



Climate Ambition of the **BRICS** Countries • 2024



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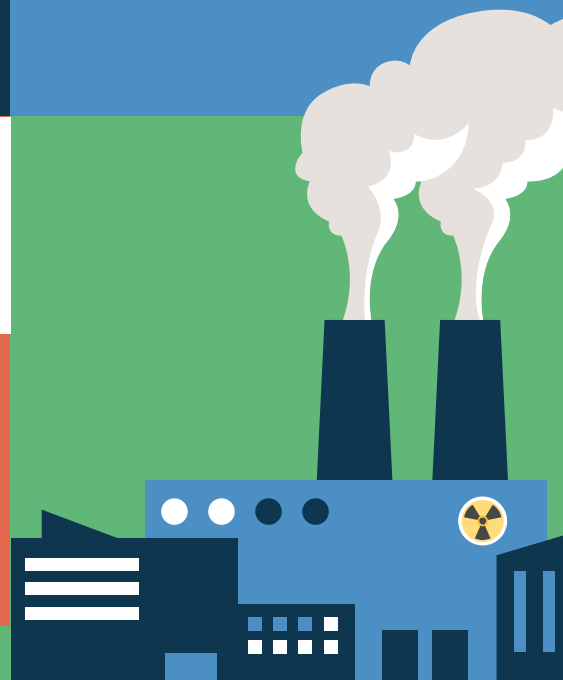
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1. INTRODUCTION

Although historically developed countries have been the largest contributors to global greenhouse gas (GHG) emissions, some developing countries have increasingly contributed to the climate crisis over the past 40 years. This is the case with the BRICS countries: four of its members—China, India, Russia, and Brazil—are among the top five GHG emitters in the world. South Africa, although not at the top of the global emissions ranking, is the largest emitter on the African continent. The addition of five new members to the bloc in 2024, including major fossil fuel producers such as the United Arab Emirates and Iran, could have significant impacts on addressing the crisis. In a context that urgently requires immediate emissions reductions and robust public policies to transform the current model of production, distribution, and consumption, the BRICS+ are responsible for 43.1% of the world's oil production and 44% of global reserves. Regarding gas, the expanded bloc holds 53% of global reserves and 35.5% of production¹.

Although it was not originally established as a group dedicated to environmental and climate issues, such topics are increasingly intersecting the BRICS agenda – now BRICS+ - in a more cross-cutting way². The responsibility of the group to prevent the planet's temperature from exceeding 2°C—with efforts to limit it to 1.5°C—by 2100 compared to pre-industrial levels, the goal of the Paris Agreement, will increase. At the same time, the bloc's members are mostly countries of the Global South, nations marked by significant inequalities, whose people and territories are likely to suffer more acutely from the effects of climate change, as well as the burden of policies designed to achieve emission reductions, often disconnected from climate justice³ and from an underlying socio-environmental agenda. A major challenge for the bloc is to reconcile greenhouse gas emission reductions and socio-environmental concerns with potentially conflicting objectives, such as geopolitical interests, aspirations for economic growth, the continuous improvement of living standards for their populations, and energy security.

1. <https://www.polytechnique-insights.com/en/columns/geopolitics/the-brics-economic-alliance-or-future-private-club-of-rare-materials/>

2. MATTOS, Beatriz Rodrigues Bessa. **BRICS+ e Clima**. Rio de Janeiro: BRICS Policy Center, 2023. Available at: <<https://bricspolicycenter.org/wp-content/uploads/2023/11/publicacao-bpc-beatriz.pdf>>. Last access 21 August 2024.

3. Climate justice involves recognizing that the effects of climate change manifest differently among nations and social groups. This definition includes elements of human rights, such as protecting the rights of the most vulnerable people and nations, as well as the right to access public policies, transparent information, and social participation in debates and decision-making processes. Mary Robinson Foundation - [Climate Justice. Incorporating Human Rights into Climate Action](#). 1–8, October, 2014.

The research project “Climate Ambition of the BRICS Countries”, conducted by the Socioenvironmental Platform of the BRICS Policy Center (IRI/PUC-Rio) and supported by the Instituto Clima e Sociedade (iCS)⁴, aims to monitor the climate ambitions, initiatives, and positions of the bloc’s members before its expansion in 2024. Here, climate ambitions are understood as initiatives and targets aimed at reducing GHG emissions in line with the goal of the Paris Agreement.

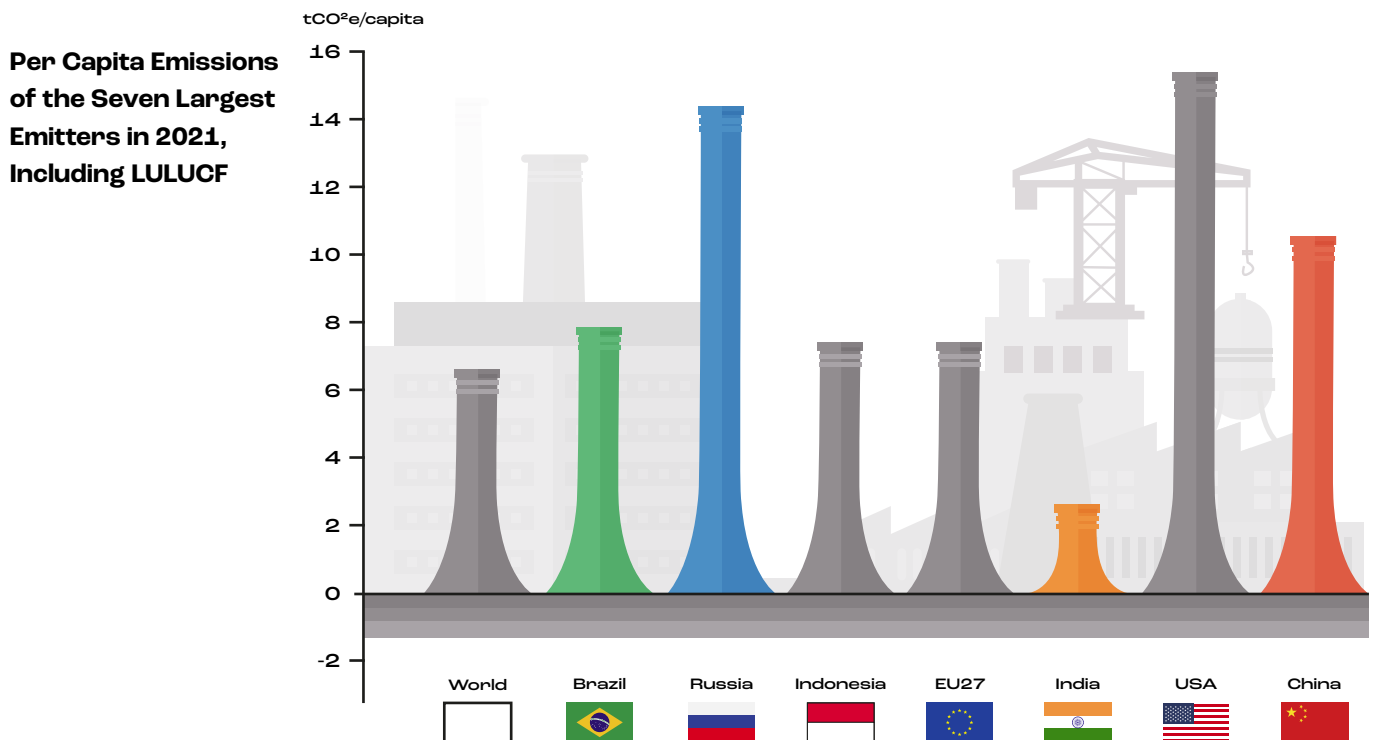
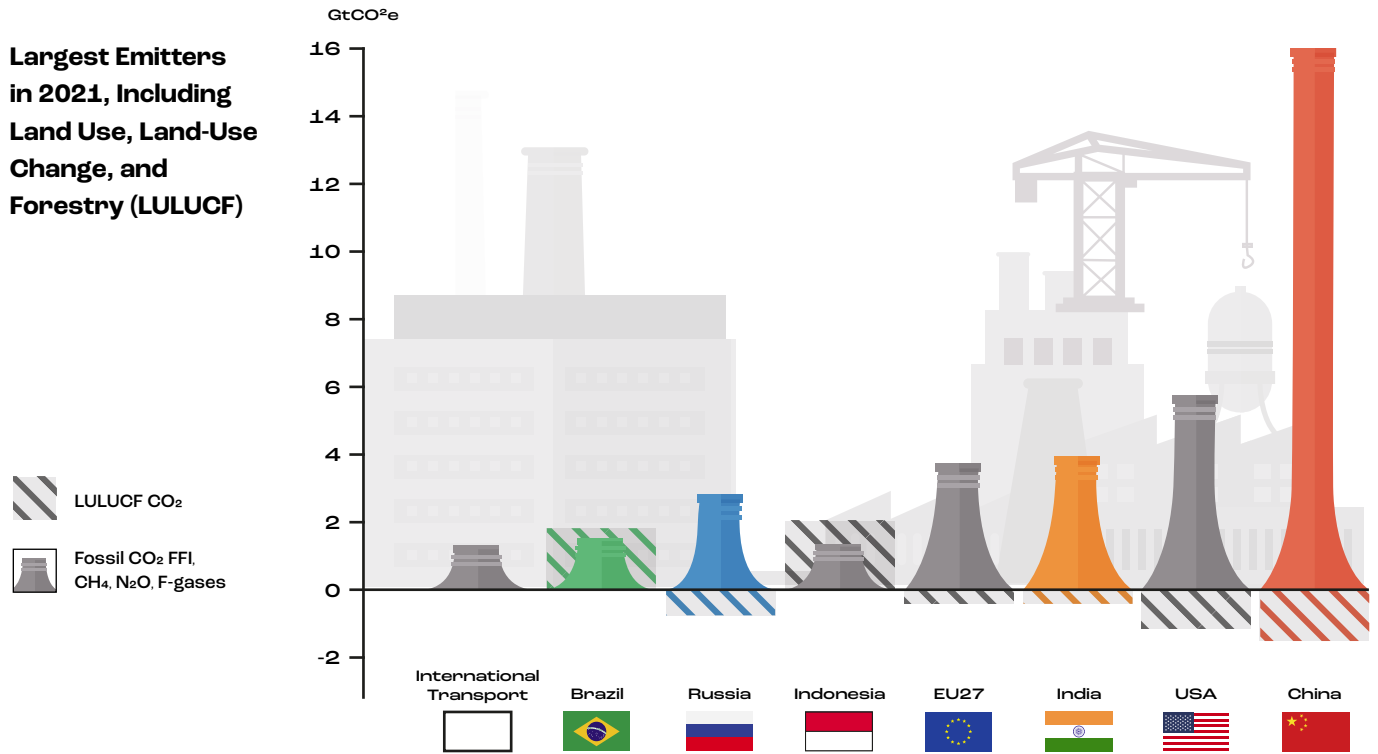
To this end, five studies were conducted, one for each country in the bloc, addressing their GHG emissions profile and their emission reduction targets, known as Nationally Determined Contributions (NDCs); the main climate mitigation and adaptation policies and initiatives across various areas; and the primary challenges to the climate ambitions of these five countries. Current discussions on the submission of revised NDCs⁵ to the United Nations Framework Convention on Climate Change (UNFCCC) by February 2025, as well as the climate agendas of these countries in prominent international forums, such as the G20, consecutively chaired by three BRICS countries: India (2023), Brazil (2024), and South Africa (2025), were also included.

This executive summary highlights that the BRICS countries have become indispensable actors in the climate agenda. Their climate ambitions, policies, and actions are essential for meeting the targets set by the Paris Agreement. Finally, it is important to note that significant challenges were encountered during the research regarding the availability and reliability of data on emissions, policies, and national initiatives in some countries. Conflicting methodologies adopted by different national and international databases lead to inconsistent data. For example, some databases consider the sector known as LULUCF (land use, land-use change, and forestry), while others do not. Additionally, the LULUCF sector can sometimes be subject to “accounting maneuvers”. In some countries, like Russia, this sector is considered a carbon sink and crucial for achieving climate neutrality targets by mid-century, but this accounting is complex and difficult to verify.

4. The authors express their gratitude for the comments and suggestions of Cyntia Feitosa (Instituto Clima e Sociedade), Fabrina Furtado (CPDA/UFRRJ), Marcela Vecchione (UFPA), Marta Fernandez (IRI and BRICS Policy Center/PUC-Rio), and Maureen Santos (Socioenvironmental Platform – BRICS Policy Center/PUC-Rio) during a workshop for the presentation and discussion of study results.

5. The Paris Agreement establishes that NDCs should be renewed every five years to become increasingly ambitious and ensure the limitation of global temperature rise. According to the agenda of the Agreement, Parties have until February 10, 2025 to submit their revised NDCs, which must be a more ambitious version informed by the results of the First Global Stocktake of the Paris Agreement, launched at COP 28. UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE (UNFCCC). Paris Agreement Implementation Committee Gears up to help Countries meet Key Deadlines. *In: Website of UNFCCC*, 10 jun. 2024. Available at: <<https://unfccc.int/news/paris-agreement-implementation-committee-gears-up-to-help-countries-meet-key-deadlines>>. Last access: 10 jul. 2024.

THE BRICS IN THE GLOBAL EMISSIONS RANKING (2021)



The 2023 Emissions Gap Report by UNEP only mentions the seven largest emitters concerning the year 2021 (including the European Union). Among these seven, four are BRICS countries—only South Africa is not included in the ranking.

The seven largest emitters of 2021, including LULUCF. **Source: UNEP (2023).**

2. BRAZIL



PROFILE OF BRAZILIAN EMISSIONS

According to Climate Watch (2024), Brazil is the **5th largest emitter of greenhouse gases**, responsible for **3.09% of global emissions in 2021**, amounting to 1,530 megatons of carbon equivalent (MtCO₂e). The latest Emissions Gap Report from the United Nations Environment Programme (UNEP 2023)—which also uses data from 2021 but analyzes the European Union as a bloc—indicates that Brazil is the **6th largest emitter globally**, with a per capita emission of nearly 8 tCO₂e, while the global average is 6.5 tCO₂e per capita. Additionally, regarding Brazil's per capita emissions, the System for Estimating Emissions and Removals of Greenhouse Gases (SEEG) reports that in 2022, gross emissions were 11.4 tCO₂e per capita and net emissions were 8.3 tCO₂e.

The country is also a major emitter of **methane** (CH₄), one of the most polluting greenhouse gases. The most recent data on Brazil's share of global methane emissions comes from the International Energy Agency (IEA, 2024): according to the IEA, Brazil released 19,984 kt of CH₄ into the atmosphere in 2023, making it the **5th largest emitter in the world**. The main source of methane emissions in Brazil comes from agriculture (69%), followed by the waste sector (19%) and energy (10%).

Unlike the other BRICS countries, Brazil's main source of emissions and historical contribution to global warming comes from emissions related to land use, land-use change, and forestry

(LULUCF), primarily due to legal and illegal activities driving deforestation and wildfires for the expansion of agricultural and mining frontiers. According to SEEG (2023), in 2022, Brazil emitted 1.12 billion gross tons of CO₂e into the atmosphere from the destruction of its biomes, accounting for 48% of the country's total emissions. According to SEEG data, after land use change and forestry, the largest contributors to Brazil's emissions are, respectively, the following sectors: agriculture (25%), energy (18%), waste (4%, which includes solid waste disposal and sewage treatment), and industrial processes (3%).

Regarding Brazil's energy matrix, the country has characteristics that distinguish it in the global climate and energy landscape. The first point to highlight is that Brazil derives **47.5% of its energy from renewable sources** (IRENA 2024), such as biomass from sugarcane and hydropower (from hydroelectric plants), while the global average of renewable energy supply is only 14.7%. Wind and solar energy (combined) still account for less than 3.5% of the country's internal energy supply and are expanding under the Decennial Energy Expansion Plan. A little over half of Brazil's energy matrix (50.9%) is still dependent on fossil fuels, such as oil, natural gas, and coal, according to the 2024 National Energy Balance from the Energy Research Company (EPE).

Brazil's electricity matrix also has distinctive characteristics: **89.2% of the country's electric energy comes from renewable sources**, according to EPE. The Institute E+ Energy Transition (2020, p. 14) highlights this situation as a “privileged position in the energy transition... as [Brazil] currently has a renewable electricity matrix, allowing it to ‘skip’ the stage of decarbonizing its matrix”. According to the World Economic

Forum (2024), Brazil ranks 12th in the Energy Transition Index (ETI). The country ranked first among emerging nations and across all countries in the Americas, as well as third among G20 nations. However, it is also important to emphasize that renewable energy production is not necessarily a fair activity in socio-environmental terms and can generate significant impacts⁶ on territories.

ANALYSIS OF BRAZIL'S NDCS

Brazil's Nationally Determined Contribution (NDC) is currently in its fourth version. The country presented its first version in 2016, which underwent updates in 2020, 2022, and most recently in 2023. Brazil (like all Parties to the Paris Agreement) must submit more ambitious NDCs by February 2025.

The first two NDC updates (from 2020 and 2022) were made during the far-right government of Jair Bolsonaro (2019-2023) and were criticized for their “climate gymnastics”—a maneuver to change the calculation basis for estimated emissions from 2005, the base year for Brazil's mitigation targets, which ultimately established higher emission levels for 2025 and 2030 compared to the original 2016 target. These updates represented a decrease in the country's climate ambition, directly violating the principle of non-regression in the Paris Agreement.

The new presidency that took office in 2023 recognized the urgent need to promptly update

Brazil's NDC. In September of the same year, the Interministerial Committee on Climate Change (CIM) approved Resolution No. 5/2023, determining that the Ministry of Foreign Affairs should communicate to the UNFCCC the correction of the NDC, **restoring the level of ambition presented in 2016** regarding the absolute values of greenhouse gas emissions.

In this fourth version of Brazil's first NDC (BRAZIL 2023), the country commits to an unconditional mitigation target of **reducing greenhouse gas emissions by 53.1% from the 2005 level by 2030**, which serves as the base year. As a long-term goal, it reiterates the **commitment to achieve climate neutrality (net zero) by 2050**.

With these targets, the Climate Action Tracker (CAT) considers that the current state of Brazil's Nationally Determined Contribution is “almost sufficient” to meet the Paris Agreement: “the target still falls short of being a fair contribution from Brazil to global climate action, but it has im-

6. Since the 1970s, the country has been dealing with the impacts of constructing hydroelectric plants—one of the main sources of ‘clean’ energy in Brazil. The flooding of large areas to create reservoirs alters the hydrological regime of rivers, promotes the destruction of regional flora, and forces the displacement of human and animal populations. Additionally, the establishment of new renewable energy projects, such as wind energy, has led to at least five conflicts related to environmental injustice in northeastern Brazil, according to the Map of Conflicts Involving Environmental Injustice and Health in Brazil (FIOCRUZ 2024).

proved...” compared to the updates presented in 2020 and 2022 (CAT, 2023). This **“almost sufficient”** rating from CAT indicates that the Brazilian target is still not consistent with the Paris goal of limiting global temperature rise to 1.5°C, but it partially fulfills the agreement, as “if all countries followed Brazil’s approach, warming could be kept below—but not much below—2°C” (CAT, 2023). CAT also highlights that Brazil has

not submitted a long-term strategy (LTS) to the UNFCCC outlining how the country intends to achieve climate neutrality by 2050. In Brazil’s latest communication (2023) to the UNFCCC regarding its NDC, the country stated that it is working on updating its climate commitments and confirmed that it will present a new and more ambitious NDC within the Convention’s deadline (February 2025).

CHALLENGES TO BRAZIL’S CLIMATE AMBITION

After four years of deconstruction of environmental and climate policies (both domestic and external) and the institutional framework under a far-right government (from 2019 to 2022), Brazil is seeking to rebuild the socio-environmental and climate arrangement dismantled during the previous presidency and reposition itself as a key player in global climate governance. The country will host COP 30 of the UNFCCC in 2025 and has made climate issues a priority during its G20 presidency this year⁷.

In the effort to rebuild and update its domestic climate policy, the Brazilian state is formulating the new National Policy on Climate Change along with the Climate Plan for mitigation and adaptation (also in development), which mentions the just transition as a process that involves concerns for “vulnerable populations”, income, and employment (MMA 2024, p. 3). The country has also resumed initiatives such as the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon, the Amazon Fund, and the Climate Fund, in addition to introducing new

strategies such as: the Ecological Transformation Plan, Eco Invest Brazil, the Brazilian Sustainable Taxonomy (under the Ministry of Finance); the New Brazil Industry (under the Ministry of Development, Industry, Commerce, and Services), a new reindustrialization policy aimed at a low-carbon economy; and the New Growth Acceleration Program, which includes a focus on Investment in Transition and Energy Security. These projects demonstrate how Brazilian climate policy is transversal; however, they are initiatives launched without clear dialogue among themselves and without strategies for connecting goals and means of implementation. Thus, there is a lack of coordination in climate ambition.

Moreover, Brazil’s energy policies are marked by a strong climate contradiction (CLEAN ENERGY COALITION 2024). Despite more ambitious initiatives aimed at energy transition, incentives for fossil fuels are still present in the country’s energy framework. The Investment in Transition and Energy Security component of the New

7. Brazil’s presidency of the G20 has established combating climate change as one of its priorities, alongside promoting energy transition and sustainable development. Brazil also sees the G20 as a pathway to “unlock” climate financing—a discussion that has been quite stalled in the UNFCCC and is of utmost importance for COP 29—and to promote means of implementation for the climate goals of countries (especially developing ones).

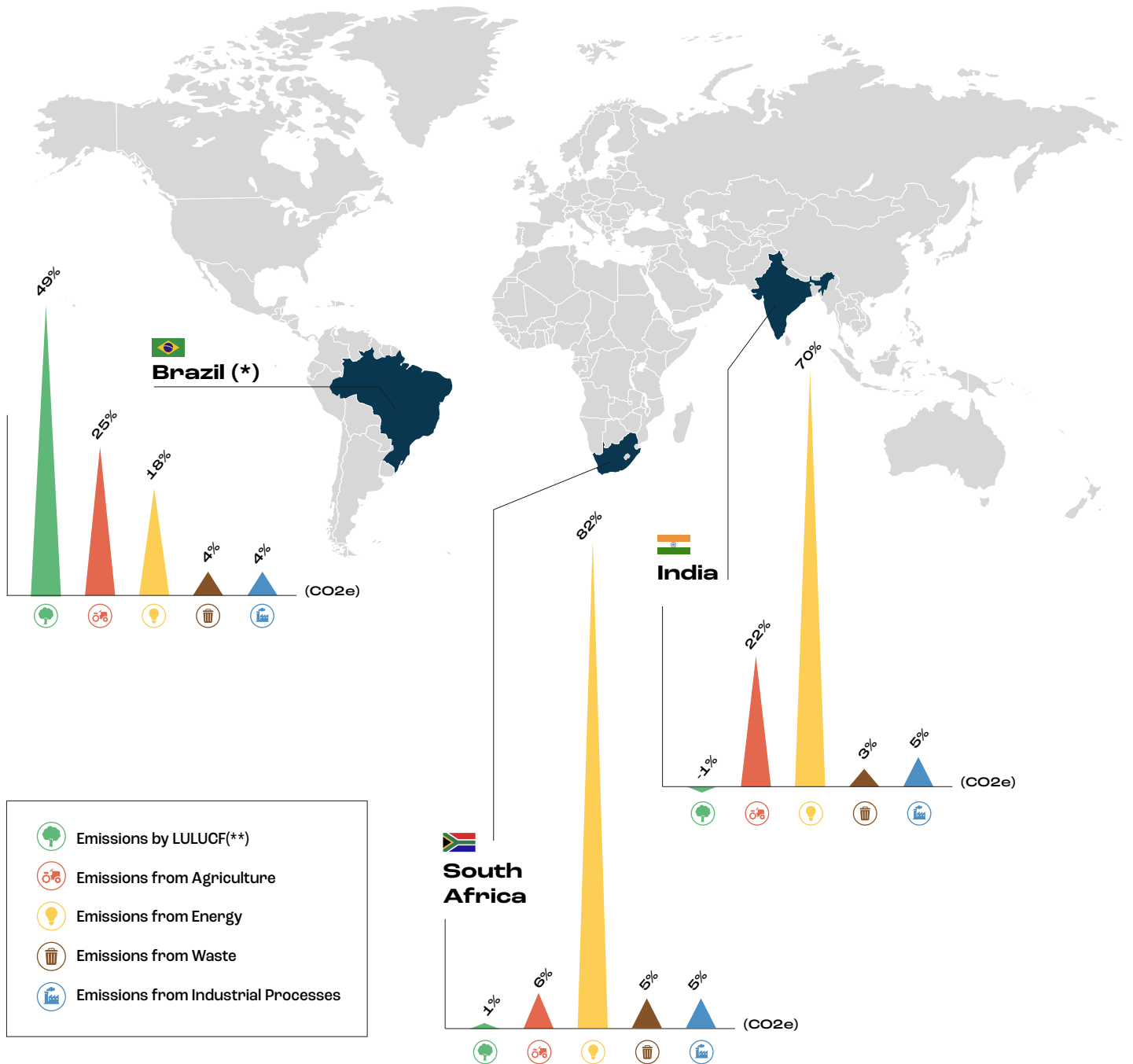
Growth Acceleration Program allocates 63% of the transition budget to the oil and natural gas sector (SANTANA 2023); the budget for energy transition in the 2024-2027 Multi-Year Plan represents only 0.2% of the resources allocated for a program on oil, gas, derivatives, and bio-fuels; and the National Agency of Oil, Natural Gas, and Biofuels conducts auctions for new oil and gas exploration areas, including regions near and overlapping with conservation units, indigenous lands, and *quilombola* communities (CLIMAINFO 2023).

Brazil can play a greater leadership role, both among the BRICS (and BRICS+) and in global climate governance, steering toward a path of higher climate ambition. The country has a more

favorable situation than the global context for a faster energy transition, with an energy matrix that is almost 50% renewable, allowing it to lead by example. To achieve this, Brazil will need to overcome challenges such as high emissions from deforestation and agricultural activities, as well as address the significant contradiction in its energy policy that still seeks to strengthen and expand the exploration, production, and use of fossil fuels. This will also require greater coordination among the climate policies presented by the country, ensuring that they align rather than cancel each other out. Finally, it will need to pay attention to the socio-environmental impacts of so-called “clean” energies and the search for critical minerals and metals for the energy transition⁸.

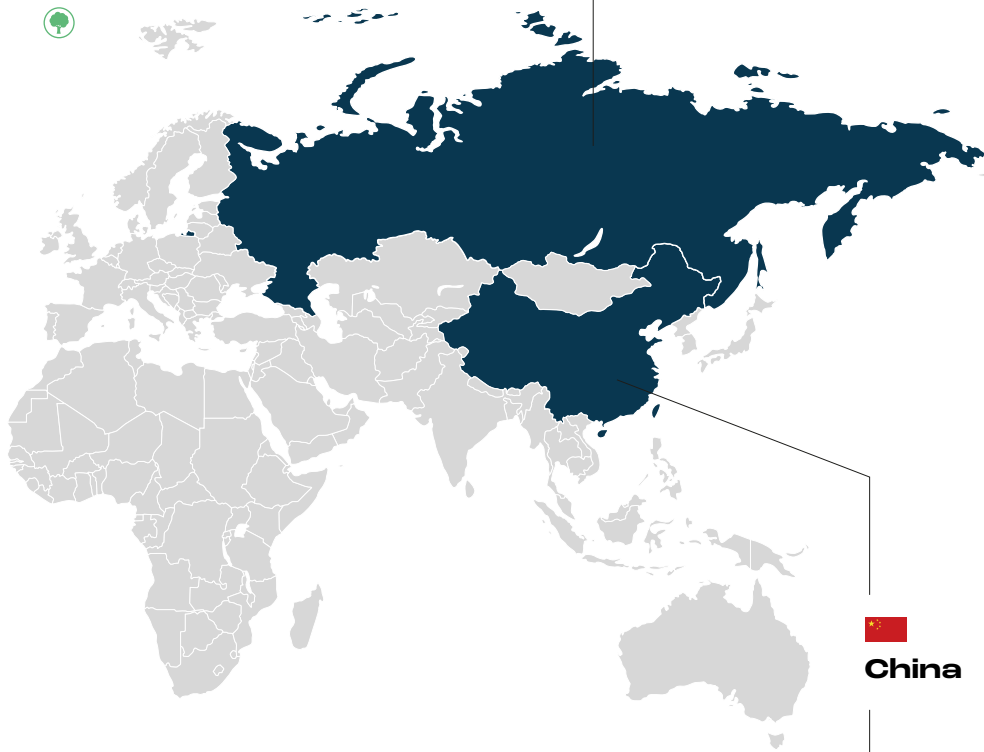
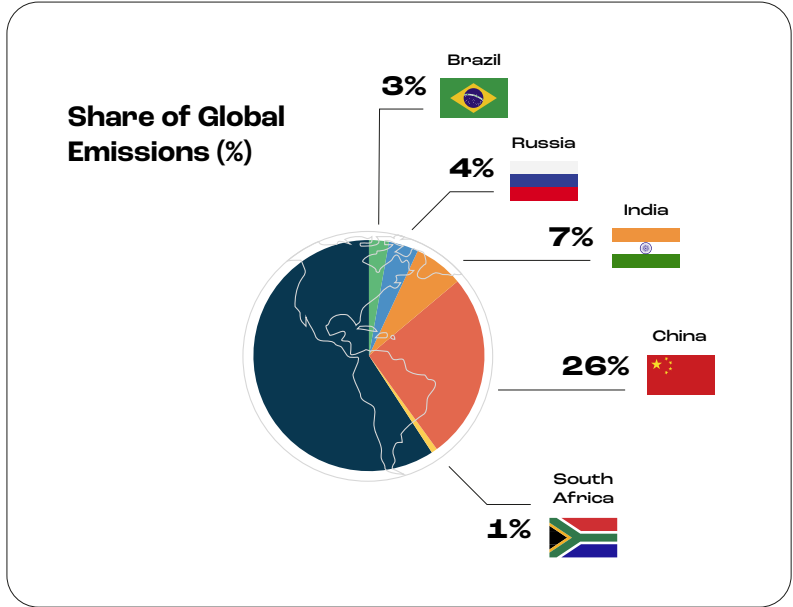
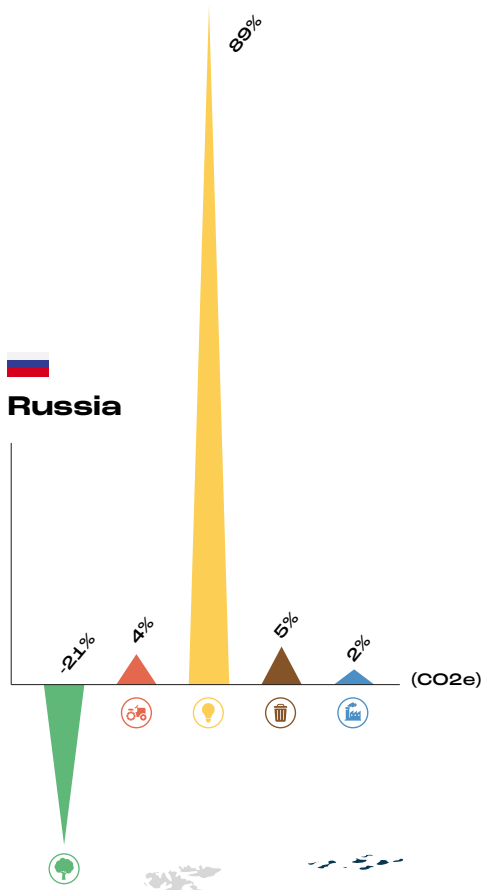
8. Brazil is a major producer of graphite, accounting for 9% of global extraction (IEA 2021), and also has reserves of other minerals for the transition, such as copper and nickel. It is essential to ensure that the pursuit of the energy transition (both nationally and internationally) does not become a process that intensifies conflicts and injustices in the country and leads to an increase in activities that are highly emissions-intensive.

EMISSIONS PROFILE OF BRICS (CO2E)

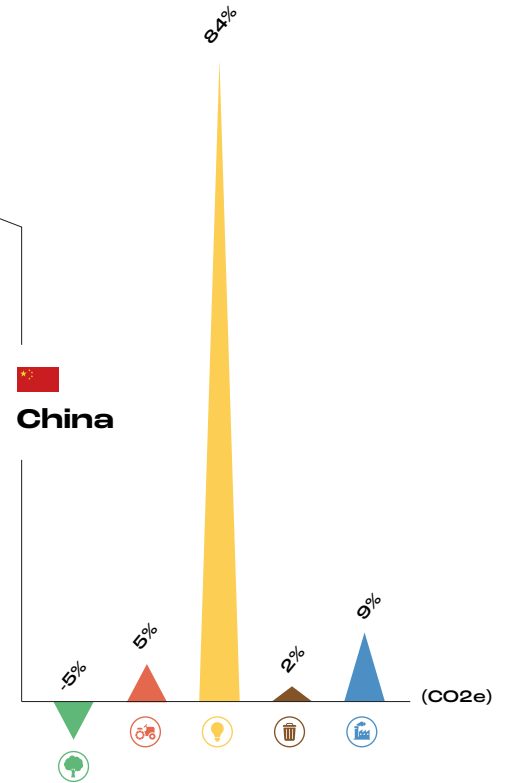
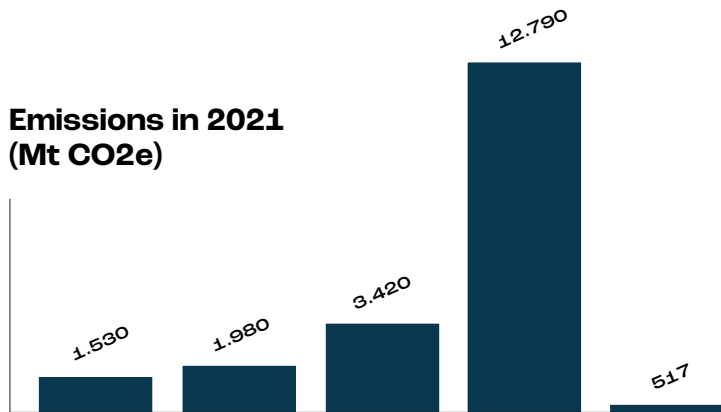


(*) The data on the percentage of Brazilian emissions (CO2e) by sector in 2021 were obtained from SEEG, an initiative of the Climate Observatory, while the total emissions for Brazil and other countries come from the Climate Watch platform of the World Resources Institute (WRI). Percentages are approximate.

(**) The negative percentage in the Land Use and Forestry sector indicates that this sector captures more CO2e than it produces, therefore functioning as a carbon sink with net negative emissions.

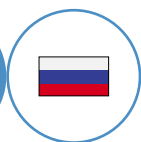


Emissions in 2021 (Mt CO₂e)



Emissions Profile of BRICS Countries
Sources: Climate Watch (2024) and SEEG (2023).

3. RUSSIA



PROFILE OF RUSSIAN EMISSIONS

In the case of Russia, it is important to note that greenhouse gas emissions and energy consumption decreased dramatically between 1990 and 2019 due to the contraction of the economy following the end of the Soviet Union and the growth of new forests on abandoned agricultural lands (SILVA, 2017). Total GHG emissions fell by around 28% between 1990 and 2019 (ZAGORUICHYK, 2022). According to Climate Watch⁹ (2024), Russia's GHG emissions in 2021 were 1,799.98 MtCO₂e, equivalent to **3.79% of the global total**, placing the country in **4th place in the ranking of largest emitters**, behind China (12,295.62 MtCO₂e), the United States (5,289.13 MtCO₂e), and India (3,166.95 MtCO₂e). The country ranks **second in per capita emissions**, only behind the United States, and it is estimated that per capita emissions will increase by 2030 (UNEP, 2023).

In the UNEP Report of 2022, which presented data from 2020, Russia held the **6th position in the ranking of the largest GHG emitters** in the

world¹⁰. Recent data from UNEP indicate that, in **2021**, Russia rose to the **5th position** in the ranking of the seven largest greenhouse gas (GHG) emitters. It also states that this ranking remained in the preliminary results of 2022, although the data for that year do not consider the LULUCF sector (UNEP, 2023). In the case of Russia, the LULUCF sector is considered a carbon sink and represented a negative emission of -531.77 MtCO₂e (FAO 2021, FAOSTAT Emissions Database in CLIMATE WATCH, 2024). Due to issues in accounting for carbon sinks, it seems prudent to consider the most current ranking produced by UNEP.

The main sectors responsible for the country's emissions are energy (88.86%), waste¹¹ (4.76%), agriculture (4.11%) and the industrial sector (2.27%) (CLIMATE, 2024). According to data from the International Energy Agency (IEA), the main source of energy in Russia in 2021 was natural gas¹² (55%), followed by oil (19.3%), coal (15.3%), and nuclear (7%).

9. It is important to note that in the consultation of the historical series from Climate Watch in 2024, Russian emissions for 2019 changed twice while the research was being conducted. At the end of May, the indicated value was 1,889.93 MtCO₂e. In mid-June, it increased to 1,919.68 MtCO₂e. A possible explanation are potential changes in methodology or calculations in the GHG emission reports submitted by Russia to the UNFCCC, which may have been considered in the update made by Climate Watch. Another possibility could be a problem in accounting for carbon sinks. Since there is still considerable debate on how to account for this sector, it may have affected what they report and how they calculate their carbon emissions.

10. The ranking of the seven largest emitters, provided by UNEP, considers the European Union as a bloc. In 2020, including LULUCF, Indonesia ranked ahead of Russia in the ranking.

11. According to the methodological note from Climate Watch, this sector includes CH₄ emissions from landfills, including solid waste; CH₄ and N₂O from wastewater treatment; and CH₄ and N₂O from other waste sources.

12. It is important to emphasize that, for the country, natural gas is an alternative source to oil and coal and is perceived as being more environmentally sustainable. As indicated in the national emissions report submitted to the UNFCCC in 2023, the fact that the country exports natural gas to developing countries implies that it is helping to replace more carbon-intensive fuels, thereby reducing CO₂ emissions in the atmosphere (RUSSIAN FEDERATION, 2023, p. 442). The same report considers that one of the country's contributions to mitigation is the implementation of nuclear energy projects in developing countries, specifically Egypt, Jordan, Nigeria, Uzbekistan, Bangladesh, Armenia, Iran, India, and China.

Regarding **methane** (CH₄) emissions, in 2021, Russia held the 2nd place in the global ranking of emissions related solely to energy and the **4th place** when considering other sectors, preceded by China, India, and the United States (IEA, 2022). Part of these emissions came from coal mines but also from leaks in gas infrastructure. According to the Global Methane Tracker, released in 2024 by the International Energy Agency (IEA), in 2023, Russia continued to hold the 2nd place in the ranking of emissions related to the energy sector (in oil and natural gas production).

It is difficult to estimate the impact on GHG emissions of the war between Russia and Ukraine, which began in February 2022. Emissions from

military operations are inadequately accounted for within the scope of the UNFCCC, and the available literature still lacks sufficient evidence (UNEP, 2023). The platform *The Military Emissions Gap* indicates that, in the case of Russia, there is no data on mobile emission sources, such as military vehicles. However, the stationary emissions accounted for in 2021 and reported in the 2023 emissions report reached 20.789 MtCO₂e (THE MILITARY EMISSIONS GAP, 2024). Therefore, if we consider the likely increase in this figure after 2022, the unaccounted mobile emissions, and the impacts such as vegetation loss and ecosystem destruction, we can infer the magnitude of the impact on emissions, ecosystems, and lives.

ANALYSIS OF RUSSIA'S NDCS

Russia's iNDC was submitted to the UNFCCC in 2015. With the country's ratification of the Paris Agreement in 2019, the Russian iNDC was updated and submitted once again to the Convention in November 2020, becoming an NDC. The target established in the 2020 NDC to limit emissions is a **reduction of 70% by 2030**, using 1990 as the reference year. Although the target may seem ambitious, it is important to remember the drastic reduction in emissions in the country since 1990, which allows the country to meet the target with minimal reductions.

No documents or statements from Russia regarding the review of the NDCs, scheduled for 2025, were found. However, a new development was the submission of the Long-Term Strategy (LT-LEDS), or the National Strategy for Low-Carbon Socio-Environmental Development by 2050, in September 2022 to the UNFCCC. The document mentions the risks associated with climate change in the country (droughts, floods, and ecosystem degradation) but also the

new opportunities that arise, such as an extended navigation period in the Northern Sea, the questionable increase in agricultural productivity, and the capacity for absorption of managed ecosystems.

The LTS points out that the energy transition poses new challenges for hydrocarbon-exporting countries due to falling demand and the importance of “ensuring global competitiveness and sustainable economic growth of the Russian Federation in the context of the global energy transition” (RUSSIAN FEDERATION, 2022, p. 15). Noteworthy are the proposals to increase the use of associated petroleum gas and the development of the hydrogen technology industry, aiming for participation in the international market. The document also presents an apparently ambitious goal: achieving carbon neutrality by 2060 (RUSSIAN FEDERATION, 2022, p. 24). However, this goal is based on financial mechanisms, improved energy efficiency, and the assumption that by 2050, Russian forests will

absorb twice as much carbon as they currently do, meaning that all other emissions do not need to reach zero but only be halved to meet the neutrality target (CAT 2022). There is no information to support this enormous increase in carbon absorption. Nor is there any mention of the increase in wildfires, both criminal ones to facilitate timber extraction permits and seasonal ones intensified by rising temperatures and drought,

which affect the absorption capacity of forests¹³.

The Climate Action Tracker (CAT, 2022) classifies Russia's targets, policies, and climate finances as **"critically insufficient"**, indicating that the country's climate policies and commitments reflect minimal or no action and are not consistent with the 1.5°C temperature limit of the Paris Agreement.

CHALLENGES TO RUSSIA'S CLIMATE AMBITION

Russia has a considerable number of plans, strategies, and legislations related to climate and the environment. Recently, some important policies were approved, such as the New Climate Doctrine (2023), the National Plan for the Second Stage of Adaptation to Climate Change (2023-2025), and the federal law to regulate the thawing of permafrost. Additionally, the country submitted its 8th National Communication (NC8) and its National Emissions Inventory (2023). However, there is a discrepancy between formal plans and the capacity and interest of state agencies in implementing them (NEWLL AND HENRY 2017). Moreover, since the invasion of Ukraine, the climate agenda has lost its centrality. In 2022, Russia was the largest individual supplier of subsidy payments to the fossil fuel sector, amounting to \$98 billion in gas, following the general trend of increased fossil fuel subsi-

dies worldwide due to the energy crisis that ensued after the onset of the war (IEA, 2023).

Discussions about the energy sector, which contributes most to the country's emissions, have not progressed towards phasing out fossil fuels or increasing renewable projects (wind and solar), and natural gas and coal remain central components. In December 2023, Russia signed a directive that includes support for the country's oil and gas companies and increases the export capacity of coal-producing companies (MINISTRY OF ENERGY OF THE RUSSIAN FEDERATION, 2023).

The country does not prioritize energy transition in its policy horizon, and the term "just transition" is not widely disseminated (USTYUZHANTSEVA, 2023). On the other hand, government representatives have begun to use the term

13. Data from Global Forest Watch indicate that between 2001 and 2023, Russia experienced the highest rate of forest cover loss due to fires, averaging 2.53 million hectares annually, with a peak in 2021 (TYUKAVIN et al., 2022). Ponomarev et al. (2023) estimate that in the near future, some of the coniferous forests (Taiga Forests) in the country will become a significant source of carbon emissions, even though they currently still act as carbon sinks. This would jeopardize Russia's climate policy, which is heavily based on the absorption capacity of its forests.

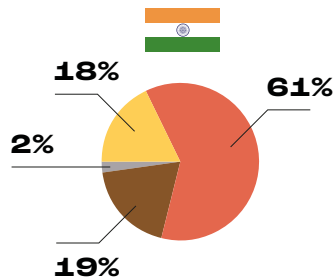
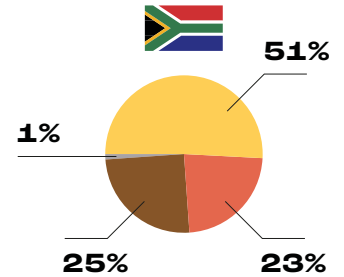
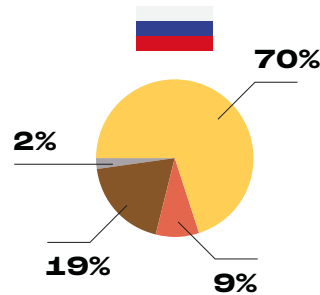
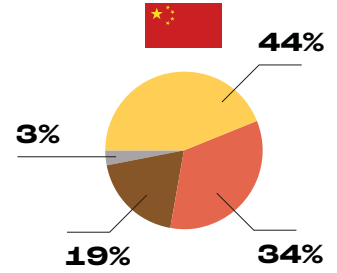
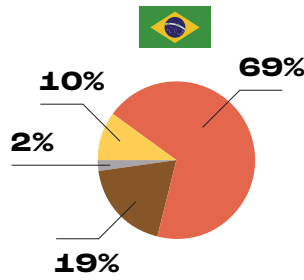
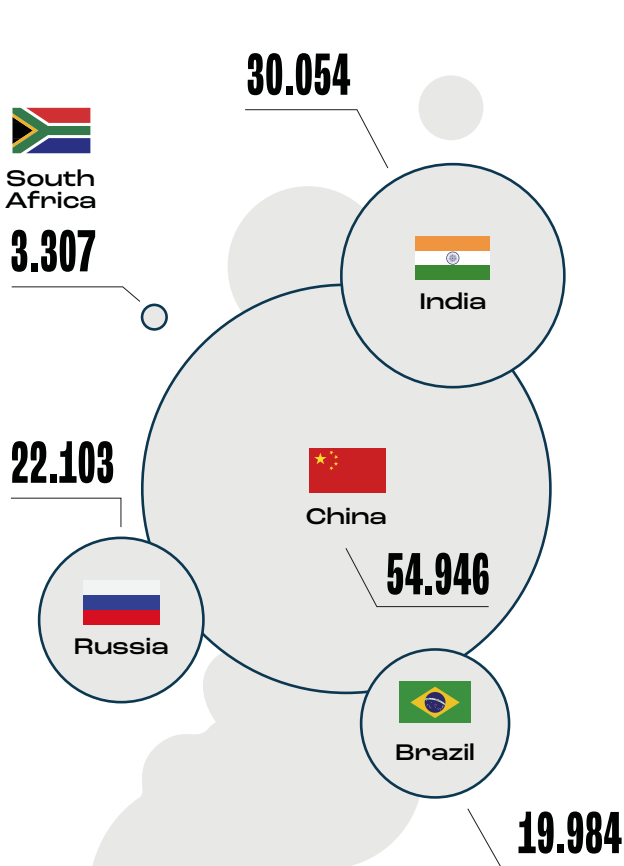
“equitable transition”, which would take national contexts and the socioeconomic consequences of decarbonization into account. It appears that the equitable transition is presented as a counterpoint to the Western model, advocating for the recognition of natural gas and nuclear power plants as more viable options for reducing emissions.

The country believes that the climate agenda has been politicized by the West to interfere in other countries through protectionist instruments with “green pretexts”, prioritizing collaboration and dialogue with countries in the Eurasia region, Asia-Pacific, BRICS, and increasingly with countries on the African continent. During the BRICS Summit in Russia in 2024, the country presented its climate agenda priorities: equitable energy transition, adaptation, nature-based solutions, carbon market, and carbon

pricing. Thus, it is noticeable that mitigation policies are not included in the list (RUSSIA PRESENTS., 2024).

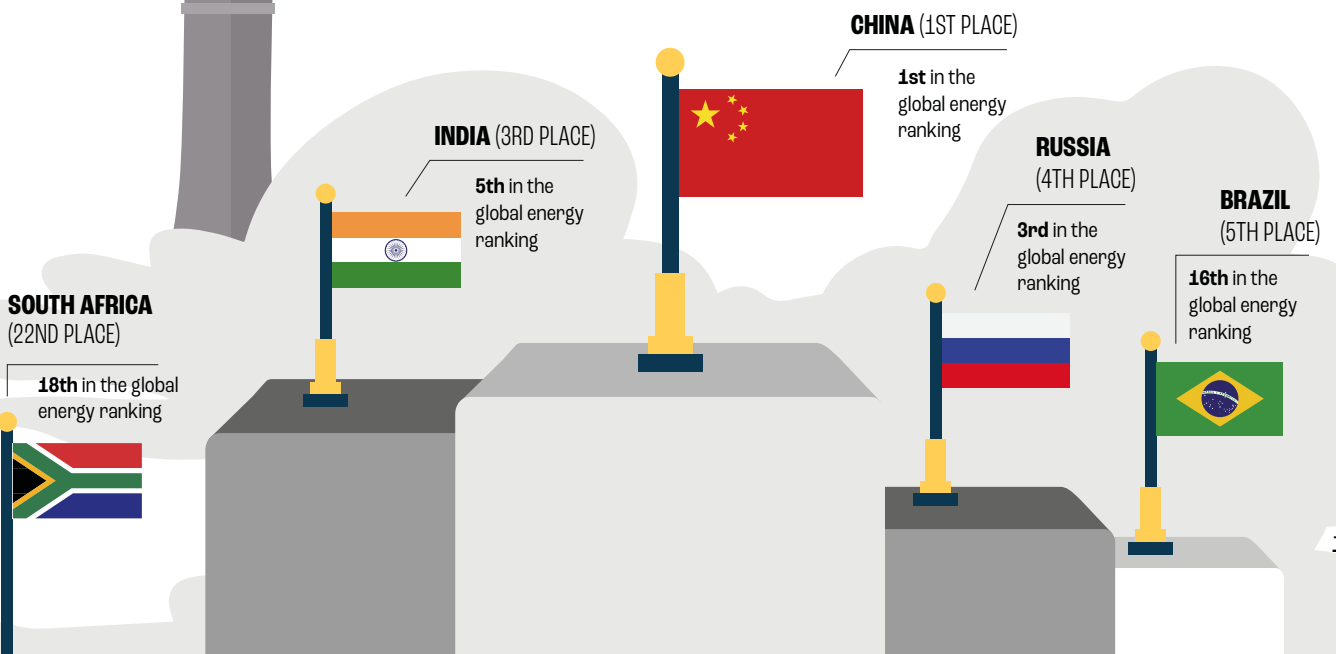
More than energy transition or just transition, Russia’s focus is on energy efficiency, economic modernization, and financial mechanisms such as the carbon market (the purchase of pollution rights), alongside a significant bet on the capacity of forests to absorb a large portion of emissions, at the expense of practical actions to cut emissions. Additionally, the demand for critical minerals for energy transition in other countries may result in the expansion of the mining industry in Russia, which already ranks first in Eastern Europe and Central Asia for cases of human rights violations involving critical mineral mining between 2019 and 2023 (Business & Human Rights Resource Centre, 2024).

METHANE EMISSIONS 2023 (KT CH4)



- Emissions from Energy
- Emissions from Agriculture
- Emissions from Waste
- Emissions from other sources

Global ranking of methane emissions from BRICS countries (2023)



4. INDIA



PROFILE OF INDIAN EMISSIONS

In terms of greenhouse gas emissions, data released by Climate Watch indicates that, in 2021, India was responsible for **6.67% of global emissions**, with 3,420 Mt CO₂e, making it the **third-largest emitter** worldwide, behind only the United States and China, the same position held in the UNEP report (2023). The country holds the same position in the global methane emissions ranking. In contrast, India's per capita emissions, due to its large population, are around 2.29 tons of CO₂ equivalent per person, which positions the country as having **one of the lowest per capita emissions in the world**, the lowest within the G20, and also the lowest among the major polluting countries (CLIMATE WATCH, 2021).

Of these emissions, Climate Watch (2021) highlights that, in 2021, about 70.5% of GHG emissions come from the energy sector, 21.8% from agriculture, 5.2% from industrial processes, and 2.5% from waste. **The Indian energy matrix is dominated by coal**, which accounts for about 45% of the total energy supply and 71% of the country's total CO₂ emissions. Following coal, oil represents 24% of the total supply and 25% of total emissions. Fossil fuels (oil, coal, and gas) make up 74% of India's energy matrix (IEA, 2021).

India is the **second-largest coal producer in the world**, behind only China (IPEA, 2023), and the

government is implementing measures to **increase domestic coal production**, aiming to make India a net exporter of thermal coal in the coming years. In 2022-23, India produced a record 892 million tons of coal, a 14% increase from the previous year (MINISTRY OF COAL, 2022; 2023). Additionally, the country is **one of the largest oil consumers in the world**, ranking third after the United States and China (IEA, 2021). In 2023, oil consumption in the country reached approximately 5 million barrels per day, driven by rapid economic growth and the expansion of the middle class. Nationally, it is projected that **India's demand for oil will double**, reaching 11 million barrels per day by 2045 (IBEF, 2024).

The contribution of renewable energy to electricity generation, however, has been increasing, reaching 21.4% (CLIMATE WATCH, 2021). India has emerged as **one of the global leaders in renewable energy**, both in installed capacity and generation, often ranking fourth, behind only China, the USA, and Germany (IRENA, 2023). Among renewable sources, solar and wind energy stand out, with about half of their installed capacity added in just the last three years (CEA, 2019; 2023).

Examining the overall trend from 1994 to 2019, total CO₂e emissions (excluding LULUCF) increased by 158% (MoEFCC, 2023).

ANALYSIS OF INDIA'S NDCS

In its latest NDC update in 2022, India committed to **reducing emissions by 45% by 2030** compared to 2005 levels, an increase from the previous NDC target of 33-35%. Another objective is to ensure that around half of its installed electricity generation capacity comes from non-fossil sources by 2030, contingent on technology transfer and financing from other countries. The target for land use and forestry, “to create an additional carbon sink of 2.5 to 3 billion tons of CO₂ equivalent through increased forest cover by 2030”, remains unchanged since the first NDC (MoEFCC, 2023; CHANDRASEKHAR, 2022).

The Climate Action Tracker (CAT) classifies India's updated NDC as **“highly insufficient”**. This indicates that the current commitments are not aligned with the global goal of limiting global warming to 1.5°C (CLIMATE ACTION TRACKER, 2023). According to CAT, the 2022 targets lack ambition and are considered inadequate for significant emission reductions, also failing to provide specific details about sectoral strategies, particularly in the energy, industrialization, and transportation sectors (CLIMATE ACTION TRACKER, 2023).

At COP26 in 2021, India announced its **net-zero emissions target by 2070**, and at COP27 in 2022, it submitted its first Long-Term Strategy for Low Carbon Development (Long Term Strategy - LTS or LT-LEDS) (MoEFCC, 2023). The document emphasizes the rational use of fossil resources, considering the need for development and energy security (MoEFCC, 2023), highlighting the country's commitment to low-carbon development rather than decarbonization. Additionally, the document does not provide sufficiently clear information on how the government intends to achieve net-zero emissions beyond its current policies and programs, nor does it present emission pathways or how the discussed policies and measures will translate into the necessary emission reductions by 2070. The LTS also fails to clarify the scope of the target (i.e., whether it applies only to CO₂ or to all GHG emissions) and does not provide transparent information about the intended extent of Carbon Capture, Utilization, and Storage (CCUS) or other carbon dioxide removal technologies to achieve the net-zero target (CLIMATE ACTION TRACKER, 2023). For these reasons, the Climate Action Tracker considers **India's Net Zero target as “Poor”** in terms of its scope, target architecture, and transparency.

CHALLENGES TO INDIA'S CLIMATE AMBITION

The main challenges to India's climate ambition are its energy matrix, which is **highly dependent on fossil fuels**, and the **need for financing** to meet its NDCs and ensure a just energy transition. The country's climate ambitions seek to reconcile aspirations for development, the continuous rise in living standards for over a billion people, and the reduction of greenhouse gas emissions. However, balancing these factors is a significant challenge. Moving away from coal is a major hurdle, as the Indian economy relies heavily on coal for electricity generation. Additionally, much of the industrial sector operates using coal, and over 20 million people depend on the use and extraction of this mineral for their livelihoods, either directly or indirectly (IMF, 2023).

In its effort to boost renewable energy sources and reduce emissions, the Indian government has provided various forms of subsidies and created regulatory requirements and tradable energy certificates. These policies are helping India to begin its transition towards emission reductions. However, without further efforts, India's emissions are on a trajectory to continue rising rapidly. Investment in renewable energy will need to be substantially scaled up, which will

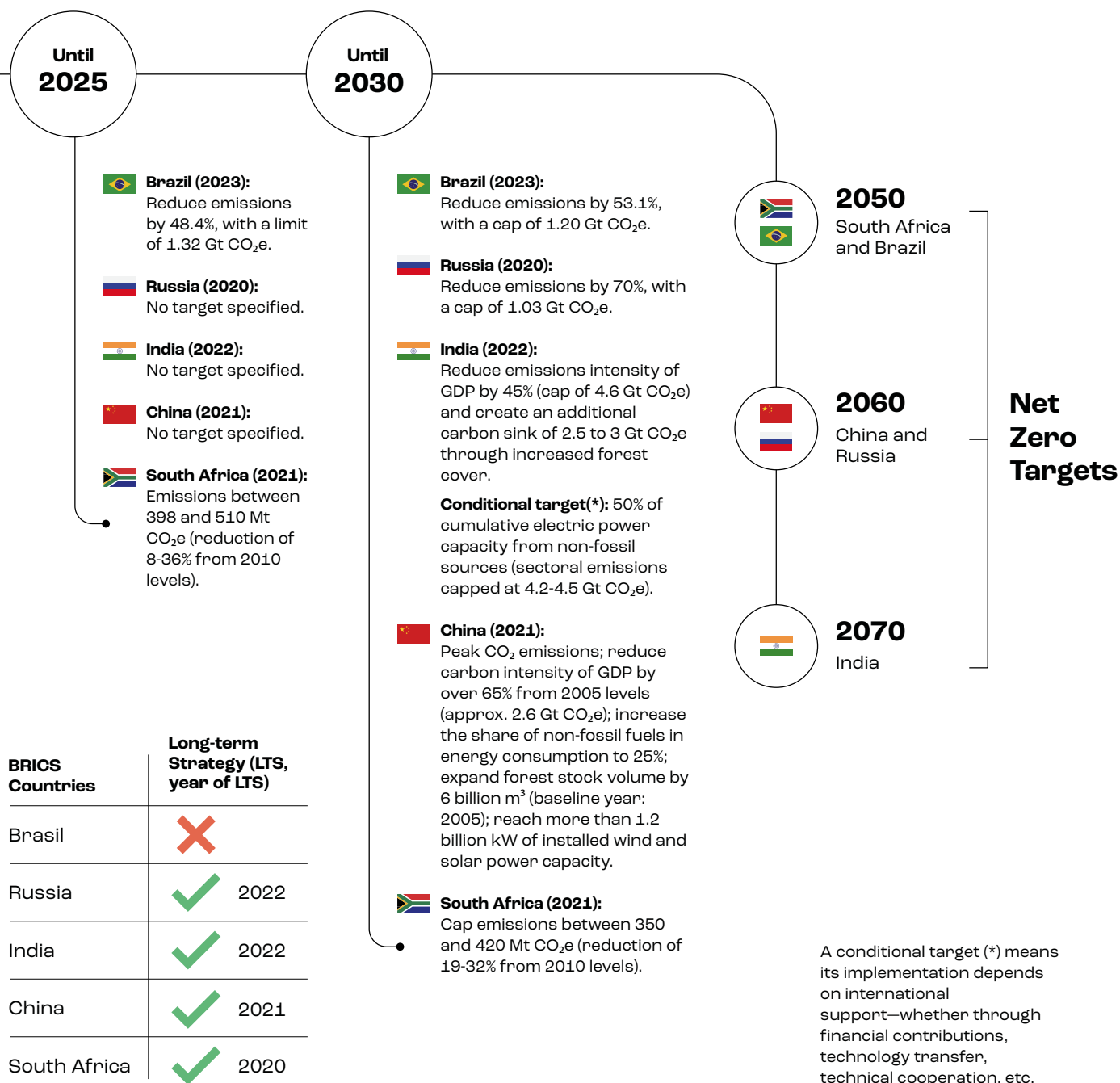
particularly require domestic debt markets, technology transfer, and international financing.

Internationally, like South Africa, India reinforces the principle of **Common But Differentiated Responsibilities** and advocates for developed countries to take greater responsibility for financing climate mitigation and adaptation actions, considering their historical emissions and accumulated wealth. The language of "climate justice" has been adopted by both the Indian government and prominent figures in the energy sector.

During COP28, India emphasized its role as a global climate leader, advocated for climate justice and equity, and urged developed nations to fulfill their climate financing commitments to support developing countries (CHANDRASEKHAR, 2022). During India's G20 Presidency (2023), with the slogan "One Earth, One Family, One Future", the country listed energy transition, climate financing, and adaptation to climate change among its priorities (MoEFCC, 2023). In the New Delhi Declaration, produced at the end of the event with consensus among member countries, the emphasis was placed on reforming Multilateral Development Banks to mobilize large-scale financing for climate initiatives (UN NEWS, 2023).

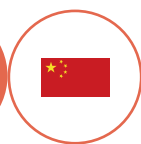
BRICS COUNTRIES' LATEST NDC TARGETS

Following the Paris Agreement timeline, countries have until February 2025 to submit the next update of their Nationally Determined Contributions (NDCs). So far, none of the BRICS countries has presented this new version.



Sources: Climate Action Tracker (2024) e UNFCCC (2024)

5. CHINA



PROFILE OF CHINESE EMISSIONS

China is the **leading country in greenhouse gas emissions**. In 2021 alone, Chinese emissions reached 12,790 megatons of carbon equivalent (MtCO₂e), accounting for about **25.88% of all global emissions** (CLIMATE WATCH 2024). Emissions from the Asian giant exceed those of the other three largest polluters combined (the United States, the European Union, and Japan).

Chinese CO₂ emissions have significantly increased over the past 40 years. In 1980, carbon dioxide emissions were below 1.5 MtCO₂e. With the Chinese government's reform and opening policies, emissions grew by approximately 4% per year between 1980 and 2000. In the following period, from 2000 to 2012, emissions tripled, reflecting the extraordinary economic growth the country experienced during that time. Since then, CO₂ emissions have continued to rise, but at a slower pace (SANDALOW et al., 2022).

Despite being the country with the highest CO₂ emissions, China has a relatively lower per capita emissions rate. Data from the Global Carbon Project (2022) indicate that, in 2022, China's per capita emissions were 8 tons of CO₂, placing the country in 34th position for CO₂ emissions per capita.

In addition, China's carbon intensity, which refers to CO₂ emissions per unit of GDP, has been steadily improving over the past 15 years. In 2021, China emitted about 0.39 kg of CO₂ from fossil fuels per dollar of GDP. This improvement resulted from structural changes in the Chinese economy (from manufacturing to services), policies encouraging the gradual phasing out of inefficient industrial facilities, energy efficiency

standards, among other factors. However, China's carbon intensity remains high compared to other major economies, including the United States (0.20), Japan (0.19), and the European Union (0.13) (SANDALOW et al., 2022).

China is also the **largest methane emitter in the world**. In 2023, the country released 54,946 kt of CH₄ into the atmosphere (IEA, 2024). Methane emissions in the country primarily stem from coal mining, rice cultivation, waste disposal, livestock production, and leaks during the production and distribution of natural gas (SANDALOW et al., 2022, p. 19).

The **energy sector is responsible for 84.19% of GHG emissions**, followed by industry (9.48%) and agriculture (4.72%) (CLIMATE WATCH 2024). Like India (and South Africa), the country's **energy matrix is still heavily dependent on coal**. In 2021, 56% of primary energy came from coal, which is used in the cement, chemical, and steel sectors, as well as in electricity generation and heat production (SANDALOW et al., 2022, p. 47). It is important to highlight that China is **the largest consumer and producer of coal in the world**. The Asian giant's consumption is greater than that of the rest of the world combined—accounting for nearly 54% of the global total in 2020 (IEA, 2024a). Despite goals to reduce coal use in the coming decades, the government continues to authorize the construction of new plants in the short term to ensure energy security and address concerns about the intermittency of renewable sources.

At the same time, **China leads the global energy transition toward renewable sources**, with

significant emphasis on hydropower, wind, and solar energy. While hydropower has been a significant source of electricity in China for decades, wind and solar energies have dramatically grown in the past 10 years, thanks to government incentives for the development of these sectors. In 2021, renewable energies provided approximately 30% of the electricity generated in China, comprising 16% from hydropower, 8%

from wind energy, 4% from solar energy, and 2% from biomass (SANDALOW et al., 2022, p. 58). Today, China plays the role of the “world’s factory” for the renewable industry, accounting for 28% of all global industrial production (ZOTIN, 2021), including Chinese companies and technologies manufacturing photovoltaic (PV) panels, wind turbines, and electric vehicles.

ANALYSIS OF CHINA'S NDCS

In October 2021, China submitted its updated NDC to the UNFCCC, including its long-term strategy (LTS). The country set as its main goals to **peak CO2 emissions before 2030** and **achieve carbon neutrality before 2060**¹⁴.

Analyses from the Climate Action Tracker (2023) show that the first target—reaching peak CO2 emissions by 2030—is expected to be met earlier than anticipated, by 2025. However, the country’s emissions are projected to stabilize at high levels for the remainder of the decade. This means that China’s climate and energy policies will not lead to substantial emissions reductions during this decade. To have a chance of limiting global warming to 1.5 °C, it would be extremely

important for China, as the world’s largest emitter, to implement more ambitious decarbonization policies in its next five-year plan (2026-2030).

The Climate Action Tracker classifies China’s climate targets and policies as **“Highly Insufficient”**. This classification indicates that China’s climate policies and commitments are inconsistent with the 1.5°C temperature limit of the Paris Agreement and lead to a plateau of high emission levels rather than reductions. If all countries were to follow China’s approach, warming could exceed 3°C. The Climate Action Tracker also classifies **China’s Long-Term Strategy (LTS) as “Poor”**.

14. Carbon neutrality is different from climate neutrality. Carbon neutrality suggests that the target will apply only to carbon dioxide (CO2) emissions and not to other greenhouse gases, such as methane, which is a major contributor to global warming. In contrast to China, the European Union, for example, commits to climate neutrality—not just carbon neutrality—by 2050 (THE ECONOMIST, 2020).

CHALLENGES TO CHINA'S CLIMATE AMBITION

Since coming to power, Chinese President Xi Jinping has placed great importance on environmental and climate issues, which have been included in China's short-term economic and social development Five-Year Plans. Various documents related to Chinese climate policy have been released—action plans, guidelines, climate change reports, among others—all demonstrating concern and the significance of climate change for China.

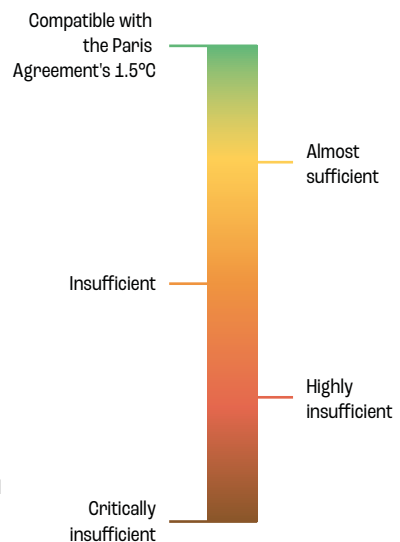
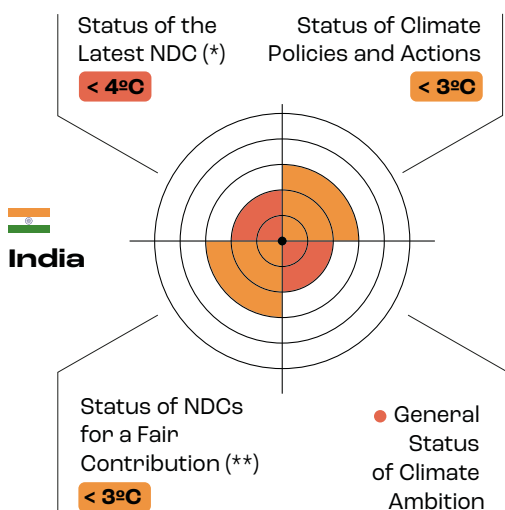
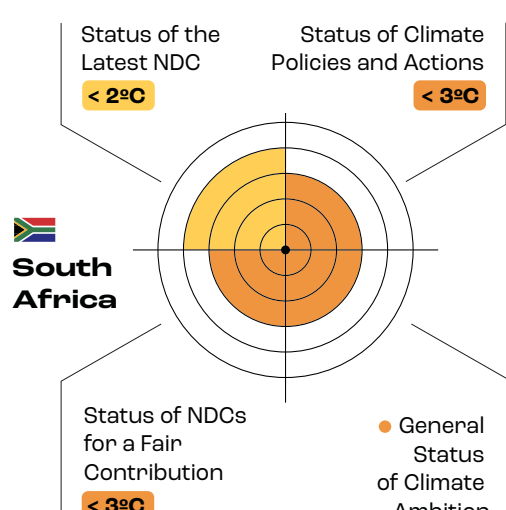
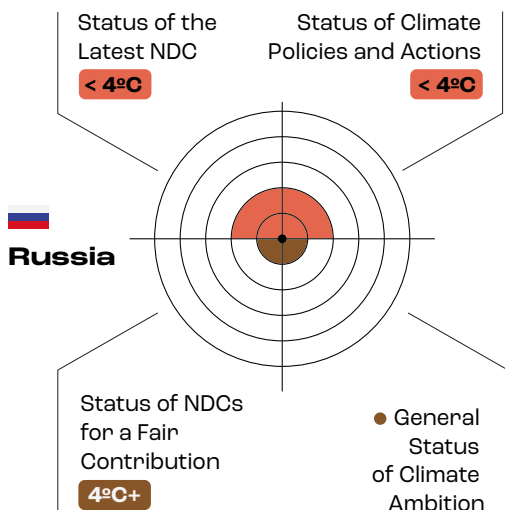
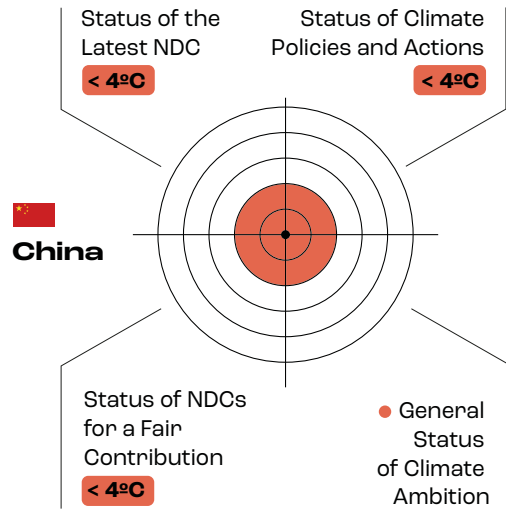
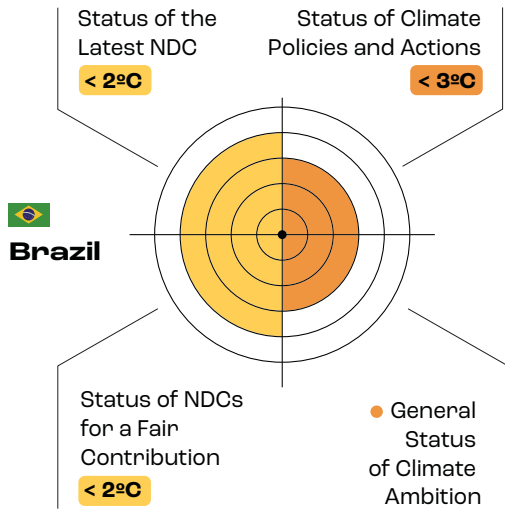
The updated NDC of China and other government documents state that the country should promote and lead the establishment of a fair, equitable, and mutually beneficial global climate governance system. Beyond multilateral engagement, such as within the framework of the UNFCCC, China also operates bilaterally, through South-South cooperation, which is one of the pillars of its foreign policy, and through groupings. The Belt and Road Initiative (BRI) has adopted a more sustainable footprint, focusing on financing green and low-carbon projects with the goal of promoting sustainable develop-

ment in developing countries. Technical cooperation, capacity building, and risk management training are some of the non-financial initiatives China has already initiated to cooperate with developing countries in the climate field.

However, it is evident—and Chinese authorities have made it clear—that both domestic and international initiatives are not solely driven by climate concerns but also by geopolitical interests, economic growth, energy security, and the promotion of strategic industries.

The government continues to advocate for the use of fossil fuels as part of the transition in the energy sector to ensure stability and security. Although the energy transition continues to progress, renewable energy sources would need to be deployed even more rapidly than the current record rates to meet growing energy demand while simultaneously reducing dependence on fossil fuels. Additionally, it is important to consider the socio-environmental impacts of clean energies.

CONTRIBUTION OF EACH COUNTRY TO GLOBAL WARMING

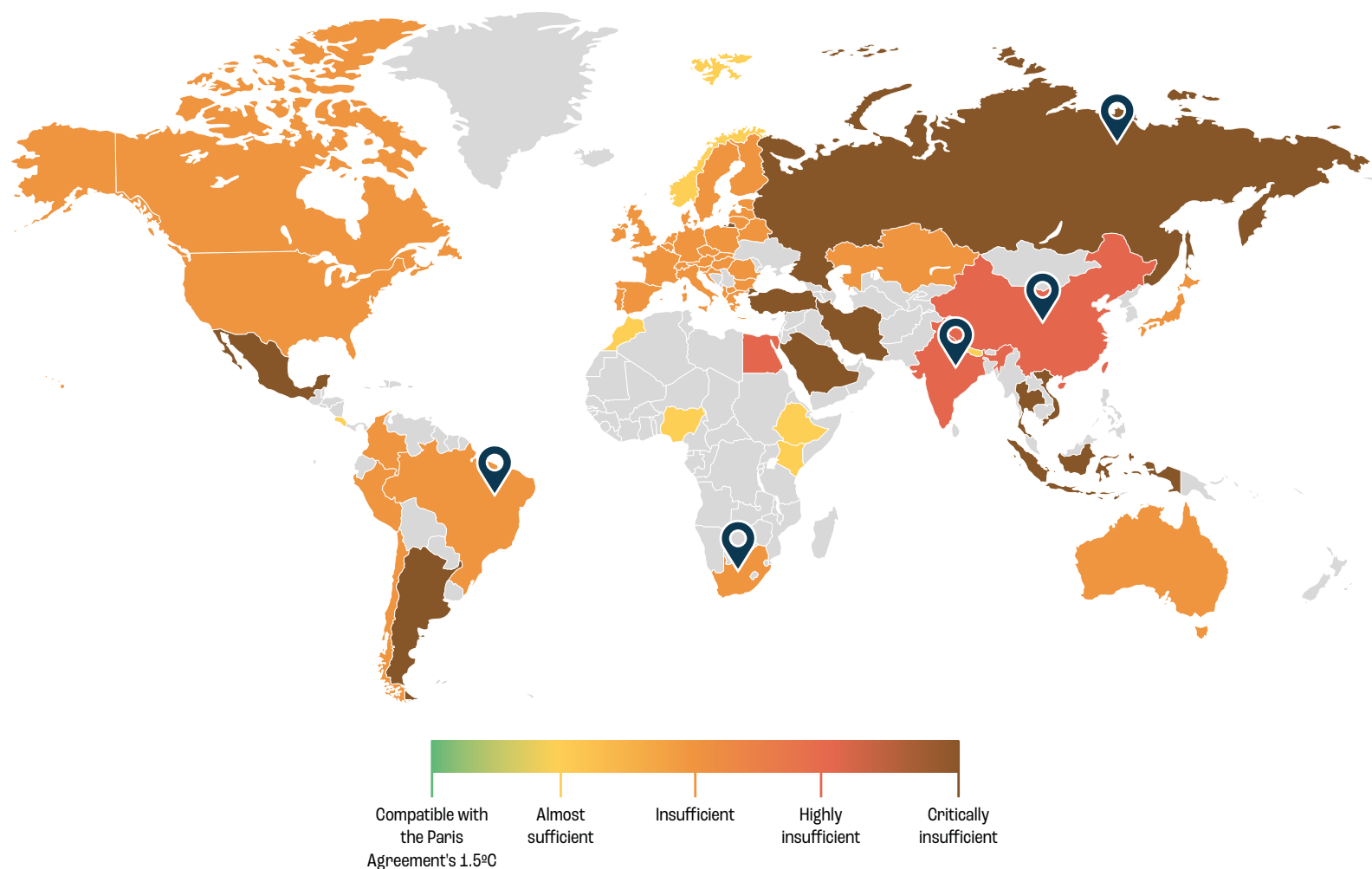


(*) Refers to the conditional target of India's NDC

(**) Refers to the unconditional target of India's NDC

Map of Countries' Climate Ambition, highlighting the BRICS.

Source: Adapted from Climate Action Tracker (2023).



This table on the climate ambition of the BRICS is based on the analysis by the Climate Action Tracker (CAT), which measures each country's climate action in relation to the goal agreed upon in the Paris Agreement—to keep global warming well below 2°C, preferably at 1.5°C compared to pre-industrial levels. Every country that ratifies the Agreement must present its own target to achieve this goal, known as Nationally Determined Contributions, or NDCs.

Considering the NDCs, domestic climate policies and actions, and what would constitute a fair contribution from each country to combat global warming (taking into account how much the country has contributed to the current climate crisis and the amount of greenhouse gases it emits into the atmosphere), the CAT defines its climate ambition as follows: critically insufficient, highly insufficient, insufficient, almost sufficient, or compatible

with the 1.5°C target of the Paris Agreement. No country has received the highest rating from the CAT, which is compatible with the 1.5°C objective of Paris, and no BRICS country has shown a climate ambition close to being sufficient to meet the Paris goal (see the map below).

Both Brazil's and South Africa's climate ambitions were deemed insufficient, while China's and India's are classified as highly insufficient, and Russia's as critically insufficient. This means that, considering both the NDCs and the domestic measures presented by the countries, if all nations followed Brazil's and South Africa's example, global temperatures would increase by between 2°C and 3°C; if they followed India's and China's targets, the planet could warm by up to 4°C; and if all were to adopt Russia's approach, global temperatures would rise by more than 4°C.

6. SOUTH AFRICA



PROFILE OF SOUTH AFRICAN EMISSIONS

South Africa ranks **17th in greenhouse gas (GHG) emissions**, responsible for **1.07% of total emissions** (CLIMATE WATCH, 2024). In numerical terms, the country's emissions decreased from 563.55 MtCO₂ in 2019 to 517.35 MtCO₂ in 2021 (CLIMATE WATCH, 2024), a significant drop. The per capita emission is 8.57 tCO₂e/person, placing the country 52nd in the per capita emissions ranking. While it may not be in the global top 10, these figures make South Africa the **largest emitter on the African continent**. Regarding methane, the country's emissions position it 22nd in the global ranking (CLIMATE WATCH, 2021).

The **energy sector alone is responsible for 82.37% of GHG emissions**, followed by agriculture (6.23%), industrial processes (5.06%), waste disposal (5.03%), and land use and land-use change (LULUCF) (1.31%) (CLIMATE WATCH, 2021). Unlike Brazil, the LULUCF sector in South Africa acts more as a carbon sink, with its absorption capacity increasing since 2008 (CAT, 2023).

The country's energy matrix is primarily composed of coal and oil. **Coal accounts for 73.8% of energy**, while renewables make up only 8.7%

(FITZGERALD & BERNARD, 2024). The Fifth Biennial Report of South Africa (2023) indicates that the energy sector saw a 6.8% reduction in emissions in 2020 due to pandemic-related restrictions, but the country has coal reserves that could last over a century (REPUBLIC OF SOUTH AFRICA, 2023).

A notable characteristic of the South African energy matrix is the monopolization of energy sources, with 95% of electricity production concentrated in the hands of Eskom, a state-owned enterprise. The company's management has been marked by financial crises, mismanagement, and corruption scandals. As a result, the energy distribution network is precarious, and access is difficult in various regions of the country. According to the Centre for Sustainable and Renewable Energy Studies (2024), the South African energy system has been unable to meet 13.4% of energy demand, leading to frequent power outages over increasingly vast areas. Additionally, approximately 52% of electricity is consumed by the metallurgical and mining industries, which are energy-intensive activities (GABRIELLI, 2020; ENERDATA, 2021).

ANALYSIS OF SOUTH AFRICA'S NDCS

The country's INDC, submitted in 2015, aimed to achieve a "peak-plateau-decline" trajectory, where emissions would reach a peak before declining in absolute terms (REPUBLIC OF SOUTH AFRICA, 2015). The 2015 target was to

maintain emissions between 398-614 MtCO₂, peaking between 2020 and 2025, and then initiating the reduction process. This target was heavily criticized for being a broad emission range, which made accountability difficult and

created uncertainty about the country's future emissions path (SILVA, 2017).

South Africa's first NDC, submitted in September 2021, is virtually identical to the iNDC, with some changes—such as the new emissions reduction target and its first adaptation communication. The current target is now more detailed and ambitious, aiming to keep emissions between 398-510 MtCO₂ in 2025 and between 350-420 MtCO₂ in 2030.

At the end of 2023, the country presented its Fifth Biennial Report, as required by the Paris Agreement, detailing greenhouse gas emissions from 2000 to 2020, including the impact of mitigation policies and measures, as well as the financial, capacity building, technology transfer, and development support received until December 31, 2020. According to the report, the implementation of national policies and programs accounted for 97% (416 Mt CO₂e) of the accumulated emissions reductions during the period from 2010 to 2020. International market mechanisms (IMMs) were responsible for the remaining 3% (11 Mt CO₂e). The effects of mitigation actions helped maintain South Africa's greenhouse gas emissions trajectory within the peak-plateau-decline range established in the

2015 iNDC (REPUBLIC OF SOUTH AFRICA, 2023, p. 8).

The country's long-term strategy, known as South Africa's Low-Emission Development Strategy 2050 (SA-LEDS), was published in 2020 and aims for low-carbon growth, a just transition¹⁵ and the building of resilience for the African continent to climate change (REPUBLIC OF SOUTH AFRICA, 2020). The document presents several mitigation policies that have already been implemented in the country across the energy, industry, and waste sectors, as well as cross-cutting measures such as the carbon tax and the gradual elimination of inefficient subsidies/incentives for fossil fuels, resulting from a commitment made at the G20.

Despite the more ambitious targets set in the 2021 NDC and the reduction in emissions observed in that same year, the Climate Action Tracker (CAT) considers South Africa's climate goals and policies **"insufficient"**, stating that they require "substantial improvements to be consistent with the 1.5°C temperature limit of the Paris Agreement". The CAT points out that if all countries followed South Africa's approach, there would be a temperature increase of over 3°C (CAT, 2023).

15. According to the Just Transition Framework approved in 2022, "A just transition aims to achieve a quality life for all South Africans, increasing the capacity to adapt to the adverse impacts of climate change, promoting climate resilience, and achieving net-zero greenhouse gas emissions by 2050, based on the best available science. A just transition contributes to the goals of decent work for all, social inclusion, and poverty eradication. A just transition places people at the center of decision-making, especially those most affected, including the poor, women, people with disabilities, and youth—empowering and equipping them for new opportunities in the future. A just transition builds the resilience of the economy and individuals through accessible, decentralized, and diverse ownership of renewable energy systems; conservation of natural resources; equitable access to water resources; a healthy and non-harmful environment; and sustainable, equitable, and inclusive land use for all, especially for the most vulnerable" (REPUBLIC OF SOUTH AFRICA, 2022, p.7).

CHALLENGES TO SOUTH AFRICA'S CLIMATE AMBITION

Similar to India, the main challenges to South Africa's climate ambition are its energy mix, which is **highly dependent on fossil fuels**, and the **need for financing** to meet its NDCs and achieve a just energy transition—a costly agenda for the country.

In recent years, efforts have been made to increase the share of energy generated from renewable sources, such as the establishment of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). However, despite the observed increase in the use of renewable energy and legislation promoting its production and implementation, two coal power plants had their constructions completed in 2021. Moreover, according to the Just Transition Framework (REPUBLIC OF SOUTH AFRICA, 2022), the coal industry alone employed about 93,000 people in 2021, highlighting the need for a just energy transition that creates decent alternative job opportunities in affected regions.

The country has been working to increase its access to climate finance. A significant partnership in this regard was established after COP26 between the European Union, the United Kingdom, France, Germany, the United States, and South Africa—the Long-Term Just Energy Transition Partnership with South Africa (EUROPEAN COMMISSION, 2021). This partnership guarantees an initial amount of \$8.5 billion for the period 2023-2027 to support the country in its pursuit of a just energy transition and a decarbonized economy.

In its NDC and various multilateral forums, South Africa emphasizes the importance of financing, technology, and multilateral cooperation, reflecting its concerns regarding the costs of implementing mitigation and adaptation policies across various economic sectors, particularly in the energy sector.

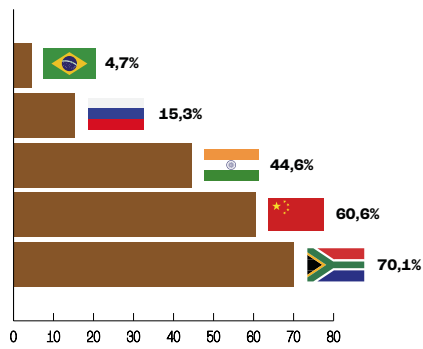
During COP27, President Cyril Ramaphosa (2022) highlighted the critical importance of developed countries honoring their climate finance commitments and transforming financing institutions, including multilateral development banks, as current multilateral support is out of reach for most of the global population due to risk-averse credit policies, high costs, and conditionalities. At the same COP, the country expressed support for the Loss and Damage Fund and the Adaptation Fund.

In 2023, during the BRICS Summit hosted by South Africa, the country once again reiterated the need for a just, accessible, and sustainable transition to a low-carbon economy, in line with the principle of Common But Differentiated Responsibilities, with developing countries “leading by example” and filling existing gaps in adopting effective climate mitigation and adaptation policies by meeting the financial commitments outlined in the Paris Agreement (Johannesburg Declaration, 2023, art. 57). The country is expected to continue emphasizing the need for international financing for a just energy transition when it assumes the G20 presidency in 2025 (FOREIGN POLICY CENTRE, 2023).

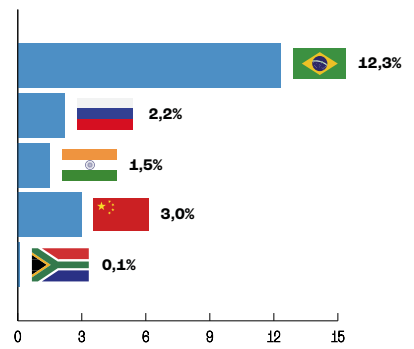
ENERGY MATRIX OF BRICS COUNTRIES



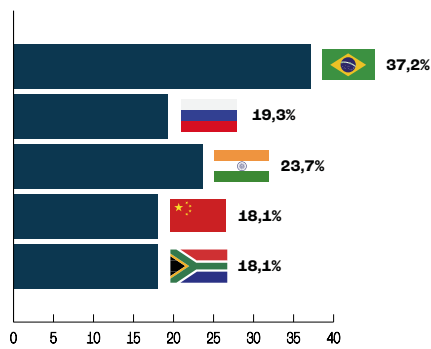
Coal



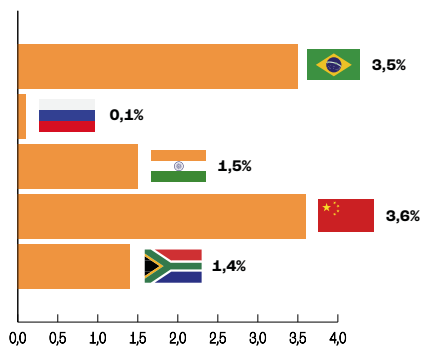
Hydropower



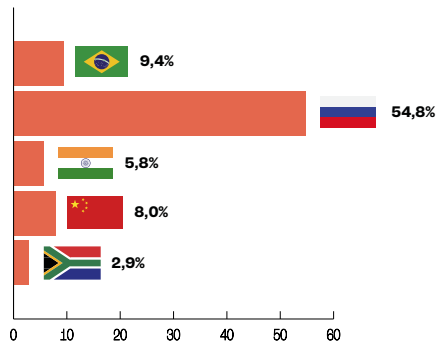
Oil



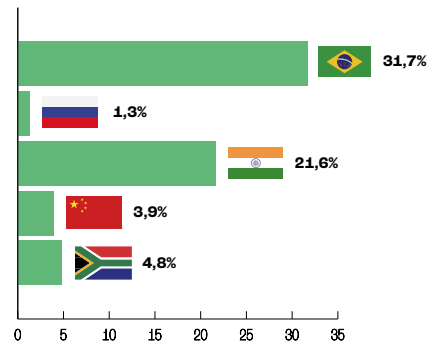
Wind and solar



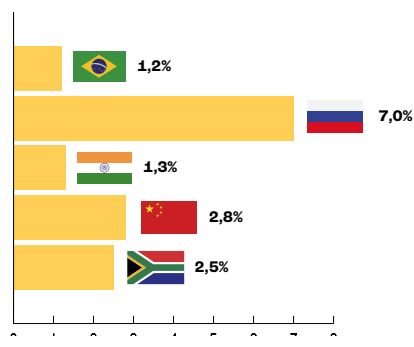
Natural Gas



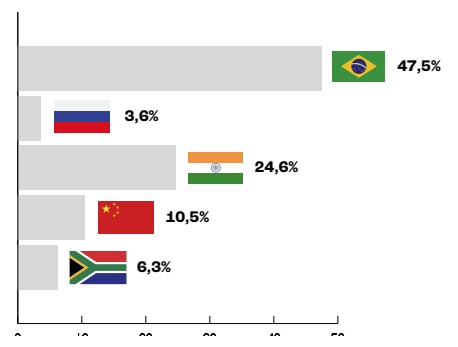
Biofuels and Waste



Nuclear



Renewable Energy Sources in the Energy Matrix



Approximate percentages based on the data from 2021 and 2022 provided by the IEA (2024).

FINAL CONSIDERATIONS

The BRICS countries have responsibilities and duties in combating the climate crisis. However, for a variety of reasons and to varying degrees, the current climate goals, policies, and actions of the five countries are inconsistent with the Paris Agreement's objective of limiting global temperature rise to 1.5°C. Energy matrices that are highly dependent on fossil fuels (with the exception of Brazil), insufficient climate financing (particularly in the cases of India and South Africa), and geopolitical disputes (in the case of Russia and China) constitute some of the main obstacles to implementing more effective policies.

Despite being leaders in the global transition to renewable energy sources, China and India are the world's largest coal producers. In 2022, Russia was the largest individual supplier of subsidies to the fossil fuel sector. Following the invasion of Ukraine, climate issues lost even more prominence in the country. In Brazil, despite more ambitious initiatives aimed at energy transition, incentives for fossil fuels, particularly oil and gas, remain present in the country's energy framework, and deforestation and agricultural activities continue to be responsible for high greenhouse gas emissions. South Africa lacks adequate funding sources to transform its energy matrix, which is highly dependent on fossil fuels, and to fulfill its NDC.

India, South Africa, and Brazil, both individually and within the BRICS framework, reinforce the principle of Common but Differentiated Responsibilities and Respective Capacities (CBDR-RC) and advocate for developed countries to take greater responsibility for financing climate mitigation and adaptation actions in developing countries,

as well as for technology transfer and technical cooperation. Brazil is also using its G20 presidency as a pathway to “unlock” climate financing, a topic that has been stalled in the UN-FCCC and is of utmost importance for COP 29 in Azerbaijan in November 2024.

With the expansion of the bloc, BRICS+ occupies a more prominent position not only in GHG emission rankings but also in terms of production and global reserves of critical metals and minerals for the energy transition. Collectively, the group holds significant reserves of metals such as aluminum, cobalt, copper, lithium, manganese, nickel, and silicon, which are essential for photovoltaic panels, wind turbines, and electric vehicles¹⁶. The potential coordination of extractive and trade policies, on one hand, promises to position BRICS+ as a significant international player in the energy transition; on the other hand, considering the socio-environmental impacts of “clean” energies and the extraction of critical minerals, it could exacerbate inequalities both within and between the bloc and delay policies that prioritize climate justice.

For all these reasons, it is crucial to remain attentive to the climate ambitions of BRICS countries. Given the importance of BRICS as both greenhouse gas emitters and holders of critical resources for the energy transition, their climate policies will have a significant impact on addressing climate change. This impact relates not only to emissions reductions but also to the direction that the energy transition will take in these countries: towards climate justice or the exacerbation of inequalities, violence, conflict, and rights violations.

16. <https://www.polytechnique-insights.com/en/columns/geopolitics/the-brics-economic-alliance-or-future-private-club-of-raw-materials/>

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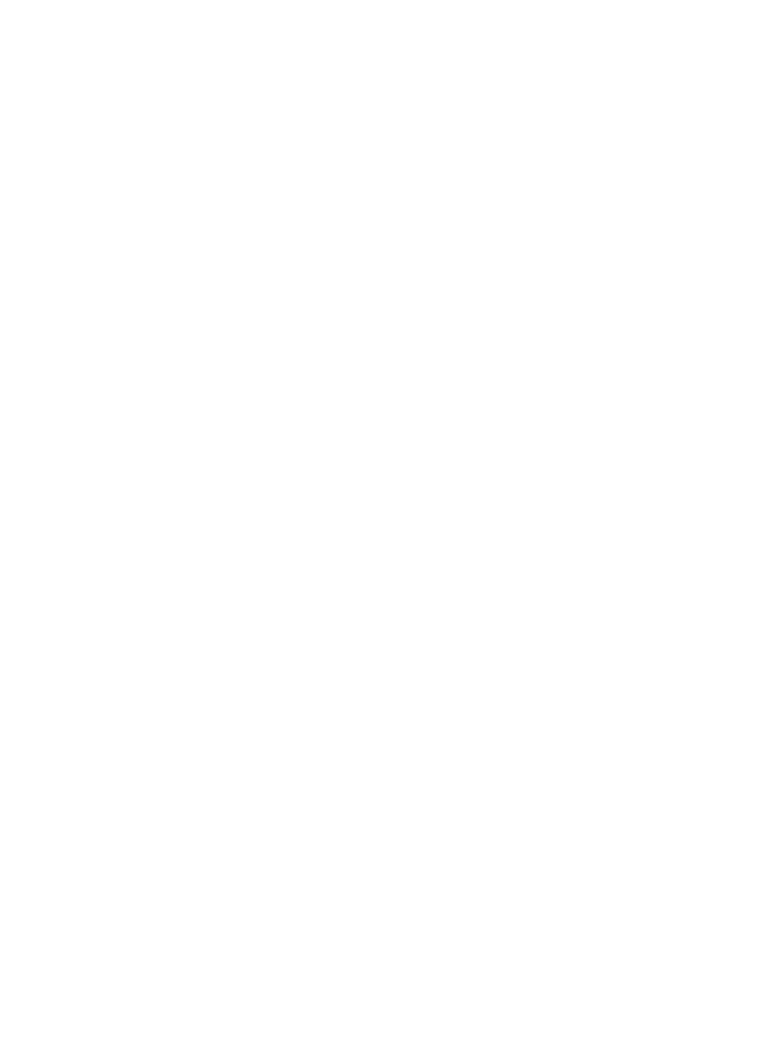
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