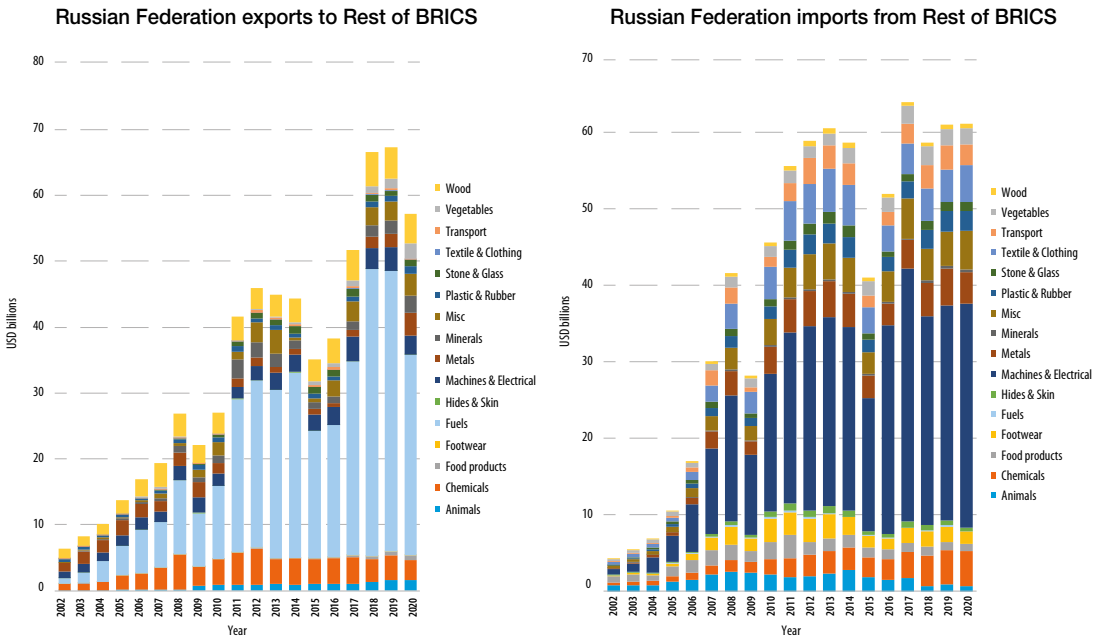
Figure 2.7: Composition of India's Exports to BRICS



Source: World Integrated Solutions (WITS), COMTRADE.

Russian Federation mainly exports raw materials to BRICS partners, followed by capital and then consumer goods. Russian Federation's primary export is fuels (such as petroleum products, natural gas, and coal). It mainly imports machines and electrical goods (including computers and computer accessories, broadcasting equipment, and heavy machinery) followed by imports of textile and clothing chemicals and metals.

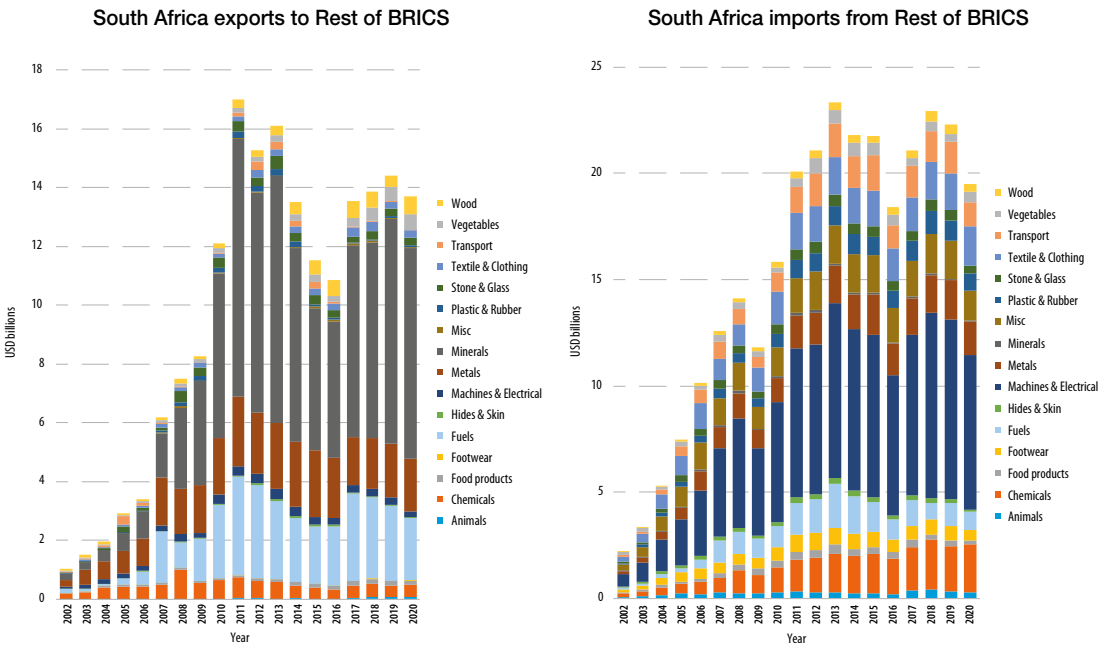
Figure 2.8: Composition of the Russian Federation's Exports to BRICS



Source: World Integrated Solutions (WITS), COMTRADE.

South Africa mainly exports minerals (such as iron, manganese, chromium, zirconium, and copper), followed by fuels (primarily coal). It mainly imports machines and electrical goods (automobiles, computers, smartphones, broadcasting equipment, semiconductor devices, and display equipment) followed by chemicals, textile and clothing and metals.

Figure 2.9: Composition of the South Africa's Exports to BRICS



Source: World Integrated Solutions (WITS), COMTRADE.

2.5. Need and Future Potential for Diversifying Intra-BRICS Trade

Striking in the composition of BRICS global trade and intra-BRICS trade is the importance of mineral ores, fuels, metals and petroleum products, followed by chemicals, vegetables and food products.

BRICS countries may gain tremendously by diversifying their trade baskets through strategic interventions. Identifying the products which can be added to the intra-BRICS export basket could be the first step.

Examining the product composition of exports and imports of BRICS with non-BRICS countries (Figure 2.10) it clearly comes out that there is a huge potential to diversify intra-BRICS trade, especially in chemicals (HS 28-38), food products (HS 16-24), stone and glass (HS 68-71), transport (86-89) and vegetables (HS 06-15) where BRICS are both exporters as well as importers from non-BRICS countries.

Figure 2.10a: Product Composition of Imports of BRICS to Non-BRICS in 2020

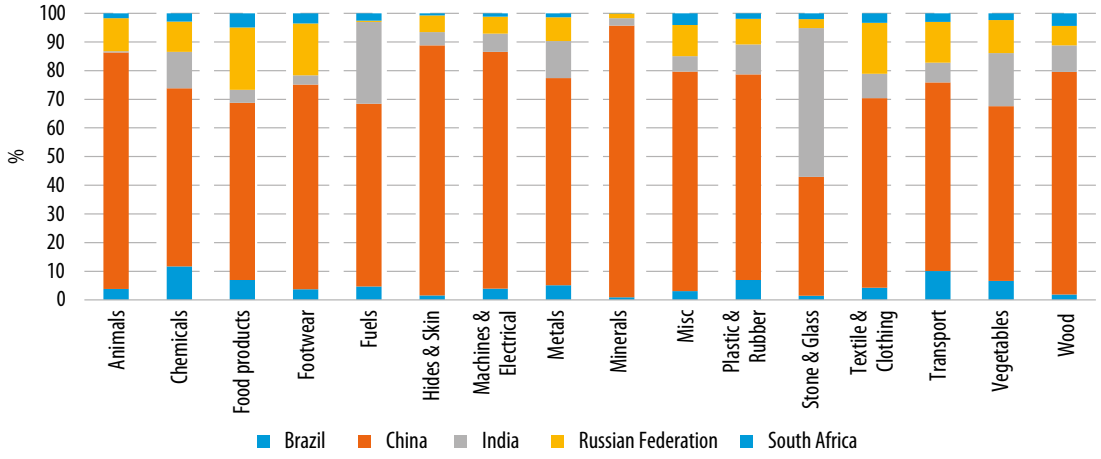
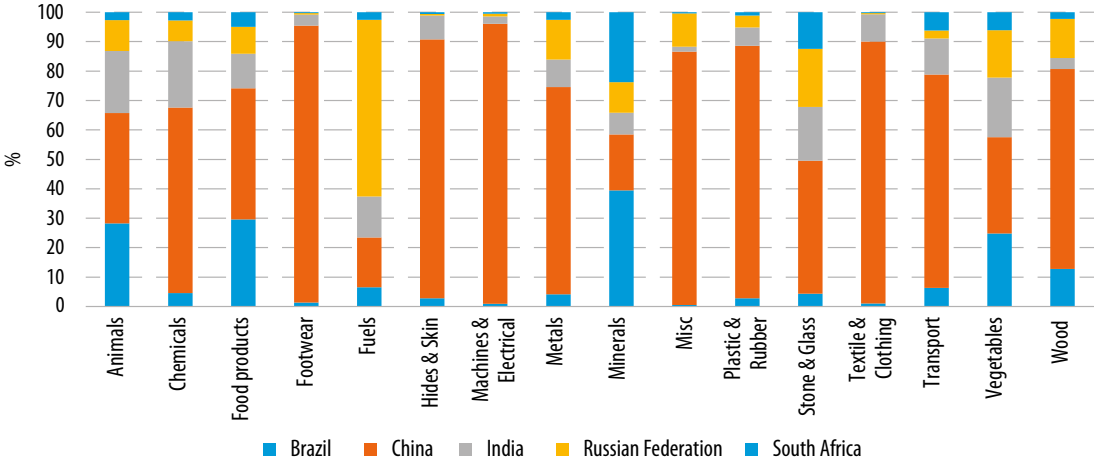


Figure 2.10b: Product Composition of Exports of BRICS to Non-BRICS in 2020



Source: World Integrated Solutions (WITS), COMTRADE.

Most of the products in BRICS export baskets have high carbon footprints. Given the evolving global trade and environment agenda as well as trade-related measures undertaken unilaterally by advanced countries, BRICS countries must urgently diversify their export baskets.

Chapter 3: Emerging Challenges for BRICS in Trade and Environment Agenda

3.1. Global Context

Anthropomorphic global climate change has become a major concern for all governments. According to the IPCC AR6, the global mean surface temperature (GMST) for the decade 2011-2020 is 1.09°C above the 1850-1900 period. If the current rate continues, global warming is likely to reach 1.5°C between 2030 and 2052.

Global warming and associated extreme events have caused widespread adverse impacts on land and ocean ecosystems, which have further hindered efforts to achieve UN 2030 Sustainable Development Agenda. Climate change has also caused huge economic damages and lower economic growth. In 2020, Major monsoon floods and tropical cyclones affected more than 2.2 million people in China and 9.6 million in South Asia, including in Nepal, India and Bangladesh that caused more than $20 billion in damage across these areas. (UNCTAD, 2021)

To address the rising risks and climate change impacts, the Paris Agreement, a legally binding treaty on climate change under the aegis of the UNFCCC, have set three key targets for global climate actions, including (1) mitigation: “holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change”; (2) adaptation: “increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production”; and (3) climate finance: “making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”.

To achieve the global goal, signatories must “reach global peaking of greenhouse gas emissions as soon as possible”. In fact, according to the available scientific evidence, the pathway consistent with 1.5 °C target requires urgent actions to achieve a steep GHG emissions decline globally: a peak before 2025 and a reduction by about 43% from 2019 levels by 2030 to reach net zero around 2050.

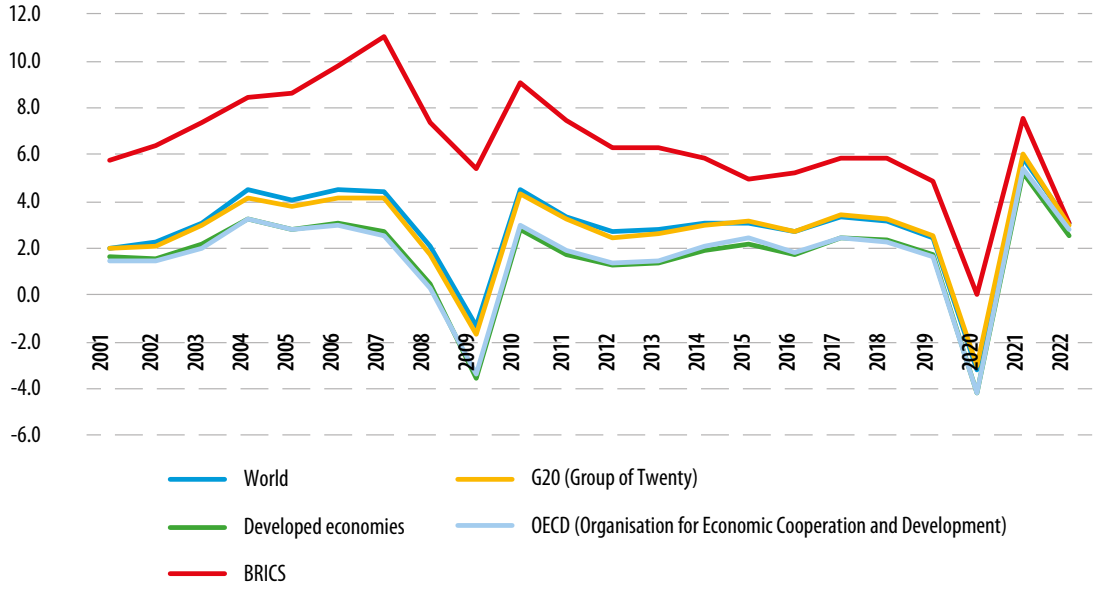
According to IPCC AR6, the global cumulative net CO2 has continued to rise since 1850. Average annual GHG emissions during 2010-2019 were higher than in any previous decade[1]. Growth in BRICS economies has also been accompanied by higher GHG emissions.

3.2. Economic Growth and GHG Emissions in BRICS

Despite the variance among the individual members, the average growth rate among BRICS is much higher than the world average since 2001 (Figure 3.1). GHG emissions from BRICS have also increased rapidly as a portion of the global total in the last few decades, even though, historically, BRICS countries have not contributed significantly to global gas emissions. Given the global context, BRICS members will have to design mutually reinforcing policy strategies to reach dual development goals of both maintaining sustained economic growth and achieving climate commitments.

[1] But the rate of growth between 2010 and 2019 was lower than the between 2000 and 2009.

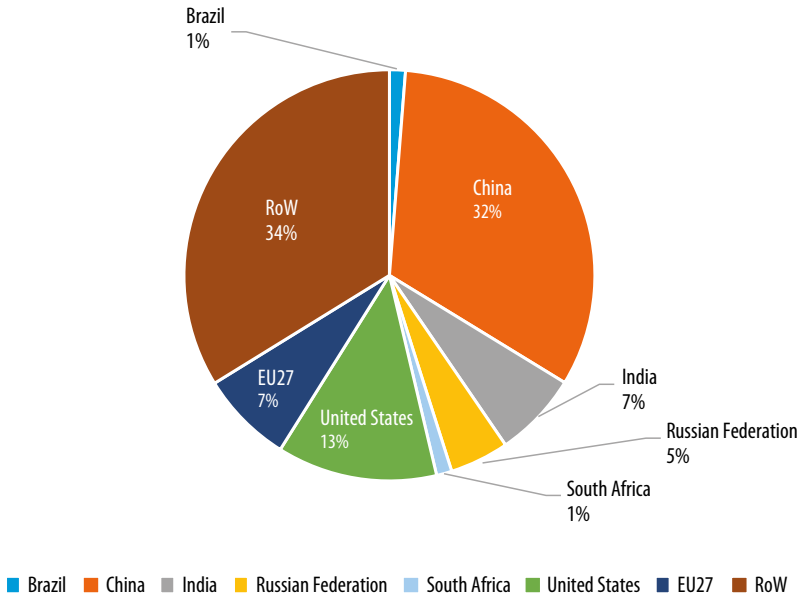
Figure 3.1: Real GDP Growth: the World and Selected Groups: 2000-2022



Data source: UNCTADStat.

In 1997, five BRICS members accounted for 26.7% of the world total emissions; in 2020, the share reached 46.3% (Figure 3.2).

Figure 3.2: Regional Share of Global Emissions in 2020

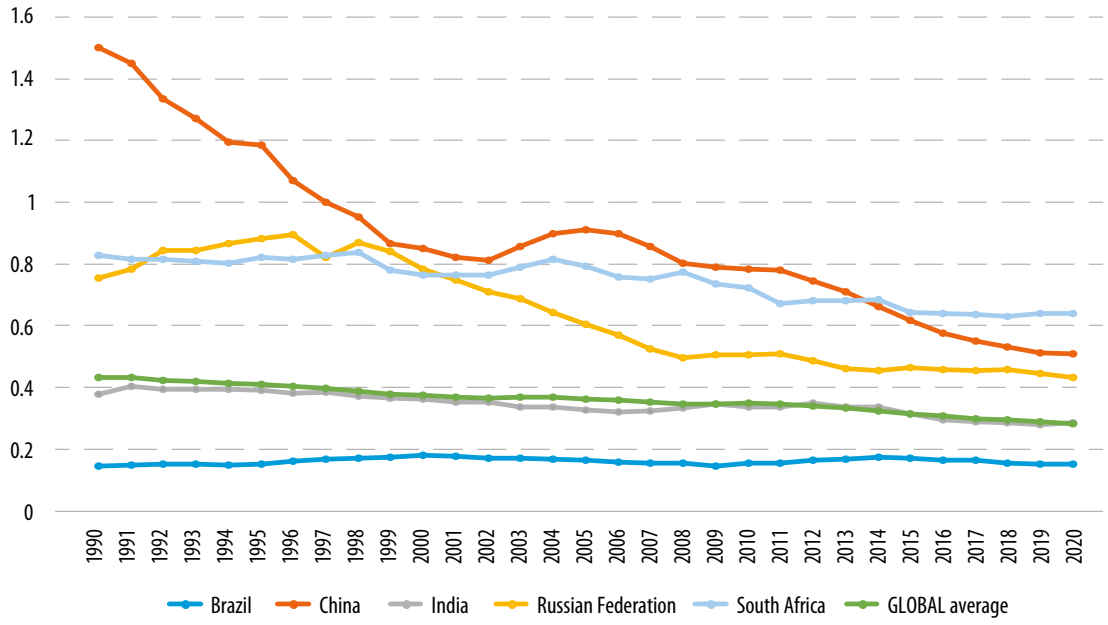


Source: author's calculation based on EDGAR data.

Currently, China is the largest GHG emitter in the world, accounting for about 30% of total emissions, equivalent to its share in global manufacturing sector in value-added terms. India, Russian Federation, Brazil, and South Africa also rank in the list of top 20 emitters.

In terms of emissions per GDP (also referred to as 'energy efficiency'), among BRICS members, South Africa, China, and Russian Federation remain higher than the global average. The emission intensity of China's GDP has dropped substantially in the last two decades; emission per unit of GDP in 2020 is now one-third what it was in 1990. From 2005 to 2019, the carbon intensity reduction in China represents a cumulative reduction of about 5.7 billion tons of CO2 emissions. (Figure 3.3). India has also shown remarkable energy efficiency gains in the 2000s, though lesser than China. The experience of these two economies suggest great potential for positive change. UNCTAD has estimated that if the world as a whole followed similar patterns, fossil fuels per constant dollar unit of world output would decline by nearly half in fifteen years (UNCTAD Trade and Development Report 2019, Chapter 3).

Figure 3.3: Change of Emissions Intensity of BRICS



Data source: EDGAR.

Based on emissions per capita and historical patterns, BRICS contributions to GHG buildup remains much lower than the developed economies. In emission per capita, Russian Federation is the highest in the BRICS, but still significantly lower than some developed economies, including the US and Canada. From 1850 to 2019, historical cumulative net CO2 emissions were about 2400 GtCO2, of which 58% occurred between 1850-1989. Therefore, BRICS members bear far less responsibility than the developed economies for historical emissions.

It is also noteworthy that two BRICS members, China and India, have relatively decoupled their GDP growth and Consumption Based Emissions (CBEs) between 2015-2018, reflecting a slower growth in emissions per unit of GDP growth (IPCC, 2022b).

3.4. New Challenges for BRICS from Trade-related Unilateral Environmental Measures

3.4.1. Carbon Border Adjustment Mechanism

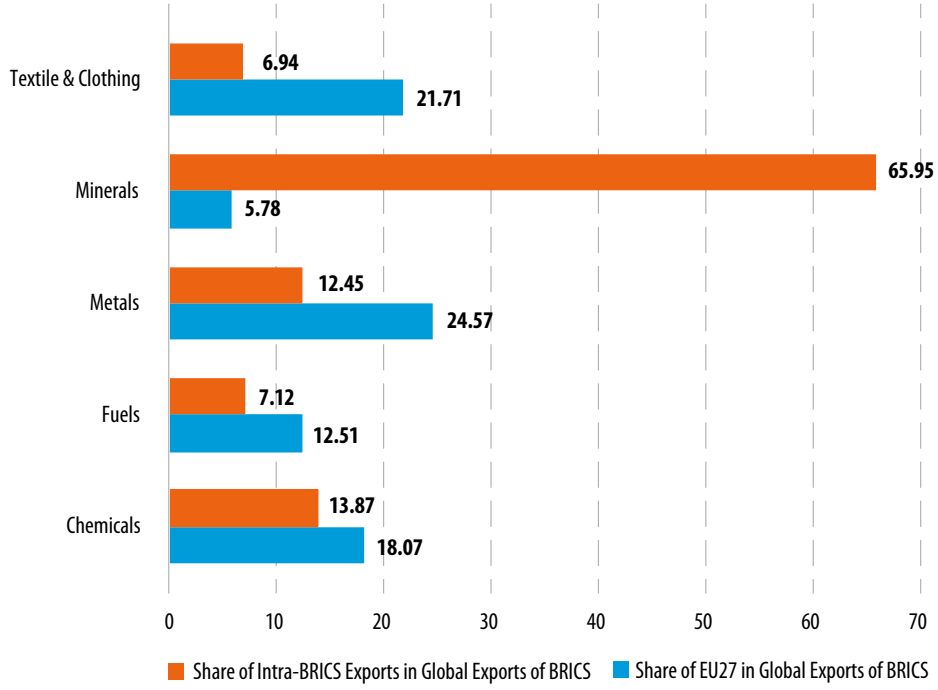
Though BRICS members bear relatively little responsibility for GHG buildup, global exports of BRICS will suffer under unilateral actions taken by some developed countries, such as the carbon border adjustment mechanism (CBAM) being introduced by the European Union (EU) and under consideration by other developed countries including the US and the UK. CBAM entails taxing imported goods at a rate commensurate with the amount of CO2 emissions generated in their production.

CBAM was first proposed in 2019, as part of the European Green Deal which stated "As long as many international partners do not share the same ambition as the EU, there is a risk of carbon leakage". After several years of discussion among the EC, EU Council and European Parliament, the EU is ready to start the transition period of CBAM on 1 October 2023, with the system fully operational on 1 January 2026.

OECD (2020) has identified seven high carbon emitting industries: mining and extraction of energy and related products; textiles, wearing apparel, leather and related products; chemicals and non-metallic mineral products; basic metals and fabricated metal products; computers, electronic and electrical equipment; machinery and equipment; and motor vehicles, trailers and semi-trailers. Intra-BRICS trade is high in these industries, and BRICS are major exporters to the world. EU's CBAM will initially apply to 5 products: cement, iron and steel, aluminum, fertilizers, electricity, and hydrogen.

Figure 3.4 examines the importance of trade with the EU27 compared to intra-BRICS trade in some of these industries. The share of EU 27 in BRICS global exports is much higher than intra-BRICS in metals, textiles and clothing, chemicals and fuels, while intra-BRICS exports are higher in minerals compared to BRICS exports to the EU.

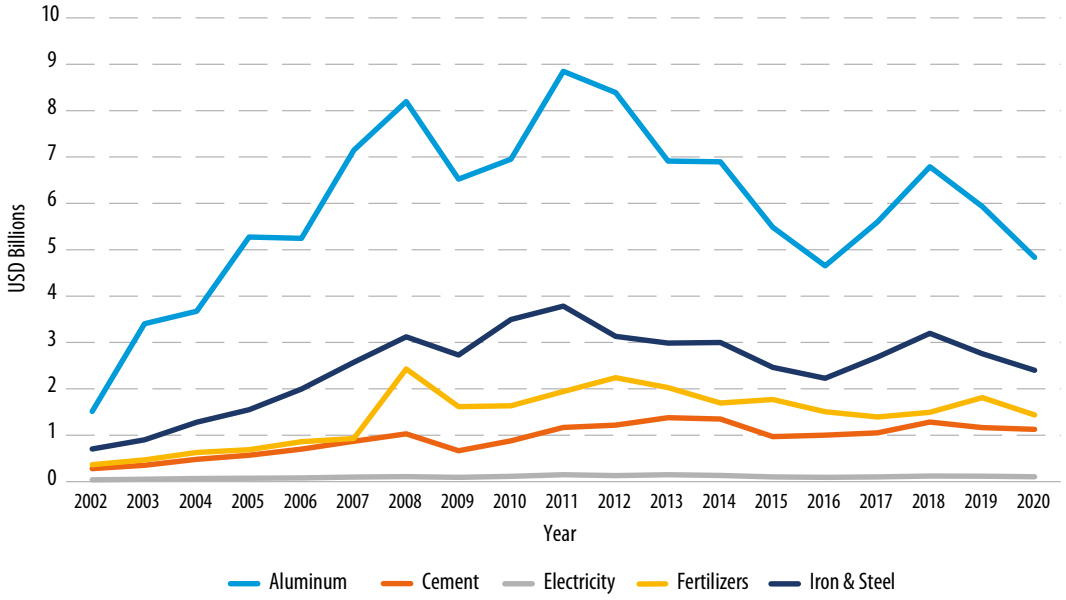
Figure 3.4:Share of EU and Intra-BRICS in Global Exports of BRICS in CBAM-Impacted Products



Source: World Integrated Solutions (WITS), COMTRADE.

Among selected products that are an early focus of CBAM, BRICS exported a total of $9 billion in iron and steel to EU27 countries in 2020. Exports of aluminum to EU27 countries were worth $7 billion, followed by cement at $2.5 billion, fertilizers at $2 billion, and electricity at $420 million (Figure 3.5).

Figure 3.5: Exports of BRICS to EU-27 in CBAM-Impacted Products



Source: World Integrated Solutions (WITS), COMTRADE.

Russian Federation leads the group in exports of iron and steel with almost $4 billion in 2020, followed by India ($1.9 billion) and China ($1.5 billion), with Brazil and South Africa exporting $1 billion and $0.7 billion, respectively.

China exports about $1.8 billion in cement to EU27 countries, while India exports about $0.5 billion of cement. Russian Federation ($0.16b), Brazil ($0.08b), and South Africa ($0.02b) are not significant exporters of cement to EU27 countries.

China exports about $3.9 billion of aluminum to EU27 countries, followed by Russian Federation at about $1.9 billion of exports of aluminum. South Africa exports $0.6 billion, India $0.4 billion, and Brazil exports $40 million worth of aluminum to EU27 countries.

China exports $400 million of electricity while Russian Federation dominates the fertilizer exports from the group, supplying nearly all the $2 billion in fertilizers to EU27 countries.

3.4.2. Impact of CBAM on BRICS Exports to the EU27

Further to the analysis in Chapter 1, CBAM will also lead to a fall in export competitiveness of developing countries in energy-intensive sectors such as paper products, petroleum, coal products, chemicals, fertilizers, cement, glass, steel, ferrous metals, aluminum and electricity. According to UNCTAD (2021), Argentina, Egypt, Indonesia, Israel, Kazakhstan, Malaysia, Mexico, Morocco, Saudi Arabia, Thailand, Turkey, Ukraine, and others will experience a fall in exports. Terms of trade (i.e., export prices increase relative to import prices) improve for the EU.

According to UNCTAD's estimates, the introduction of CBAM will lead to a significant fall of exports of energy intensive products of developing countries to the EU27. For BRICS the impact will be significant, ranging between a fall of 15% to 26% of exports depending on the carbon price scenarios. Exports of energy intensive products from the Russian Federation and South Africa will be most affected (Table 3.1).

Table 3.1: Changes in exports of energy intensive products, percent

	CBAM $ 44	CBAM $88
Brazil	-1.49	-2.78
China	-1.98	-3.52
India	-2.91	-4.72
Russian Federation	-4.27	-7.69
South Africa	-4.51	-7.59
BRICS	-15.16	-26.3

Source: UNCTAD, 2021.

3.4.3. Impact of CBAM on BRICS Real Income

CBAM imposes a carbon tariff on the imports into the EU based on carbon emissions in production. Non-EU exporters will have to purchase certificates corresponding to the carbon price that they would have paid if the product would have been produced in the EU. According to the EU, this tariff will discourage carbon leakage – the shift of manufacturing from the EU into non-EU countries with more relaxed carbon emission rules – and provide a level playing field for their producers.

However, according to OECD (2020) estimates, carbon emissions in internationally traded goods and services account for only 27% of total global carbon emissions, suggesting the impact of CBAM on global carbon emission will be limited. In fact, UNCTAD (2021) estimates that CBAM will reduce global carbon emissions by no more than 0.1% but will decrease global real income by $3.4 billion, with developed countries income rising by $2.5 billion while developing country incomes fall by $5.9 billion. Developing countries experiencing a loss in real incomes include all BRICS countries.

According to UNCTAD (2021) two scenarios are possible. First, in addition to domestic carbon price of $44 per tonne of carbon emissions, a CBA is imposed on European Union's imports of electricity and products from energy intensive industries of $44 per tonne of embedded carbon emissions. A second scenario foresees a carbon price on CO2 emissions of European Union's products and imports of power and energy-intensive sectors of $88 per tonne of embedded carbon emissions. BRICS real income could fall by $4 billion in the first scenario and by $7 billion in the second scenario. The Russian Federation will take the maximum hit ($2.5 billion) followed by India ($1.6 billion) and South Africa ($1.3billion) (Table 3.2).

Table 3.2: Change in real income in BRICS due to CBAM by Scenario ($Millions)

	CBAM $44	CBAM $88
Brazil	-443	-786
China	-372	-752
India	-1,046	-1,675
Russian Federation	-1,356	-2,501
South Africa	-816	-1'385
BRICS	-4,033	-7,099

Note: Simulations using base prices of $44 and $88 per tonne of carbon emissions for producers in the European Union.

In today's world economy, production and trade has integrated through global value chains (GVCs). In this process, manufacturing activities which entail relatively higher carbon-emitting activities have often been outsourced to developing countries, while non-manufacturing activities, like branding and distribution, have been based in developed countries, often where a multinational firm is based. Once again, the energy efficiency of the North cannot be delinked from the energy inefficiency of the South. Applying carbon tariffs on energy-intensive products entering developed countries from developing countries raises serious questions of fairness.

3.5. Challenges Facing BRICS in their Green Transition

Reaching national climate goals of BRICS requires fundamental transformation in economic and social policies, no small challenge. BRICS must advance economic growth and social development at the same time. Despite dynamic growth since the turn of the century, BRICS lag behind developed countries. The average GDP per capita for BRICS members was $6,384 in 2020, just about 14% of G7 average ($45,810).

Green transformation in the economy may provide new growth drivers but could also pose additional pressure on the economic and social development plans for BRICS members. Also, transformation is normally associated with income redistribution, which could worsen wealth and income inequality, a serious development challenge for most of the BRICS members. Policy must ensure not only an effective but a just energy transition.

Three types of challenges stand out among the BRICS: transforming the energy mix, mobilizing financial resources, and encouraging green innovation in technologies.

The energy transition will be vital since the energy sector remains the single largest contributor to global emissions, 34% in 2019. Furthermore, some research demonstrates a strong mutual relationship between economic growth and demand for energy and electricity, particularly in developing countries. (Stern, 2011; IPCC AR6). BRICS energy mixes remain heavily dependent on fossil fuels. Coal still dominates the energy mix of South Africa and China, with a share of about 75% and 56% respectively, though China has reduced its dependence on coal significantly since 2005. Almost 70% of India's primary energy demand are met by coal (44%) and oil (25%) in 2020.

Even though Brazil has relatively clean electricity production, with 65.2% coming from hydropower and only 12% from fossil fuels (mainly natural gas), power production in the country is still dependent on highly emitting industries. Petroleum and derivatives account for 33.1% of the energy matrix, while coal and natural gas account for 4.9% and 11.8%, respectively. For Russian Federation, almost 90% of its energy consumption comes from natural gas, oil, and coal. Fundamental changes to the energy mix in the short run seem unlikely, given economic growth targets, so there will be enormous pressure on BRICS members to meet the carbon peak and neutrality target.

The second challenge is whether BRICS members could mobilize adequate financial resources to meet the demand for its climate actions. Considering the energy mix, high-level emissions, and continued economic growth and urbanization process, BRICS members may face enormous green financing gaps. According to estimates referred by the PBoC, up to 2060, China needs to mobilize 150-300 trillion RMB ($24-48 trillion) to meet the investment needed to reach carbon neutrality[2]. Brazil has an estimated green investment potential of $1.3 trillion between 2016-2030 solely in the energy, transportation, building, waste management and industrial energy efficiency sectors. The Council on Energy, Environment and Water (CEEW) estimates that India will need $10 trillion will be needed to achieve net-zero by 2070,

[2] http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/4265944/index.html, accessed on 21 April 2022.

while India could face an investment shortfall of $3.5 trillion[3]. For South Africa, IFC estimated that total investment demand for the country to achieve national goals is over $600 billion from 2015 to 2030, or at least $40 billion annually, while research found the total climate finance for 2017 and 2018 was just a bit over $4 billion.

The third challenge is the development and application of green technologies. As defined in the Agenda 21[4], green technologies or environmentally sound technologies "protect the environment, are less polluting, use all resources in a more sustainable manner, recycle more of their wastes and products, and handle residual waste in a more acceptable manner than the technologies for which they were substitutes". To address climate change, technology could aid both mitigation and adaptation.

Renewable energy technologies (biofuels, solar photovoltaic, solar thermal, wind), carbon capture and storage, electric and hybrid vehicles, smart power grids, clean coal technologies, green buildings and other related technologies are technologies for mitigation. Adaptation technologies include climate-resistant infrastructures (sea walls, drainage capacity, water, forest and biodiversity management), irrigation systems, higher-yield seeds (for more arid and saline soils) and drought-resistant crops.

In developing green technologies, developed countries have had much greater advantages than emerging and developing countries including BRICS members. OECD research (2015) found that, from 2000-2011, over 7.4 million patents on green technologies were registered in the world, 6 million (or 81.3%) from OECD countries. Encouraging green innovation and application of technology as part of decarbonization strategies remains a formidable challenge for BRICS.

3.6. Meeting the Challenges

While BRICS countries are not historically big GHG emitters and their share in cumulative and per capita emissions remains low, they face new challenges from trade-related unilateral environmental measures in advanced countries, like the CBAM. Such measures, while not significantly lowering GHG emissions, can have huge distributional impacts. Real incomes in developing countries will fall due to shrinking exports while real incomes of advanced countries will rise. Exports of BRICS will also fall, along with real incomes and employment.

Developed countries have well-coordinated positions on these issues, especially on trade-related environmental measures like the CBAM, notably through G7 trade ministers' meetings as well as in WTO-initiated 'trade and environmental sustainability structured discussions' (TESSD). Developing countries do not yet have a coordinated position.

BRICS summit in 2023 and beyond provides perfect opportunity for major developing economies to discuss the trade and environmental issues, identify the key areas of concern and interest to them, and coordinate their positions. Given the significance of BRICS members in the Global South, position and policy coordination could help build broader solidarity amongst developing countries in different international fora. One approach is a Positive Trade and Environment Agenda, the subject of Chapter 4.

[3] https://www.weforum.org/agenda/2022/01/green-finance-bolster-india-transition-net-zero/#:~:text=India%20acknowledged%20the%20importance%20of,the%20Priority%20Sector%20Lending%20scheme, accessed on 21 April 2022.

[4] https://sustainabledevelopment.un.org/outcomedocuments/agenda21

Chapter 4: BRICS Cooperation on A Positive Trade and Environment Agenda

4.1. Developing a Policy Response

To facilitate environmentally sustainable growth in their economies through both national level actions and collective cooperation among the members, BRICS member states should consider adopting **A Positive Trade and Environment Agenda for BRICS Cooperation**, which includes a set of policy recommendations summarized as below:

I. **Cooperating to promote green industrialization and resilient supply chains**

II. **Mobilizing climate finance and facilitating trade and environment fund**

III. **Collaborating R&D activities and innovations for green transition**

IV. **Facilitating transfer of affordable green technologies**

V. **Coordinating positions to preserve policy space in international fora like UNFCCC and WTO**

This chapter provides a detailed discussion on possible BRICS cooperation built around this agenda to facilitate green transition.

4.2. Cooperation for Green Industrialization and Building Resilient Supply Chains

The analysis of the intra-BRICS composition of trade in Chapter 2 suggests there is space for BRICS economies to strengthen cooperation in green industrialization and build more resilient global value chains. Complementarities between the economies of the bloc can pave the way to the creation of value in several green sectors. Three areas of fruitful collaboration and cooperation amongst BRICS countries for green industrialization are:

First, BRICS countries could expand their involvement and cooperation in higher value-added segments of renewable energy generation. All BRICS countries have been investing in renewable energy generation. China is the world's biggest producer of renewable energy and that plays a dominant role in the solar photovoltaic value chain, and Brazil has huge investments in biofuel and wind energy sectors. The Indian government has announced a $4.3 billion investment in sustainable fuel, energy, farming, mobility, buildings, and equipment, and new policies for efficient use of energy. South Africa has approved $8.5 billion investment to accelerate the country's transition away from coal and towards clean energy. Russian Federation, on the other hand, is rich in wind, hydro, geothermal, biomass and solar energy, but fossil fuels still dominate its energy mix.

While the investment plans have been made, most of the BRICS countries are, as many others emerging economies, mainly operating in lower value-added segments, dealing principally with raw materials (copper, lithium and balsa wood) and supply, installation and maintenance activities. Decisive steps forward would require clearer roadmaps and coordinated long-term planning to take full advantage of the expertise of the leading economies.

Intra-BRICS investments and collaboration for developing key green technologies and generating renewable energy can facilitate and redirect their production from use of fossil fuels to clean energy. Inefficient subsidies can be redirected from fossil fuels towards renewable energy and investment plans can become delivered more efficient and faster results if undertaken in collaboration with other BRICS

countries. BRICS can also help build capacities of other developing countries by incentivizing investments in metals and rare minerals to avoid future dependency on a few countries.

Second, BRICS economies can intensify cooperation around energy storage. Three-quarters of all lithium-ion batteries are produced in China, and many produced elsewhere include Chinese components. China controls a vast share of global production of critical minerals, including lithium, nickel, cobalt, copper, and rare earth elements. But other BRICS economies – India, Brazil, and Russian Federation – also have significant deposits. There is space for these economies to move up the energy storage value chain and manufacture lithium-ion batteries or other energy storage alternatives in transportation (e.g. hydrogen), through cooperation with China.

Third, BRICS can incentivize trade and production integration of environmentally sustainable substitutes e.g., for plastics. These include jute, glass, pottery and ceramic, natural fibres, paper and cardboard, rice husks and organic wastes, milk protein and natural rubber. These non-plastics (substitutes) are highly traded and are also key exports of developing countries, generating important employment and livelihood opportunities especially for women. A shift towards these non-fossil fuels-based substitutes can become an important element of green industrial policies. Additional incentives like spearheading an initiative in the WTO that would eliminate tariffs on plastic substitutes in the WTO can be an extremely useful offensive agenda for the BRICS to take forward to counter the punitive actions like the CBAM by the developed countries. "Zero Tariffs on Plastic Substitutes" will encourage alternatives to plastic – an emerging area in which some developing countries are already trying to create a competitive edge.

BRICS can also promote trade in plastic substitutes through UNCTAD's global system of trade preferences (GSTP). UNCTAD's Global System of Trade Preferences (GSTP). GSTP is a preferential trade agreement to stimulate trade between developing countries which entered into force in 1989 and is administered by UNCTAD. Being the only framework for South-South trade cooperation and including 42 participants, the GSTP provides a valuable platform to address pressing global challenges such as the climate crisis. Currently providing preferential tariff reductions of 20 per cent to 70 per cent of tariff lines, its expansion to green sectors like renewable energy products could provide relevant benefits to decarbonization efforts and the development of green industries in developing countries.

From an industrial policy perspective, exploiting the opportunities of joint integration in green value chains will require a series of concrete and coordinated actions by BRICS governments:

i. identifying entry points into value chains to exploit mutual complementarities;

ii. facilitating connections between firms operating in different countries at different parts of the chain; and

iii. easing border restrictions, harmonizing testing and certification systems and developing trading platforms for different commodities.

More intense cooperation at the regional level may be essential. In each developing region, countries have different strengths in green production, from mineral wealth, to manufacturing expertise, to proximity to important trade routes. A carefully designed plan to exploit BRICS potential would employ all these assets to develop efficient regional industrial ecosystems around low carbon technologies in the developing world.

4.3. Mobilizing Climate Finance and Facilitating Trade and Environment Fund

Addressing climate change will require large-scale investments, particularly in developing countries. IPCC (2021) estimated that the 1.5°C pathway would require increased investment of 0.5-1% of global GDP between now and 2050. UNCTAD (2021) estimates that annual climate adaptation cost for developing countries will reach $300 billion by 2030 and $500 billion by 2050. Mobilizing financing resources therefore

becomes essential for climate actions and one of the biggest challenges facing BRICS as well as other developing countries.

As the environment/climate is a public good whose property rights cannot be defined and priced, markets alone cannot automatically create incentives to address environmental externalities. The state role is therefore indispensable to design incentives that address externalities.

Though economic research suggests free-rider problem is an obstacle that discourages the cooperation on environmental issues including climate change (Barrett, 1994; Furusawa and Konishi, 2011), for BRICS, as the membership is relatively small, and the members share the similar political will and challenges in reaching respective climate agenda meanwhile boosting economic growth, BRICS cooperation in climate financing can be an important way forward.

Intra-BRICS cooperation on climate financing can create synergies among the actions from individual members and reinforce their individual efforts. With the combined annual GDP of over $20 trillion (in constant 2015 dollars), the BRICS also have huge potential to meet their climate financing needs.

Beyond individual actions at national level, BRICS members may consider the following five collective actions for mobilizing climate finance:

i. creating a dedicated BRICS climate financing facility under New Development Bank to support areas of common interest;

ii. setting up a dedicated trade-environment fund, both in the members' national development banks and in the New Development Bank, for supporting intra-BRICS trade in green goods and green technologies.

iii. encouraging the cooperation and joint investment of public development banks of BRICS in supporting their climate actions;

iv. enhancing cooperation among central banks and regulators on policies to cultivate green bond market, build carbon emission schemes, and address greenwashing issues in financial markets; and

v. facilitating and promoting the intra-FDI flows in alignment with national climate agenda and actions.

Cooperation on climate financing through collaboration amongst public development banks and central banks can create synergies in BRICS efforts on climate financing. The New Development Bank can further support these efforts through creating a dedicated climate finance facility and a trade and environment fund to encourage intra-BRICS trade and investments in green technologies.

4.4. Collaborative R&D Activities and Innovations for Green Transition

Technological change plays an important role in climate change mitigation and achieving sustainable development (Thacker et al. 2019). A well-established innovation system at a national level, guided by well-designed policies, can contribute to achieving mitigation and adaptation targets along with broader sustainable development goals. BRICS members have national science and technology–oriented strategies and significant industrial capacity that lay the foundation to encourage green innovation and R&D in green technologies, in which some members have achieved a lot of progress.

Compared to developed countries, BRICS countries do not lag far behind when it comes to development of environment-related technologies as a percentage of all technologies. Table 4.1 shows the patents for development of environment-related technologies as a percentage of all technologies in BRICS countries as well as some other developed countries. While in France, Germany and United Kingdom between 11% to 13% of technologies developed are environment-related, in Brazil and South Africa around 11% are environment-related while in China and India these figures reach 9%.

Table 4.1: Patents for Environment-Related Technologies as a Percentage of all Technologies in BRICS

Variable	Development of environment-related technologies, % all technologies		
Unit	Percentage		
Year	2010	2015	2019
Country			
France	13	13	13
Germany	15	14	13
Japan	13	13	10
United Kingdom	12	13	11
United States	13	11	9
World	13	12	10
Brazil	12	14	11
China	10	8	9
India	11	10	9
Russian Federation	11	9	7
South Africa	14	17	10

Source: Data extracted on 11 Apr 2023 11:03 UTC (GMT) from OECD iLibrary.

While the BRICS members are constrained with limited green technologies, they possess strong manufacturing sectors and R&D capabilities, which lay a solid foundation to build BRICS cooperation in green innovations. The BRICS may consider exploring their science and technology potential to encourage green innovation, including by:

i. using the New Development Bank to support national and BRICS collaborative R&D activities in green technologies.

ii. building a network among the universities, labs, research entities of the BRICS members to strengthen green technological capabilities.

iii. exploring the feasibility of developing an environmentally friendly intellectual property protection mechanism for green innovations, which may further strengthen intra-BRICS green technology transfer and sharing.

4.5. Facilitating Transfer of Affordable Green Technologies

BRICS as a whole have established a very strong manufacturing sector, especially in China, which has gradually developed their technological capabilities. However, the capacities of BRICS countries are still limited compared to other advanced economies when it comes to developing green technologies, which are one of the most essential means of implementing climate actions.

While the number of patents for environment-related technologies is rising rapidly in the world, most of these patents are filed by advanced countries, especially the US. The share of US, UK, Japan and EU in total number of patents filed for environment-related technologies was around 61% in 2019, compared to 16% for BRICS (Table 4.2).

Table 4.2: Number of Patents on Environment-related technologies in BRICS

Family size	**One and greater (all inventions)**		
Technology domain	**Environment-related technologies**		
Variable	**Number of patents, with country value**		
Unit	**Number**		
Year	**2010**	**2015**	**2019**
Inventor country			
France	2426	2441	2262
Germany	8364	7517	7425
Japan	12553	11576	7685
United Kingdom	1597	1652	1387
United States	14664	16248	13136
European Union – 27 countries (from 01/02/2020)	16476	15553	14310
Brazil	179	447	472
China	2475	3985	6957
India	555	759	675
Russian Federation	1448	1385	1211
South Africa	69	66	35
World	71628	73473	59807

Source: Data extracted on 11 Apr 2023 11:31 UTC (GMT) from OECD iLibrary.

Patents, though they protect inventions and reward inventors, can be major hurdles to fast technology transfer and diffusion, both of which are urgently required in the case of addressing climate change and taking global action. Recent evidence suggests that intellectual property rights protection does not promote the transfer of low-carbon technology (Pigato et. al. 2020), suggesting that an easing of intellectual property rights protection may be the best way to ensure global dissemination of low-carbon technologies. This need calls for a multilateral arrangement that reflects the shared responsibility of responding to climate change and makes low-carbon technologies widely accessible.

The average annual GHG emissions during 2010-2019 were higher than in any previous decade. IPCC AR6 concluded that "limiting warming to 1.5°C and 2°C involves rapid, deep and in most cases immediate greenhouse gas emission reductions". If the world is serious about limiting global warming, facilitating patent-free green technology transfers may be the most urgent global task.

BRICS have the potential to facilitate affordable green technology transfers amongst themselves as well as to the Global South. All the BRICS countries are developing green technologies to change the way they produce and consume. BRICS could achieve this goal by:

i. identifying a list of green technologies (the way a list of environmental goods has been identified by countries).

ii. facilitating patent-free transfers of the identified green technologies amongst the BRICS countries and to the Global South.

iii. expanding TRIPS flexibilities for developing countries in the WTO, given the urgency of tackling climate change. The Doha Ministerial Declaration on the TRIPS Agreement and the Public Health[5] can provide a useful example to follow. It provided the flexibility including the freedom to each member to establish its own regime for exhaustion of intellectual property rights, subject to MFN and national treatment provisions.

iv. promoting green technology transfer through open sourcing of key green technologies and declaring them as public goods.

4.6. Coordinating Positions in International Fora to Preserve Policy Space

Developing countries, including BRICS, are facing multiple challenges including health, food and energy crises, aggravated by geo-political tensions and rapidly progressing global warming. The Covid-19 pandemic has hit the Global South economically much harder than the advanced countries, which were able to roll out billions of dollars of economic recovery packages. The Global South will take more time and effort to recover.

Developing countries need policy space as well as special and differential treatment (SDT) to recover. SDT in the WTO is designed to expand policy space for developing countries to tackle specific challenges they face in integrating into the global trading system. Common but Differentiated Responsibilities (CBDR), a concept designed in UNFCCC, recognizes that developed countries bear historically most of the responsibilities for causing climate change. The convergence of SDT and CBDR, both of which acknowledge systemic asymmetries, leads to a vastly different agenda for aligning trade and climate (UNCTAD- Trade and Development Report, 2021).

Any discussion on trade and environment should take place at the multilateral level, like the Committee on Trade and Environment (CTE) at the WTO, must be based on convergence of SDT and CBDR, both of which acknowledge the need for policy space for developing countries in global trading rules as well as climate actions. Needs include space for green industrial policy; more flexibility in the intellectual property rights regime; incentives for green technology transfers; strengthening technical and financial support to developing countries for accelerating the adoption of renewable energy sources; and setting up of Trade and Environment Fund (as also proposed by India and China in 2011 at the WTO).

A Trade and Environment Fund could finance the incremental costs of sourcing critical technologies, provide grants for specific green technologies, finance joint research, development and demonstrations and fund establishment of technology transfer centers, exchanges, and mechanisms. This measure would also deliver the necessary institutional coordination at the international level, for the much needed financial, technological, and economic needs of climate conscious development.

As proposed by UNCTAD (Trade and Development Report, 2021), it may be important for developing countries to propose a 'peace clause' for disputes on trade-related environmental measures of developing countries. A narrowly defined peace clause would give countries the assurance that they will not face disputes for climate and development-friendly initiatives such as prioritizing a transition to renewable energy, green procurement, and green jobs programmes – all initiatives that advanced economies are also prioritizing but that could be challenged under the WTO-dispute mechanism.

[5] WT/MIN(01)/DEC/2

BRICS should unite to oppose any trade-related unilateral environment measure adopted by the advanced countries like the CBAM. Such measures will not only have adverse implications on exports of the BRICS and other developing countries but will also decelerate the progress of BRICS towards their national climate goals. Such measures will have extremely limited impact on emissions but will reduce real incomes in developing countries while raising real incomes of the developed countries, further deepening the development divide.

BRICS members should consider coordinating their positions in the international fora and playing the leadership role in preserving policy space for the developing countries. Those positions could include:

i. upholding the need for SDT and CBDR in all actions undertaken in international for a like the UNFCCC and the WTO.

ii. proposing a Trade and Environment Fund at the WTO on the lines of the Global Environment Fund at the UNFCCC.

iii. propose a moratorium on disputes on trade-related environmental measures of developing countries to expand the policy space for developing countries to progress on their national climate goals.

iv. developing a coordinated BRICS in all trade and environment discussions, especially at the CTE in the WTO.

v. opposing trade-related unilateral environment measures and encourage an incentive-based approach like the elimination of tariffs on plastic substitutes at the WTO.

4.7. Positive Agenda as Policy Centerpiece

This chapter provided a range of possible actions that BRICS member states can consider as elements of a proposed Positive Trade and Environment Agenda for BRICS cooperation. It could include cooperation amongst BRICS member states for green industrialization and building resilient supply chains; mobilizing climate finance and setting up a trade and environment fund at the WTO; collaboration in R&D activities for green transition; facilitating patent-free, affordable green technologies; and coordinating positions for preserving policy space for developing countries for their climate change actions as well as opposing any trade-related unilateral environment measures like the CBAM. BRICS countries should also propose positive incentives for developing countries, rather than punitive measures, for progressing on climate goals like zero tariff regimes for plastic substitutes. And they should explore platforms in multilateral organizations to facilitate green trade like GSTP offered by UNCTAD.

Chapter 5: Conclusions and Way Forward

Achieving environmental sustainability in developing economies is a daunting task of unprecedented scale. It is heavily dependent on the actions of advanced economies and heavily reliant on their support in critical areas such as accessing adequate finance, building technical capacity and preserving policy space to act.

Several studies confirm that the degree of warming in the areas close to the equator is greater than the global average. These conditions together impose a far more severe hardship from environmental threats on developing countries than on advanced economies. Developing countries are not on the front line of a cumulative process of global environmental degradation. But the impact of mitigation strategies of the major economies on tempering climate change is many-fold greater than what developing countries can exert. The pace of global environmental devastation in the developing world therefore largely reflects an exogenous factor. Further, most developing countries are located in more vulnerable geographical areas than the rest of the world, so climate adaptation plans are comparatively more demanding than mitigation plans and must reflect local circumstances.

Trade performance can play a critical role in the green transition by accelerating technical progress, raising government revenues, and providing much needed foreign exchange to developing countries. However, developing countries face considerable asymmetries in the international trade regime. Greater trade activity, especially in industrial sectors also trigger greater import demands, which are often expensive for local producers, due to well-known exogenous factors including: (i) higher international prices of high-tech products with intellectual property content, (ii) global corporate concentration of providers in these sectors, and (iii) disrupting exchange rate fluctuations triggered by global finance. Further, exports resulting from industrial activity should be sufficient to overcome the increase of import demands, but export performance is also reliant mostly on external conditions: (i) the strength of global demand; (ii) market access which can be disrupted by trade barriers; and (iii) a playing field which is often distorted by initial conditions of main players, as well as by trade rules that can impose unreachable thresholds on weaker partners.

These conflicting dynamics trigger perverse outcomes. The more limited are financial flows for development, the greater is the necessity of developing countries prioritizing gains from trade including from commodity and energy resources, which can come at the cost of environmental degradation and at the risk of derailing structural transformation strategies.

In this context, BRICS as a group can play a decisive role in strengthening the Global South and altering the global forces which are shaping the trade and finance landscapes while addressing climate change. BRICS cooperation on a Positive Trade and Environment Agenda has the potential to leverage the climate efforts of Global South while sustaining their trade and growth performance. This agenda focuses on the key challenges facing BRICS as well as other developing countries in their green transition, which can help their exports become environmentally sustainable. These include limited finance, limited access to green technologies, limited R&D capacities; unilateral trade-related environment measures by advanced countries; and narrowing policy space for climate actions.

A Positive Trade and Environment Agenda could provide BRICS member states with a policy cooperation framework to address the above challenges. This report proposes the following action plan under such a BRICS cooperation framework:

I. Diversify Intra-BRICS Trade Basket

The composition of BRICS global trade and intra-BRICS trade highlights the importance of mineral ores, fuels, metals and petroleum products in global and intra-BRICS trade. BRICS countries need to diversify their trade baskets through strategic interventions. In light of the product composition of exports and imports of BRICS with non-BRICS countries, there is huge potential to diversify intra-BRICS trade,

especially in chemicals (HS 28-38), food products (HS 16-24), stone and glass (HS 68-71), transport (HS 86-89) and vegetables (HS 06-15) where BRICS are both exporters as well as importers from non-BRICS countries.

II. Cooperate for Green Industrialization and Building Resilient Supply Chains

BRICS members can expand their cooperation in three areas: higher value-added segments of renewable energy, energy storage, and production of environmentally sustainable substitutes. Integration in green value chains will require:

i. identifying entry points into value chains to exploit mutual complementarities;

ii. facilitating connections between firms operating in different countries at different parts of the chain; and

iii. easing border restrictions, harmonizing testing and certification systems and developing trading platforms for different commodities.

III. Mobilize Climate Finance and Facilitating Trade and Environment Fund

To overcome the financial constraints to address climate change, intra-BRICS cooperation can play a pivotal role by creating synergies and reinforcing individual efforts. With a combined GDP of over $20 trillion, BRICS still have huge growth potential to help meet their climate financing needs and also mobilize financial resources for other developing countries by:

i. creating a dedicated BRICS climate financing facility under a New Development Bank to support common interests;

ii. setting up a dedicated trade-environment fund, both in national development banks and in a BRICS New Development Bank, for supporting intra-BRICS trade in green goods and green technologies.

iii. encouraging the cooperation and joint investment of public development banks of BRICS in supporting climate actions;

iv. enhancing the cooperation among central banks and regulators for sharing the policies and practices in cultivating green bond market, building carbon emission schemes, and addressing greenwashing issues in financial markets; and

v. facilitating and promoting the intra-BRICS FDI flows in alignment with national climate agenda and actions.

IV. Collaborate on R&D Activities and Innovations for Green Transition

Innovations can play a valuable role in green transition and cooperation in innovations and R&D can create synergies and deliver much higher results. BRICS countries have strong manufacturing capacities and a large industrial base which can spur technical progress. Cooperation in science and technology can go a long way in strengthening BRICS potential to structurally transform and achieve environmentally sustainable growth by:

i. using the New Development Bank to support national and BRICS collaborative R&D activities in green technologies.

ii. building a network among the universities, labs, research entities of the BRICS members to strengthen the green technological capabilities.

iii. exploring the feasibility of developing an environmentally friendly intellectual property protection mechanism for green innovations, which may further strengthen intra-BRICS green technology transfer and sharing.

V. Facilitate Transfer of Affordable Green Technologies

While BRICS countries are fast developing green technologies, they still lag advanced countries, which are rapidly patenting green technologies. Evidence shows that patents limit low-carbon technology transfers.

BRICS have the potential to play a leadership role in the Global South and facilitate affordable green technology transfers both amongst themselves as well as with other developing countries by:

i. identifying a list of green technologies, similar to how countries identified a list of environmental goods has been identified by countries.

ii. facilitating patent-free transfers of the identified green technologies amongst the BRICS countries and to the Global South.

iii. expanding TRIPS flexibilities for developing countries in the WTO, given the urgency of tackling climate change. The Doha Ministerial Declaration on the TRIPS Agreement and the Public Health[6] can provide a useful example to follow. It provided flexibilities, including the freedom to each member to establish its own intellectual property rights regime, subject to MFN and national treatment provisions.

iv. promoting green technology transfers, including the open sourcing of key green technologies and declaring them as public goods.

VI. Coordinating Positions in International Fora to Preserve Policy Space

The growing trade-related unilateral environmental measures such as CBAM may slow or halt the progress made by BRICS in their climate goals by adversely impacting their export growth, incomes, and employment. Further, the globally evolving trade and environment agenda could further restrict the policy space available to developing countries, including the BRICS, in designing their climate-related strategies. It is essential for BRICS to coordinate positions in various international fora and play a leadership role in preserving policy space for developing countries by:

i. upholding the need for SDT and CBDR in all actions undertaken in international for a like the UNFCCC and the WTO.

ii. proposing a Trade and Environment Fund at the WTO on the lines of the Global Environment Fund at the UNFCCC.

iii. adopting a moratorium on trade-related environmental measures of developing countries to expand the policy space for developing countries to progress on their national climate goals.

iv. coordinating a BRICS position in all trade and environment discussions, especially at the CTE in the WTO.

v. jointly opposing trade-related unilateral environment measures like the CBAM, and encourage an incentive-based approach like eliminating tariffs on plastic substitutes at the WTO.

Promoting economic growth in tandem with respective climate goals is a shared mission for all BRICS members. In future discussions, BRICS members may wish to prioritize the issues on the table and translate some of the recommendations into concrete actions. Given the topics, the related policy debate is likely to be prolonged, and it may be useful for the BRICS to establish a Thematic Group on Trade and Environmental Issues.

[6] WT/MIN(01)/DEC/2

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