

TOWARDS GLOBAL GREEN LEADERSHIP: PRIORITIES FOR BRICS COOPERATION ON CLIMATE CHANGE

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Main authors

Igor Makarov, Head of the Laboratory on Climate Change Economics, Faculty of World Economy and International Affairs, HSE University, Head of the Division of the BRICS Expert Council–Russia

Alexandra Khlebnova, Head of Climate and Environment of the International and Comparative Law Research Center, Expert of the BRICS Expert Council–Russia

Anna Shuranova, Junior Research Fellow, Laboratory on Climate Change Economics, Faculty of World Economy and International Affairs, HSE University, Expert of the BRICS Expert Council–Russia

The report was prepared with the participation of staff from the Laboratory on Climate Change Economics at HSE University

Fyodor Alekseev
Kseniia Baryshkova
Polina Bogoslovskaya
Polina Kanevskaya
Ekterina Kosareva
Yulia Pshennikova
Elizaveta Smolovik
Marina Starodubtseva
Zoya Shmakotina

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Anton Tsvetov, Expert of the International and Comparative Law Research Center (until February 2024)

Natalia Stapran, Head of Climate and Environment of the International and Comparative Law Research Center (until November 2023)

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Summary

The BRICS countries play a key role in the international climate agenda. After expansion, they account for about 30% of global GDP and 45% of global population, as well as more than half of global greenhouse gas emissions. For this reason, the success of humanity's efforts to combat climate change depends to a great extent on the BRICS countries' climate policies.

Climate policy is among the important national development priorities of most BRICS countries. Almost all member countries have targets to achieve carbon neutrality by 2050-2070. The exceptions are Egypt and Ethiopia, as well as Iran, which is not a party to the Paris Agreement. Emission targets for 2030 in all countries vary in both form and ambition, with the UAE and Saudi Arabia among the most ambitious and Iran, Russia, and Egypt among the least ambitious. Only China and South Africa have mandatory carbon pricing systems, and at the regional level, Russia as well, although three other countries have plans to implement a carbon price. Many are also active in voluntary markets - notably the UAE and Saudi Arabia.

The common goals of the BRICS countries in the field of energy are to improve the availability and reliability of energy supply and to develop new energy technologies. Some member countries are major importers of fossil fuels, while others are major exporters. The energy mix of some countries (China, India, South Africa) is highly dependent on coal, while others (Brazil and Russia) have a high share of clean energy. Ethiopia still uses mainly traditional biomass. Nevertheless, almost all BRICS countries are focused on the transition to renewable energy: China is the world leader in this area. India, Ethiopia, UAE, Saudi Arabia, South Africa, and India set high targets. The BRICS countries seek to address the challenges of energy transition in parallel with increasing energy availability and meeting the rising demand for energy in emerging economies.

Decarbonization of the most carbon-intensive sectors of the economy in the BRICS countries also varies in terms of tools and scope, but the common priorities - energy and resource efficiency - are distinct. China, South Africa and partly India are focusing on industrial decarbonization, while Brazil is aiming to reducing deforestation. Ethiopia, like Russia, seeks to maximize the potential of forest sequestration, while Saudi Arabia and the UAE focus on overall economic diversification. Despite their diversity, the plans of all BRICS countries share an energy and resource efficiency agenda. The economies of many of them are dominated by sectors that are extremely difficult to achieve carbon neutrality: this also explains the increased focus on offsets.

The development of low-carbon technologies is one of the most promising areas of cooperation among the BRICS countries, as all of them have the potential for technological leadership in the field of green solutions of one kind or another. China is the most successful in this area; Saudi Arabia, India and Brazil are not far behind in some fields.

China is also a leader in the development of sustainable mobility, which is also a priority for Brazil, the UAE and India.

Adaptation plays a crucial role in the climate policies of all BRICS members - each of them is significantly exposed to the negative impacts of climate change. The BRICS countries agree on the need to enhance the role of adaptation in the climate policy mix and its importance in the international climate agenda.

The BRICS countries have quite similar positions on the most important issues on the international climate agenda. Their common challenges are the need to maintain stable socio-economic development in parallel with the green transition and limited resources to address these challenges. Accordingly, the issues of a just transition, the expansion of climate finance and the limited willingness to take on new emission reduction commitments are priority topics in international arena. Synergizing the fight against climate change with the rest of the Sustainable Development Goals is a key strategy.

Climate cooperation within BRICS was not prioritized until 2023. Nevertheless, climate is part of the Strategy for BRICS Economic Partnership 2025 and has been an important element of the energy and environmental cooperation agenda. Sustainable, including green finance within the association is implemented through projects of the New Development Bank, which, however, has suspended operations in Russia since 2022.

Under the South African Chairmanship in 2023, climate issues have come to the forefront within BRICS. There is a growing awareness in the BRICS countries that the sheer size of their economies and populations means that they have a special role to play in combating climate change. If that role is to develop new approaches to economic growth and development that take into account the constraints imposed by climate change, **the BRICS countries have an opportunity to become true models for the developing world and make climate issues a field of global leadership.**

In connection with the presidency in 2024, Russia has unique opportunities to advance its own agenda within BRICS, including a significant expansion of cooperation on the climate track. This report substantiates the following priorities and areas for such engagement:

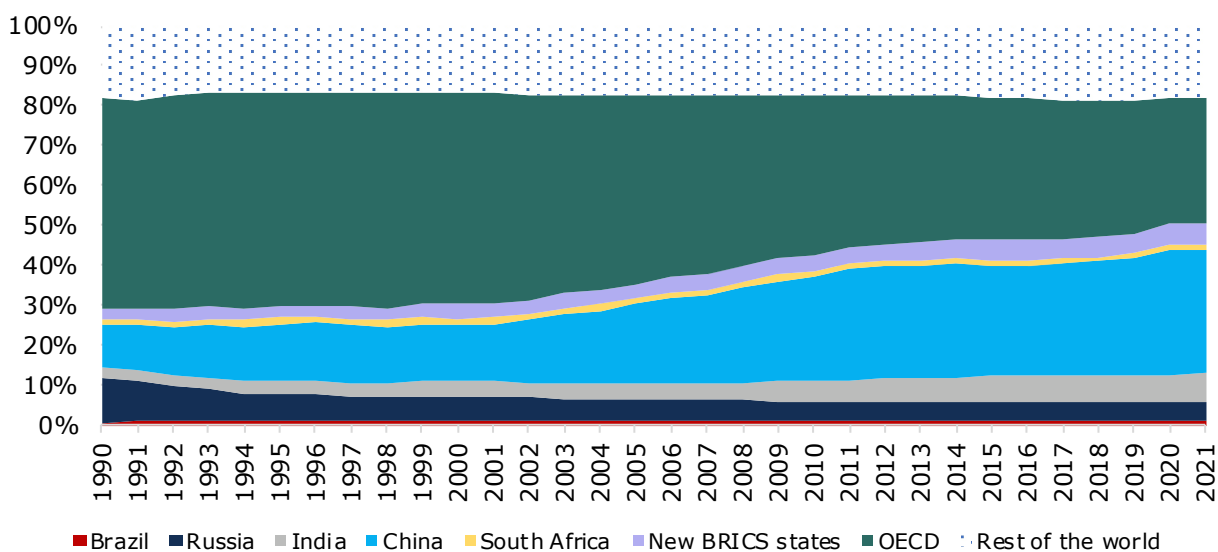
- Adoption of common principles to combat climate change;
- Establishment of information and expertise partnerships on climate;
- Use and promotion of consumption-based emission accounting;
- Establishing a common green development infrastructure to facilitate cross-border cooperation, including in the form of transfer of reductions and climate finance.

Introduction

Global climate change is one of the most important problems of mankind in the XXI century. Being associated with the problems of transformation of energy, transportation, industry, agriculture, financial sector, it is also one of the most important factors in the development of the world economy and international relations. The trajectory of both further climate change and green transformation of the world economy is not predetermined. To a great extent, it depends on the BRICS countries.

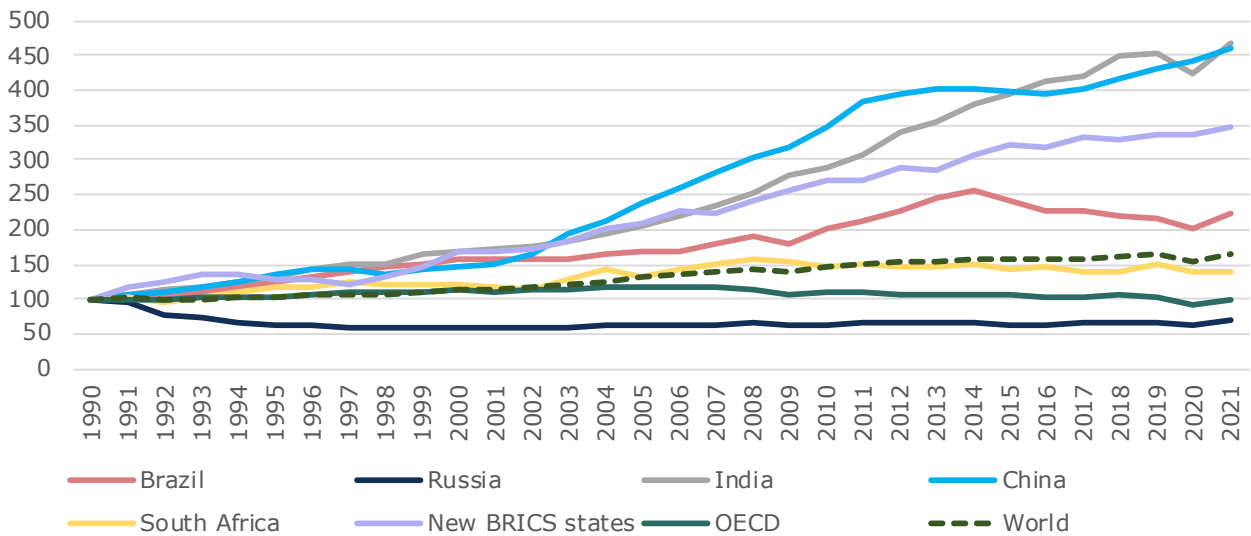
First, because of their size and economic dynamism. After the 2024 expansion, the BRICS account for about 30% of global GDP and 45% of global population. The BRICS countries' share of greenhouse gas emissions from fossil fuel combustion has exceeded 50% (Figure 1). China, India in Russia rank 1st, 3rd and 4th in the world in terms of greenhouse gas emissions, respectively. If emissions from land use, land-use change and forestry (LULUCF) are taken into account, Brazil ranks 3rd. It is the BRICS countries that have determined the dynamics of global greenhouse gas emissions over the past 30 years. Emissions from fossil fuel consumption in China and India have increased more than 4.5 times since 1990, while Brazil has increased 2.2 times. In contrast, Russia is the country with the largest absolute reduction in emissions since 1990 among all national economies - emissions from fossil fuel consumption in the country have fallen by about 40%, primarily due to the transformation crisis of the 1990s (Figure 2). If China contributed the maximum among all countries in the world to global greenhouse gas emissions after 1990, India is likely to contribute the maximum among all countries between 2020 and 2040.

Figure 1. Share of BRICS, OECD and the rest of the world in global CO₂ emissions from fossil fuel combustion in 1990-2021



Source: Global Carbon Project (Friedlingstein et al. 2023)

Figure 2. CO₂ emissions from fossil fuel combustion in BRICS countries, OECD and the world as a whole, 1990



Source: Global Carbon Project (Friedlingstein et al. 2023)

Second, the BRICS countries are the first countries seeking to transition from low to middle and high per capita incomes in a global climate crisis era world. If they make this transition by duplicating the growth models and consumption patterns of Western countries, the world will quickly drift towards climate catastrophe. The BRICS countries need a new model of economic development that takes into account resource, environmental and climatic constraints - the old ones will not work under the new conditions.

Third, the BRICS countries are a kind of vanguard for the global majority, acting as a model for the countries of the Global South, which in the future will repeat their path to prosperity. In this sense, the success of countries in the fight against climate change will open the way for other countries, while failure will destroy the hope that humanity can somehow cope with it.

Fourth, the BRICS countries agree that the world order must transform towards greater inclusiveness and multipolarity. They are convinced of the need to reform existing multilateral institutions and that the Global South should play a greater role in international affairs. In this regard, only the BRICS countries can offer ways to improve the current international climate regime, which is so far powerless to prevent a climate catastrophe. At the same time, a new international order will emerge only when the BRICS countries are ready to assume responsibility for solving global problems, a responsibility commensurate with their scale and the role they would like to play in the global economy and international relations.

In recent years, there is evidence that the BRICS countries have gradually come to terms with climate change. The five largest member countries have made climate commitments and started to actively develop climate regulation at the national level. South Africa was the first

country in the group to adopt the goal of carbon neutrality - in 2020, the country stated in its low-carbon strategy that it intends to achieve a zero-carbon balance by 2050.¹ In 2021, Brazil announced the same goal², while Russia pledged to achieve carbon neutrality 10 years later³ and India 20 years later⁴. China has a similar goal to Russia, set for 2060, which, as in the case of South Africa, was announced in 2020⁵

Around the same time, and in some cases even earlier, the BRICS countries began to develop carbon pricing, a key market instrument of climate policy. China launched a nationwide emissions trading system in 2021 after almost eight years of regional experiments; in Russia, it has been in place since 2022, so far only at the regional level (the Sakhalin experiment); in South Africa, a carbon tax has been successfully operating since 2019. Brazil and India have announced plans to introduce emissions trading systems in the coming years. In addition, all BRICS countries have mechanisms to support development of renewable energy, energy efficiency policies, low-carbon mobility and other private climate policies.

At the international level, the BRICS countries have become increasingly active in claiming leadership of the climate agenda. China is by a huge margin the leader in the production, deployment and export of key low-carbon technologies such as renewable energy and electric vehicles. The climate component is strongly present in the development of China's Belt and Road Initiative. India is positioning itself as the voice of the Global South in climate policy and has unveiled a number of highly ambitious climate initiatives as part of its G20 presidency in 2023. Brazil and South Africa, in many ways the voice of Africa, are one after the other chairing the G20 in 2024-2025 and see climate as one of the priorities of their leadership. Only Russia has not yet fully articulated the main provisions of its foreign climate policy.

The BRICS countries' full implementation of their leadership role in the climate agenda also depends on the development of common approaches to combating climate change. This is not an easy task. The BRICS countries differ greatly in terms of their level of development, economic specialization, and the structure of their energy systems. Russia is a major producer and exporter of all major fossil fuels (oil, natural gas, and coal), Brazil exports oil and South Africa exports coal. At the same time, China and India are among the largest energy importers

¹ South Africa's Low Emission Development Strategy 2050 // UNFCCC, 2020. URL: <https://unfccc.int/documents/253724> (accessed: 02.08.2024).

² Brazil's Bolsonaro, under U.S. pressure, vows climate neutrality by 2050 // Reuters, 2021. URL: <https://www.reuters.com/business/environment/bolsonaro-says-brazil-will-reach-climate-neutrality-by-2050-2021-04-22/> (accessed: 02.08.2024).

³ Plenary session of the international forum "Russian Energy Week" [Plenarnoe zasedanie mezhdunarodnogo foruma «Rossijskaja jenergeticheskaja nedelja»] // President of the Russian Federation, 2021. URL: <http://www.kremlin.ru/events/president/transcripts/66916> (accessed: 02.08.2024).

⁴ Cabinet approves India's Updated Nationally Determined Contribution to be communicated to the United Nations Framework Convention on Climate Change // Press Information Bureau. 2022. URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=1847813> (accessed: 02.08.2024).

⁵ An energy sector roadmap to carbon neutrality in China // IEA, 2021. URL: <https://www.iea.org/reports/an-energy-sector-roadmap-to-carbon-neutrality-in-china> (accessed: 02.08.2024).

in the world, with clear prospects for further increases in imports. With the addition of five new countries to the BRICS, the differences have only widened.

Not surprisingly, the BRICS rhetoric regarding climate policy and cooperation in this area has remained extremely cautious until recently. In 2018-2021, the BRICS Joint Declarations contained roughly the same text about welcoming the Paris Agreement, committing to its implementation and the UNFCCC under the principle of "Common but Differentiated Responsibilities and Respective Capabilities", and the need for developed countries historically responsible for climate change to increase support to developing countries to mitigate and adapt to climate change. These statements have in some cases been made in the context of food security, environmental protection, etc.⁶ In 2022, this narrative has intensified, and has been supplemented by a joint protest against green trade barriers that may be discriminatory in nature⁷. The strongest document in terms of multilateral climate cooperation during this period was the Strategy for BRICS Economic Partnership 2025, which devotes an entire section to climate change⁸. Nevertheless, the Strategy outlines only the broadest areas of engagement and does not indicate possible specific ways and measures for cooperation.

Only in 2023 did the climate agenda within BRICS take on a more significant scale. The 2023 Johannesburg Declaration is the first time that climate is mentioned in multiple dimensions of cooperation. It devotes far more provisions to climate issues than all previous BRICS summit outcomes. In addition to the commitment to cooperation on these issues in general, special attention was paid to the agenda of a just energy transition and the importance of all energy sources and energy carriers from renewables and hydrogen to fossil fuels for cleaner energy. The latter is recognized in the latest BRICS position as an important element in supporting both energy transition and energy security. In this regard, the principle of technological neutrality is mentioned for the first time, as well as the need to "adopt common standards and rules for assessing greenhouse gas emissions, developing compatible taxonomies of sustainable projects,

⁶ BRICS in Africa: Collaboration for Inclusive Growth and Shared Prosperity in the 4th Industrial Revolution // BRICS South Africa, 2018. URL: https://nkibrics.ru/system/asset_docs/data/5b59/f0d6/6272/6905/3420/0000/original/X_BRICS_SUMMIT_-_JOHANNESBURG_DECLARATION_JULY_26__2018_JOHANNESBURG__SOUTH_AFRICA.pdf?1532621014 (accessed: 02.08.2024).

Brasília Declaration // BRICS Brazil, 2019. URL: https://nkibrics.ru/system/asset_docs/data/5dce/adb3/6272/6947/a1c3/0000/original/XI_BRICS_SUMMIT_-_BRASILIA_DECLARATION_NOVEMBER_14__2019_BRASILIA__BRASIL.pdf?1573825971 (accessed: 02.08.2024).

Moscow Declaration of the XII BRICS Summit [Moskovskaja deklaracija XII sammita BRIKS] // BRICS Russia, 2020. URL: [https://nkibrics.ru/system/asset_docs/data/635a/6df2/6272/6945/fa54/0000/original/XII_sammit_BRIKS_-_Московская_декларация_\(г.Москва__Россия__17_ноября_2020_года\).pdf?1615998364](https://nkibrics.ru/system/asset_docs/data/635a/6df2/6272/6945/fa54/0000/original/XII_sammit_BRIKS_-_Московская_декларация_(г.Москва__Россия__17_ноября_2020_года).pdf?1615998364) (accessed: 02.08.2024).

⁷ Declaration of the XIV BRICS Summit – Beijing [Deklaracija XIV sammita BRIKS – Pekin] // BRICS China, 2022. URL: [https://nkibrics.ru/system/asset_docs/data/635a/6df2/6272/6945/fa54/0000/original/XIV_sammit_BRIKS_-_Пекинская_декларация_\(г.Пекин__Китай__23_июня_2022_года\).pdf?1666870770](https://nkibrics.ru/system/asset_docs/data/635a/6df2/6272/6945/fa54/0000/original/XIV_sammit_BRIKS_-_Пекинская_декларация_(г.Пекин__Китай__23_июня_2022_года).pdf?1666870770) (accessed: 02.08.2024).

⁸ Strategy for BRICS Economic Partnership 2025 [Strategija jekonomičeskogo partnerstva BRIKS do 2025 goda] // BRICS Russia, 2020. URL: <https://www.economy.gov.ru/material/file/636aa3edbc0dcc2356ebb6f8d594ccb0/1148133.pdf?ysclid=lohi88ovdz958424629> (accessed: 02.08.2024).

and accounting for carbon credits⁹. Thus, in 2023, the foundations were laid for the BRICS countries to converge not only at the political but also at the regulatory level.

In the context of BRICS enlargement, the year of the Russian Chairmanship offers a unique opportunity to develop a dialog on the climate agenda and engage new members. Three of the five new BRICS members - Saudi Arabia, Ethiopia, and the United Arab Emirates - already have goals of achieving carbon neutrality by mid-century or later. All the new members recognize the negative impacts on multiple aspects of nations' lives: ecosystems, human health, crop yields, infrastructure, economic systems, and security in general. The enlargement added four countries dependent on fossil fuel exports to BRICS, making it possible for a full dialogue between hydrocarbon exporting and importing countries. However, the expansion has shown that BRICS is not an exclusive club. The association will expand to represent a growing part of the developing world.

2024 is the year of Russia's BRICS Chairmanship. This is an opportunity for Russia, among other things, not only to delve deeper into the BRICS climate agenda, but also to integrate its vision into it, so that when BRICS approaches to combating climate change begin to dominate the world (which is inevitable due to the factors outlined above), Russia's interests will also be considered. Climate change issues are without exaggeration one of the priorities of the Russian Chairmanship. A number of initiatives have already been presented on the ministerial track: in particular, a Contact Group on Climate Change and Sustainable Development has been established, and the BRICS Climate Research Platform has been proposed. Within the business track, Russia is trying to initiate a dialogue on the development of carbon markets in the BRICS and the improvement of climate finance mechanisms. A number of proposals on climate issues are contained in the final declaration of the BRICS Academic Forum. It is hoped that these efforts will provide a new impetus for climate cooperation within the grouping for years to come.

This report, jointly prepared by two research teams, aims to propose the main directions and priorities of such cooperation that are in line with both Russian interests and the national priorities of its BRICS partners, and that reflect the special role (and responsibility) of the BRICS countries in countering global climate change.

The report consists of three chapters. The first of them is devoted to the national climate policies of the BRICS countries. The second chapter examines the BRICS countries' participation in multilateral climate cooperation, in particular, their positions in international climate negotiations under the auspices of the UNFCCC, as well as the history of cooperation on climate issues within the BRICS. Finally, the third chapter looks at the opportunities for developing such cooperation under the Russian presidency and in the years to come.

⁹ Johannesburg II Declaration BRICS and Africa: Partnership for Mutually Accelerated Growth, Sustainable Development and Inclusive Multilateralism // BRICS South Africa, 2023. URL: <https://brics2023.gov.za/wp-content/uploads/2023/08/Jhb-II-Declaration-24-August-2023-1.pdf> (accessed: 02.08.2024).

1. Climate Policies of the BRICS Countries

1.1. Brazil

Overview. Brazil is one of the most unusual countries in the world in terms of greenhouse gas emissions.

Firstly, the source structure of its emissions is unique. If emissions excluding land use, land-use change and forestry (LULUCF) are counted, it is only the 12th emitting country. However, accounting for emissions from LULUCF raises it to 5th place. Agriculture and associated deforestation are responsible for about 2/3 of the country's carbon dioxide emissions. A significant portion of LULUCF-related emissions, mainly from soya and meat production, are emissions that are exported as part of the production to both Western countries and China.

Second, the structure of Brazil's energy mix is unique. Hydropower plays a huge role (2/3 of electricity production), as well as biofuels, which will overtake oil as the main source of energy in the coming years. Brazil is the world leader in the production of bioethanol from sugar cane, which has enabled it to build a unique low-carbon transport system in which bioethanol already accounts for more than 25% of fuel.

The patterns of emissions and energy mix shape climate policy priorities that differ significantly from those of other BRICS countries. Discussions on emission reductions in Brazil have always centred on reducing deforestation and only then on energy transition. The use of market-based approaches to emissions reductions is based on the long and generally unsuccessful practice of implementing projects under the REDD+ forestry financing scheme, and the country is now in search of new approaches to climate project accounting. The most common forms of renewable energy (solar, wind), as well as electric cars, are developing quite rapidly, but from a rather low base, hardly acting as the main priorities of climate policy. However, considerable attention is being paid to adaptation issues, which turn out to be closely intertwined with agricultural and forestry development (including forest fire prevention), as well as the preservation and maintenance of the living standards of local communities, especially the indigenous peoples of the Amazon.

The return of Lula da Silva to the presidency from 2023 opens a new page in the development of Brazil's climate policy. After the presidency of Jair Bolsonaro, it has once again become a top priority. Lula da Silva announced an ambitious goal of zero deforestation by 2030 (although Brazil's updated NDC includes a less ambitious goal of zero illegal deforestation) and secured the hosting of the 30th Conference of the Parties to the UNFCCC in 2025.

General targets for reducing greenhouse gas emissions. The main legal act in the field of climate regulation in Brazil is the National Climate Change Policy, adopted in 2009. This document fixed the country's aspiration to reduce anthropogenic greenhouse gas emissions by 36.1-38.9% by 2020 and introduced the concept of a Brazilian market for emission reductions

but did not provide for its direct creation. Today, the National Climate Change Policy is being finalised and envisages the creation of an emissions trading system¹⁰.

In 2022, Brazil submitted a Nationally Determined Contribution (NDC) in which it aims to reduce greenhouse gas emissions by 37% from 2005 levels by 2025 and 50% by 2030. Achieving carbon neutrality is planned for 2050¹¹. However, as of October 2023, Brazil has already updated its NDC, raising its emission reduction ambitions¹². The new targets are to reduce emissions by 48.4% below 2005 levels by 2025 and 53.1% by 2030.

Renewable energy and energy efficiency. In 2022, Brazil's RES accounted for 47.5% of primary energy consumption and 77.7% of electricity generation. Hydropower dominates the renewable energy mix, with a 55.3% share of electricity generation (2021 data); wind and solar account for 11% and 2.6%, respectively¹³. According to plans, by 2031, the share of renewable energy sources (including hydropower) in the energy mix will reach 48% and 83% in power generation¹⁴. Energy efficiency is also planned to be developed: by 2030, Brazil's electricity consumption should be reduced by 10%¹⁵. At the same time, it is planned to increase domestic bioethanol production by a factor of 3 and biodiesel production by a factor of 5 by this date (so that the share of biofuels accounts for 18% of the energy balance, i.e., twice as much as in 2020)¹⁶.

At the same time, fossil energy sources also play an important role in Brazil, with investments in their extraction and production expected to reach about R\$2.3 trillion (about US\$500 billion) by 2030. The share of natural gas in Brazil's energy mix is projected to be around 14% by 2030¹⁷.

Decarbonisation of the most carbon-intensive sectors of the economy. Climate policies in Brazil have a huge impact on the LULUCF sector. By 2030, the goal is to restore 15 million hectares of degraded arable land and increase to 5 million hectares the area for animal

¹⁰ Projeto de Lei PL 528/2021 // Chamber of Deputies. URL: <https://www.camara.leg.br/propostas-legislativas/2270639> (accessed: 16.06.2023).

¹¹ Brazil NDC // UNFCCC. URL: <https://unfccc.int/sites/default/files/NDC/2022-06/Updated%20-%20First%20NDC%20-%20FINAL%20-%20PDF.pdf> (accessed: 16.06.2023).

¹² Brazil NDC // UNFCCC. URL: <https://unfccc.int/sites/default/files/NDC/2023-11/Brazil%20First%20NDC%202023%20adjustment.pdf> (accessed: 16.12.2023).

¹³ World energy statistics and balances. Brazil // IEA. URL: <https://www.iea.org/countries/brazil> (accessed: 16.06.2023).

¹⁴ Ten-Year Energy Expansion Plan (PDE) 2031 // Ministério de Minas e Energia. URL: https://www.gov.br/mme/pt-br/assuntos/secretarias/sntep/publicacoes/plano-decenal-de-expansao-de-energia/pde-2031/english-version/relatorio_pde2031_cap04_eus.pdf (accessed: 28.08.2023).

¹⁵ National Energy Efficiency Plan // The Government of Brazil. URL: https://cdn.climatepolicyradar.org/navigator/BRA/2011/national-energy-efficiency-plan_13fb3ae4f5d05dc85789465483b84e73.pdf (accessed: 16.06.2023).

¹⁶ The National Plan on Biofuel // The Government of Brazil. URL: <https://www.gov.br/mme/pt-br/assuntos/secretarias/petroleo-gas-natural-e-biocombustiveis/renovabio-1/renovabio-ingles> (accessed: 16.06.2023).

¹⁷ Ten-Year Energy Expansion Plan // The Government of Brazil. URL: <https://www.epe.gov.br/sites-pt/publicacoes-dados-abertos/publicacoes/Documents/PDE%202029.pdf> (accessed: 16.06.2023).

husbandry and forestry¹⁸. Together, the agricultural programmes envisage, among other things, the restoration of 30 million hectares of arable land and the planting of 4 million hectares of forest by 2030¹⁹.

After President Lula da Silva came to power, a new impetus was given to prevent deforestation. In 2023, a new version of the Amazon Deforestation Prevention and Control Plan was released, setting the goal of achieving zero deforestation by 2030. Among the key objectives of the plan are preventing forest fires, increasing penalties for illegal logging, and increasing funding for the transition to carbon-neutral agriculture²⁰. The National REDD+ Committee has also been established²¹.

In 2022, the Brazilian government launched an initiative to reduce methane emissions in the waste management sector. According to the country's Global Methane Pledge, emissions of this greenhouse gas are planned to be reduced by 30% by 2030 compared to 2005²². In addition, at COP-28, Brazil announced that the National Council for Energy Policy will develop guidelines to reduce methane emissions from the oil and gas sector by the end of 2024, after which the National Agency of Petroleum, Natural Gas and Biofuels plans to finalise regulations based on them by the end of 2025²³.

In 2023, the Low Carbon Industry Technical Committee was established, responsible for bringing together environmental authorities, public and private organisations to implement, monitor and review public policies, initiatives and projects aimed at decarbonising industry²⁴.

Sustainable mobility. The Biofuel National Policy sets a target to reduce specific carbon dioxide emissions in the transport sector to 66 g CO₂e/MJ by 2030 and to achieve renewable energy sources use in 30% of the transport sector²⁵. In 2020, biofuels accounted for 24% of

¹⁸ Plan for Adaptation and Low Carbon Emission in Agriculture // The Government of Brazil. URL: <https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/plano-abc/arquivo-publicacoes-plano-abc/abc-english.pdf> (accessed: 16.06.2023).

¹⁹ Brazilian agricultural policy for climate adaptation and low carbon emission. Executive summary. 2020-2030 // The Government of Brazil. URL: <https://www.gov.br/agricultura/pt-br/assuntos/sustentabilidade/planoabc-abcmais/publicacoes/abc-sumario-executivo-2022-ingles.pdf> (accessed: 16.06.2023).

²⁰ Decree No 11,367/2023 // The Government of Brazil. URL: http://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/decreto/D11367.htm (accessed: 31.09.2023).

²¹ Decree No. 11.548, of June 5, 2023 establishing the National Committee for REDD+ // The Government of Brazil. URL: <https://www.in.gov.br/en/web/dou/-/decreto-n-11.548-de-5-de-junho-de-2023-488175884> (accessed: 31.09.2023). The full name of the body is the National Commission for the Reduction of Greenhouse Gas Emissions from Deforestation and Forest Degradation, Conservation of Forest Carbon Stocks, Sustainable Management of Forests and Increase of Forest Carbon Stocks.

²² Global Methane Pledge. URL: <https://www.globalmethanepledge.org> (accessed: 16.06.2023).

²³ 2023 Global Methane Pledge Ministerial: decisive action to curb emissions. URL: https://energy.ec.europa.eu/news/2023-global-methane-pledge-ministerial-decisive-action-curb-emissions-2023-12-04_en (accessed: 02.08.2024).

²⁴ Decreto Nº 11.547, de 5 de Junho de 2023 // The Government of Brazil. URL: <https://www.in.gov.br/en/web/dou/-/decreto-n-11.547-de-5-de-junho-de-2023-488175801> (accessed: 31.09.2023).

²⁵ RenovaBio // The Government of Brazil. URL: <https://www.gov.br/mme/pt-br/assuntos/secretarias/petroleo-gas-natural-e-bicombustiveis/renovabio-1/renovabio-ingles> (accessed: 16.06.2023).

energy consumption in the sector ²⁶. In general, this type of fuel is seen as one of the main ways to decarbonise the transport system.

Despite these achievements, the full decarbonisation of the sector depends largely on increasing the use of electric vehicles, which are not yet widespread in Brazil ²⁷. The country does not have a separate strategy to stimulate the production and market penetration of electric vehicles, but their share by 2030, according to experts, could reach 20% if the relevant infrastructure is built up²⁸.

Climate change adaptation measures. The National Adaptation Plan was published in 2016. Its objectives are organised into three groups: 1) expansion and dissemination of scientific, technological, and traditional knowledge: creation, management, and dissemination of information on climate risks; 2) coordination and cooperation between government agencies and society; 3) identification and proposal of measures to adapt and reduce climate risks. Within the last group, the objectives are presented in the sectoral context: for agriculture, biodiversity and ecosystems, vulnerable groups, water resources, health, coastal zones.

1.2. Russia

Overview. Russia is the fourth largest emitting country in the world and at the same time one of the world's largest exporters of all types of fossil fuels: oil, natural gas, and coal.

Russia's emissions are characterised by several specific features. Firstly, the country's specialisation in the production and export of fossil fuels and carbon-intensive products, as well as its large territory and cold climate, makes its economy highly carbon-intensive. As a result, the country is among the leaders both in terms of carbon intensity of GDP (although it lags behind China and South Africa) and emissions per capita (they are comparable to most developed countries with significantly higher consumption levels). The country's energy mix is dominated by natural gas (54% of primary energy consumption), low-carbon nuclear and hydropower play a significant role, while new renewable energy sources (solar and wind) are very poorly represented, and their promotion is fragmented and not among the priorities of government policy. At the same time, the historically low level of energy efficiency of the economy determines its high carbon intensity even in the context of a relatively clean energy mix.

Due to its huge area of forests (20% of the world's land area) and wetlands, Russia is one of the largest climate donors in the world. The reduction of deforestation in 1990 provided

²⁶ Why Electric Mobility Should be Treated as the Main Instrument of Transport Climate Policy in the Next Rounds of the Brazilian NDC // Climate Transparency. URL: <https://www.climate-transparency.org/wp-content/uploads/2022/03/Policy-Brief-Transport-in-Brazil.pdf> (accessed: 16.06.2023).

²⁷ Brazil Policies and Action // Climate Action Tracker. URL: <https://climateactiontracker.org/countries/brazil/policies-action/> (accessed: 16.06.2023).

²⁸ Plataforma Nacional de Mobilidade Electrica // PNME. URL: <https://www.pnme.org.br> (accessed: 16.06.2023).

a sharp increase in the absorptive capacity of forests, so that emissions including LULUCF in Russia are significantly lower than without their inclusion. However, the deteriorating age structure of the forest stock, as well as the increasing number of forest fires, means that this effect will be offset in the future.

Russia's climate policy has long been passive. The country joined the Paris Agreement later than others, and its NDC (-30% by 2030 from the 1990 level) can hardly be called ambitious: its targets will be met without any additional efforts. At the same time, some activation of the climate policy started in 2020: the goal of achieving carbon neutrality by 2060 was enshrined, a number of legal acts were developed in the field of limiting greenhouse gas emissions and adaptation to climate change, a pilot project to regulate greenhouse gas emissions was launched in the Sakhalin Oblast. A legal infrastructure was created for the implementation of climate projects and the development of a domestic voluntary carbon market. Overall, even in the face of sanctions pressure and a breakdown in relations with Western countries (which has made access to low-carbon technologies more difficult), climate policy development remains on the government's agenda. There is an acknowledgment of the potential damage from climate change that requires large-scale adaptation efforts. There is a growing understanding that sooner or later Russia will have to launch a carbon price. There has been a significant increase in interest in climate cooperation with non-Western countries, including within the BRICS framework.

General targets for reducing greenhouse gas emissions. Russia has adopted two quantitative targets for greenhouse gas emissions: for the medium-term (2030) and long-term (2060) horizons. They are presented, in particular, in the Climate Doctrine of the Russian Federation, the new version of which was published in October 2023.

In accordance with the NDC, as well as the Presidential Decree "On Reducing Greenhouse Gas Emissions", by 2030 the level of emissions should be limited to 70% of the 1990 level²⁹. This is substantially lower than current emissions and, given current economic dynamics, this target can be achieved without any additional climate policy measures. However, the Doctrine points to additional measures to decarbonise economic sectors and increase the absorption capacity of ecosystems, which would ensure that emissions by 2030 are reduced to 54% of 1990 levels (which is about 1% higher than emissions in 2021). The Strategy for Strategy of Socio-Economic Development of the Russian Federation with a Low Level of Greenhouse Gas Emissions until 2050, adopted in 2021, also mentions this target and states that it will mainly be achieved by significantly increasing the absorption capacity of forests.

The Doctrine states that Russia must achieve carbon neutrality no later than 2060. There are no detailed plans extending to 2060 yet. However, Strategy of Socio-Economic Development

²⁹ Decree of the President of the Russian Federation of 04.11.2020 No. 666 "On the reduction of greenhouse gas emissions" // President of Russia. URL: <http://www.kremlin.ru/acts/bank/45990> (accessed: 16.12.2023).

of the Russian Federation with a Low Level of Greenhouse Gas Emissions offers emission scenarios up to 2050. In any of them, emissions growth will continue until 2030, but thereafter there will be a decline. The Strategy's target scenario envisages that the reduction by 2050 will be 13.5%, while the absorption capacity of ecosystems will be increased by almost 125%. However, a detailed description of how to ensure such a large-scale increase in absorption capacity has not been presented so far.

Two federal laws - "On Limiting Greenhouse Gas Emissions"³⁰ and "On Conducting an Experiment to Limit Greenhouse Gas Emissions in Certain Federal Subjects of the Russian Federation"³¹ – also set the general policy for reducing greenhouse gas emissions. The former sets out the general regulatory framework for climate regulation in the country and obliges large emitters to report their emissions from 2023-2025, while the latter establishes the basis for an experiment to achieve carbon neutrality in the Sakhalin Oblast (with the possibility of expanding to other regions) by the end of 2025, including the introduction of the country's first mandatory carbon pricing system at the regional level with elements of an emissions trading system.

Renewable energy and energy efficiency. The Russian energy balance is characterised by a high share of nuclear (7% of the energy balance of primary energy consumption and 19.3% of electricity generation) and hydropower (2.2% and 18.7% respectively)³². Despite the huge technical potential of solar and wind energy, Russia lacks a clear target for their introduction into the energy balance. According to the Government's plans, renewable energy sources capacity should grow from 6.4 GW to 12.1 GW in 2030, which, however, will still not allow them to reach at least 0.5% of the primary energy mix. At the same time, the key strategic legal acts do not specify the relevant targets.

Since 2013, the main mechanism of state support for renewable energy - the system of Renewable Energy Power Supply Agreements - has been in place³³. The programme is based on annual tenders to select solar, wind and small hydro generation facilities that receive state support. The tenders take into account both the capital costs of construction and the level of equipment localisation. The latter illustrates the purpose of the mechanism: not so much to increase the share of renewable energy sources in electricity generation, but to create an equipment manufacturing industry that could work for export in the future. However, the

³⁰ Federal Law of 02.07.2021 No. 296-FZ "On Limiting Greenhouse Gas Emissions" // President of Russia. URL: <http://www.kremlin.ru/acts/bank/47013> (accessed: 16.12.2023).

³¹ Federal Law of 06.03.2022 No. 34-FZ "On conducting an experiment to limit greenhouse gas emissions in certain federal subjects of the Russian Federation". URL: https://www.consultant.ru/document/cons_doc_LAW_411051/ (accessed: 16.12.2023).

³² World energy statistics and balances. Russia // IEA. URL: <https://www.iea.org/countries/russia> (accessed: 16.12.2023).

³³ Resolution of the Government of the Russian Federation of 28.05.2013 No. 449 "On the mechanism for stimulating the use of renewable energy sources in the wholesale market of electric energy and capacity" (with amendments and additions) // Government of the Russian Federation. URL: <http://government.ru/docs/2121/> (accessed: 16.12.2023).

withdrawal of foreign companies from Russia in 2022 and the generally sharply deteriorating international environment make this task difficult to complete.

While the energy mix is generally very "clean", the Russian economy is very carbon intensive. The main reason for this is low energy efficiency, which remains an inherent specific of the Russian economy in spite of sufficiently developed legislation in the sphere of its regulation³⁴. Energy efficiency is stimulated by the state programme "Energy Development"³⁵. In contrast to the normative legal acts fundamental to Russia's climate policy, in the revisions up to 2022 the programme included specific targets for renewable energy development in Russia³⁶. However, the relevant provisions have been removed from the most current version of the programme. At the same time, this version includes rules related to subsidising certain activities that contribute to emission reductions, such as the development of a network of fast charging stations for electric vehicles. The establishment of energy efficiency standards for buildings has also become a significant tool³⁷.

Decarbonisation of the most carbon-intensive sectors of the economy. Russia does not yet have separate sectoral decarbonisation strategies. Some sectoral development strategies mention decarbonisation of relevant carbon-intensive industries or improvement of their environmental safety, but without specific quantitative indicators. Such documents include Energy Strategy of the Russian Federation until 2035³⁸ (which, however, fixes the existing resource-oriented model of economic development), Strategy for the Development of the Forestry Sector until 2030³⁹, Consolidated Strategy for the Development of the Manufacturing

³⁴ Order of the Government of the Russian Federation of 19.04.2018 No. 703-r "On approval of a comprehensive plan of measures to improve the energy efficiency of the economy of the Russian Federation" // Government of the Russian Federation. URL: <http://government.ru/docs/32368/> (accessed: 16.12.2023).

Federal Law of 23.11.2009 No. 261-FZ "On Energy Saving and Improving Energy Efficiency and on Amendments to Certain Legislative Acts of the Russian Federation" // President of Russia. URL: <http://www.kremlin.ru/acts/bank/30163> (accessed: 16.12.2023).

³⁵ Resolution of the Government of the Russian Federation of 15.04.2014 No. 321 "On approval of the state program of the Russian Federation "Development of Energy"" // Government of the Russian Federation. URL: <http://government.ru/docs/all/91334/> (accessed: 16.12.2023).

Resolution of the Government of the Russian Federation of 27.12.2022 No. 2448 "On Amendments to the State Program of the Russian Federation "Energy Development"" // Government of the Russian Federation. URL: <http://government.ru/docs/all/145316/> (accessed: 16.12.2023).

³⁶ Resolution of the Government of the Russian Federation of 18.12.2021 No. 2352 "On Amendments to the State Program of the Russian Federation "Development of Energy"" // Government of the Russian Federation. URL: <http://publication.pravo.gov.ru/Document/View/0001202112230041> (accessed: 16.12.2023).

³⁷ GOST R 70346-2022. "Green" standards. Multi-apartment residential "green" buildings. Assessment methodology and criteria for design, construction and operation. URL: <https://docs.cntd.ru/document/1200193111> (accessed: 16.12.2023).

Resolution of the Government of the Russian Federation of September 27, 2021 No. 1628 "On approval of the Rules for establishing energy efficiency requirements for buildings, structures, facilities and requirements for the rules for determining the energy efficiency class of apartment buildings" // Government of the Russian Federation. URL: <https://base.garant.ru/402864796/> (accessed: 16.12.2023).

³⁸ Order of the Government of the Russian Federation dated 09.06.2020 No. 1523-r. // Government of the Russian Federation. URL: <http://government.ru/docs/all/128340/> (accessed: 16.12.2023).

³⁹ Order of the Government of the Russian Federation dated 20.09.2018 No. 1989-r. // Government of the Russian Federation. URL: <http://government.ru/docs/all/118471/> (accessed: 16.12.2023).

Industry of the Russian Federation until 2024 and for the period until 2035⁴⁰, Transport Strategy of the Russian Federation until 2030 with a forecast until 2035⁴¹, Strategy for Sustainable Development of Rural Areas of the Russian Federation until 2030⁴², Strategy for the Development of the Construction Industry and Public Utilities for the Period until 2030 with a forecast until 2035,⁴³ and Strategy for the Development of the Industry for Treatment, Utilisation and Neutralisation of Production and Consumption Waste until 2030⁴⁴. The process of inclusion of carbon intensity indicators in the best available technologies guides is gradually beginning, which in the future may become an important driver of industrial decarbonisation.

Low-carbon technology development. Low-carbon technological development in Russia has gained new relevance in the context of the 2022 political and military crisis and the increased priority of the Government to ensure technological sovereignty. The Federal Programme⁴⁵, adopted as a follow-up to the Presidential Decree "On the Implementation of Science and Technology Policy in the Field of Ecology and Climate"⁴⁶, does not provide a specific list of low-carbon technologies, the development of which is envisaged in one of its directions - mitigation of climate change. The key focus of the programme is on monitoring and studying these processes and creating domestic developments in this area. A large-scale scientific programme called VIP GZ "Unified National Monitoring System for Climatically Active Substances" is subordinated to the same goal.

The Low Carbon Development Strategy provides more detail on low-carbon technologies. Its target scenario envisages a fairly broad technological package in various sectors: development of nuclear and hydropower, renewable energy, combined cycle generation, carbon capture, disposal and use, reduction of carbon intensity of coal-fired generation, replacement of low-efficiency boiler houses with cogeneration plants, transition to electric vehicles, hydrogen technologies and overall digitalisation and electrification of the economy. However, the specific technologies within these rather broad categories are not specified, nor are the necessary targets for their implementation.

⁴⁰ Order of the Government of the Russian Federation dated 06.06.2020 No. 1512-r. // Government of the Russian Federation. URL: https://www.consultant.ru/document/cons_doc_LAW_354707/ (accessed: 16.12.2023).

⁴¹ Order of the Government of the Russian Federation dated 27.11.2021 No. 3363-r. // Government of the Russian Federation. URL: <http://government.ru/docs/all/137914/> (accessed: 16.12.2023).

⁴² Order of the Government of the Russian Federation dated 02.02.2015 No. 151-r. // Government of the Russian Federation. URL: <http://government.ru/docs/16757/> (accessed: 16.12.2023).

⁴³ Order of the Government of the Russian Federation dated 31.10.2022 No. 3268-r. // Government of the Russian Federation. URL: https://www.consultant.ru/document/cons_doc_LAW_430333/ (accessed: 16.12.2023).

⁴⁴ Order of the Government of the Russian Federation dated 25.01.2018 No. 84-r. // Government of the Russian Federation. URL: <http://government.ru/docs/31184/#> (accessed: 16.12.2023).

⁴⁵ Decree of the President of the Russian Federation of 08.02.2021 No. 76 "On measures to implement the state scientific and technical policy in the field of environmental development of the Russian Federation and climate change" // President of Russia. URL: https://www.consultant.ru/document/cons_doc_LAW_409370/ (accessed: 16.12.2023).

⁴⁶ Resolution of the Government of the Russian Federation of 08.02.2022 No. 133 "On approval of the Federal Scientific and Technical Program in the Field of Environmental Development of the Russian Federation and Climate Change for 2021-2030" // President of Russia. URL: <http://www.kremlin.ru/acts/bank/46415> (accessed: 16.12.2023).

For some groups of low-carbon technologies, the country has developed separate documents. For example, the Concept for the Development of Electric Transport until 2030⁴⁷ and the Roadmap for the Development of the High-Tech Area of "Energy Storage Systems" until 2030⁴⁸, which deals with the key issue of energy storage (batteries) for the green energy sector, have been adopted. The most important document is also the Concept of Hydrogen Energy Development⁴⁹, which establishes the framework for the development of this still new direction of the country's energy sector: targets for hydrogen export (Russia expected to occupy up to 20% of the world market of this energy carrier by 2030), as well as plans to create about 40 hydrogen projects and develop hydrogen-related technologies. According to the current Government plans, by 2030 it is planned to ensure hydrogen production in the amount of 550 thousand tonnes per year. However, under the new conditions, given the limited access to technology, it will be almost impossible to do.

Sustainable mobility. Russia is rapidly developing electric vehicles sector and other forms of sustainable mobility. According to plans, by 2024 the country should produce at least 25,000 electric vehicles and commission 9,400 charging stations. By 2030, the targets become more ambitious: electric vehicles should account for 10% of all new vehicles produced, 72,000 charging stations should be equipped for them, domestic high-tech production should be developed, and the first 1,000 hydrogen fuelled vehicle filling stations should be launched. State support for alternative fuel vehicles, including R&D and localisation of production facilities, is also set from 15-20% in 2022-2025, it should increase to no less than support for internal combustion engine vehicles; the importance of hydrogen and NGV vehicles is also emphasised⁵⁰.

Climate change adaptation measures. At the level of norm-setting and rhetoric, climate change adaptation in Russian climate policy is at least as important as emission reductions, but to date, most measures have focused on planning, administration, and monitoring. Implementation of the National Action Plan of the first phase of climate change adaptation approved in 2019 has been completed. A set of indicators for achieving adaptation

⁴⁷ Order of the Government of the Russian Federation dated 23.08.2021 No. 2162-r "On approval of the Concept for the development of production and use of electric motor transport in the Russian Federation for the period up to 2030" // Government of the Russian Federation. URL: https://www.consultant.ru/document/cons_doc_LAW_393496/ (accessed: 16.12.2023).

⁴⁸ The government has approved a "roadmap" for the development of high-tech energy storage systems until 2030 // Government of the Russian Federation. URL: <http://government.ru/news/45424/> (accessed: 20.06.2023).

⁴⁹ Order of the Government of the Russian Federation dated 05.08.2021 No. 2162-r "On approval of the Concept for the development of hydrogen energy in the Russian Federation" // Government of the Russian Federation. URL: <http://government.ru/docs/42971/> (accessed: 16.12.2023).

⁵⁰ Order of the Government of the Russian Federation dated 23.08.2021 No. 2162-r "On approval of the Concept for the development of production and use of electric motor transport in the Russian Federation for the period up to 2030" // Government of the Russian Federation. URL: https://www.consultant.ru/document/cons_doc_LAW_393496/ (accessed: 16.12.2023).

Order of the Government of the Russian Federation dated 28.12.2022 No. 4261-r "On approval of the Strategy for the development of the automotive industry of the Russian Federation until 2035" // Government of the Russian Federation. URL: <http://government.ru/docs/all/145481/> (accessed: 16.12.2023).

goals has been developed for the federal, regional, and sectoral levels⁵¹. More than 70 regional adaptation plans have been approved, although these plans vary considerably in their level of sophistication and financial support.

In 2023, the country adopted the National Action Plan for the second phase of adaptation to climate change for the period until 2025⁵², according to which it is planned to improve insurance mechanisms, including with regard to extreme natural events, develop a system of climate risk management at the level of companies and public institutions, develop a system of standardisation in the field of adaptation, collect statistical data on vulnerability to climate change, develop technologies and a variety of information-organisational and scientific-technical measures. Sectoral and regional adaptation plans should be updated, and a Unified National Monitoring System for Climatically Active Substances should be created within the framework of the VIP GZ.

1.3. India

Overview. India is the third largest emitter of greenhouse gases in the world after China and the US. India will be the main country determining the dynamics of global greenhouse gas emissions in the next decade. This is due to the size of its population (1.5 billion people), the growth rate of its economy (6-7% per year) and the high share of coal in the energy mix of primary energy consumption (44.6%) and especially electricity generation (77.6%)⁵³. The growth in electricity consumption for 2022 was over 11% and coal-fired generation 12.4%. This does not prevent India from having the world's fourth largest installed capacity from low-carbon sources (it will be the third largest in the world in a few years), having almost quadrupled in the last 9 years. In 2022, India has the highest renewable energy capacity growth in the world (9.5%) and its share of total installed capacity has already reached 43%. This is tremendous progress but is offset by the increase in emissions due to demographic and economic growth. As a consequence, there is little prospect of India reaching peak emissions earlier than at the beginning of 2040s.

The incentivisation of decarbonisation in India occurs through three main channels:

- Firstly, India sees itself as a leader in the development of low-carbon technologies adapted to the Global South. India today accounts for about 5% of the global venture capital market. Small high-tech businesses are the source of thousands of commercial

⁵¹ Order of the Ministry of Economic Development of Russia dated 13.05.2021 No. 267 "On approval of methodological recommendations and indicators on adaptation to climate change" // Ministry of Economic Development. URL: https://www.economy.gov.ru/material/dokumenty/prikaz_minekonomrazvitiya_rossii_ot_13_maya_2021_g_267.html (accessed: 16.12.2023).

⁵² Order of the Government of the Russian Federation of 11.03.2023 No. 559-r "On approval of the national action plan for the second stage of adaptation to climate change for the period up to 2025" // Government of the Russian Federation. URL: <http://government.ru/docs/47971/> (accessed: 16.12.2023).

⁵³ World energy statistics and balances. India // IEA. URL: <https://www.iea.org/countries/india> (accessed: 16.12.2023).

ideas and part of the digital ecosystem that is being built in the country to drive accelerated technological development. The main idea of this direction is to make pure development a growth driver through innovation.

- Secondly, there is a huge focus on developing a sustainable consumption pattern. A key initiative in this direction is LiFE (Lifestyle for Environment), personally promoted by Prime Minister Narendra Modi, which combines a wide range of sustainable practices from waste sorting to widespread social advertising. The main objective of this policy area is to achieve a path out of poverty without increasing emissions by influencing behavioural practices (a highly complex but relatively inexpensive process).
- Third, a system of incentives for decarbonisation of big business is being put in place. India envisages launching a full-fledged carbon pricing system from 2025. Its main objective is to redirect private capital towards the most efficient firms that will ensure both economic growth and emissions reductions.

Alongside a wide range of domestic decarbonisation efforts, India has a very active foreign climate policy, positioning itself as a key representative of the Global South. India is one of the most active countries in opposing the fossil fuel divestment narrative: for example, at the Glasgow Climate Conference, it was because of India that the goal of divestment from coal was not included in the final declaration. At the same time, India insists on comprehensive implementation of the principle of Common but Differentiated Responsibilities, which in its interpretation implies active assistance to developing countries from developed countries. Some of these ideas, such as the Global Climate Change Alliance or reforming the multilateral development banks to mobilise sustainable finance for developing countries, are actively promoted by India in international forums, including BRICS and the G20.

General targets for reducing greenhouse gas emissions. The overall decarbonisation targets are outlined in the updated version of India's NDC, presented in 2022. The quantitative targets include a 45% reduction in the carbon intensity of GDP by 2030 compared to 2005, as well as achieving 50% of the total installed capacity of electricity from non-fossil fuels⁵⁴. The implementation of the NDC should contribute to achieving carbon neutrality, planned for 2070. Particular attention is paid to a healthy and sustainable lifestyle based on traditions and values of caring for the environment and moderation, including within the framework of the comprehensive LiFE initiative aimed at changing consumer habits and resource conservation⁵⁵. At the same time, such an initiative is addressed to no lesser extent to

⁵⁴ India's Updated First Nationally Determined Contribution Under Paris Agreement // Government of India. 2022. URL: <https://cckpindia.nic.in/wp-content/uploads/2022/09/India-Updated-NDC.pdf> (accessed: 23.06.2023).

⁵⁵ LiFEStyle for Environment // LiFE. URL: <http://missionlife-moefcc.nic.in/> (accessed: 23.06.2023).

societies in developed countries, where per capita emissions from consumption, as a rule, are several times higher than similar indicators in populated developing countries.

In 2022, India also unveiled Long-Term Low-Carbon Development Strategy⁵⁶. The document describes the measures the country is taking to achieve national decarbonization goals: development of low-carbon energy, transport, industry, carbon capture technologies, sustainable urban development (energy efficiency, resource efficiency), etc.

In recent years, a legislative framework has also been adopted to create a carbon market in the country. The Carbon Credit Trading Scheme currently operates on a voluntary basis, and from 2025-2026 it will become mandatory for a number of sectors, including petrochemicals, iron, and steel production, etc.⁵⁷ Carbon credits can be generated both through emission reductions and through emission absorption and prevention⁵⁸.

Renewable energy and energy efficiency. The Indian government actively supports the growth of renewable energy sources: in 2010, the National Solar Mission was launched, which aims to equalize the volumes of solar and coal power generation by 2030⁵⁹. According to the plans, by 2029-2030, solar energy should account for 280 GW of generating capacity, coal - 267 GW, wind - 140 GW, hydropower - 61 GW⁶⁰. Renewable energy sources are assigned the status of "must run", meaning that generation can be stopped only in the event of a threat to the security of the power grid⁶¹.

By the end of 2022, India reached 43% of its non-fossil fuel electricity capacity⁶². However, in total primary energy consumption, renewable energy sources (including hydropower, but excluding biofuels) account for only about 3%. The rapid growth (more than

⁵⁶ India's Long-Term Low-Carbon Development Strategy // Ministry of Environment, Forest and Climate Change Government of India. URL: https://unfccc.int/sites/default/files/resource/India_LTLEDS.pdf (accessed: 23.06.2023).

⁵⁷ India's Carbon Market Revolution: Balancing Economic Growth with Climate Responsibility // Invest India. URL: <https://www.investindia.gov.in/team-india-blogs/indias-carbon-market-revolution-balancing-economic-growth-climate-responsibility> (accessed: 02.08.2024).

⁵⁸ New Delhi, the 19th December, 2023 // Ministry of Power Notification. URL: https://powermin.gov.in/sites/default/files/uploads/Including_Offset_mechanism_under_CCTS_notification.pdf (accessed: 02.08.2024).

⁵⁹ Jawaharlal Nehru National Solar Mission (JNNSM) // India Science, Technology & Innovation. URL: <https://www.indiascienceandtechnology.gov.in/st-visions/national-mission/jawaharlal-nehru-national-solar-mission-jnnsnsm> (accessed: 30.08.2023).

⁶⁰ Report on Optimal Generation Capacity Mix for 2029-30. Version 2.0 // Government of India. Ministry of Power Central Electricity Authority. P. 8. URL: https://cea.nic.in/wp-content/uploads/irp/2023/05/Optimal_mix_report__2029_30_Version_2.0__For_Uploading.pdf (accessed: 30.08.2023).

⁶¹ Office Memorandum. «MUST-RUN» for Renewable Energy Generating stations // Ministry of New and Renewable Energy. 2020. URL: https://mnre.gov.in/img/documents/uploads/file_f-1586142405322.pdf (accessed: 30.08.2023).

⁶² Government formulates several steps to promote renewable energy in the country. Total of 174.53 GW capacity from non-fossil fuel based energy resources installed // Ministry of New and Renewable Energy. 2023. URL: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1897045#:~:text=So%20far%2C%20a%20total%20of,2022> (accessed: 30.08.2023).

13% in generation volumes in 2019-2021) of new renewable energy sources⁶³ is taking place in parallel with the growth in fossil fuel consumption. As part of the energy transition, the ceasing of the use of a number of fossil fuel capacities has been announced (for example, by the end of 2021, India decommissioned 241 thermal power plants with a capacity of 17 GW⁶⁴), but this does not change the overall picture. Thus, after the economic decline due to the pandemic, the largest increase in consumption among all energy sources was observed for coal: from 2020 to 2023, India began to use it by almost 23%⁶⁵.

In terms of energy efficiency, energy consumption is managed at household level and the energy efficiency of household appliances is assessed⁶⁶. In addition, the Perform Achieve Trade Scheme converts energy savings into energy saving certificates that can be traded on energy exchanges⁶⁷. It is this scheme that will form the basis of the emerging Carbon Credit Trading Scheme.

Decarbonisation of the most carbon-intensive sectors of the economy. India is planning on implementing carbon capture, utilization, and storage (CCUS) to reduce emissions from the production of building materials, polymers, food products, etc., and to ensure the continued use of coal resources⁶⁸. However, India acknowledges that CCUS technologies are not effective for retrofitting existing thermal power plants⁶⁹.

In the construction sector, green certification of residential, commercial, and industrial buildings is being implemented⁷⁰. The Energy Conservation Building Code introduces standards for the design and construction of energy-efficient commercial and residential buildings⁷¹, covering building envelopes, lighting, heating, ventilation, and air conditioning systems. The

⁶³ Statistical Review of World Energy – 2022 The Indian energy system in 2021 // BP. URL: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/energy-economics/statistical-review/bp-stats-review-2022-india-insights.pdf> (accessed: 30.08.2023).

⁶⁴ India's Long-Term Low-Carbon Development Strategy // Ministry of Environment, Forest and Climate Change Government of India. URL: https://unfccc.int/sites/default/files/resource/India_LTLEDS.pdf (accessed: 23.06.2023).

⁶⁵ Sector-wise Coal Consumption // NITI Aayog. URL: <https://iced.niti.gov.in/energy/fuel-sources/coal/consumption> (accessed: 02.08.2024).

⁶⁶ Mandatory Scheme // Bureau of Energy Efficiency. URL: <https://beestarlabel.com/Home/EquipmentSchemes?type=M> (accessed: 23.06.2023).

⁶⁷ Perform Achieve and Trade (PAT) Scheme // Bureau of Energy Efficiency. URL: <https://beeindia.gov.in/en/pat-read-more> (accessed: 23.06.2023).

⁶⁸ NITI Aayog releases study report on 'Carbon Capture, Utilisation, and Storage (CCUS) Policy Framework and its Deployment Mechanism in India' // NITI Aayog. 2022. URL: <https://pib.gov.in/PressReleasePage.aspx?PRID=1879865> (accessed: 28.08.2023).

⁶⁹ India's Long-Term Low-Carbon Development Strategy // Ministry of Environment, Forest and Climate Change Government of India. P. 11. URL: https://unfccc.int/sites/default/files/resource/India_LTLEDS.pdf (accessed: 28.08.2023).

⁷⁰ Indian Green Building Council. URL: <https://igbc.in/> (accessed: 31.08.2023).

⁷¹ Energy Conservation Building Code // Ministry of Power. 2017. URL: https://beeindia.gov.in/sites/default/files/BEE_ECBC%202017.pdf (accessed: 23.06.2023).

application of the measures prescribed in the Code is expected to reduce energy consumption by 250 MtCO₂ by 2030⁷².

Low-carbon technology development. India is developing wind energy technologies, including offshore installations⁷³. R&D is underway in the field of converting biomass for bioenergy production⁷⁴; improving the energy efficiency of household appliances (air conditioners, refrigerators, lighting sources, etc.)⁷⁵; photovoltaic systems⁷⁶; smart grids⁷⁷. Within the framework of the National Green Hydrogen Mission, India is focused on the use of this energy source in the transport and industrial sectors⁷⁸. The implementation of the mission will be facilitated by a joint program with the World Bank - it is planned to attract private sector investments in the amount of US\$100 billion by 2030⁷⁹. A distinctive feature of the Indian strategy for the development of green technologies is the widespread use of venture financing, including in the direction of developing digital solutions for resource conservation and energy transition. Climate high-tech is seen as an important driver of innovative entrepreneurship, digitalisation, and the involvement of the general public in environmental activities.

Sustainable mobility. The government has set a target of achieving a minimum of 30% of electric vehicles sales by 2030⁸⁰. In this regard, India is developing EV manufacturing and charging infrastructure⁸¹. In addition, a bus rapid transit system is being developed⁸². The use of ethanol in fuel is also being encouraged to reduce emissions. The 10% ethanol content

⁷² Power minister Piyush Goyal launches new Energy Conservation Building Code // Energy Conservation – New Indian Way for Affordable & Sustainable homes. 2017. URL: <https://www.econiwac.com/news-details-8.html> (accessed: 28.08.2023).

⁷³ 2021-22 Annual Report // National Institute of Wind Energy. P. 28, 42. URL: https://niwe.res.in/assets/Docu/annual_report/Annual_Report_2021-22_english.pdf (accessed: 30.08.2023).

⁷⁴ Bio Energy. Overview // Ministry of New and Renewable Energy. URL: <https://mnre.gov.in/bio-energy/current-status> (accessed: 30.08.2023).

⁷⁵ Singh V. K., Henriques C. O., Martins A. G. Assessment of energy-efficient appliances: A review of the technologies and policies in India's residential sector // WIREs Energy and Environment. 2019. Vol. 8. No. 3. P. 330.

⁷⁶ Production Linked Incentive Scheme for Solar PV – Benefits for Manufacturing, Investments and Employment // Invest India. URL: <https://www.investindia.gov.in/team-india-blogs/production-linked-incentive-scheme-solar-pv-benefits-manufacturing-investments-and> (accessed: 03.08.2023).

⁷⁷ Smart grid India: government approves US\$210m investment // India Energy Storage Alliance (IESA). URL: [https://indiaesa.info/news-menu/28-industry-news-management/358-smart-grid-india-government-approves-us\\$210m-investment](https://indiaesa.info/news-menu/28-industry-news-management/358-smart-grid-india-government-approves-us$210m-investment) (accessed: 30.08.2023).

⁷⁸ National Green Hydrogen Mission // National Portal of India. URL: <https://www.india.gov.in/spotlight/national-green-hydrogen-mission> (accessed: 30.08.2023).

⁷⁹ World Bank Approves \$1.5 Billion in Financing to Support India's Low-Carbon Transition // The World Bank. URL: <https://www.worldbank.org/en/news/press-release/2023/06/29/world-bank-approves-1-5-billion-in-financing-to-support-india-s-low-carbon-transition> (accessed: 03.08.2023).

⁸⁰ New CEM campaign aims for goal of 30% new electric vehicle sales by 2030 // IEA. URL: <https://www.iea.org/news/new-cem-campaign-aims-for-goal-of-30-new-electric-vehicle-sales-by-2030> (accessed: 30.08.2023).

⁸¹ India's EV Economy: The Future of Automotive Transportation // Invest India. URL: <https://www.investindia.gov.in/team-india-blogs/indias-ev-economy-future-automotive-transportation> (accessed: 30.08.2023).

⁸² India: New Bus Rapid Transit System makes travel faster, safer and more convenient in Hubballi-Dharwad // World Bank Blogs. URL: <https://blogs.worldbank.org/endpovertyinsouthasia/india-new-bus-rapid-transit-system-makes-travel-faster-safer-and-more> (accessed: 30.08.2023).

standard in gasoline was set five months ahead of the November 2022 deadline⁸³: in 2013-2014, the ethanol content in the blend was 1.5%, and in 2019-2-20, it was 5%.

Climate change adaptation measures. India is highly exposed and vulnerable to climate change due to its high share of agriculture in GDP, high population density, lack of basic resources (arable land, water) and poverty. The National Action Plan on Climate Change outlines India's strategy for climate change adaptation and mitigation. It includes 8 National Missions, most of which can be categorized as adaptation⁸⁴:

- National Water Mission (improving water efficiency);
- National Mission for Sustaining Himalayan Ecosystem (preventing melting of Himalayan glaciers, protecting biodiversity in the region);
- Green India Mission (increasing forest cover);
- National Mission for Sustainable Agriculture (using climate-resilient crops, changing farming practices);
- National Mission on Strategic Knowledge for Climate Change (funding climate change research, climate change modelling, strengthening international cooperation, etc.).

1.4. China

Overview. China is the world leader in greenhouse gas emissions and has been the leader in their growth over the past decades, which is determined by the size of the Chinese economy, its rapid growth rate, and its dependence on coal, which accounts for 60.6% of the primary energy balance.

However, over the past decade, China has become a clear leader in the climate agenda, primarily due to the rapid development and scaling of low-carbon technologies. China is by far the world leader in the production of solar and wind energy equipment, in renewable energy capacity, and in the production and use of electric vehicles. Today, China is winning the low-carbon technology race due to its ready-made industrial base, the huge scale of its domestic market, government support, and control over the extraction and processing of critical metals and minerals needed for the development of renewable energy (including lithium, cobalt, and rare-earth metals).

⁸³ PM Launches 'LiFE Movement' for Adoption of Environment-Conscious Lifestyle. URL: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1831364> (accessed: 23.06.2023).

⁸⁴ National Action Plan on Climate Change // Government of India. Prime Minister's Council On Climate Change. URL: <http://www.nicra-icar.in/nicrarevised/images/Mission%20Documents/National-Action-Plan-on-Climate-Change.pdf> (accessed: 30.08.2023). Пояснения приведены по India's Progress on its Climate Action Plan – An Update in Early 2022 // The Oxford Institute for Energy Studies. URL: <https://www.oxfordenergy.org/publications/indias-progress-on-its-climate-action-plan-an-update-in-early-2022/> (accessed: 23.06.2023).

The fight against climate change has become one of the priorities of China's policy since 2012-2013. It is closely intertwined with the country's three strategic goals. Firstly, by solving environmental problems and building the so-called "ecological civilization": since 2018, this concept has been written into the Chinese constitution. Secondly, by moving to a new stage of technological development, including through the "Made in China 2025" program. Low-carbon technologies are a key component of these plans. Thirdly, by building a "community of common destiny for mankind" – a concept that defines the main directions of Chinese foreign policy. Proactively countering climate change, including in cooperation with other countries, especially in the Belt and Road Initiative space, is the most important component of China's participation in international affairs.

As a result, China's domestic climate policy is developing rapidly. Since 2021, after a series of regional experiments, a national emissions trading system (ETS) has been launched, covering 40% of the country's emissions and being the largest in the world in terms of its scope - three times larger than the European one. The national ETS so far only includes electricity and heat power, although it is planned to expand it to industrial sectors and the civil aviation sector. At present, regulation in industry is carried out through sectoral plans for reducing emissions, which are formulated for 2030. At the same time, a large-scale programme for expanding forest area continues to be implemented: in recent decades, the country has demonstrated record rates of forest cover expansion, and by 2022 the goal has been announced to plant 70 billion trees by 2030.

General targets for reducing greenhouse gas emissions. China has announced a goal of achieving carbon neutrality by 2060⁸⁵. In the medium term (by 2030), the goals are formulated in the updated Chinese NDC presented in 2022 and include 5 main components:

- achieve peak CO₂ emissions by 2030;
- reduce CO₂ emissions per unit of GDP by more than 65% compared to 2005 levels;
- increase the share of non-fossil fuels in primary energy consumption to approximately 25%;
- increase the volume of forest resources by 6 billion m³ compared to 2005 levels;
- increase the total installed capacity of wind and solar power plants to more than 1,200 GW⁸⁶.

⁸⁵ China's Achievements, New Goals and New Measures for Nationally Determined Contributions // Unofficial translation. P. 2. URL: <https://unfccc.int/sites/default/files/NDC/2022-06/China%E2%80%99s%20Achievements%2C%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf> (accessed: 30.08.2023).

⁸⁶ Ibid.

Renewable energy and energy efficiency. In 2021, renewable energy sources (excluding hydropower) accounted for 13.4% of electricity generation in China (hydropower accounted for another 15.6%). Back in 2015, this share was only 4.8%⁸⁷. At the same time, the annual increase in renewable energy capacity over the past 4 years has been about 130-140 GW - this is more than twenty times more than the total renewable energy capacity in Russia.

The 14th Five-Year Plan for a Modern Energy System (2021-2025) aims to increase the share of non-fossil fuels in primary energy consumption to 20% by 2025 and includes a target of increasing the share of non-fossil fuels in the electricity generation mix to 39% by 2025⁸⁸. It also mentions removing barriers to market trading of distributed energy, establishing spot markets among multiple provinces, and encouraging private sector trading of green energy. In addition, the 14th Five-Year Plan for Renewable Energy (2021-2025) aims to develop onshore and offshore wind power, local renewable energy consumption, and inter-provincial power transmission⁸⁹. In its latest NDC, China also committed to increasing the share of non-fossil fuels in primary energy consumption to "about 25%" by 2030 and increasing installed wind and solar power capacity to 1,200 GW by 2030⁹⁰.

At the same time, the Chinese government is gradually eliminating the preferential tariffs that have made a significant contribution to the development of solar and wind energy⁹¹. They are being replaced by measures such as auctions; obligations imposed on grid companies, large consumers of electricity, etc. to purchase a minimum percentage of renewable electricity and a minimum number of operating hours for each type of renewable energy source; the use of green certificates to buy and sell green electricity; and the purchase and sale of electricity under medium- and long-term contracts, and in the future – on the spot market⁹².

The 14th Five-Year Plan also includes targets to reduce CO₂ emissions per unit of GDP by 18% and energy intensity of GDP by 13.5% between 2020 and 2025, with the State Council

⁸⁷ World energy statistics and balances. China // IEA. URL: <https://www.iea.org/countries/china> (accessed: 16.12.2023).

⁸⁸ 14th Five-Year Plan for a Modern Energy System // NDRC and NEA. 03.2022. URL: <https://www.ndrc.gov.cn/xxgk/zcfb/ghwb/202203/P020220322582066837126.pdf> (accessed: 16.06.2023).

⁸⁹ 14th Five-Year Plan for Renewable Energy // NDRC. 06.2022. URL: <https://www.ndrc.gov.cn/xwdt/tzgg/202206/P020220602315650388122.pdf> (accessed: 16.06.2023).

⁹⁰ China's Achievements, New Goals and New Measures for Nationally Determined Contributions // Unofficial translation. P. 2. URL: <https://unfccc.int/sites/default/files/NDC/2022-06/China%E2%80%99s%20Achievements%2C%20New%20Goals%20and%20New%20Measures%20for%20Nationally%20Determined%20Contributions.pdf> (accessed: 30.08.2023).

⁹¹ «Circular on improving the Feed-in Tariff mechanism for PV power generation» // NDRC. 28.04.2019.; NDRC, "关于完善陆上风电光伏发电上网标杆电价政策的通知 [Notice on Improving the Pricing Policy for Onshore Wind Power and On-Grid Solar Photovoltaic Power Prices]". 12.2016. URL: <https://chinaenergyportal.org/en/circular-on-improving-the-feed-in-tariff-mechanism-for-pv-power-generation/> (accessed: 16.06.2023).

⁹² Guide to Chinese Climate Policy // The Oxford Institute for Energy Studies. URL: <https://chineseclimatepolicy.oxfordenergy.org/wp-content/uploads/2022/11/Guide-to-Chinese-Climate-Policy-2022.pdf> (accessed: 16.06.2023).

placing great emphasis on improving energy efficiency in sectors such as heavy industry, building materials, coal, transportation, home appliances and urban design⁹³.

Decarbonisation of the most carbon-intensive sectors of the economy.

Decarbonisation of carbon-intensive industries is achieved through improving energy efficiency, upgrading, developing low- and zero-carbon technologies, reducing excess capacity, and controlling non-CO₂ greenhouse gas emissions. For example, the "Made in China 2025" strategy, released in 2015, calls for a 40% reduction in the carbon intensity of industrial value-added by 2025 compared with the 2015 level⁹⁴. In turn, the Implementation Plan for Carbon Peaking in Industry (2022) includes goals of peaking emissions in industry by 2030 and reducing the energy intensity of industrial value-added by 13.5% by 2025 compared with 2020⁹⁵.

There are also separate targets for the most carbon-intensive industries: by 2025, it is planned to reduce energy intensity in cement production by 2% and steel by 3.7%. In addition, it is planned to reduce CO₂ emissions in the production of electrolytic aluminium by 5% and increase the use of recycled steel in the production of pig iron from 260 to 320 million tons over 2020-2025⁹⁶. In non-ferrous metallurgy, special attention is paid to metal recycling - by 2025, the share of recycled non-ferrous metals should reach 24% of their total use in the economy.

Low-carbon technology development. Low-carbon technologies are the main focus of China's green transition, seeking to concentrate, reduce costs and take a leading role in global markets in terms of advanced technological solutions⁹⁷. Technological development priorities include the development of clean coal use methods, renewable energy development, electric mobility, the development of a circular economy and promoting their optimal combination.

The Chinese government intends to integrate low-carbon and "new" technologies (big data, artificial intelligence, and fifth-generation mobile communications) into key carbon-intensive industries such as ferrous and non-ferrous metallurgy, cement, and chemical

⁹³ 14th Five-Year Plan for National Economic and Social Development of the People's Republic of China and Outline of the Vision for 2035 // NDRC. 23.03.2021. URL: https://www.ndrc.gov.cn/xxgk/zcfb/ghwb/202103/t20210323_1270124.html?code=&state=123 (accessed: 16.06.2023).

⁹⁴ «国务院关于印发《中国制造2025》的通知 [Notification from the State Council on the Publication of «Made in China 2025»]» // State Council. 08.05.2015. The People's Republic of China, «China's Achievements, New Goals and New Measures for Nationally Determined Contributions». URL: https://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm (accessed: 16.06.2023).

⁹⁵ «三部委关于印发工业领域碳达峰实施方案的通知 (Notification from Three Ministries Regarding Publication of Implementation Plan for Carbon Peaking in Industry)» // Ministry of Industry and Information Technology, National Development and Reform Commission, and Ministry of Ecology and Environment. URL: https://www.miit.gov.cn/zwgk/zcwj/wjfb/tz/art/2022/art_df5995ad834740f5b29fd31c98534eea.html (accessed: 16.06.2023).

⁹⁶ Guide to Chinese Climate Policy // The Oxford Institute for Energy Studies. URL: <https://chineseclimatepolicy.oxfordenergy.org/wp-content/uploads/2022/11/Guide-to-Chinese-Climate-Policy-2022.pdf> (accessed: 16.06.2023).

⁹⁷ Low-carbon technologies in Russia: current status and prospects // Energy Efficiency Center – 21st century. URL: https://ceneff-xxi.ru/uploads/Tehnologicheskij_razryv_1c905a5aa1.pdf (accessed: 16.06.2023).

industries. Urban and rural construction, as well as transport, should undergo transformation - low-carbon and carbon-free technologies will be introduced into these areas, and energy efficiency will be increased⁹⁸. By 2030, it is planned to complete 50 demonstration projects in the field of applying key low-carbon and carbon-free technologies.

Sustainable mobility. China's key measures to reduce greenhouse gas emissions in the auto industry include fuel efficiency standards and support for new energy vehicles (NEVs). The government is also working to attract private investment to expand the charging infrastructure needed for electric vehicles⁹⁹.

The Chinese government actively supports the spread of electric vehicles. Key measures and targets include achieving a 20% share of electric vehicle sales in total new car sales by 2025¹⁰⁰; quotas for car manufacturers and importers to produce/import a certain number of electric vehicles into China; production subsidies, tax incentives and government procurement; and support for the construction of charging stations for electric vehicles¹⁰¹. In addition, all new passenger cars in China must meet fuel efficiency standards based on vehicle weight and the Corporate Average Fuel Consumption standard)¹⁰².

Climate change adaptation measures. China has developed a comprehensive climate change adaptation strategy to 2035, with food security at the centre of the strategy. It emphasizes "proactive adaptation" - early preparation for climate change rather than passive response to it¹⁰³. China is expected to establish a comprehensive climate risk assessment system by 2035. It plans to expand the climate-smart urban development experiment to about 100 cities by 2030¹⁰⁴ and improve institutional mechanisms for monitoring and early warning systems to combat extreme weather events.

⁹⁸ Ibid.

⁹⁹ «Notice on the issuance of energy-saving and new energy automotive industry development plan (2012–2020)» // State Council. 28.06.2012.; China Passenger Vehicle Fuel Consumption Development Annual Report 2017 // Innovation Center for Energy and Transportation. 09.2017. URL: https://www.gov.cn/zwggk/2012-07/09/content_2179032.htm; URL: <http://icet.org.cn/english/admin/upload/2018042060757349.pdf> (accessed: 16.06.2023).

¹⁰⁰ «国务院办公厅关于印发新能源汽车产业发展规划（2021—2035年）的通知 [State Council publishes New Energy Vehicle Industry Development Plan 2021-2035]» // China State Council. 20.10.2020. URL: https://www.gov.cn/zhengce/content/2020-11/02/content_5556716.htm (accessed: 16.06.2023).

¹⁰¹ Guide to Chinese Climate Policy // The Oxford Institute for Energy Studies. URL: <https://chineseclimatepolicy.oxfordenergy.org/wp-content/uploads/2022/11/Guide-to-Chinese-Climate-Policy-2022.pdf> (accessed: 16.06.2023).

¹⁰² Guide to Chinese Climate Policy // The Oxford Institute for Energy Studies. URL: <https://chineseclimatepolicy.oxfordenergy.org/wp-content/uploads/2022/11/Guide-to-Chinese-Climate-Policy-2022.pdf> (accessed: 16.06.2023).

¹⁰³ 国家适应气候变化战略2035 [National Climate Change Adaptation Strategy 2035] // Ministry of Ecology and Environment et al. URL: https://www.mee.gov.cn/xxgk2018/xxgk/xxgk03/202206/t20220613_985261.html (accessed: 16.06.2023).

¹⁰⁴ 关于深化气候适应型城市建设试点的通知 [Notice on deepening the pilot construction of climate-adaptisable cities] // Ministry of Ecology and Environment et al. URL: https://www.mee.gov.cn/xxgk2018/xxgk/xxgk05/202308/t20230825_1039387.html (accessed: 02.08.2024).

1.5. South Africa

Overview. South Africa is a developing country that is extremely vulnerable to the effects of climate change, which is considered a significant threat¹⁰⁵. Over the past 10 years, the government has been actively developing a legal framework for climate policy. South Africa has set ambitious goals to reduce emissions and transform its energy system, but when implementing climate policy, it is forced to take into account a number of circumstances that significantly complicate it.

Firstly, this is a high dependence on coal. Coal occupies a leading place in the country's energy balance: it provides more than 70% of primary energy production and more than 85% of electricity generation¹⁰⁶. South Africa is the seventh largest coal producer in the world, while there are no other fossil energy sources in the country. Coal rent is 2.4% of the country's GDP, and almost half a million people are employed in the industry. Thus, the country's energy balance is the least differentiated of the BRICS countries, and its dependence on the dirtiest type of fossil fuel is one of the strongest in the world.

Secondly, green development is closely linked to energy security. Since 2007, South Africa has been in a near-permanent energy crisis, which has become particularly acute in recent years, and in March 2023, President Cyril Ramaphosa described it as "an existential threat to the country's economy and social fabric". The crisis is due to the dire state of the energy infrastructure, which is unable to cope with the growth in demand, the aging coal-fired power plants and the inability of the state corporation Eskom to organize their maintenance. The development of renewable energy sources in South Africa is urgently needed to replace outdated coal capacities, but to overcome the energy crisis, a parallel modernization of the country's entire energy system is necessary.

Third, South Africa is probably the most unequal country in the world (Gini coefficient of 63). The objective severity of this problem is compounded by its painful perception due to the legacy of apartheid. Due to the huge number of jobs provided by coal-fired power generation and the total dependence of large areas on coal production, the energy transition is perceived not only as a necessity, but also as a social threat. Perhaps nowhere in the world is the goal of a just energy transition (i.e., one that minimizes the economic and social damage of the green transformation) so clearly defined.

In 2022, the Just Energy Transition Investment Plan was adopted. Funds in the amount of US\$8.5 billion were allocated by a group of international donors from developed countries

¹⁰⁵ South Africa's Low Emission Development Strategy 2050 // Government of South Africa. URL: https://www.dffe.gov.za/sites/default/files/docs/2020lowemission_developmentstrategy.pdf (accessed: 16.12.2023).

¹⁰⁶ World energy statistics and balances. South Africa // IEA. URL: <https://www.iea.org/countries/south-africa> (accessed: 16.12.2023).

within the Just Energy Transition Partnership (JETP): South Africa became the first country to test this mechanism, presented at COP-26 in Glasgow.

In 2024, the Climate Change Act was adopted¹⁰⁷, which envisages the government setting specific emission reduction targets for industries with subsequent distribution of quotas among companies. This mechanism should complement the carbon tax that has been in place in the country since 2019. The latter covers sectors responsible for 90% of the country's emissions, but a significant portion of emissions within sectors are effectively exempt from the tax, and the final effective rate is low - US\$7-8¹⁰⁸.

General targets for reducing greenhouse gas emissions. The basis for South Africa's climate policy is provided by the National Climate Change Response Policy White Paper (2011), a long-term plan to adapt to climate change and reduce greenhouse gas emissions¹⁰⁹. The targets for 2030 are set out in the National Development Plan (NDP, 2012), which include peaking by 2025, then plateauing and moving to a low greenhouse gas emissions trajectory¹¹⁰. In its NDCs, South Africa also sets quantitative emissions targets: 398–510 MtCO₂e by 2025 and 350–420 MtCO₂e by 2030¹¹¹. Decarbonisation of the economy will focus mainly on the power sector in the 2020s; on power and transport in the 2030s; and on the global energy and transport sectors in the 2040s. and subsequent periods - in sectors with less potential for reducing emissions. Key tasks include a green transition in the electricity sector, finding investments, and mitigating the economic and social consequences for the coal industry¹¹². In turn, the South Africa's Low Emission Development Strategy, developed in accordance with the Paris Agreement, sets the goal of achieving carbon neutrality by 2050 and discloses sectoral decarbonization measures¹¹³. It is in the development of this strategy that the Climate Change Act was adopted, which will allow the government to set sectoral targets for reducing emissions and distribute permits between companies.

¹⁰⁷ Climate Change Act 22 of 2024 // South African Government. URL: https://www.parliament.gov.za/storage/app/media/Acts/2024/Act_No_22_of_2024_Climate_Change_Act.pdf (accessed: 02.08.2024).

¹⁰⁸ Qu H., Suphachalasai S., Thube S., Walker S. South Africa Carbon Pricing and Climate Mitigation Policy // IMF. Volume 2023: Issue 195, 2023.

¹⁰⁹ National Climate Change Response Policy White Paper // Government of South Africa. URL: https://www.gov.za/sites/default/files/gcis_document/201409/nationalclimatechangeresponsewhitepaper0.pdf (accessed: 18.06.2023).

¹¹⁰ National Development Plan 2030 // Government of South Africa. URL: https://www.gov.za/sites/default/files/gcis_document/201409/ndp-2030-our-future-make-it-workr.pdf (accessed: 18.06.2023).

¹¹¹ South Africa first nationally determined contribution under the Paris Agreement // UNFCCC. URL: <https://unfccc.int/sites/default/files/NDC/2022-06/South%20Africa%20updated%20first%20NDC%20September%202021.pdf> (accessed: 18.06.2023).

¹¹² Ibid.

¹¹³ South Africa's Low Emission Development Strategy 2050 // Government of South Africa. URL: https://www.dffe.gov.za/sites/default/files/docs/2020lowemission_developmentstrategy.pdf (accessed: 18.06.2023).

Renewable energy and energy efficiency. Modernising the energy sector is a priority for South Africa, not only in the context of climate change, but also in light of the protracted energy crisis that causes power outages in the country on a regular basis.

In terms of improving energy efficiency, the National Energy Efficiency Strategy aims to stimulate energy conservation through a combination of tax and financial incentives and a developed regulatory framework. The following targets have been set for reducing energy consumption by 2030 compared to 2015 in various sectors: overall economy – 29%; industry – 15%; public and commercial sector – 37%; agriculture – 30%; transport – 39%¹¹⁴.

In terms of renewable energy development, the National Development Plan envisages providing at least 20 GW of generation from renewable sources by 2030. In turn, the Integrated Resource Plan, which defines the directions for the development of South Africa's electric power industry in the medium term, specifies these goals: it is planned to build 14.4 GW of wind power capacity and 6.4 GW of solar power capacity by 2030¹¹⁵.

The total volume of public investment in renewable energy by the beginning of 2023 amounted to 256 billion rand (about US\$13.5 million)¹¹⁶. Much attention is also paid to private investment: the Renewable Energy Independent Power Producer Procurement Programme was adopted, aimed at attracting additional volumes of energy to the country's energy system through private investment in wind energy, biomass, and small hydropower plants¹¹⁷. However, the funds mobilized to date are absolutely insufficient. The Just Energy Transition Investment Plan identifies investment needs in an order of magnitude greater: US\$98 billion by 2030. To date, international donors have allocated only US\$8.5 billion within the framework of the Just Energy Transition Partnership, and only a small part of these funds are presented in the form of grants, rather than loans. The proceedings of sources of other funds are unclear.

Decarbonisation of the most carbon-intensive sectors of the economy. In accordance with the NDC, South Africa will implement policies to decarbonise the most carbon-intensive sectors – energy, industry, and transport – in the coming decades. In particular, the reduction of emissions in industry is envisaged by the Industrial Policy Action Plan, the latest version of which (2018/19-2020/21) contains information on investments in green industry. The plan includes programmes that will contribute to mitigating climate change in the short term –

¹¹⁴ National Energy Efficiency Strategy Post 2015 // Government of South Africa. URL: https://www.gov.za/sites/default/files/gcis_document/201612/40515gen948.pdf (accessed: 18.06.2023).

¹¹⁵ Integrated Resource Plan // Government of South Africa. URL: <https://www.energy.gov.za/irp/2019/IRP-2019.pdf> (accessed: 18.06.2023).

¹¹⁶ Evans J., Ngeuka O. How the ANC's years-long delays on renewables plunged SA into darkness and scuppered plan to end blackouts // Daily Maverick. URL: <https://www.dailymaverick.co.za/article/2023-01-28-how-the-ancs-years-long-delays-on-renewables-plunged-sa-into-darkness-and-scuppered-plan-to-end-blackouts/> (accessed: 26.07.2023).

¹¹⁷ Industrial Policy Action Plan // Government of South Africa. URL: <https://www.gov.za/about-government/government-programmes/renewable-independent-power-producer-programme> (accessed: 26.07.2023).

the development of a roadmap for industrial development that does not have an adverse impact on the climate, a programme to improve energy efficiency in industry, etc.¹¹⁸

The carbon tax, which applies to companies whose emissions exceed a set sectoral threshold, also contributes to the decarbonisation of the most carbon-intensive sectors. The tax covers sectors responsible for more than 90% of greenhouse gas emissions - only agriculture, LULUCF, and waste are excluded from its scope. However, the first phase (2019-2025) implies tax exemptions for 60-95% of emissions within the covered sectors, the effective rate ultimately turns out to be low - US\$7-8 in 2021-2022. Only by 2030 is it planned to introduce a full price on carbon¹¹⁹. The effectiveness of the tax is significantly reduced by the continuation of subsidies for carbon-intensive producers, primarily the state-owned company Eskom, which operates coal-fired power plants¹²⁰.

Low-carbon technology development. In 2022, the draft South African Renewable Energy Masterplan was published, which envisages the development of the industrial sector based on the introduction of renewable energy technologies and aims to attract investment in the renewable energy value chain to create jobs and support economic growth¹²¹. In addition, a National Cleaner Production Centre was created, which supports the introduction of more energy-efficient and environmentally friendly technologies in industry,¹²² and a Green Fund, coordinated by the Development Bank of Southern Africa, which provides support for low-carbon projects, including technology¹²³. Foreign aid also plays a significant role in the development of low-carbon technologies. Electric power, new energy vehicles (NEV) and green hydrogen are highlighted as priority areas for green technological development in the near future¹²⁴.

Sustainable mobility. As part of the policy for the development of sustainable mobility, the Green Transport Strategy until 2050 was adopted in 2018, aimed at supporting the reduction of the transport sector's contribution to national greenhouse gas emissions by 5%. The envisaged measures include the national production of electric vehicles and batteries, the

¹¹⁸ Ibid.

¹¹⁹ Carbon Tax Act 15 of 2019 // Government of South Africa. URL: <https://www.gov.za/documents/carbon-tax-act-15-2019-english-afrikaans-23-may-2019-0000> (accessed: 18.06.2023).

¹²⁰ South Africa Carbon Pricing and Climate Mitigation Policy // IMF. URL: [https://www.imf.org/-/media/Files/Publications/Selected-Issues-Papers/2023/English/SIPEA2023040.ashx#:~:text=allowances%20possible%20for%20participants%20in,and%20those%20utilizing%20carbon%20offsets.&text=rate%20in%20South%20Africa.,about%20%248\)%20by%20end%202022](https://www.imf.org/-/media/Files/Publications/Selected-Issues-Papers/2023/English/SIPEA2023040.ashx#:~:text=allowances%20possible%20for%20participants%20in,and%20those%20utilizing%20carbon%20offsets.&text=rate%20in%20South%20Africa.,about%20%248)%20by%20end%202022) . (accessed: 18.09.2023).

¹²¹ South African Renewable Energy Masterplan // GreenCape. URL: <https://www.green-cape.co.za/assets/SAREM-Draft-March-2022.pdf> (accessed: 18.06.2023).

¹²² National Cleaner Production Centre South Africa. URL: <https://www.industrialefficiency.co.za/> (accessed: 05.10.2023).

¹²³ Green Fund // Development Bank of Southern Africa. URL: <https://www.dbsa.org/solutions/climate-financing/green-fund> (accessed: 05.10.2023).

¹²⁴ South Africa's Just Energy Transition Investment Plan 2023-2027 // Government of South Africa URL: <https://www.thepresidency.gov.za/download/file/fid/2649> (accessed: 18.06.2023).

deployment of solar-powered charging stations and the promotion of the transition of freight transport from road to rail¹²⁵.

Climate change adaptation measures. South Africa has adopted a comprehensive National Climate Change Adaptation Strategy, which presents strategic goals, measures and expected results in this area. In order to increase resilience to climate change, 23 measures are established, including support for the most effective sub-sectors of agriculture, the introduction of climate-resilient approaches to water resource management, the protection of the most vulnerable ecosystems, investments in climate-resilient infrastructure, etc.¹²⁶ Adaptation also occupies an important place in the overall climate policy described in the National Development Plan. In particular, the need to improve preparedness for natural disasters in connection with extreme climate events is indicated.

1.6. New BRICS Member Countries

The new BRICS members are diverse in their approaches to building climate strategies – while some declare their intentions to achieve carbon neutrality as early as 2050, others do not develop climate goals and regulatory instruments that would cover the entire economy. However, they all have in common that they are developing countries, which, within the framework of the UNFCCC, are subject to reduced requirements regarding the ambitiousness of climate policy and which are theoretically entitled to external assistance. However, while a number of new BRICS members really need it and even set conditional goals in the NDCs with it in mind, others are ensuring the green transition on their own.

Egypt. Like most new BRICS members, Egypt is a fossil fuel exporter, and its climate agenda prominently features the role of natural gas as a transition fuel¹²⁷. Despite the low level of climate ambitions (the country has no carbon neutrality target), the Egyptian economy has been steadily reducing its carbon intensity: from 2005 to 2022, this figure fell by about 3.5 times¹²⁸. One of the key goals of the Egyptian climate strategy as a whole is to achieve sustainable growth while ensuring low-carbon development¹²⁹, which largely coincides with Russian priorities.

¹²⁵ Green Transport Strategy (2018-2050) // Government of South Africa. URL: https://www.transport.gov.za/documents/11623/89294/Green_Transport_Strategy_2018_2050_onlineversion.pdf (accessed: 18.06.2023).

¹²⁶ South Africa's National Climate Change Adaptation Strategy // Government of South Africa. URL: https://www.transport.gov.za/documents/11623/89294/Green_Transport_Strategy_2018_2050_onlineversion.pdf (accessed: 18.06.2023).

¹²⁷ Egypt's climate change policies // European Parliament. URL: [https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/738187/EPRS_BRI\(2022\)738187_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/738187/EPRS_BRI(2022)738187_EN.pdf) (accessed: 31.07.2024).

¹²⁸ Authors' calculations based on data from the Global Carbon Project and the World Bank.

¹²⁹ Egypt National Climate Change Strategy // Ministry of Environment. URL: <https://www.eeaa.gov.eg/Uploads/Topics/Files/20221206130720583.pdf> (accessed: 31.07.2024).

In 2023, the country updated its NDC, which sets targets for three main carbon-intensive sectors in the absence of economy-wide plans to reduce emissions. In the power sector, greenhouse gas emissions are expected to be reduced by 37% by 2030 compared to the baseline scenario, including by ensuring that 42% of electricity generation comes from renewable sources (in 2021, this figure was only 2.15%, including hydropower¹³⁰) and by developing grid infrastructure, especially smart grids, and distributed energy. In the oil and gas sector, emissions are expected to be reduced by 65% by 2030 compared to the baseline scenario, but this does not imply a reduction in investment in fossil fuels, which, despite investments in a number of large-scale renewable energy projects, exceeds the amount of funds spent on the development of alternative energy¹³¹. Finally, in the transport sector, emissions should be reduced by 7% by 2030 compared to the baseline scenario, mainly due to the development of public transport.

In addition, the priorities in climate change mitigation include increasing energy efficiency, as well as sustainable consumption and production, primarily in agriculture¹³². At the same time, Egypt also intends to partially diversify the energy sector through the development of petrochemicals and investments in hydrogen energy, including low-carbon ammonia, in connection with which the country will also develop CCUS technologies¹³³, which, as in other Arab countries producing fossil fuels, are of great importance for the decarbonization of the traditional fuel and energy sector.

The most important aspect of Egypt's climate strategy is the adaptation to climate change aspect. It prioritizes the improvement of the healthcare system in order to prepare for new diseases and other threats posed by changing climate conditions, the preservation of ecosystems, natural resources, infrastructure, and historical and cultural heritage sites, etc.¹³⁴

Iran. Having not ratified the Paris Agreement, Iran does not pursue an active climate policy and does not set goals to achieve carbon neutrality, while the country's territory is highly vulnerable to the effects of climate change¹³⁵. The economy is extremely vulnerable to the global green transformation, since, despite its sufficient level of diversification achieved under sanctions, oil and gas exports still play an important role in it¹³⁶.

¹³⁰ World energy statistics and balances. Egypt // IEA. URL: <https://www.iea.org/countries/egypt> (accessed: 31.07.2024).

¹³¹ Egypt // Climate Change Performance Index. URL: <https://ccpi.org/country/egy/> (accessed: 31.07.2024).

¹³² Egypt National Climate Change Strategy // Ministry of Environment. URL: <https://www.eaaa.gov.eg/Uploads/Topics/Files/20221206130720583.pdf> (accessed: 31.07.2024).

¹³³ Toyota Tsusho Presents Blue Ammonia Projects Study to Egypt // Egypt Oil and Gas Group. URL: <https://egyptoil-gas.com/news/toyota-tsusho-presents-blue-ammonia-projects-study-to-egypt/> (accessed: 31.07.2024).

¹³⁴ Egypt National Climate Change Strategy // Ministry of Environment. URL: <https://www.eaaa.gov.eg/Uploads/Topics/Files/20221206130720583.pdf> (accessed: 31.07.2024)

¹³⁵ Bringing Iran to the climate action table // Middle East Institute. URL: <https://www.mei.edu/publications/bringing-iran-climate-action-table> (accessed: 31.07.2024).

¹³⁶ Country Analysis Executive Summary: Iran // EIA. URL: https://www.eia.gov/international/content/analysis/countries_long/Iran/pdf/iran_exe.pdf (accessed: 31.07.2024).

Iran has developed a proposed NDC, but its (mostly conditional) targets have not been incorporated into national legislation and long-term planning; however, their implementation is realistic with minimal effort¹³⁷. Moreover, the environmental policy section, climate change mitigation measures and renewable energy targets have been excluded from Iran's 7th Five-Year Development Plan, which was published in 2023¹³⁸. Sanctions seriously undermine Iran's economic capacity to invest in mitigation and adaptation¹³⁹.

Despite this, Iran has created a National Smart Emission Inventory System and its methodologies, a draft climate finance strategy, and some other preliminary steps in developing climate policy¹⁴⁰. There are plans to deploy 30 GW of renewable energy generation capacity, with 10 of them already in 2022-2026¹⁴¹. Measures have been taken to reduce the energy intensity of the economy and stimulate the development of renewable energy sources, improve the energy efficiency of buildings, and reduce the share of flared associated gas¹⁴². In 2017, the latest National Communication was submitted to the UNFCCC, which outlined a number of planned measures in terms of both mitigation and adaptation¹⁴³.

However, the country is unlikely to take any serious action in this area until major international sanctions are lifted¹⁴⁴.

United Arab Emirates. The status of one of the largest oil and gas powers determines the nature of the entire climate strategy of the UAE. Despite the intention to significantly decarbonize the energy balance and achieve carbon neutrality by 2050, the country does not intend to abandon fossil fuels and reduce investments in them¹⁴⁵. Nevertheless, the UAE is already setting the task of diversifying the economy and reorienting itself to a knowledge

¹³⁷ Implementation of Nationally Determined Contributions: IRI Country Report // Umwelt Bundesamt. URL: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2018-11-30_climate-change_29-2018_country-report-iran.pdf (accessed: 31.07.2024).

¹³⁸ Iran // Climate Action Tracker. URL: <https://climateactiontracker.org/countries/iran/policies-action/> (accessed: 31.07.2024).

¹³⁹ Iran's failure to tackle climate change – a question of priority // Aljazeera. URL: <https://www.aljazeera.com/news/2021/11/9/irans-failure-to-tackle-climate-change-a-question-of-priority> (accessed: 31.07.2024).

¹⁴⁰ Iran // UNDP. URL: <https://climatepromise.undp.org/what-we-do/where-we-work/iran> (accessed: 31.07.2024).

¹⁴¹ Iran wants to deploy 10 GW of renewables over the next four years // PV Magazine. URL: <https://www.pv-magazine.com/2022/01/03/iran-wants-to-deploy-10-gw-of-renewables-over-the-next-four-years/> (accessed: 31.07.2024).

¹⁴² Implementation of Nationally Determined Contributions: IRI Country Report // Umwelt Bundesamt. URL: https://www.umweltbundesamt.de/sites/default/files/medien/1410/publikationen/2018-11-30_climate-change_29-2018_country-report-iran.pdf (accessed: 31.07.2024).

¹⁴³ IRI: Third National Communication to UNFCCC // UNFCCC. URL: <https://unfccc.int/sites/default/files/resource/Third%20National%20communication%20IRAN.pdf> (accessed: 31.07.2024).

¹⁴⁴ Iran's failure to tackle climate change – a question of priority // Aljazeera. URL: <https://www.aljazeera.com/news/2021/11/9/irans-failure-to-tackle-climate-change-a-question-of-priority> (accessed: 31.07.2024).

¹⁴⁵ Despite criticisms from the West, the UAE's oil chief is proving popular in the developing world // CNN. URL: <https://edition.cnn.com/2023/11/24/climate/cop28-climate-uae-al-jaber/index.html> (accessed: 31.07.2024).

economy in the second half of the century, which is what it is focusing its low-carbon strategy on¹⁴⁶.

Ahead of COP-28 in Dubai, the UAE updated its NDCs, setting new ambitious targets for 2030. Unlike many developing countries, the UAE's target is now expressed relative to a base year rather than a baseline scenario: by 2030, emissions should be reduced by 19% relative to 2019, which also corresponds to an absolute target of 182 MtCO_{2e} net emissions per year. More than 30 sectoral decarbonisation strategies and plans have been adopted at the level of the state, individual emirates, and large companies, covering key carbon-intensive sectors and problem areas such as food and water security, the circular economy, demand-side management of energy, sustainable transport and urban planning, waste management, etc. Numerical targets have also been set by sector, with the largest emissions reductions (more than 50%) expected to occur in the electricity and buildings sectors. Among renewable energy sources, the UAE is primarily betting on solar energy. Overall, it is planned that by 2030, the country will have 19.8 GW of "clean" generation capacity, including nuclear power¹⁴⁷. A long-term low-carbon development strategy has also been presented, which for the first time indicates plans to introduce a mandatory emissions trading system in the country, but specific dates have not yet been specified¹⁴⁸.

Hydrogen, CCUS technologies, and carbon offsets play a huge role in the UAE climate policy. The UAE's hydrogen ambitions envisage reaching the production of 1.4 Mt of this energy source annually by 2031, with more than 2/3 of this energy source being green hydrogen; by 2050, these volumes are expected to increase more than tenfold¹⁴⁹. Hydrogen is planned not only to ensure energy exports, but also to 100% decarbonise sectors that are hard-to-abate, in particular, transport, the chemical industry, and metallurgy¹⁵⁰. In turn, the oil company ADNOC invested in one of the largest CCUS projects in the Middle East in 2023, which should reduce its emissions by 1.5 MtCO_{2e} annually¹⁵¹ – and this is not the only example, given the country's high

¹⁴⁶ Climate change: Iran says lift sanctions and we'll ratify Paris agreement // BBC. URL: <https://www.bbc.com/news/science-environment-59242986> (accessed: 31.07.2024).

¹⁴⁷ Accelerating Action Towards a Green, Inclusive and Resilient Economy // UNFCCC. URL: https://unfccc.int/sites/default/files/NDC/2023-07/Third%20Update%20of%20Second%20NDC%20for%20the%20UAE_v15.pdf (accessed: 31.07.2024).

¹⁴⁸ The United Arab Emirates' First Long-Term Strategy // UNFCCC. URL: https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf (accessed: 24.04.2024).

¹⁴⁹ National Hydrogen Strategy // UEA. URL: <https://u.ae/-/media/Documents-2nd-half-2023/UAE-National-Hydrogen-Strategy-2023.pdf> (accessed: 31.07.2024).

¹⁵⁰ The United Arab Emirates' First Long-Term Strategy (LTS) // UAE Ministry of Climate Change and Environment. URL: https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf (accessed: 31.07.2024).

¹⁵¹ ADNOC to Invest in One of the Largest Integrated Carbon Capture Projects in MENA // ADNOC. URL: <https://www.adnoc.ae/en/News-and-Media/Press-Releases/2023/ADNOC-to-Invest-in-One-of-the-Largest-Integrated-Carbon-Capture-Projects-in-MENA> (accessed: 31.07.2024).

potential for developing this technology¹⁵². The use of CCUS, according to existing plans, should account for 32% of all greenhouse gas emission reductions in industry by 2050¹⁵³. Finally, in 2023, the UAE company Blue Carbon took a long-term lease on vast lands in Africa, comprising a total of 20% of Zimbabwe, 10% of Liberia and Zambia, 8% of Tanzania, and part of Kenya: all of this should generate carbon credits for the country over the next 30 years through forest absorption¹⁵⁴. This initiative, however, has caused heated criticism in the professional community, which concerns both the method of "offsetting" the carbon footprint (since carbon credits are planned to be sold, among others, to oil and gas giants, which will be able to continue their activities without hindrance), and the transparency of the projects.

The UAE climate agenda also includes the issues of linking relevant policies with the SDGs, as well as adaptation to climate change. In terms of adaptation, in addition to healthcare, infrastructure and ecosystems, which are a key focus of all BRICS countries' strategies, the UAE is focusing on the electricity sector, which, due to the specific natural conditions, could be significantly affected by rising temperatures in the country¹⁵⁵.

Saudi Arabia. The context for developing a climate strategy in Saudi Arabia is almost identical to that of the UAE – the resource-oriented nature of the economy determines a set of features, including an emphasis on CCUS and hydrogen, and no intention to reduce investment in the oil and gas sector in the near future. The carbon neutrality goal, however, was set a decade later, and a long-term low-carbon strategy and, accordingly, a vision of how the country will achieve carbon neutrality have not yet been presented in the UNFCCC.

Low-carbon development in the country is seen as a necessary element of the desire to diversify the economy and move away from excessive dependence on hydrocarbon exports against the backdrop of global decarbonization trends. This is also reflected in the comprehensive Vision 2030 program, which sets ambitious goals for the development of new sectors of the economy¹⁵⁶.

Saudi Arabia's NDC provides for a reduction in greenhouse gas emissions by 278 MtCO_{2e} by 2030. It is noted that the target may be adjusted depending on progress in economic diversification. Separately, as part of the Global Methane Commitment, the country plans to

¹⁵² Carbon capture and storage (CCS) in the Middle East – a future powerhouse of the hydrogen industry? // S&P Global. URL: <https://www.spglobal.com/commodityinsights/en/ci/research-analysis/carbon-capture-and-storage-ccs-in-the-middle-east.html> (accessed: 31.07.2024).

¹⁵³ The United Arab Emirates' First Long-Term Strategy (LTS) // UAE Ministry of Climate Change and Environment. URL: https://unfccc.int/sites/default/files/resource/UAE_LTLEDS.pdf (accessed: 31.07.2024).

¹⁵⁴ The new 'scramble for Africa': how a UAE sheikh quietly made carbon deals for forests bigger than UK // The Guardian. URL: <https://www.theguardian.com/environment/2023/nov/30/the-new-scramble-for-africa-how-a-uae-sheikh-quietly-made-carbon-deals-for-forests-bigger-than-uk> (accessed: 31.07.2024).

¹⁵⁵ Climate Change Adaptation Programme. URL: <https://moccae-national-climate-change-adaptation-program-fcsa.hub.arcgis.com> (accessed: 31.07.2024).

¹⁵⁶ Saudi Arabia: Vision 2030 // Saudi Arabian Government. URL: https://www.vision2030.gov.sa/media/oisolf4g/vision-2030_story-of-transformation.pdf (accessed: 31.07.2024).

reduce methane emissions by 30% over 2020-2030. An energy efficiency program is being implemented in three main carbon-intensive sectors - industry, buildings, and land transport¹⁵⁷. In addition, by 2030, the country's energy balance is expected to reach 50% of renewable sources, and in the electric power industry - 50% of generation based on natural gas. As additional measures to achieve climate goals, Saudi Arabia plans to plant 10 billion trees and make 30% of the country's territory protected¹⁵⁸. A hydrogen strategy has also been created, within the framework of which it is planned to launch large-scale production of both "blue" and green hydrogen¹⁵⁹.

Saudi Arabia has relied heavily on CCUS technologies in its journey to carbon neutrality and has been promoting their use as a decarbonization tool on international platforms since the 2000s. CCUS plays a leading role in the implementation of the country's Circular Carbon Economy Strategy¹⁶⁰. One CCUS project is already operational in the country, and several others are in development – one of them, the first industrial CCUS hub in the entire Middle East, will be able to capture up to 44 MtCO₂e by 2035.¹⁶¹

Equally important is the creation of infrastructure for voluntary efforts to reduce emissions: in 2021, Saudi Arabia launched a voluntary carbon market for the entire MENA (Middle East and North Africa) region, and a year later, it created the Regional Voluntary Carbon Market Company, through which the largest Saudi companies were able to purchase a total of 3.6 million carbon units on international markets¹⁶². Due to the importance of this instrument for Saudi Arabia's climate goals, a national Greenhouse Gas Crediting and Offsetting Mechanism will also be established in 2024, which will operate on a voluntary basis and will be available to all sectors¹⁶³.

¹⁵⁷ Updated First Nationally Determined Contribution: Kingdom of Saudi Arabia // UNFCCC. URL: <https://unfccc.int/sites/default/files/resource/202203111154--KSA%20NDC%202021.pdf> (accessed: 31.07.2024).

¹⁵⁸ Saudi Arabia: Vision 2030 // Saudi Arabian Government. URL: https://www.vision2030.gov.sa/media/oisolf4g/vision-2030_story-of-transformation.pdf (accessed: 31.07.2024).

¹⁵⁹ Fostering Effective Energy Transition 2023 // World Economic Forum. URL: <https://www.weforum.org/publications/fostering-effective-energy-transition-2023/in-full/saudi-arabia/> (accessed: 31.07.2024).

¹⁶⁰ Shehri, T. A., Braun, J. F., Howarth, N., Lanza, A., & Luomi, M. (2022). Saudi Arabia's Climate Change Policy and the Circular Carbon Economy Approach. *Climate Policy*, 23(2), 151–167. URL: <https://doi.org/10.1080/14693062.2022.2070118>.

¹⁶¹ Global Status of CCS 2023 // Global CCS Institute. URL: https://res.cloudinary.com/dbtfcnfij/images/v1700717007/Global-Status-of-CCS-Report-Update-23-Nov/Global-Status-of-CCS-Report-Update-23-Nov.pdf?_i=AA (accessed: 31.07.2024).

¹⁶² Voluntary Carbon Market // Carbon Neutral Acceleration. URL: <https://vcm.com.sa/index.html> (accessed: 31.07.2024).

¹⁶³ Saudi Arabia to launch greenhouse gases credits scheme next year // Reuters. URL: <https://www.reuters.com/world/middle-east/saudi-arabia-launch-greenhouse-gases-crediting-scheme-early-next-year-2023-10-09/> (accessed: 31.07.2024).

In the adaptation part of climate policy, the greatest attention is paid to combating desertification and the need for afforestation and ecosystem restoration¹⁶⁴. Other key issues are water management and security, protection of marine ecosystems and sustainable urban planning.

Ethiopia. According to the UN classification, Ethiopia is classified as a least developed country, which determines the almost complete dependence of the country's climate policy on foreign aid and the conditional nature of most of its goals in this area. Its contribution to global emissions, especially historically, is so small that CAT (Climate Action Tracker) assigns its policy a rating of "almost compatible" with the 1.5°C goal, with a number of areas being "fully compatible" with it, if we proceed from the principle of fair distribution of climate responsibility¹⁶⁵.

Ethiopia's unconditional target is to reduce greenhouse gas emissions by 14% by 2030 compared to the baseline scenario. The conditional target, however, assumes a much more ambitious reduction of 68.8%. Separate targets have been set for key carbon-intensive sectors – industry, energy, managed land use, waste, land-use change and forestry (LULUCF), and livestock¹⁶⁶. Carbon neutrality by 2050 is not set as a mandatory target, but is projected in all long-term development scenarios except the baseline – and yet it can only be achieved with international support¹⁶⁷.

The country's economy is based mainly on agriculture, which is responsible for more than half of the emissions, and their reduction, despite the gradual reduction of the sector's role in the economy, is minimal even in the most ambitious conditional scenarios of the climate strategy¹⁶⁸. While large-scale reforestation, as well as a reduction in the use of biomass for domestic purposes, are planned to significantly reduce emissions in LULUCF within the framework of the conditional target (by transforming the sector into a net sink), measures in livestock farming are planned to focus on reducing carbon intensity, and the sector itself is significantly scaled up. An increase in industrial emissions is also expected, but preventive measures to reduce the carbon footprint are planned for individual sectors (construction, fertilizers)¹⁶⁹.

¹⁶⁴ Saudi Arabia Leading Efforts in Afforestation and Climate Change Adaptation in the MENA Region // UN. URL: <https://saudiarabia.un.org/en/249596-saudi-arabia-leading-efforts-afforestation-and-climate-change-adaptation-mena-region> (accessed: 31.07.2024).

¹⁶⁵ Ethiopia // Climate Action Tracker. URL: <https://climateactiontracker.org/countries/ethiopia/> (accessed: 31.07.2024).

¹⁶⁶ Ethiopia NDC // UNFCCC. URL: https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf (accessed: 31.07.2024).

¹⁶⁷ Ethiopia's Long-term Low Emission and Climate Resilient Development Strategy (2020-2050) // UNFCCC. URL: https://unfccc.int/sites/default/files/resource/ETHIOPIA_%20LONG%20TERM%20LOW%20EMISSION%20AND%20CLIMATE%20RESILIENT%20DEVELOPMENT%20STRATEGY.pdf (accessed: 31.07.2024).

¹⁶⁸ Ibid.

¹⁶⁹ Ethiopia NDC // UNFCCC. URL: https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf (accessed: 31.07.2024).

Ethiopia's energy sector, in turn, is built primarily on biomass. The national electrification plan envisages the formation of fully renewable generation in the country by 2040 - by providing 55% of electricity from hydroelectric power plants and 45% from other renewable energy sources¹⁷⁰. Nevertheless, it is obvious that as the country develops economically, it will also use increasing volumes of more carbon-intensive fuels. This will happen in the very near future, given that Ethiopia is beginning to experience rapid growth: for example, in the decade 2012-2022 alone, the share of industry in the Ethiopian economy increased from 9.5 to 22.7%¹⁷¹ – accordingly, oil consumption has almost doubled over this period (until 2021)¹⁷².

Adaptation to climate change is a priority for Ethiopia's climate policy, given that its negative effects are already being felt in all areas. Priority areas for adaptation include agriculture, forestry, health, cities, and disaster risk reduction systems. Key planning documents also highlight the interrelationship between adaptation and mitigation, particularly with regard to the adaptation benefits that emission reduction measures can bring.

1.7. Comparison of Priorities

General targets for reducing greenhouse gas emissions. Almost all BRICS member countries, including the new ones, have goals to achieve carbon neutrality, with Brazil, South Africa and the UAE set to achieve it first, according to statements, and India the last. Egypt has not declared carbon neutrality, and like Ethiopia, it considers achieving it by 2050 within the framework of scenarios outlined in the long-term Low Carbon Development Strategy but does not set specific goals. Iran also lacks a corresponding goal, which, due to the international political context, is not a Party to the Paris Agreement and has only minimal climate commitments as a participant in the UNFCCC.

The 2030 emissions targets vary in both form and ambition across countries (Table 1). India and China set quantitative targets in terms of reducing the carbon intensity of GDP, China also in terms of reaching the peak of emissions. China and India also set additional targets for renewable energy and increasing forest emissions stocks, while Egypt sets targets for three sectors in the absence of an economy-wide target. South Africa, Brazil, the UAE, Saudi Arabia and Ethiopia set targets with specific emissions volumes for 2030, while the remaining countries operate in terms of emissions reductions relative to previous levels, with Russia, for example, choosing the base year around the peak of emissions (1990).

¹⁷⁰ National Electrification Program (NEP) 2.0: Integrated Planning for Universal Access. URL: <https://www.powermag.com/wp-content/uploads/2020/08/ethiopia-national-electrification-program.pdf>.

¹⁷¹ Ethiopia: Share of economic sectors in the gross domestic product (GDP) from 2012 to 2022 // Statista. URL: <https://www.statista.com/statistics/455149/share-of-economic-sectors-in-the-gdp-in-ethiopia/> (accessed: 31.07.2024).

¹⁷² Ethiopia // IEA. URL: <https://www.iea.org/countries/ethiopia> (accessed: 31.07.2024).

Table 1. NDCs and Carbon Neutrality Targets in BRICS Countries

Country	Contents of NDC	Achieving carbon neutrality
Brazil	<ol style="list-style-type: none"> 1. Achieving a net greenhouse gas emissions cap of 1.32 billion tonnes of CO₂e by 2025. A 48.4% reduction in emissions compared to 2005 levels. 2. Achieving a net greenhouse gas emissions cap of 1.20 billion tonnes of CO₂e by 2030. Reduction of emissions by 53.1% compared to 2005 levels. 3. Achieving climate neutrality by 2050. 	2050
Russia	Reduction of greenhouse gas emissions by 70% compared to 1990 levels by 2030, taking into account the maximum possible absorption capacity of forests and other ecosystems.	2060
India	<ol style="list-style-type: none"> 1. Unconditional target: Reducing the ratio of greenhouse gas emissions to GDP by 45% compared to 2005 by 2030. 2. Conditional target: 50% of total installed electricity capacity to come from non-fossil fuel-based energy sources by 2030. 3. Provide additional absorption of 2.5-3 billion tons of CO₂e through forest planting by 2030. 	2070
China	<ol style="list-style-type: none"> 1. Achieving peak carbon emissions by 2030 and carbon neutrality by 2060. 2. Reducing CO₂ emissions per unit of GDP by more than 65% by 2030 compared to 2005 levels. 3. Achieving the share of non-fossil fuels in the structure of primary energy consumption to 25% by 2030. 4. Increase forest area by 6 billion m³ by 2030. 5. Increase installed wind and solar power capacity to more than 1,200 GW by 2030. 	2060
South Africa	<ol style="list-style-type: none"> 1. Annual greenhouse gas emissions in the range of 398–510 MtCO₂e by 2025. 2. Annual greenhouse gas emissions of 350–420 MtCO₂e by 2030. 	2050
UAE	<ol style="list-style-type: none"> 1. Reduction of net greenhouse gas emissions to 182 MtCO₂e by 2030 (40% less than the baseline scenario). 2. Achieving carbon neutrality by 2050. 	2050
Saudi Arabia	<ol style="list-style-type: none"> 1. Reduction of greenhouse gas emissions by 278 MtCO₂e annually compared to 2019 by 2030. 2. Achieving carbon neutrality by 2060. 	2060
Iran	There is no NDC because Iran is not a Party to the Paris Agreement. The proposed NDC included targets to reduce greenhouse gas emissions by 4% (unconditional) and 12% (conditional) by 2030 compared to the baseline scenario, but the target was not formally set ¹⁷³ .	-

¹⁷³ In its most recent (2017) National Communication, Iran indicated that by 2025, emissions in the country could be 11% lower than the baseline scenario (a conditional target), but this was also not set. See: IRI: Third National Communication to UNFCCC // UNFCCC. URL: <https://unfccc.int/sites/default/files/resource/Third%20National%20communication%20IRAN.pdf> (accessed: 31.07.2024).

Egypt	<p>1. Reduction of greenhouse gas emissions in the power sector by 37% compared to the baseline scenario by 2030.</p> <p>2. Reducing greenhouse gas emissions in the transport sector by 7% compared to the baseline scenario by 2030.</p> <p>3. Reducing greenhouse gas emissions in the oil and gas sector by 65% compared to the baseline scenario by 2030.</p>	-
Ethiopia	<p>1. Unconditional target: achieving greenhouse gas emissions of 347.3 MtCO₂e by 2030. Reducing emissions by 14% compared to the baseline scenario.</p> <p>2. Conditional target: achieving greenhouse gas emissions of 125.8 MtCO₂e by 2030. Reducing emissions by 68.8% compared to the baseline scenario.</p>	2050 (set in the form of scenarios, rather than targets, in the long-term climate strategy)

Comparing the ambition of the BRICS NDCs requires translating them into a common format. Table 2 compares the 2030 emission reduction targets to different base years (excluding LULUCF). It can be seen that compared to current levels, the NDCs of Brazil, South Africa, the UAE and China imply emission reductions excluding LULUCF, while the NDCs of all other countries imply emissions growth.

Table 2. Recalculation of NDC Emission Reduction Targets (excluding LULUCF) to Different Base Years in BRICS Countries, %

Country	2030 to 1990	2030 to 2010	2030 to 2019	2030 to 2021
Brazil	35	-15	-20	-26
Egypt	360	106	77	75
India	303	102	45	36
Iran	491	145	98	83
China	281	26	-1	-4
UAE	232	0	-8	-13
Russia	-24	19	16	12
Saudi Arabia	193	18	-2	-5
Ethiopia	301	99	63	59
South Africa	13	-25	-15	-17

Source: authors' calculations based on NDCs, UNFCCC, Climate Action Tracker

Notes: 1) The emission change was calculated for data excluding LULUCF, even if the NDC is formulated with LULUCF; 2) Historical emission data for Russia were taken from the UNFCCC database, and the emission estimate for 2030 to meet the NDC was taken from Climate Action Tracker; 3) For other countries, both historical data and NDC-compliant emission estimates for 2030 were taken from Climate Action Tracker; 4) Where Climate Action Tracker provides multiple estimates for 2030, the average estimate of emissions required to meet the unconditional NDC was used.

A quantitative reduction or, conversely, an increase in emissions are not in themselves indicators of climate ambition. Emissions can grow for various reasons, some of which are objective and do not depend on government actions. For example, emissions in India, even with the most ambitious climate policy, will grow due to high demographic and economic growth. In this regard, it is logical to compare the ambition of the NDCs in terms of reducing the carbon intensity of GDP that will be required to meet them – in comparison with the reduction in carbon intensity that was achieved in previous decades.

We have decomposed the emission reduction planned in the NDC taking into account the projected GDP and population growth, which allowed us to obtain the planned contribution to the emission dynamics from the carbon intensity reduction factor, i.e., the component that can be influenced by climate policy. The analysis allows us to answer the question: "How should the level of carbon intensity of GDP change for the country to meet the NDC?" At the same time, the instruments for achieving the calculated reduction in carbon intensity can be different: for example, increasing energy efficiency, developing cleaner energy sources or structural transformation of the economy. An NDC can be considered ambitious if, to meet it, the country will have to increase the rate of carbon intensity reduction compared to previous periods. On the contrary, if such an increase is not required, then the emission reduction declared in the NDC can be achieved without significant additional efforts (Table 3).

Table 3. Assessing the Ambition of the BRICS NDCs and Prospects for Their Implementation

Country	Emissions in 2021	Average annual contribution of carbon intensity reduction to emissions growth in 1990–2021, p.p.	Emissions in 2030 while maintaining the historical contribution of reducing carbon intensity (1), million t	Total contribution of carbon intensity reduction in 2022–2030 required to achieve NDCs, p.p.	Emissions in 2030 with NDCs met, million t	Necessary increase in the contribution of carbon intensity reduction to meet NDCs, ((1)-(3)), pp.	Emissions reduced by increasing the contribution of carbon intensity reduction ((2)-(4)), million t	NDC ambition and implementation prospects
		1	2	3	4	5	6	
UAE	238	0,6	344	-5,8	206	6,4	138	It is very ambitious and can only be achieved by moving from the growth of carbon intensity in previous periods to its significant reduction.

Country	Emissions in 2021	Average annual contribution of carbon intensity reduction to emissions growth in 1990–2021, p.p.	Emissions in 2030 while maintaining the historical contribution of reducing carbon intensity (1), million t	Total contribution of carbon intensity reduction in 2022–2030 required to achieve NDCs, p.p.	Emissions in 2030 with NDCs met, million t	Necessary increase in the contribution of carbon intensity reduction to meet NDCs, ((1)-(3)), pp.	Emissions reduced by increasing the contribution of carbon intensity reduction ((2)-(4)), million t	NDC ambition and implementation prospects
Saudi Arabia	697	0,7	967	-4,2	662	4,9	305	It is very ambitious and can only be achieved by moving from the growth of carbon intensity in previous periods to its significant reduction.
Brazil	1187	-0,4	1346	-4,7	884	4,3	462	Ambitious, feasible only if carbon intensity is reduced significantly faster than in previous periods.
South Africa	484	-1,1	495	-3,2	402	2,1	93	Ambitious, feasible only if carbon intensity is reduced significantly faster than in previous periods.
India	3377	-2,3	4920	-3,4	4600	1,1	320	Ambitious, feasible only if carbon intensity is reduced significantly faster than in previous periods.
China	14408	-4,5	13420	-4,1	13900	-0,4	-480	Unambitious, feasible even if carbon intensity declines more slowly than in previous periods.

Country	Emissions in 2021	Average annual contribution of carbon intensity reduction to emissions growth in 1990–2021, p.p.	Emissions in 2030 while maintaining the historical contribution of reducing carbon intensity (1), million t	Total contribution of carbon intensity reduction in 2022–2030 required to achieve NDCs, p.p.	Emissions in 2030 with NDCs met, million t	Necessary increase in the contribution of carbon intensity reduction to meet NDCs, ((1)-(3)), pp.	Emissions reduced by increasing the contribution of carbon intensity reduction ((2)-(4)), million t	NDC ambition and implementation prospects
Ethiopia	169	-3,8	233	-1,4	269	-2,4	-36	Unambitious, feasible even if carbon intensity declines more slowly than in previous periods.
Egypt	345	-1,1	529	1,3	603	-2,4	-74	Extremely unambitious, feasible even with an increase in the carbon intensity of the economy compared to previous periods.
Russia	2157	-2,1	1905	0,5	2408	-2,6	-503	Extremely unambitious, feasible even with an increase in the carbon intensity of the economy compared to previous periods.
Iran	1060	0,8	1444	6,0	1940	-5,2	-496	Extremely unambitious, feasible even with an increase in the carbon intensity of the economy compared to previous periods.

Source: authors' calculations based on NDCs, UNFCCC, Climate Action Tracker

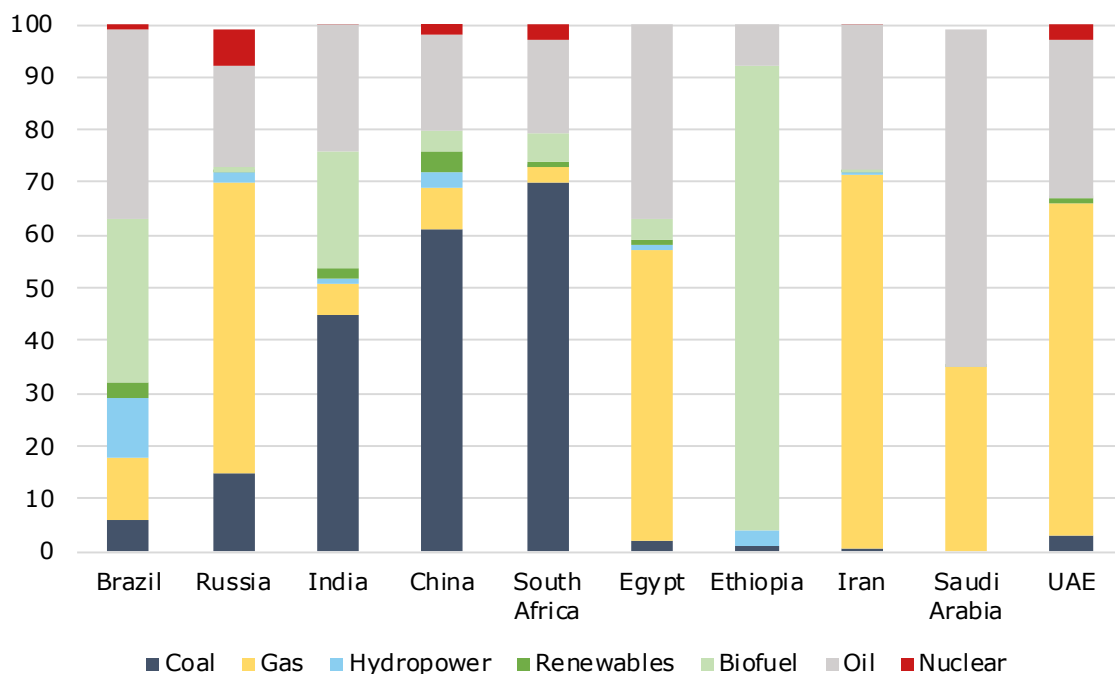
Notes: 1) Both historical and target emissions are considered without LULUCF, even if the NDC was formulated taking into account LULUCF; 2) Historical emission data for Russia were taken from the UNFCCC database, and the estimate of emissions by 2030 to meet the NDC was taken from Climate Action Tracker; 3) For other countries, both historical data and estimates of emissions by 2030 consistent with NDC compliance were obtained from Climate Action Tracker; 4) In cases where Climate Action Tracker provides multiple estimates for 2030, the average estimate of emissions required to meet the unconditional NDC was used.

The table shows that the NDCs of the UAE and Saudi Arabia can be characterized as quite ambitious, since their implementation would require the countries to change the trend of economic development: a transition from an increase in carbon intensity to a fairly significant

reduction in it. The NDCs of Brazil, South Africa and India are quite ambitious: the countries will have to make greater efforts to reduce emissions than in previous periods. The NDCs of China and Ethiopia are not ambitious since the rate of reduction in carbon intensity required to meet them is lower than in previous periods. Finally, the NDCs of Egypt, Russia and Iran are formulated in such a way that they can be met even with an increase in the carbon intensity of the economy: their implementation will probably not require any effort.

Renewable energy and energy efficiency are important areas of decarbonisation for all the countries considered, but it is obvious that their place in the system of green development priorities differs. The main reason for the differences is the different availability of energy resources and the different structure of the countries' energy balances (Figure 3).

Figure 3. Structure of Primary Energy Consumption in BRICS Countries, %, 2021



Source: authors' calculations based on IEA data

In China, India and South Africa, coal completely dominates energy consumption – this is the least favourable energy mix in terms of climate change impacts. While in China and South Africa the energy mix will become "cleaner" in the future (coal will gradually be replaced by natural gas, renewable and nuclear energy), the situation in India is more pessimistic: more than 20% of the energy mix is represented by traditional biofuels, which will be replaced by fossil fuels as incomes grow, which could make the energy mix even more carbon-intensive. The situation in Ethiopia looks even less promising in terms of low-carbon energy prospects, where biofuels represent 88% of the energy mix – in the absence of a wide transfer of renewable or nuclear energy technologies, the country expects a significant increase in the carbon footprint of the energy sector.

Natural gas, which is much more environmentally friendly, predominates in the Russian structure of primary energy consumption. Carbon-neutral nuclear and hydropower account for about 10% of the energy balance; the issue of developing renewable energy sources in the country is practically not on the agenda yet but increasing energy efficiency has enormous potential for decarbonization. Brazil's energy balance is even more diverse: oil occupies the largest share, but biofuels (primarily bioethanol), hydropower and natural gas also play an important role. At the same time, Russia, and Brazil lag significantly behind India and especially China in energy production from new renewable sources, such as wind and solar energy.

Despite this, even China and especially India and Brazil do not plan to completely abandon the use of fossil fuels in the long term, which brings them closer to Russia and South Africa and puts the question of the feasibility and scale of the energy transition at the forefront of the overall political agenda. The situation is similar with the BRICS members from the Near and Middle East, in whose economies oil and gas resources play a key role. Thus, the UAE and Saudi Arabia set ambitious goals to reduce the carbon footprint of the energy balance - bringing the share of "clean" generation in installed capacity to 50% by 2050 and renewable energy in electricity generation to 50% by 2030, respectively. This, however, does not mean that these countries, like Egypt, which is actively embarking on the path of developing solar and wind generation, intend to reduce investments in fossil fuels and lose their export positions. Finally, among all the BRICS countries, Iran holds the most conservative positions in this regard, while being the most energy-intensive economy in the world – the declared modest intentions to install new renewable energy capacities will not contribute to the significant decarbonization of the country's energy balance.

While all BRICS countries have plans to develop renewable energy, their common goals are primarily to improve the availability and reliability of energy supply, as well as the development of new energy technologies¹⁷⁴. However, given the critical role of the BRICS in the global economy in the coming decade, it is important to note that it is the transformation of the energy balance of these countries that will have a key impact on the global decarbonisation processes as a whole.

Decarbonisation of the most carbon-intensive sectors of the economy in the BRICS countries varies significantly in terms of priority and implementation tools. In China and South Africa, the greatest attention is paid to industrial decarbonisation; while in South Africa the main tool is a carbon tax covering the most carbon-intensive sectors, in China the emissions trading system has not yet extended beyond the electric power industry, and industrial decarbonisation is carried out mainly by administrative methods – through sectoral decarbonisation plans. Energy, transport and, to some extent, industry are also the main

¹⁷⁴ BRICS countries seek path to energy of the future // Energy and industry of Russia. 2020. URL: <https://www.eprussia.ru/epr/401/4255213.htm> (accessed: 31.08.2023).

decarbonisation priorities in Saudi Arabia and the UAE, which are seeking to diversify their economies to reduce the risks to them from the global energy transition.

In Brazil, the greatest emphasis is placed on agriculture and the problem of deforestation, while in India, no sector is singled out as a priority, while sectoral plans for decarbonization are almost or completely absent. A similar situation to India is observed in Russia, but in its case, there is a greater desire to develop forestry as part of an overall policy of striving to reduce emissions through natural and climate solutions. This is also true for Ethiopia, which, in implementing its conditional goals, intends to transform land use and forestry from one of the largest emitting sectors into an absorber. Egypt, in turn, places decarbonization of the transport, oil and gas, and electricity sectors at the centre of climate policy, leaving the rest outside the medium-term priorities. Finally, Iran does not include large-scale decarbonization plans in its long-term strategies, but some sectoral measures are being implemented and planned in transport and energy.

Ultimately, all this diversity can be united by the energy and resource efficiency agenda, which runs through the plans of states in almost all the sectors considered. What unites the countries is that industry in all of them is largely represented by sectors in which it is extremely difficult to achieve carbon neutrality: metallurgy, chemical industry and petrochemistry. Hence the great attention to the possibilities of using offsets, as well as carbon capture and storage technologies.

The development of low-carbon technologies can be considered one of the most promising areas of cooperation between the BRICS countries as powers striving to achieve a leading role in the international arena. Technological leadership in the field of certain green technologies is considered a priority in all BRICS member countries. China initially placed its bets on low-carbon technologies as the main aspect of the movement towards carbon neutrality¹⁷⁵; currently, the cheapest production of many key energy transition technologies, such as equipment for renewable energy sources, electric vehicles, electrolysers, hydrogen fuel cells, etc., is concentrated in China, which, in addition, controls the largest part of the processing of materials critical for the energy transition¹⁷⁶. At the same time, China is a world leader in the development of clean coal technologies and has large-scale plans for the development of carbon capture and storage projects. The latter are also widely present in the plans of Saudi Arabia and the UAE, for which CCUS is the most important way to decarbonize hydrocarbon-based energy systems; Low-carbon projects in these countries also focus on renewable energy and, like China,

¹⁷⁵ Low carbon technologies in Russia // CENef – XXI. 2023. URL: https://cenef-xxi.ru/uploads/Technology_gap_b0cf666d23.pdf (accessed: 31.08.2023).

¹⁷⁶ Geopolitics of the Energy Transformation: The Hydrogen Factor // International Renewable Energy Agency. URL: https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Jan/IRENA_Geopolitics_Hydrogen_2022.pdf (accessed: 02.08.2024).

on blue and green hydrogen. India is moving in similar directions, but is more focused on solar energy, as well as on the integrated development of low-carbon and digital technologies.

In turn, for Russia, low-carbon technologies as the basis of a new technological order are an integral part of the policy of achieving technological sovereignty, which has become dominant in the political agenda after 2022 as a result of sanctions measures that have made access to advanced Western technologies impossible. Brazil is a world leader in the production of biofuels and the development of transport using this energy source. Egypt in this part prioritises the energy sector, in particular energy efficiency, energy production from solid municipal waste, as well as digital smart grid technologies that will ensure the achievement of medium-term goals for renewable generation. Iran is only just beginning to develop low-carbon initiatives pointwise without large-scale state plans, while the implementation of relevant projects in Ethiopia is almost entirely dependent on foreign aid

In terms of **sustainable mobility**, the greatest success so far has been achieved by China, which accounts for almost half of the global electric vehicle market, and Brazil, the world leader in the production and use of biofuel vehicles. The UAE has high ambitions (50% of the total vehicle fleet by 2050 will be electric vehicles), and Saudi Arabia is likely to reach a similar level in the near future. In both countries, where the role of private transport is incomparably higher than public transport, decarbonization of this sector can become an important component of the movement towards carbon neutrality. The Indian government has joined the Acceleration to Net Zero coalition, signing up to the commitment to ensure 100% of sales are electric vehicles, and is implementing a number of state programs to support them. Russia also has ambitious plans to expand the production and use of electric vehicles, including with the help of China, which has deployed relevant capacities in Russia and increased exports of electric vehicles to Russia in 2023-2024. In turn, Iran, Ethiopia, and Egypt, although they have not introduced specific targets for sustainable transport, have significantly reduced or eliminated taxes on electric vehicles and/or restrictions on their import, thus taking the first steps to stimulate their use. However, although electric transport has a place in the sustainable development policies of all BRICS countries, almost none of them currently envisages a complete rejection of internal combustion engines.

Finally, **climate change adaptation measures** play a key role in the climate policy of all BRICS members, given that each of them is significantly exposed to the negative impact of climate change. While adaptation measures and related policy areas are mostly not brought to the level of interstate cooperation, since they are subordinated to national problems and characteristics, the very principle of increasing the role of adaptation in the complex of climate policy measures and its significance in the international climate agenda may become one of the areas on which the BRICS countries are unlikely to have disagreements. This includes advocacy for the direction of a larger volume of international climate financing specifically for adaptation needs.

2. BRICS and International Cooperation on Climate Policy

The BRICS countries have quite similar positions on key issues on the international climate agenda, which is primarily due to their common status as developing countries. Their shared interest in preserving space for economic growth and limited resources for addressing development challenges, including basic ones, makes climate finance from international donors a priority, with a limited willingness to take on new commitments to reduce emissions. At the same time, Russia stands apart in this group, as it is unable to attract international public funding for mitigation and adaptation projects.

Within the BRICS group itself, climate cooperation has long been limited and even at the level of joint declarations became visible only at the Johannesburg summit in 2023. Nevertheless, the mainstreaming of the climate agenda in multilateral interstate processes, the development of domestic climate policies in the BRICS countries and their self-perception as leaders of the Global South make it likely and possible that they will become more active in international climate policy. The expansion of BRICS, making it increasingly the voice of the Global South, is likely to mean, on the one hand, the consolidation of climate among the main priorities of the grouping, and, on the other hand, the strengthening of priorities specific to developing countries within the climate agenda.

2.1. BRICS Countries in Multilateral Climate Cooperation Formats

2.1.1. Negotiating Positions of the BRICS Countries Within the UNFCCC and G20

The division of the UNFCCC and G20 member states into developed and developing countries is crucial for their positions on key agenda issues. In the most general terms, this is what defines the positions of the BRICS countries: as the largest representatives of the developing world, they not only form their positions based on a set of interests of developing countries, but also position themselves as "speakers" on behalf of a wide range of such states. Russia stands apart in this group, which rarely self-identifies as a developing country (much less associates itself with the "Global South"), and in the formal division of states according to the annexes of the UNFCCC is classified as a country in transition - with all the ensuing set of obligations and exceptions thereto. Therefore, Russia shares many conceptual approaches with other BRICS countries but does not speak out on several key positions, for example, those related to financial assistance to developing countries or issues of historical responsibility.

At the same time, the BRICS countries, as large developing economies, for which the issue of maintaining economic growth rates and ensuring the necessary level of social benefits is acute, are distancing themselves from the demands of high ambitions in terms of emission

reductions, which are voiced by vulnerable groups of developing countries - small island, least developed and African countries, as well as actively supported by the European Union.

In general terms, the positions of major countries and groups can be ranked on two scales - mitigation and adaptation. The set of positions held by countries that are committed to ambitious mitigation actions can be described as: maximum emission reductions, increasing new commitments, rapid reductions (including up to 2030), setting deadlines for carbon neutrality, broad coverage of efforts on greenhouse gases and sectors, setting new collective targets (e.g. renewable energy), perceiving the 1.5°C as the main target, etc. Adaptation ambition can be understood as early fulfilment of the climate finance target, setting a new target, embracing a global adaptation goal (preferably with financial parameters), historical responsibility of developed countries (as understood in the annexes to the UNFCCC) for climate change, exemptions for different categories of developing countries from individual climate commitments, etc.

Typically, some small developed countries and vulnerable groups of countries are highly ambitious on both counts. They advocate both faster and deeper emission reductions on the one hand, and increased assistance to developing countries in adapting to climate change on the other. At the same time, large developed countries other than the EU, such as the US, Japan, and Australia, while maintaining in their rhetoric the need for high ambition in mitigation of all countries, are often more moderate in their choice of instruments and rates of emission reductions. As for adaptation, these countries, while recognising the need for adaptation finance, make it contingent on mitigation efforts.

In this context, the positions of the BRICS countries mirror those of the major developed ones. Generally, large developing countries favour a special focus on adaptation, including its financing, and in the area of mitigation they emphasise the need to address the full range of sustainable development challenges simultaneously, including economic growth and energy availability.

2.1.2. Positions on Fundamental Issues on the Climate Agenda

The converging positions of Brazil, India, South Africa, and China on issues of principle, including those expressed jointly¹⁷⁷, can be described as follows:

The principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR/RC). This principle, enshrined in the UNFCCC and the Paris Agreement, is fundamental for the BRICS countries and serves as a basis for the formation of positions on other, more specific topics. Developing countries understand it, first and foremost, as allowing countries to independently determine ways and instruments to achieve the collective goals of

¹⁷⁷ This section describes the overlapping positions of the BRICS countries with the exception of Russia. The comparison of these positions with Russia's is presented in the following sections.

the UNFCCC and the Paris Agreement, especially with regard to mitigation. Based on CBDR principle the bottom-up approach of Nationally Determined Contribution (NDC) under the Paris Agreement is emphasised, the special responsibility of developed countries for climate change is explained, and various exceptions and exemptions to climate commitments for developing countries are justified (e.g. no obligation to provide an economy-wide NDC, no obligation to present a low-emission development strategy and no obligation to provide financial assistance to vulnerable countries). Based on this principle, the BRICS countries are also extremely wary of setting new collective targets, even with a low degree of binding commitments, and of binding language in decision texts in general, preferring "facilitative" ones.

"Around" the CBDR principle, the BRICS countries also emphasise the principle of equity and the importance of taking into account "national circumstances", resisting what is rhetorically referred to as attempts to "standardise ambition"¹⁷⁸ or present one-size-fits-all solutions for different circumstances.

Historical responsibility of developed countries. The BRICS countries point to the special responsibility of developed countries, especially Western countries, for the accumulated greenhouse gas emissions in the atmosphere, and therefore for the current state of the climate system. This determines the need for them to take the lead in reducing emissions, as well as their obligation to provide financial assistance in both mitigation and adaptation. In joint statements, Brazil, India, South Africa, and China explicitly point out that developed countries have been able to develop economically on the basis of fossil fuels, while they themselves put pressure on emerging economies to move away from the same resources. This approach is explicitly labelled "double standards"¹⁷⁹.

Sustainable development. Global and especially national efforts to combat climate change are regularly placed by the BRICS countries in the broader context of sustainable development and poverty reduction, and reference is made to the relevant language of the Paris Agreement¹⁸⁰. References are also sometimes made to the right to development¹⁸¹, such as the "inalienable human right to strive for economic growth and sustainable development"¹⁸². Among

¹⁷⁸ See e.g., Global Stocktake Opening Plenary – Saudi Arabia on behalf of the Like-minded Developing Countries, LMDC // UNFCCC. URL: <https://unfccc.int/sites/default/files/resource/Global%20Stocktake%20Opening%20Plenary%20Intervention%20%28Final%29.pdf> (accessed: 02.08.2024).

¹⁷⁹ BASIC Ministerial joint statement at the UNFCCC's Sharm el-Sheikh Climate Change Conference (COP27/CMP17/CMA4). 15 November 2022, Sharm el-Sheikh, Arab Republic of Egypt. URL: https://www.dffe.gov.za/mediarelease/basicministerialmeeting_cop27egypt2022 . (accessed: 02.08.2024).

¹⁸⁰ See Articles 2, 4, 6 of the Paris Agreement.

¹⁸¹ Declaration on the Right to Development (1968). URL: <https://www.ohchr.org/en/instruments-mechanisms/instruments/declaration-right-development> (accessed: 02.08.2024).

¹⁸² Declaration on the Right to Development (1968). URL: <https://www.ohchr.org/en/instruments-mechanisms/instruments/declaration-right-development> (accessed: 02.08.2024).

the specific areas of sustainable development that should be developed in tandem with addressing climate issues, poverty alleviation, and energy access are most often mentioned.

Continuity with the UNFCCC. Developing countries, including BRICS members, have traditionally viewed the Paris Agreement as an instrument for the implementation of the Framework Convention, emphasising the continued significance of the UNFCCC and its principles. This allows them to focus on the issues of historical responsibility, differentiated responsibility, and socio-economic aspects of development, which are detailed more prominently in the UNFCCC than in the Paris Agreement. At the same time, these countries also have a somewhat conservative attitude towards the agreement itself, being wary of any initiatives in which they see a desire to "renegotiate" or change the already made commitments. In most international mechanisms outside the UNFCCC process, including the G20, the BRICS countries are mainly keen to maintain the language already achieved in the UN platform.

Beyond the commitments themselves, adherence to the letter of the UNFCCC is also manifested in the desire to maintain the division of countries into annexes agreed in 1992. This allows Brazil, China, India, and South Africa to retain their developing country status and the corresponding set of rights and reduced obligations, regardless of the absolute parameters of economic development and growth, as well as the actual volume and share of global emissions. The argument of these countries is that the division of countries into annexes to the UNFCCC fixes the division of historical responsibilities of the Parties to the UNFCCC, and this measure of responsibility has not changed since the conclusion of the Framework Convention.

2.1.3. Positions on the Main Issues on the Negotiating Agenda

Based on these principled stances, the BRICS countries also share the same basic positions on key agenda issues:

Mitigation. The BRICS countries generally consider the mitigation targets set in the Paris Agreement to be quite ambitious, as well as their contributions to achieving them. These countries have resisted pressure to further increase ambition and set new targets. They view with varying degrees of wariness the active promotion of the goal of limiting temperature rise to 1.5°C from pre-industrial levels, sticking with the full, dual language from the Paris Agreement, which sets the baseline target at 2°C.

Like other major developing countries, the BRICS countries have a negative attitude towards new restrictions on the use of any fuels and technologies, especially those expressed in quantitative terms. Appeals, exchange of experiences and demonstration of the parties' achievements are preferred.

Adaptation. Like other developing countries, Brazil, China, India, and South Africa believe that the international community's efforts have been undeservedly dominated by mitigation at the expense of adaptation. Adaptation is seen as a necessary element of the

response to the climate threat, complementing emission reductions and, to some extent, creating the conditions for such reductions. The BRICS countries are in favour of increasing the amount and share of funding for adaptation, pointing out that the majority of international climate change assistance goes to mitigation. In the UNFCCC process, they favour the early development of the global goal on adaptation (GGA) that could include quantitative parameters and indicators (preferably with a financial component).

Finance. In the field of finance, BRICS countries have emphasised the inadequacy of mitigation and adaptation finance in developing countries. It has been regularly noted that the target of "mobilisation" US\$100 billions of climate finance from developed countries has not been met¹⁸³, undermining the credibility of new commitments. In the discussion around a new quantitative finance target under the UNFCCC, it is argued that the target should be based on the real needs of developing countries, be a multiple of the previous target, and that it should be allocated specifically to developed countries. In addition, the BRICS countries believe that the financial component of the climate regime is not limited to Article 2.1(c) of the Paris Agreement (on aligning financial flows with a low-carbon development trajectory), but separately addresses climate finance commitments and the necessary reform of the international financial system.

Fossil fuels. There are some differences in the positions of the BRICS countries on the future of fossil fuels (see details below), but in general they avoid rigid formulations on this issue, pointing to existing and multilaterally agreed solutions. For example, the BRICS countries are conservative in attempts to specifically time-limit the use of coal-fired generation, and on the issue of fossil fuel subsidies they tend to follow the language of the 2009 G20 Pittsburgh Leaders' Declaration and the text of the first UNFCCC COP26 decision in Glasgow.

On the related issue of energy transition, this group of countries has tended to be as flexible as possible, emphasising the diversity of energy transition trajectories to limit the possibility that energy transition could be interpreted as aimed at phasing out fossil fuels and maximising the replacement of energy sources with renewables.

Just transition. On a range of issues related to the socio-economic impacts of climate change, the BRICS countries are strong supporters of the concept of a just transition, pointing to the need to support people and economies in the face of economic transformation. Developing countries see a just transition as one of the subjects of cooperation between the parties to the international climate regime, including in the form of technical and financial support.

Market mechanisms for cooperation. The BRICS countries, as key participants in the market-based mechanisms of the Kyoto Protocol, are strong supporters of market-based mechanisms for co-operation, including under Article 6 of the Paris Agreement. They favour

¹⁸³ According to the OECD, developed countries were able to mobilise US\$115.9 billion in climate finance for developing countries in 2022 alone, surpassing the annual target of US\$100 billion for the first time.

flexibility of mechanisms, wide opportunities for participation in different types of projects and minimal restrictions on the release, movement and use of reductions. However, during the negotiation of the Article 6 rulebook, developing countries favoured mandatory contributions to the Adaptation Fund, which was achieved at the rate of 5% for the Article 6.4 mechanism.

Carbon Border Regulation. The BRICS countries have been critical of border carbon mechanisms, including the European Carbon Border Adjustment Mechanism (CBAM), calling them unilateral and discriminatory measures¹⁸⁴. Such measures distort the market and reduce trust between Parties and should be avoided.

2.1.4. Country Specifics of Positions

Despite the similarity of basic assumptions and general proximity of positions on the main issues of the climate agenda, Brazil, China, India, and South Africa have specific approaches to certain issues. There are very few contradictions with the BRICS common positions, but each of the countries has its own set of priorities and focuses.

Brazil

Brazil is one of the most active developing countries in the climate process, with a strong negotiating experience and expressed interests. Despite some fluctuations in national climate policy during the presidency of Jair Bolsonaro, Brazil has positioned itself in recent years as a significant contributor to the global effort to combat climate change. Brazil's forestry and Amazon rainforest protection, as well as the low carbon intensity of the country's electricity generation, have been positioned as key elements of this contribution. Against this background, Brazil is paying particular attention to mainstreaming countries' efforts to combat deforestation and the related issues of protecting the interests of indigenous peoples living in such areas. These priorities are being actively promoted within the framework of the country's presidency of the G20. It can also be expected from the Brazilian presidency of the UNFCCC process in 2025.

Like other BRICS countries, Brazil has been cautious about calls for increased mitigation efforts, linking them to the aid to developing countries and referring to the principle of common but differentiated responsibilities. However, unlike most BRICS countries, Brazil has joined the Global Methane Pledge¹⁸⁵, which calls for a global reduction of methane emissions by 30% by 2030 from 2010 levels.

¹⁸⁴ BASIC Ministerial joint statement at the UNFCCC's Sharm el-Sheikh Climate Change Conference (COP27/CMP17/CMA4). 15 November 2022, Sharm el-Sheikh, Arab Republic of Egypt. URL: https://www.dffe.gov.za/mediarelease/basicministerialmeeting_cop27egypt2022.

¹⁸⁵ As of August 2024, the following BRICS countries have joined the Global Methane Pledge: UAE, Egypt, Saudi Arabia, Ethiopia, and Brazil.

India

Of all the BRICS countries, India is the most conservative in terms of increasing its emissions reduction ambitions. India has set a target to achieve carbon neutrality only by 2070, later than any other BRICS country. Indian representatives have traditionally emphasised efforts to fight poverty, the right to development and carbon space, i.e. a certain amount of allowable emissions growth that a developing country is "entitled" to.

India, with its heavy reliance on coal-fired power generation, has resisted obligations to reduce coal and other fossil fuel generation, seeking to soften the language. It was at India's initiative that the wording of the first decision at COP26 in Glasgow around fossil fuel subsidies and coal-fired generation was relaxed. The proposal to significantly phase down all fossil fuels, not just coal, put forward at COP27 in Sharm el-Sheikh is relatively new in this position, but this initiative has not gained much traction and is currently not being actively promoted.

During its 2023 G20 Presidency on the climate track, India has promoted international cooperation on renewable energy and related sources, an initiative to reduce emissions from individual LiFE consumption (see Section 1.3), and reform of international financial institutions to expand climate finance. Advancing these priorities can be built upon under India's presidency of COP33.

China

China's position is generally in line with other developing countries and aims to maintain the widest possible decarbonisation toolkit and the current level of mitigation ambitions. Having become one of the largest emitters of greenhouse gases, including by cumulative volume, China continues to adhere to the traditional division of countries into developed and developing countries under the UNFCCC annexes, rejecting attempts to use other concepts to define countries and their commitments, such as "major economies" or "major emitters". While China does not recognise meaningful responsibility for climate change, in recent years it has begun to demonstrate its contribution to climate finance in other developing countries, including in the area of loss and damage.

China insists on its right to increase emissions over the coming years to meet socio-economic goals and has therefore set a dual national decarbonisation target of peaking by 2030 and neutrality by 2050. Nevertheless, China has announced a halt on its part to new coal-fired generation projects, including to demonstrate its contribution to global climate efforts. During China's presidency of the Conference of the Parties to the UN Biodiversity Convention, Beijing also actively promoted this topic as a related climate issue.

South Africa

South Africa, as the largest African country, sees itself as a spokesperson for the interests of countries on the continent where the challenges of socio-economic development are far from

being met. In this context, South Africa's position is typical of developing countries and African countries in particular. However, South Africa is also characterised by the dominance of coal in the energy mix and its high importance for exports, due to which the country's position has traditionally been conservative towards reducing coal-fired generation. The launch of the Just Energy Transition Partnership (JETP), under which France, Germany, the UK, the US, and the EU are co-financing South Africa's efforts to phase out coal in the country by 2035, may soften these positions over time.

2.1.5. Tools for Expressing Common Positions

The most frequently used and most flexible tool for expressing common positions on international platforms can be considered simply repeating each other's theses, positions, and arguments. For the BRICS countries, especially without Russia, such repetition occurs regularly, at least at the level of principles and in most cases in relation to specific agenda items.

There are also several negotiating groups on the UNFCCC platform, which are used by Brazil, China, India, and South Africa to express common positions. First and foremost is the **BASIC group**, which includes all four countries. The group was established in 2009 before the COP in Copenhagen to coordinate action and advocate for the interests of developing countries. Since then, the group has met more than 30 times at the ministerial level and periodically issues joint ministerial-level statements, most recently during COP27 in Sharm el-Sheikh¹⁸⁶. In addition, the group periodically issues joint statements on specific negotiating agenda items at both the political and technical levels during COPs and Subsidiary Bodies' meetings. For example, during the June 2023 SB (Subsidiary Bodies) meetings in Bonn, BASIC delivered a joint statement at one of the Technical Dialogues of the Global Stocktake¹⁸⁷. Similarly, at COP28 in Dubai, the group took the initiative to put unilateral trade restrictions on the agenda¹⁸⁸.

However, it is much more common for the BRICS countries (with the exception of Russia) to speak with one voice as part of broader groups. The most significant of these is **the Group of 77 and China (G77)**, which brings together 135 developing countries. The G77 emerged in 1964 at the UN Conference on Trade and Development (UNCTAD) and is active in many UN organisations. The Group is both the largest and most heterogeneous in the UNFCCC structure, so joint positions on behalf of the group carry some weight, but often represent the lowest common denominator among developing countries positions.

¹⁸⁶ BASIC Ministerial joint statement at the UNFCCC's Sharm el-Sheikh Climate Change Conference (COP27/CMP17/CMA4). 15 November 2022, Sharm el-Sheikh, Arab Republic of Egypt. URL: https://www.dffe.gov.za/mediarelease/basicministerialmeeting_cop27egypt2022 (accessed: 02.08.2024).

¹⁸⁷ BASIC Statement to Opening Session of the Third Technical Dialogue of the Global Stocktake, 6 June 2023, Bonn. URL: <https://unfccc.int/sites/default/files/resource/BASIC%20Statement%20to%20Opening%20Session%20of%20the%20T hird%20Technical%20Dialogue%20of%20the%20Global%20Stocktake.pdf> (accessed: 02.08.2024).

¹⁸⁸ BASIC Agenda Statement // UNFCCC. URL: https://unfccc.int/sites/default/files/resource/COP28_BASIC-Agenda%20proposal.pdf (accessed: 02.08.2024).

Individual BRICS countries also advocate common positions through smaller and more flexible formats where their country positions carry more weight. For example, China and India are members of the **Like-Minded Developing Countries (LMDC)**, a group of 24 countries from Asia, Africa, and Latin America. South Africa is active in the **African Group of Negotiators (AGN)** and Brazil is increasingly active in the **ABU group** (Argentina, Brazil, Uruguay). All these groups tend to largely echo the positions of the G77 and often begin their statements by endorsing what it has said. However, the sheer diversity of groups and their numbers creates an opportunity for the BRICS countries to create numerical pressure on the negotiation process by repeating positions on behalf of several groups at once.

Unlike the UNFCCC process, the BRICS countries have no formal tools to express their positions in the G20. The work is done behind closed doors in the format of final communiqués, and the consistency of positions can only be judged by the wording used in the joint statements of the BRICS countries in other platforms in the final statements and documents. In recent years, the G20 documents have increasingly referred to the principles of equity, common but differentiated responsibilities and respective capabilities, and other theses close to the BRICS countries. However, the G20 climate track as a whole only emerged during the Japanese presidency in 2019, with the first ministerial meeting in 2021 in Italy. Direct quotations from the Paris Agreement may indicate not so much the successful coordination of the BRICS countries, but rather the desire to get a result and, as a consequence, an appeal to ready-made formulations.

2.1.6. Factors and Interests Determining Positions

The basic interests of the BRICS countries in the climate process can be seen as minimising the negative economic effects of climate action. Despite the high vulnerability of all these countries to climate change, combating climate change is not yet a priority in the system of national goals for any of them, at least at the governmental level. However, socio-economic development challenges, including those of a fundamental nature - eradicating extreme poverty, combating hunger, building transport and social infrastructure, ensuring access to affordable energy - remain relevant for each of these countries.

A related basic interest is to preserve the competitiveness of traditional economic sectors, including the fuel and energy sectors. It is about both its existence as a service provider in the domestic market and the preservation of its export potential. The BRICS countries value their status as fast-growing economies, and the loss of this advantage is highly undesirable for them, even if the cost would be the deterioration of their reputation in the international climate process.

As can be seen from the calculations presented in Section 1.7, for five of the ten economies of the grouping, the NDC in nominal terms, without adjusting for economic and demographic growth, does not imply emissions reductions from current levels. If such a correction is made, then for five of the economies it is possible to fulfil the NDC without significant

measures to reduce real carbon intensity. This identifies a particular emphasis by the BRICS countries on the principles of 'national determination' in the climate regime and resistance to greater international control over national target setting, presumably to avoid reputational losses.

BRICS countries need additional financial and technological resources to realise a low-carbon transition. At a time when climate policy may not seem to be a priority for them and spending public funds is undesirable, and the cost of capital in the domestic market remains high, attracting external funds for climate projects and policies becomes an obvious solution. This leads to a proactive stance on climate finance from developed countries and on reforming international financial institutions to facilitate the mobilisation of private capital for climate projects in developing countries.

It can be assumed that the positions of the BRICS countries in the climate regime, especially regarding the special responsibility of developed countries, are aimed at positioning themselves as leaders of the developing world, acting on the principles of justice and bringing a fairer world order closer. In any case, the argumentation within the climate process and the voiced criticism of developed countries overlaps significantly with the general, more political, and ideological narrative that characterises the BRICS and individual countries in international processes.

2.1.7. Positions of the New BRICS Members on the Main Issues of the Climate Agenda

The five new BRICS countries - Saudi Arabia, the United Arab Emirates, Egypt, Ethiopia, Iran, and the United Arab Emirates - have adopted typical developing country positions in the international climate process. They all emphasise the nationally determined nature of mitigation actions and prioritise increased climate finance in multilateral forums. At the same time, each country and some combinations of countries are characterised by specific positions and priorities, which cannot discard influencing the average positioning of the BRICS as a whole after enlargement.

For example, Saudi Arabia, the UAE, and Iran are members of the OPEC oil-exporting grouping, for which the active development of the global climate agenda and especially calls for a shift away from burning fossil fuels pose a huge challenge. During the discussions at COP28 in Dubai, the media reported the leak of a letter from the general secretary of the organisation to its members, which can be assessed as an attempt to coordinate the actions of oil-exporting countries on the negotiating platform, softening the language of calls to move away from coal, oil and gas¹⁸⁹.

¹⁸⁹ Opec rails against fossil fuel phase-out at Cop28 in leaked letters // The Guardian. URL: <https://www.theguardian.com/environment/2023/dec/08/opec-rails-against-fossil-fuel-phase-out-at-cop28-in-leaked-letters> (accessed: 02.08.2024).

Within the UNFCCC process, all the new countries, as well as the entire BRICS core, with the exception of Russia, are members of the Group of 77 and China, which expresses the positions of developing countries in general terms. Meanwhile, Brazil, China, India, South Africa, Saudi Arabia, Iran, and Egypt are no less active diplomatically through the LMDC group. Saudi Arabia, Egypt, and the UAE also frequently express a joint position through the Arab Group. Egypt, Ethiopia, and South Africa lead through the fairly influential African Group. With the addition of Ethiopia, the enlarged BRICS also includes a country from the Least Developed Country Group. These combinations suggest that the overall BRICS climate agenda will increase the focus on a set of priorities specific to these groups of countries, primarily around the topic of climate finance.

Iran, which, despite its participation in the above-mentioned formats, is not a Party to the Paris Agreement and makes its participation dependent on the lifting of sanctions, stands out. Given the current geopolitical context, Iran's appearance in the group may encourage other sanctioned countries (Russia and Ethiopia) to link elements of the climate agenda to sanctions regimes.

It is also significant that Saudi Arabia, like other BRICS core countries, is a full member of the G20. Thus, the countries of the enlarged grouping have additional opportunities to coordinate their positions on the G20 platform. Given the inclusion of the African Union (South Africa, Egypt, Ethiopia) as a permanent member of the format from 2024, developing countries can be better represented at the G20, where the climate agenda has been more actively discussed in recent years and where separate approaches and soft norms are being formed, which are subsequently discussed at the UN universal platforms.

2.1.8. Russia and Other BRICS Countries

Russia's position in the international climate regime at the rhetorical level is quite close to the other BRICS countries. First of all, this concerns general principles, such as the voluntary nature of Parties' contributions to the Paris Agreement and a broad space for national determination of measures and emission reduction rates. Like other countries in the group, Russia generally does not favour increased ambition of targets, new commitments, especially quantifiable ones. Russia also advocates for a broad framework for sustainable development, both because many other sustainable development issues are unresolved in the country and because this approach often avoids additional climate efforts, which can be argued to meet socio-economic objectives.

The positions of Russia and BRICS on the future of fossil fuels partly coincide. Russian representatives prefer to emphasise emissions themselves rather than the use of specific technologies and fuels. This makes it possible to protect the positions of traditional industries and expand the range of technologies available for use in decarbonisation without focusing on renewable energy. At the same time, for other BRICS countries, the focus on renewables does

not look so toxic - in China, Brazil and India, renewable energy generation already occupies a significant place in the energy mix, while in South Africa (and potentially in India as well) approaches may change under the influence of large international donors and the JETP programme.

Among other differences in positions between Russia and other BRICS countries is their attitude to the issue of international finance. Russia has the status of a country in transition in the UN climate regime and as such cannot claim financial assistance, but it is not obliged to provide it either. This situation forces Russian representatives to be extremely cautious when it comes to the issue of international finance. At the same time, Russia is one of the largest emitters of greenhouse gases not only today, but also in the historical perspective, belonging to the category of early industrialisation countries and as such objectively having some historical responsibility.

At the same time, Russia has the same other obligations as developed countries, including the obligation to provide a low-emission development strategy and an NDC covering all sectors of the economy. As such, Russia would have an interest in encouraging developing countries to do more to avoid free-rider behaviour.

2.2. Cooperation within BRICS

Climate change has been on the BRICS agenda in one form or another since the formation of the grouping in 2009, largely consistently reflecting the core content of the discussions at the UNFCCC. Often, climate change issues were mentioned among other aspects of sustainable development and environmental protection, as well as in the context of energy sector development. And while meetings of energy and environment ministers have been held regularly since 2015, no separate track has been created on the climate agenda. Nevertheless, the close relationship between climate challenges and the economies and energy sectors of each of the BRICS countries makes climate cooperation an important factor in deepening cooperation between the countries within the framework of the association.

2.2.1. Combating Climate Change as Part of the Sustainable Development Agenda

At its first summit in 2009 (before South Africa joined), BRIC, seeing itself as a platform to promote "the common interests of emerging market economies and developing countries", recognised the importance of cooperation on energy efficiency and dialogue "on climate change, taking into account the need to combine climate protection measures with steps to address socio-economic development challenges"¹⁹⁰.

¹⁹⁰ BRIC Leaders' Joint Statement (2009), para. 7. URL: <http://www.kremlin.ru/supplement/209> (accessed: 02.08.2024).

Interestingly, in more recent documents, the direct link between eco-efficiency and climate is not clearly seen. However, the socio-economic aspect has been key throughout the 14 years of the association's existence. (see Annex 2).

The principle of CBDR¹⁹¹ has been consistently mentioned in the declarations year after year, which has its roots in the UNFCCC and has traditionally been promoted by developing countries in many international platforms, emphasising the special rights of this category of states.

The BRICS countries' positions on the sustainable development agenda and their climate dimension were also reflected in subsequent statements following the Leaders' Summits, gradually expanding their thematic scope. At the same time, the issue of climate change is often considered not independently, but in the context of the socio-economic well-being of citizens, food security, and the fight against hunger and poverty. Starting from mentioning climate change as a global challenge to sustainable development, over the 13 years the declarations have been moving to more detailed statements, focusing in different years on technology transfer, climate finance, energy efficiency, renewable energy, nuclear and hydropower, and natural gas.

Climate change issues are specifically reflected in the **Strategy for BRICS Economic Partnership 2025**, being one of the points of implementation of the sustainable development agenda along with energy, infrastructure development and food security¹⁹².

Among the steps to address climate change are the following:

- *development of technologies* that reduce greenhouse gas emissions into the atmosphere and minimise anthropogenic impact on the climate, expanding the use of low-carbon technologies.
- *mobilising finance*. Stimulate investments and projects to support adaptation programmes, reduce emissions and increase greenhouse gas uptake; use the potential of the New Development Bank and climate finance under the UNFCCC and Paris Agreement mechanisms. At the BRICS Summit in 2023, experts noted that financing climate or adaptation projects in the BRICS area will require US\$6-8 trillion of investment per year, the structure of which can largely be formed through the implementation of joint cross-border projects and the development of cooperation¹⁹³.
- *introduction of the principles of the circular economy*. Cooperation in the field of waste management, more sustainable production, and consumption patterns. Earlier,

¹⁹¹ The CBDR principle is occasionally mentioned in declarations together with the principles of equity and respective capabilities. See, for example, the 2012 BRICS Leaders' Joint Statement.

¹⁹² BRICS Economic Partnership Strategy up to 2025 (2020). URL: <https://brics-russia2020.ru/images/114/81/1148133.pdf> (accessed: 02.08.2024).

¹⁹³ The VEB said that financing BRICS climate projects will require US\$8 trillion a year // Press Release by Senior Banker VEB.RF (2023). URL: <https://tass.ru/ekonomika/18568479> (accessed: 02.08.2024).

the promotion of circular economy principles in the sphere of resource consumption and material production was on the BRICS agenda in terms of emissions, now it is already being discussed in terms of waste management, economic efficiency and respect for natural resources¹⁹⁴.

- *risk management of climate change-related hazards*. Raising public awareness, cooperation in prevention and reduction of natural and man-made disasters and mitigation of their consequences.

For the first time, climate change as a key topic of an official event was introduced in 2022 in the format of the **BRICS High-level Meeting on Climate Change**, chaired by the Minister of Ecology and Environment of China.

As a result, a joint statement was adopted, where participants reaffirmed their intention to strengthen and expand areas of climate cooperation¹⁹⁵. In particular, to ensure collaboration in various areas, including clean energy, low-carbon technologies, carbon market and climate change adaptation; promote research on low-carbon green growth, technological cooperation, and joint projects.

The statement emphasises that developed countries should "take the lead in scaling up mitigation actions, raising ambition and providing climate finance, and respect the right to development and policy space of developing countries and countries in transition"¹⁹⁶.

In August 2023, at the 13th Meeting of BRICS Ministers of Economy and Foreign Trade, the Russian initiative to create a new institutional structure - the BRICS Contact Group on Climate Change and Sustainable Development "to share best practices in the field of low-carbon development, promote ESG agenda and responsible consumption models in the BRICS countries"¹⁹⁷ was presented. The Contact Group was established under the Russian Chairmanship in 2024.

The 2023 Leaders' Declaration was unprecedented in terms of the scope of the climate agenda. Instead of the 2-3 paragraphs typical for previous declarations, the 2023 Declaration included 12 paragraphs, in one way or another related to climate change. The quote from the Paris Agreement, which has become traditional since 2015, is about "the principle of common but differentiated responsibilities and respective capabilities, taking into account different national circumstances ... and the provision of financial, technical and technological support and

¹⁹⁴ From Linear to Circular: Pathways for Sustainable Lifestyles // G20 India. URL: <https://t20ind.org/research/from-linear-to-circular-pathways-for-sustainable-lifestyles/> (accessed: 02.08.2024).

¹⁹⁵ Joint Statement issued at the BRICS High-level Meeting on Climate Change. URL: http://brics2022.mfa.gov.cn/eng/hywj/ODMM/202205/t20220529_10694182.html (accessed: 02.08.2024).

¹⁹⁶ Joint Statement issued at the BRICS High-level Meeting on Climate Change, 2022. URL: http://brics2022.mfa.gov.cn/eng/hywj/ODMM/202205/t20220529_10694182.html#:~:text=We%20oppose%20the%20politicization%20of,of%20the%20concerned%20countries%20to (accessed: 02.08.2024).

¹⁹⁷ See the press release of the Ministry of Economic Development on the results of the meeting.

capacity-building assistance to developing States to help mitigate and adapt to climate change" has been supplemented with specific numbers and timelines, as well as a number of clarifying definitions¹⁹⁸.

Overall, this statement has reflected as closely as possible the dynamics and content of the discussion within the UNFCCC, focusing on those provisions of the decisions of the UNFCCC Conferences that are most relevant to developing countries. (see Section 2.1. for more details).

An analysis of the BRICS leaders' statements (see Annexes 1 and 2) has shown that, despite the BRICS leaders' conservatism on climate issues, their references to climate issues are increasing every year, especially in connection with the adoption of the Paris Agreement and the 26th Conference of the Parties to the UNFCCC in Glasgow. The declarations systematically included statements of commitment to the implementation of the UNFCCC and adherence to the CBDR principle.

2.2.2. Energy Development and Combating Climate Change

The BRICS members traditionally avoid emphasizing the negative impact of fossil fuel extraction and the use of "dirty" energy on the climate, as, for example, the G7 leaders do. However, the development of renewable energy sources is not directly linked to climate change. In the main BRICS outcome documents, the sections on climate and energy are generally not linked. In each of these tracks, economic development and human well-being are prioritised, and anything that contributes to it is recognised as right and beneficial.

The BRICS countries have consistently advocated for universal energy access, stating that energy from fossil fuels will continue to be a significant component of the global energy mix¹⁹⁹. In the Delhi Declaration, the leaders reaffirmed their commitment to multilateral energy co-operation within the BRICS framework²⁰⁰, and the document for the first time explicitly emphasises the need for energy security, which plays a key role in ensuring economic development.

The annual **Meetings of BRICS Ministers of Energy** also discuss the development of energy co-operation. Joint statements note the importance of improving energy efficiency, modernising infrastructure, large-scale introduction of renewable energy sources and the need for more efficient and flexible use of traditional fuels. These topics are identified as the main areas of work for the future, which will include the development of new low-carbon technologies,

¹⁹⁸ XV BRICS Summit - Johannesburg Declaration, 2023. URL: <https://ocds-brics.org/wp-content/uploads/2023/08/doc-20230825-wa0119.pdf> (accessed: 02.08.2024).

¹⁹⁹ «Energy based on fossil fuels will continue to dominate the energy mix for the foreseeable future.». See BRICS Leaders' Joint Statement, para. 39. (2012).

²⁰⁰ BRICS Leaders' Joint Statement (2012) // Kremlin. URL: <http://www.kremlin.ru/supplement/1189> (accessed: 02.08.2024).

the use of natural gas as an affordable source of energy in energy systems, and the strengthening of energy security through nuclear power²⁰¹.

The analysis showed that BRICS energy ministers hardly ever use the term "climate change", limiting themselves to the objectives of green and low-carbon energy transition. At the same time, while expressing support for international co-operation in the field of environmental protection and climate change, the BRICS energy ministers in 2020 noted the inadmissibility of "using the climate agenda to maintain inequality, unfair competition, discriminatory practices and erecting barriers to energy trade and investment"²⁰².

The 2021 meeting statement ahead of the Glasgow Conference for the first time explicitly recognises the energy-climate nexus: "We fully recognise the energy-climate nexus and the importance of reducing greenhouse gas emissions to mitigate climate change, and the need for the energy sector to adapt to climate change as called for in the Paris Agreement"²⁰³. The special role of bioenergy in facilitating energy transition, including hard-to-abate sectors, was also highlighted.

In order to strengthen cooperation in the field of energy efficiency, **the Working Group on Energy Saving and Energy Efficiency** functions to promote joint research and technology projects, capacity building and technology transfer, exchange of experience, and encourage the use of energy efficient and energy saving approaches and tools in the activities of economic entities of the BRICS countries²⁰⁴.

One of the outcomes of the work was the **Roadmap for BRICS Energy Cooperation up to 2025**, according to which it is necessary to jointly analyse the development of the global and national energy sector, develop scenarios for the evolution of the global energy landscape and assess the best practices of cooperation within BRICS in the field of energy, form mechanisms to promote joint projects, facilitate mutual trade in energy-related goods, etc.²⁰⁵ Energy efficiency is seen as "a powerful tool for increasing productivity, economic growth and reducing emissions".

²⁰¹ BRICS Energy Ministers' Communiqué (2019) // Ministry of Energy of Russia. URL: <https://minenergo.gov.ru/system/download/18365/120785> (accessed: 02.08.2024).

²⁰² BRICS Energy Ministers' Communiqué (2020) // BRICS Russia 2020. URL: <https://brics-russia2020.ru/images/85/29/852958.pdf> (accessed: 02.08.2024).

²⁰³ BRICS Energy Ministers' Communiqué (2021) // BRICS 2021. URL: <https://brics2021.gov.in/brics/public/uploads/docpdf/getdocu-38.pdf> (accessed: 02.08.2024).

²⁰⁴ Working Group on Energy Saving and Energy Efficiency Improvement. Memorandum of co-operation // Ministry of Energy of the Russian Federation. URL: <https://minenergo.gov.ru/system/download/18369/120834> (accessed: 02.08.2024).

²⁰⁵ Road Map for BRICS Energy Cooperation up to 2025 // BRICS Russia 2020. URL: <https://brics-russia2020.ru/images/85/29/852976.pdf> (accessed: 02.08.2024).

The BRICS countries emphasise that the energy transition should be tailored to national specificities and each country should be able to determine its own optimal policies, rather than using any imposed models that are not suitable for the BRICS countries²⁰⁶.

In accordance with the decision of the BRICS Energy Ministers, the **BRICS Energy Research Platform**²⁰⁷ was launched in 2019. Since 2020, studies on various aspects of the BRICS energy sector have been published regularly. The flagship product of the platform is the BRICS Energy Review. In 2022, studies on the development of renewable energy technologies and smart grids (Renewable Energy Report and Smart Grid Report) were also released.

Energy reports include, besides others, a review of country's climate measures and the implementation of the NDC²⁰⁸. It is noted that "energy consumption is linked to the challenges of climate change and in this regard, BRICS acts as a thought leader offering potential and pragmatic solutions."

In conclusions of a comparative analysis of the energy sector of the BRICS countries in the 2021 report, the experts note common goals and challenges to achieve them, including the development of renewable energy and low-carbon energy, as well as the transition to a low-emission economy.

2.2.3. Environmental Protection and Combating Climate Change

Climate change issues are on the agenda of the **BRICS Environment Ministers Meetings**. During the first meeting in 2015, the development of a green economy as well as the reduction of greenhouse gas emissions into the atmosphere were actively discussed. The range of issues at the Ministerial Meetings focuses, among others, on ensuring a holistic approach to climate change, including mitigation, adaptation, financing, technology transfer and capacity building, as well as promoting harmonious coexistence between humans and nature²⁰⁹. Issues under consideration also include climate finance commitments by developed countries and climate policy instruments such as unilateral carbon border adjustment mechanisms.

In 2016, the **Environment Working Group** was launched to institutionalise common issues on the environmental agenda, including waste management, climate change, air and water pollution, and biodiversity conservation.

²⁰⁶ Energy Ministers highlight' major role of the BRICS countries in the global energy system // BRICS Russia 2020. URL: <https://eng.brics-russia2020.ru/news/20201016/874938/Energy-Ministers-highlight-major-role-of-the-BRICS-countries-in-the-global-energy-system.html> (accessed: 02.08.2024).

²⁰⁷ From 2022, the Ministry of Energy of Russia fulfils the functions of the Russian Secretariat and coordinates the preparation of research products.

²⁰⁸ See BRICS Energy Outlook 2021 // InvestIndia. URL: <https://static.investindia.gov.in/s3fs-public/2021-09/BRICS%20Energy%20Report%202021.pdf> (accessed: 02.08.2024).

²⁰⁹ New Delhi Statement on Environment 7th Meeting of BRICS Environment Ministers (2021) // BRICS. URL: <http://www.brics.utoronto.ca/docs/210827-environment.pdf> (accessed: 02.08.2024).

The legal framework for the BRICS countries' cooperation on environmental issues is enshrined in **the Memorandum of Understanding on Environmental Cooperation**. The signing of the Memorandum in 2018 was an important step in strengthening environmental cooperation among the BRICS countries in a number of specific areas, such as air quality, water resources, biodiversity, climate change and adaptation to climate change, and implementation of the sustainable development agenda.

The BRICS Environment Track includes the **BRICS Environmentally Sound Technology Platform (BEST)**, which was established to share the best environmental practices among the BRICS countries with the participation of public and private stakeholders.

2.2.4. Financial and Technological Assistance and Combating Climate Change

Developing and elaborating on the principle of common but differentiated responsibilities, the BRICS countries, year after year, remind developed countries of their commitment to provide financial assistance. In 2023, in addition to statements on the need to protect, promote and strengthen multilateral responses to climate change, on the failure of developed countries to fulfil their pledge to mobilise US\$100 billion by 2020 and annually up to 2025, the BRICS countries have identified that there is a need for integrated financial mechanisms to address the loss and damage, caused by climate change, and to double financing for adaptation²¹⁰.

The BRICS leaders called for improved financial mechanisms to support the implementation of environmental and climate change programmes, as well as to accelerate the pace of reform of multilateral development banks and international financial institutions.

2.2.5. Activities of the New Development Bank

The New Development Bank, established in 2015 by the BRICS countries, finances projects, including those related to the environment, energy efficiency, and infrastructure development within the framework of the association. Thus, in April 2016, the Bank approved the first batch of four projects totalling US\$811 million to support renewable energy projects in the BRICS countries²¹¹. Another example is the financing of a Russian project for the development of the renewable energy sector²¹² for about US\$300 million through the Eurasian Development Bank. The investment in the form of a two-stage loan provided by the Eurasian Development Bank is intended for the development of solar, wind and hydropower in Russia during 2019-2024.

²¹⁰ Joint statement of the ninth (9th) BRICS Environment Ministers Meeting. Department of Forestry, Fisheries and the Environment Republic of South Africa. URL: https://www.dffe.gov.za/mediarelease/ninth.bircs_environmentministersmeeting (accessed: 02.08.2024).

²¹¹ NDB will Launch its First Green Financial Bond in China. Alexey Kosarev // NDB. URL: <https://www.ndb.int/news/ndb-will-launch-first-green-financial-bond-china/> (accessed: 02.08.2024).

²¹² Development of Renewable Energy Sector in Russia Project // NDB. URL: <https://www.ndb.int/project/russia-development-renewable-energy-sector-russia-project/#tabbed-standard> (accessed: 02.08.2024).

The NDB has already approved 96 projects totalling US\$32.8 billion, of which US\$4 billion has been sent to Russia²¹³. However, considering the growing uncertainty and restrictions, the New Development Bank suspended new transactions to Russia in 2022²¹⁴.

In 2020, the Bank published a Sustainable Finance Policy Framework governing the issuance of environmental, social, and sustainable debt instruments²¹⁵ with the intention of issuing green, social and sustainable bonds and other debt instruments and using the proceeds to finance and refinance, in whole or in part, existing and future projects and loans that support the transition to a low-carbon economy. The document contains requirements for seven green (clean transport, energy efficient buildings, energy efficiency, renewable energy, sustainable land use and biodiversity, sustainable waste, and water management) and four social (basic sustainable infrastructure, education, health and well-being, social housing) areas²¹⁶. The NBR issued its first green bonds in April 2023²¹⁷.

Sustainable infrastructure development is the focus of the New Development Bank's 2017-2021 General Strategy and one of the means to fulfil the Bank's core mandate. The Bank aims to help countries achieve the UN 2030 Sustainable Development Goals as well as the goals of the Paris Agreement.

The New Development Bank's main objective is to mobilise resources for infrastructure and sustainable development projects in BRICS and other emerging market and developing countries, while the Bank's priority is also to diversify its geographical representation. In addition to the Bank's founding countries, Bangladesh, and the UAE have become members since 2021, and Egypt has joined from 2023²¹⁸.

²¹³ New Development Bank – Projects // NDB. URL: <https://www.ndb.int/projects/> (accessed: 02.08.2024).

²¹⁴ A Statement by the New Development Bank // NDB. URL: <https://www.ndb.int/news/a-statement-by-the-new-development-bank/> (accessed: 02.08.2024).

²¹⁵ New Development Bank Sustainable Financing Policy Framework governing the issuances of green/social/sustainability debt instruments // NDB. URL: https://www.ndb.int/wp-content/uploads/2020/05/2020_FC22_AI13_018_b-NDB-Sustainable-Financing-Policy-Framework.pdf (accessed: 02.08.2024).

²¹⁶ Overview of the New Development Bank Sustainable Financing Policy Framework // Sustainlytics. URL: <https://www.ndb.int/wp-content/uploads/2023/02/SPO-Sustainlytics.pdf> (accessed: 02.08.2024).

²¹⁷ 2023 USD Green Bond // NDB. URL: <https://www.ndb.int/borrowings/2023-usd-green-bond/> (accessed: 02.08.2024).

²¹⁸ New Development Bank – Members // NDB. URL: <https://www.ndb.int/about-ndb/members/> (accessed: 02.08.2024).

3. The Prospects of Russia's Cooperation with BRICS Countries

The presidency of 2024 presents Russia with unique opportunities to advance its own agenda within BRICS, including a significant expansion of cooperation on climate change. In this realm, Russia could propose the following priorities and trajectories:

The adoption of common principles for combating climate change. This step would strengthen the role of BRICS as a club of countries with shared vision within international climate politics, draw their positions closer on multilateral negotiation platforms, and help unify the narratives applied by the member states. In addition to the already established principles of synchronizing the fight against climate change with other sustainable development goals (SDGs), technological neutrality, and preventing protectionism based on green policies, it is also important to promote the need for dialogue between exporters and importers of hydrocarbons and carbon-intensive products, the consumption- along with production-based emissions accounting, and the positioning of BRICS as a group of countries that are working out new models of economic growth compatible with addressing the climate change issue.

The establishment of a climate partnership in the field of information exchange and expertise. The establishment of such a partnership, resemblant to IEA or OECD in the West, would facilitate the accumulation and comparability of climate and energy statistical data, the dissemination of information on existing climate policy tools in the BRICS, the development of an independent scenario database which could further inform international academic discourse, and the advancement of joint expertise and analytical support for policy decision-making in both mitigation and adaptation.

Consumption-based emissions accounting and the promotion of this approach. The five BRICS countries are global leaders in "exporting" emissions embedded in traded goods. Accounting consumption-based emissions, as an addition to production-based ones, could assist in: 1) internationally raising the issue of the distribution of responsibility for global emissions between exporters and importers of carbon-intensive goods; 2) formulating the BRICS response to the problem of carbon leakage and related use of border carbon adjustment mechanisms by Western countries'; 3) implementing a broader range of decarbonization tools, including demand-side instruments, which would address climate change and inequality simultaneously.

The creation of a common infrastructure for green development, aimed at facilitating cross-border cooperation, which, *inter alia*, could include the transfer of offsets and climate finance. Given Russia's exclusion from Western carbon regulation infrastructure, the creation of a similar infrastructure (or elements thereof) at the BRICS level is an important step in the direction towards mitigating transition risks for Russian companies. Through the certification of Russian climate projects' results by verifiers and validators that operate in other BRICS countries (i.e., those that adhere to international standards and are recognized globally), it becomes

possible to gain recognition of national climate policy measures in the eyes of Russia's consumers.

3.1. The Adoption of Common Principles for Combating Climate Change

One of the key steps in fostering BRICS countries' cooperation could be the adoption of a document that consolidates their shared principles regarding international climate politics. Such a document could represent a continuity from the Johannesburg II Declaration, which laid the foundation for climate change cooperation. While the mention of climate change and joint positions on them should undoubtedly be an integral part of the leaders' declarations, a separate document is no less relevant in light of the growing salience of climate change for international relations and for each BRICS country, including their economies, politics, security, and positions in international trade. The document could outline both principles and initiatives for further BRICS cooperation in climate change. The key principles that could be highlighted may include the following:

- *Synchronizing the fight against climate change with other SDGs.* Decarbonization policies should not contradict the achievement of other SDGs, especially SDGs 1, 7, 8, and 10, which focus on eradicating poverty, addressing inequality, ensuring economic growth, and providing affordable energy. Global green transformation is currently tending to exacerbate global inequality, driven by insufficient climate finance and simultaneous pressure from developed economies on developing ones to take more ambitious climate action. At the same time, the developing countries' priorities remain in addressing numerous socio-economic challenges and ensuring stable growth along with providing for green development. If the latter is pursued at the expense of these former public interests, solely to comply with the global trend towards low-carbon development, and if adequate financial and technological support is still lacking, poverty and inequality are likely to only deepen in the foreseeable future. BRICS countries have repeatedly emphasized this issue in their leaders' declarations, which highlights the importance of addressing it in the proposed document.
- *Technological neutrality.* BRICS countries are united in the approach that the energy transition and green transformation should be carried out with application of all available solutions and technologies, while discrimination against or non-recognition of some of them at the international level are unacceptable. Such discrimination may occur at the level of green taxonomies, standards, and carbon regulation implementation frameworks, where certain technologies or decarbonization methods are not recognized as valid. For instance, not all countries recognize large hydropower plants, nuclear energy, or the role of ecosystems in carbon sequestration as legitimate climate change mitigation strategies. Conventional energy projects may not be recognized as green, even if they reduce GHG

emissions. Carbon sinks may not be recognized in every regulatory system. BRICS countries can demonstrate their commitment to the principle of technological neutrality, which is in full accord with their interests.

- *The unacceptability of protectionism under the cover of green policies.* The opposition to barriers in international trade imposed under the excuse of climate change mitigation has already been reflected in the past BRICS leaders' declarations. All BRICS countries export carbon-intensive goods and are thus susceptible to the negative effects of the European CBAM, as well as potentially – of other mechanisms of the same kind that might emerge in other jurisdictions in the future.

The three pillars listed above do, in principle, already constitute a common denominator among the BRICS countries. However, we can also outline a number of additional principles that can be added to this list:

- *The dialogue between exporters and importers of hydrocarbons.* In international climate politics, hydrocarbon importers and exporters have traditionally been considered opponents, with the former advancing climate change mitigation and the latter seeking to decelerate its speed. BRICS is now a unique grouping of several major fossil fuel exporters and importers whose dialogue and policy coordination on climate change can help lighten the tensions between these two groups globally. What unites them is that both the exporters (Russia, Saudi Arabia, UAE, South Africa) and the world's largest importers (China and India) oppose total rejection of fossil fuels, believing that addressing GHG emissions is not necessarily equal to addressing fossil fuels *per se*. Dialogue between fossil fuel exporters and importers is a necessity for a gradual energy transition that will not undermine the competitiveness of some states (the exporters) and will not induce price volatility and additional uncertainty therefrom for others.
- *The dialogue between exporters and importers of carbon-intensive goods and consumption-based emissions accounting along with production-based accounting.* The modern geographical distribution of GHG emissions is largely the result of the international division of labour. Globalization has led to a relatively small group of states (4 of the 5 BRICS founding members - except Brazil, - among them) specializing in producing carbon-intensive goods for the rest of world. Accusing them of their high emissions means ignoring the linkages that arise from international trade and globalization, as well as the role of demand for a commodity as a source of its supply and, accordingly, embedded emissions. Within this dialogue, the BRICS countries could introduce consumption-based emissions accounting along with conventional production-based accounting. Such an approach would demonstrate that the burden of climate change responsibility of developing countries is significantly overstated, given that developed countries create demand for carbon-intensive commodities and in some cases

reduce their emissions without cutting consumption, increasing imports of carbon-intensive products for which they are “formally” not responsible. Accordingly, consumption-based emissions accounting is aimed at promoting greater equity in international climate politics by providing an alternative perspective on the geographical distribution of GHG emissions around the world, as well as on the problem of carbon leakage, which may also strengthen the BRICS countries’ arguments against countering carbon border adjustments.

3.2. Climate Partnership in the Field of Information Exchange and Expertise

Another important area of cooperation between the BRICS countries on climate change could lie in information exchange and expertise. The first step is marked by the establishment of the BRICS Climate Research Platform, which, after a certain time period, can be followed by the creation of a full-fledged center for research and expertise on its basis. Such a center would aggregate and analyze data on climate change, green economic transformation and energy transition. At the same time, it would be advisable to raise international awareness of each BRICS country’s climate action by means of aggregating information on them within a single information platform.

The BRICS’ position in international climate and energy politics can be strengthened through the establishment of an independent system for collecting, publishing and analyzing statistical information. At present, the realm of providing information and expertise on energy and climate at the international level is dominated by the International Energy Agency, the Organization for Economic Cooperation and Development and other Western-centric institutions. The information and ideas they spread (including scenarios of low-carbon development and the required technologies and finance, the specifics of green transformation in different countries and all supporting data, etc.) are considered reliable and are applied both in academic research and political decision-making. Given the need to strengthen the BRICS’ position in international climate politics, creating the forum’s own independent system for collecting and publishing statistical information and analytics on climate and energy would be an important supporting element. Such a system could both strengthen academic and expert cooperation among the BRICS countries and solidify and communicate their approach to various aspects of climate and energy transition at the international level. It could also serve as an analytical basis for decision-making in each of the BRICS countries, which could then rely on the best available data.

The first step towards the systemic development of cooperation on climate information and expertise within the BRICS has already been taken under the Russian Chairmanship with the proposal to create the Climate Research Platform. Its organizational specifics are not yet clear; regardless, the research that will be carried out within it in the following years might serve as a good starting point for the creation of a full-fledged research center in the future. The latter

should have a permanent status and staff, be managed by rotating chairmanship, maintain its own databases, and develop modeling tools. With this basis, it could start engaging in research of a strategic nature that will help the BRICS countries to be better prepared for the challenges they might face in the future.

The EU's CBAM has provided an important example of why such research is necessary. While European think tanks have the capacities to assess the effects this mechanism comprehensively and comparably will have on all EU countries as well as their foreign trade counterparts, the BRICS countries conduct assessments of its effects on their economies individually and often with different methods, which does not contribute to any comparability between them. This undoubtedly complicates any collective efforts to counter CBAM.

There are several key areas to which the proposed Climate Partnership Research Center could contribute. Some of these can already begin to be considered and worked through within the framework of the BRICS Climate Research Platform:

- Creating a database containing BRICS countries' climate change indicators. At present, there is even no unambiguously comparable data on GHG emissions (including LULUCF) in the BRICS countries. Data on energy mixes and various low-carbon technologies are usually provided only by Western-centric international organizations such as the IEA. This both weakens the BRICS' position within climate change negotiations and reduces the validity of policy measures they adopt from a scientific viewpoint.
- Developing BRICS' own scenarios on decarbonization in the world. Such scenarios are necessary both for states to elaborate long-term plans and strategies for decarbonization and development of carbon-intensive industries, and for businesses to assess climate-related risks. At present, the IEA is the key source of scenario analyses regarding the global way to net zero. However, its scenarios are not sufficiently detailed for the BRICS countries, and, moreover, are based on the data collected by Western countries and emanate from their interests, as well as economic and political. The BRICS need their own alternative. This will undoubtedly be used by other countries of the Global South in the future.
- Developing a common analytical foundation for climate change adaptation. For example, the developing world urgently requires a harmonized set of indicators to track progress on adaptation. Such work is underway within the UNFCCC framework, with COP 28 having launched a two-year working program to develop a set of indicators for the Global Goal on Adaptation. The BRICS countries' contributions could prove useful not only as tools for assessing adaptation policies in these countries themselves, but also as an input to the global debate on what exactly adaptation is and how countries' efforts in this area can be tracked and measured.

- Developing BRICS' own approaches towards carbon pricing. For example, the Center could evaluate the real price burden of GHG emissions in the BRICS countries, taking into account the full toolpack of climate and energy policies (not only a carbon price *per se*, but also energy taxes, subsidies for low-carbon technologies, and fossil fuel subsidies). Such effort could lead to derive a carbon price that would be economically effective for the BRICS countries and to initiate further policy discussions on cost-effective emission reduction measures. It would also be instrumental in informing the political positions of the BRICS countries during discussions on a global carbon price or other measures of a similar kind that will undoubtedly arise in the future.
- Developing a common methodology to account consumption-based emissions and publishing annual reports with resulting data and conclusions (for more details, see Ch. 3.3).
- Monitoring the BRICS countries' climate action and publishing an annual review on the issue. The purpose is not only to inform (which, however, is important in itself), but also to systematize – i. e., to provide a complete and demonstrative picture of climate policies in each member state, which is crucial to select the best practices and promoting the BRICS' approaches to climate change regulation in developing countries.

3.3. Consumption-Based Emissions Accounting

One of the areas the Research Center could undertake may be consumption-based emissions accounting. The framework provided by international agreements, be it the Kyoto Protocol or the Paris Agreement, takes into account territorial emissions, or production-based emissions. Their difference from consumption-based emissions is determined by international trade. An increase in consumption of carbon-intensive goods in a country may not necessarily be accompanied by an increase in its territorial emissions, but at the same time contribute to their growth in other countries which supply these goods. Much of the Western countries' success in cutting emissions over recent decades can be attributed to the substitution of local carbon-intensive goods by imported ones - mainly from the BRICS countries. In practice, this is reflected in the BRICS countries' production-based emissions being significantly higher than consumption-based ones, while in the OECD countries the situation is reversed.

Five of the group's members (China, Russia, India, South Africa, and Iran) are the five world leaders in terms of emissions exports. In all of them, a significant share of emissions are attributed to production of goods that are exported. Moreover, if land use emissions are included into accounting, it is likely that Brazil, with its huge agricultural exports, will also emerge among this leaders' list.

Table 4. Fossil Production- and Consumption-Based Emissions by Country in OECD and BRICS, 2021, Mt CO₂

Country	Production-based emissions	Consumption-based emissions	Emissions export	Emissions export, % of production-based emissions	Country	Production-based emissions	Consumption-based emissions	Emissions export	Emissions export, % of production-based emissions
USA	5040,5	5581,3	-540,8	-10,7%	Brazil	498,0	463,0	35,0	7,0%
Japan	1063,9	1226,9	-163,1	-15,3%	Russia	1714,8	1362,0	352,8	20,6%
Germany	679,9	831,9	-152,0	-22,3%	India	2678,6	2451,7	226,9	8,5%
France	307,3	416,5	-109,2	-35,5%	China	11354,8	10337,0	1017,8	9,0%
Italy	337,8	434,2	-96,4	-28,5%	South Africa	426,3	298,2	128,1	30,1%
United Kingdom	348,0	514,2	-166,2	-47,8%	Egypt	247,3	265,7	-18,4	-7,4%
Canada	538,1	502,8	35,2	6,5%	Ethiopia	19,0	22,7	-3,7	-19,7%
Australia	387,2	338,9	48,4	12,5%	Iran	689,2	620,0	69,2	10,0%
Netherlands	140,1	164,5	-24,3	-17,4%	Saudi Arabia	632,5	623,1	9,4	1,5%
Spain	230,7	272,6	-42,0	-18,2%	UAE	237,6	241,6	-3,9	-1,6%
Republic of Korea	617,1	690,38	-73,2	-11,9%					
Sweden	38,6	68,3	-29,7	-76,9%					
Switzerland	35,9	118,9	-83,0	-231,6%					
Poland	331,6	318,1	13,6	4,1%					
Turkey	453,4	422,7	30,8	6,8%					
Mexico	469,6	507,1	-37,5	-8,0%					
Other OECD	800,6	1056,0	-255,3	-31,9%	BRICS-5	16672,54	14911,9	1760,6	10,6%
Total OECD	11820,2	13465,0	-1644,8	-13,9%	Total BRICS	18498,1	16685,0	1813,1	9,8%

Source: authors' calculations based on Global Carbon Project data (Friedlingstein et al. 2023)

In contrast, the consumption-based emissions approach allows to account emissions of goods consumed in a given country, wherever they have been emitted in reality. Under such an accounting system, a significant part of the BRICS' production-based emissions transforms into Western countries' consumption-based emissions. This arises more general questions about responsibility for emissions from the production of internationally traded goods (who should be

responsible for them – exporters or importers?). It also provides incentives to reconsider carbon border adjustments, which are becoming a new trend in international trade regulation (already introduced in the EU and the UK) and which the BRICS countries vigorously oppose. However, there is also another which is even more significant for the BRICS: focusing on consumption-based emissions creates a different system of incentives and targets for the member states themselves. It allows them to focus on the root cause of rising emissions - growing consumption - instead of secondary aspects of the issue (such as localization of carbon-intensive industries).

In practical terms, adopting consumption-based emissions accounting provides the BRICS countries with a broader toolkit of climate policy instruments that can be more suitable to their national circumstances rather than those that arise from conventional production-based emissions accounting.

First, in addition to the already-traditional focus on supply-side solutions (coal phase-out, development of renewables), consumption-based emissions accounting ensues the possibility for extensive adoption of demand-side emission reduction instruments concerning consumer behavior, lifestyle, infrastructure, and services. These challenge the consumption patterns which are already established in the West, which is why they have never become widespread there. But it is these policies that lie at the basis of the new development patterns that the BRICS countries now need. India has already found its path to the latter through the LiFE initiative aimed at forming sustainable consumption patterns, promoted by Narendra Modi himself. Demand-side emission reduction is of no lesser relevance for China given its choosing domestic consumption as a new driver of growth, as well as its promoting large-scale infrastructure development within the Belt and Road Initiative.

Second, transition to consumption-based emissions accounting provides the BRICS with an opportunity to adopt fiscally progressive climate policies. While conventional carbon pricing that exists in developed countries places all the main burden on the poorer population (since they spend a large share of their income on basic energy-intensive goods), the focus on consumption-based emissions and demand-side climate policies allows states to transit to other instruments aimed specifically at addressing overconsumption by the richest. In other words, a carbon tax can be transformed into a tax on carbon-intensive goods consumption. Such a tax can easily be made progressive from the beginning (for example, by imposing a higher “carbon” tax on luxury goods or exempting from it some basic services provided to the poorest households). This can remove the tensions between emissions reduction and fighting poverty and inequality, as well as pave the way for the BRICS countries to make the path to net zero inclusive.

Moving towards the consumption-based emissions accounting approach is not easy. It is more of a paradigm shift and requires strong political will. The conventional approaches are backed by a nearly thirty-year history of climate change regime, which, however, has brought

mostly disappointments as of yet. The BRICS have always been advocating for a global governance system that would be more sensitive to their interests and circumstances. However, it is crucial to make a step away from criticizing Western-centric institutions towards formulating original approaches and specific mechanisms that reflect these aspirations. Consumption-based emissions accounting is one of them.

3.4. Common Green Development Infrastructure and Carbon Markets

Finally, one of the most significant themes which Russia can promote within the framework of its BRICS chairmanship is the creation of a common infrastructure for green development and finance. Given that currently Russia's efforts in climate action – namely, climate projects and the resulting carbon credits – are not recognized internationally, it is of high importance to attempt to change the situation with partner countries. With the scale of the BRICS' economies, if they recognize Russian companies' efforts, it will instantly mean near-universal acknowledgement.

Voluntary carbon markets infrastructure includes methodologies for their implementation, a carbon registry, validation, and verification mechanisms. The ultimate goal of cooperation here should be to facilitate transboundary movements of carbon assets if the BRICS' governments and businesses are interested. Mutual recognition of methodologies for voluntary carbon markets and the creation of a common pool of companies that provide verification and validation services will allow the BRICS countries to move a step closer towards a "common voluntary carbon market". The latter promises mutual recognition of carbon credits - i.e., an agreement that carbon offsets will be recognized and can be realized on any of the 10 countries' territory. This also highlights the need to create incentives for BRICS companies to acquire carbon credits in other jurisdictions, at least to cover their voluntary emission reduction commitments; in the long term the goal is to use these to offset obligations under mandatory mechanisms as well.

The establishment of a BRICS green taxonomy (or mutual recognition of each other's taxonomies) would pave the way to a convergence of approaches to identifying specific mitigation and adaptation policies in the BRICS countries. It is particularly important for such a taxonomy to comprise (possibly in a separate category of transition projects) projects in hard-to-abate sectors (including metals, petrochemistry, fertilizer production, etc.). Developing common standards for low-carbon goods (e.g. metals) and certifying them would also be instrumental in supporting businesses' decarbonization efforts.

It is also promising to develop a green business ranking and converge approaches to corporate climate reporting and disclosure standards. Creating such a rating that would comprehensively evaluate businesses' green policies or their ESG indicators would be important in terms of convergence of green development infrastructure in the BRICS. This would raise the awareness of BRICS investors and help them make more informed decisions on cooperation with

certain companies, as well as pose as an alternative to similar Western ratings, where business would be evaluated outside of the political context. Common approaches to which climate-related information companies should disclose in their reporting are also critical to incentivize transboundary movement of carbon credits.

Conclusion

Climate-related risks, both physical and transitional, will have a significant impact on the BRICS countries' social development and economic growth. At the same time, climate change cooperation within the grouping still lags behind even the level of domestic regulation in the individual member states. The ability of the BRICS countries to effectively implement climate change mitigation and adaptation and maintain economic growth both individually and as an association of leading developing countries will be one of the determining factors for their position in international politics.

Climate policy analysis in this report has demonstrated its rapid but uneven development. The limited mitigation ambition in most countries, reflected in relatively lenient national emission reduction targets, indicates that the BRICS countries have not yet been able to encounter sufficiently effective decarbonization policies that would not only reduce GHG emissions, but also address urgent socio-economic challenges at the same time. Nevertheless, they continue their attempts to discover such a toolkit. In some cases, reliance on clean energy is driven by natural competitive advantages, like in Brazil, while other countries, most notably China, are seeking to turn renewables- and sustainable transport-related products and technologies into their competitive advantage on the global arena.

An important common feature of BRICS climate policies are their experiments with carbon pricing, which are, however, at very different stages of development. In any case, it is the very fact of setting a price for carbon emissions, be it a full-fledged emissions trading system or a relatively small offset mechanism, that appears to be perceived as an obvious way of making mitigation economically feasible and attracting finance, including international investment, into decarbonization projects.

The BRICS countries, especially with the group's expansion, share a set of common principles on key issues of international climate politics that reflect the priorities of developing countries. These priorities revolve around attracting new and additional finance for mitigation and adaptation, as well as preserving the widest possible range of options in terms of the scale, pace and toolkit of decarbonization.

The extremely limited climate change cooperation within the BRICS is thus all the less understandable. It can be partly attributed to many of the member states having distinguished climate as a sphere of public administration independent from environment and energy only a short time ago. Given the recent developments and the growing interest to the area both in BRICS countries and the international community as a whole, a sufficiently rapid development BRICS climate change cooperation can well be expected.

This report (see Section 3) presents recommendations to promote such an advancement during Russia's 2024 BRICS presidency. If the group aspires to assume leadership among developing countries, they will need to formulate a clear and original vision of their climate policy priorities both at national and global levels. This vision should revolve around the unequivocal recognition that the green transformation of economies and societies is one of the imperatives of the coming decades and offer reasonable, effective, and attractive solutions.

Given the BRICS countries' size, population, rapid economic growth, and role in the international community, it is them who will largely determine the future of climate change. They have the opportunity to give an example of how dynamic socio-economic development can be combined (and even mutually reinforced) with the GHG emissions reduction and adaptation to a changing environment. In addition, BRICS can demonstrate new forms and instruments of international cooperation based on solidarity, trust, and adaptability. This is the group's responsibility to its own people and to the humanity, as well as its chance to take on a leading role in the world.

Annex 1: Overview of BRICS Leaders' Statements in the Context of Climate Change

2009 I BRIC Summit Russia, Ekaterinburg

In the context of energy efficiency, the CBDR/RC and socio-economic challenges

17. We support international co-operation in the field of energy efficiency. We are ready for a constructive dialogue on combating **climate change** based on the principles of common but differentiated responsibilities, taking into account the need to combine **climate protection** measures with steps to address the socio-economic development of our countries.

2010 II BRIC Summit Brazil, Brasilia

The climate-food security nexus. Recognised as a global threat for the first time, there is a separate subheading "climate change" in the context of the UNFCCC, the CBDR/RC principle.

17. We welcome the Ministers' decision to establish a BRIC agricultural database, to develop a strategy to ensure access to food for vulnerable groups, to reduce **the negative impact of climate change on food security**, and to enhance co-operation and innovation in agricultural technology.

22. We recognise that **climate change is a serious threat** requiring more vigorous action at the global level. We commit to act to ensure the success of the 16th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change and the 6th Meeting of the Parties to the Kyoto Protocol in Mexico in order to achieve a comprehensive, balanced and binding outcome, strengthening the implementation of the Convention and the Protocol. We believe that the Convention and the Protocol provide the best framework for international climate change negotiations. The negotiations in Mexico should be more open, transparent and result in a fair and effective outcome to address the challenge of climate change, while at the same time reflecting the principles of the Convention, in particular **the principle of equity and common but differentiated responsibilities**.

2011 III BRICS Summit China, Sanya

RES as a means of addressing climate change

18. We support the development and utilisation of renewable energy. We recognise the important role of **renewable energy as a means of addressing climate change**. We are convinced of the importance of co-operation and information exchange in the development of renewable energy.

22. **Climate change is a global threat** that challenges the very foundations of societies and countries. China, Brazil, Russia and India appreciate and support South Africa's decision to host the 17th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change /7 Meeting of the Parties to the Kyoto Protocol. We support the

Cancun Agreements and express our readiness to make concerted efforts with other representatives of the international community to successfully conclude the negotiations at the Durban Conference in accordance with the mandate of the Bali Roadmap, based on the principle of **equity and common but differentiated responsibilities**. We are determined to work towards a comprehensive, balanced and binding outcome to promote the implementation of the United Nations Framework Convention on Climate Change and the Kyoto Protocol. The BRICS will enhance cooperation on issues related to the Durban Conference. We will enhance practical cooperation in adapting our economies and societies to climate change.

2012 IV BRICS Summit India, New Delhi

The role of BRICS in the global context, BRICS Climate Meeting, Finance, Nuclear, Energy

2. Our meeting took place against a backdrop of events and changes of global and regional significance today: the fragile global economic recovery, compounded by the situation in the eurozone; the challenges of the **sustainable development outlook and climate change**, which are of particular relevance as we approach the UN Conference on Sustainable Development (Rio+20) and the Conference of the Parties to the Convention on Biological Diversity later this year in Brazil and India, respectively; the upcoming G20 summit; and the upcoming UN Conference of the Parties to the Convention on Biological Diversity. Our discussions today reflect our unanimous desire to continue to work together with the international community to address these challenges to global prosperity and stability in a responsible and constructive manner.

29. We applaud South Africa for its successful hosting of the 17th session of the Conference of the Parties to the UN Framework Convention on Climate Change as well as the 7th Meeting of the Parties to the Kyoto Protocol in December 2011. We welcome the significant outcomes of the conference and express our readiness to work with the international community to implement the decisions taken at the conference in accordance with the principles of **equity and common but differentiated responsibilities** and respective capabilities.

30. We are determined to play our part in the global fight against climate change and will contribute to the global effort to **address climate change through sustainable and inclusive growth**, not through imposing restrictions on development. We emphasise that developed country parties to the Convention will increase **financial and technical assistance** and capacity-building support for the design and implementation of nationally appropriate measures to reduce greenhouse gas emissions in developing countries.

39. Energy from **fossil fuels** will continue to lead the energy mix for the foreseeable future. We will expand the use of clean and **renewable energy sources**, as well as **energy-saving and alternative technologies**, to meet the growing needs of our economies and peoples and to address **climate-related challenges**. In this context, we emphasise that international cooperation in the development of **safe nuclear energy for peaceful purposes**

must be carried out in strict compliance with relevant operational safety standards and requirements for the design, construction and operation of nuclear power plants. We emphasise the key role of the IAEA in the joint efforts of the international community to strengthen nuclear safety standards in order to increase public confidence in nuclear energy as a clean, affordable, safe and reliable source of energy vital to meeting global energy needs.

Action Plan

16. Consultative meeting of BRICS senior officials on the margins of relevant international forums on environment and climate issues, as appropriate.

2013 V BRICS Summit South Africa, Durban

Weak text, but the idea of a working contact is retained

37. Recognising that **climate change** is among the most significant challenges and threats to achieving sustainable development, we call on all parties to build on the decisions adopted by the 18th Conference of the Parties to the Convention (COP-18) and the 8th Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol, held in Doha, to ensure the successful conclusion by 2015 of negotiations to develop a protocol, instruments or agreed outcome that will have legal force under the Convention applicable to the Kyoto Protocol.

Action Plan

18. Consultative meeting of BRICS senior officials on the margins of relevant international forums on sustainable development, environment and climate (if necessary).

2014 VI BRICS Summit Brazil, Fortaleza

Climate in the context of sustainable development and food security, UNFCCC

5. The Sixth BRICS Summit comes at an important historic moment, as the international community seeks ways to address the challenges of rapid economic recovery from the global financial crisis and sustainable development, and in particular **climate change**, while at the same time developing the post-2015 development agenda. At the same time, we face chronic political instability and conflict in various hotspots around the world and new, unconventional threats. On the other hand, the structures of international governance, established under a different configuration of forces, are showing increasing signs of losing legitimacy and effectiveness in an environment where transitional and interim arrangements are increasingly used, often to the detriment of multilateralism. We see BRICS as an important driving force in the process of gradual transformation and reform of current institutions as part of the transition to a more representative and equitable system of governance capable of generating more inclusive global growth and promoting stability, peace and prosperity in the world.

52. Recognising that **climate change is one of the most serious challenges** facing humankind, we call on all countries to work towards the successful conclusion by 2015, building on decisions taken in the context of the United Nations Framework Convention on Climate Change (UNFCCC), of negotiations on a protocol, another legal instrument or an agreed outcome under that Convention, with legal force and applicability to all parties, in accordance with the principles and provisions of the UNFCCC, and, in particular, the principle of **common but differentiated responsibilities** and related capacity-building. In this regard, we reiterate our support for the presidency of the twentieth session of the Conference of the Parties and the tenth session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol, to be held in Lima, Peru, in December 2014. We note that the UN Climate Summit is scheduled to take place in September this year.

61. We are determined to promote co-operation in the field of agriculture and exchange information on strategies to ensure access to food for the most vulnerable, **mitigate the negative impacts of climate change on food security and adapt agriculture to climate change.**

Action Plan

Consultative meeting of BRICS Senior Officials on the margins of relevant international forums on sustainable development, environment and climate (as appropriate).

2015 VII Summit Russia, Ufa

Very weak text, general statements of willingness to co-operate

53. We reaffirm our determination to further develop co-operation in the field of agriculture, including the development of agricultural technologies and innovations, nutrition for the most vulnerable, **reducing the negative impact of climate change on food security and adaptation of agriculture to climate change**, reducing volatility in food markets, exchange of relevant market information, trade and investment development, including through participation in exhibitions, fairs and investment projects We actively support the decision of the UN General Assembly to declare 2015 the year of the World Food Security Year. We actively support the decision of the UN General Assembly to declare 2015 the International Year of Soils and express our intention to promote effective policies and activities to ensure sustainable management and protection of soil resources.

67. We express our readiness to work on **climate change** in the global context and at the national level, and to promote agreement on a comprehensive, effective and equitable agreement based on the United Nations Framework Convention on Climate Change. We emphasise the importance of **technology and scientific knowledge transfer to combat climate change** and its adverse effects and, in this regard, have agreed to conduct joint scientific research on priority topics of common interest.

2016 VIII BRICS Summit India, Goa

The Paris Agreement emerges, global greenhouse gas reduction target, role of natural gas for PA targets, nuclear linked to climate, technology, finance

54. We recognise that nuclear power will play an important role for some BRICS countries in **meeting their commitments under** the 2015 Paris Agreement on Climate Change, as well as in **reducing global greenhouse gas emissions** in the long term. In this regard, we emphasise the importance of ensuring predictable access to technology and financing to build the capacity of civil nuclear power to contribute to the sustainable development of the BRICS countries.

70. We support the increased use of **natural gas** as an economically efficient and environmentally friendly fuel to promote sustainable development as well as **to reduce greenhouse gas emissions** in line with the Paris Agreement on Climate Change.

92. We welcome the adoption of the Paris Agreement under the auspices of the UN Framework Convention on Climate Change (UNFCCC) and its signature by a significant number of countries on 22 April 2016. We emphasise that the comprehensive, balanced and ambitious nature of the Paris Agreement reaffirms the importance of adhering to UNFCCC principles such as **equity and common but differentiated responsibilities and respective capabilities** based on country circumstances.

93. We welcome the unconditional entry into force of the Paris Agreement on 4 November 2016. We call on developed countries to fulfil their commitments to provide the necessary **financial resources**, technology and capacity-building assistance to support developing States in both mitigation and adaptation to climate change as part of the implementation of the Paris Agreement.

2017 IX BRICS Summit China, Xiamen

Gas, nuclear, hydropower for energy transition, low-carbon economy, food security, green finance

15. Emphasising the strategic importance of energy for economic development, we intend to strengthen energy cooperation within the BRICS framework. We recognise that sustainable development, energy access and energy security are key factors for shared prosperity and the future of our planet. We recognise that clean energy and renewable energy should be accessible to all. We will promote open, flexible and transparent markets for energy raw materials and energy technologies. Together, we will promote the most efficient **use of fossil fuels and the increased use of gas, nuclear and hydropower, which will contribute to the transition to a low-emission economy**, increased energy access and sustainable development.

16. We intend to continue to promote **green development and the transition to a low-carbon economy** in the context of sustainable development and poverty eradication, strengthen BRICS cooperation on climate change and enhance green finance. We call on all countries to fully implement the Paris Agreement adopted in accordance with the principles of the United Nations Framework Convention on Climate Change, including the principle of common but differentiated responsibilities and respective capabilities, and urge developed countries to provide financial and technical support and capacity-building assistance to developing States to enhance their ability to mitigate and adapt to climate change.

18. While noting the fruitful cooperation in agriculture over the past years, we recognise the uniqueness and complementarity of the BRICS countries in the field of agricultural development, as well as the enormous potential for cooperation in this area. In this regard, we agreed to deepen cooperation in five priority areas: food security and nutrition, **adaptation of agriculture to climate change**, cooperation and innovation in agricultural technology, agricultural trade and investment in agriculture, and application of ICTs in agriculture to promote sustained global agricultural growth and achievement of the Sustainable Development Goals. We welcome the establishment of the BRICS Agricultural Research Platform Coordination Centre in India, a virtual network that will help address these priorities.

26. We adhere to the principle of the peaceful uses of outer space and emphasise the need to strengthen international cooperation in space activities **using space technology to respond to global climate change**, protect the environment, prevent and manage the consequences of disasters and address other challenges facing humankind.

2018 X BRICS Summit South Africa, Johannesburg

PA, energy efficiency, agricultural and food security

21. In the area of climate change, we welcome the progress in finalising the Paris Agreement acquis, and express our readiness to continue to work constructively with other Parties to finalise the relevant negotiations under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC) in time for the 24th Conference of the Parties to the UNFCCC to be held in Katowice, Poland, in December 2018. We call on all countries to fully implement the Paris Agreement adopted in accordance with the principles of the UNFCCC, including **the principle of common but differentiated responsibilities** and respective capabilities, and urge developed countries to provide financial and technical support as well as capacity building assistance to developing States to enhance their ability to mitigate and adapt to climate change.

23. We recognise the importance of **energy efficiency** and the promotion of energy-efficient lifestyles, as this can contribute to energy security, industrial competitiveness, **emissions reductions**, economic growth, job creation and other issues.

25. We reaffirm and support the establishment of the BRICS Agricultural Research Platform at the initiative of India in 2016. We recognise the fundamental importance of R&D and innovation for global sustainability and competitiveness. We endeavour to strengthen collaborative networks among BRICS countries in agricultural research **to enhance the resilience of collective agricultural and food systems to climate change**. We recognise the need for further steps to fulfil the goals and objectives of the BRICS Agricultural Research Platform. We commit to intensify cooperation within the BRICS framework, including through the BRICS Agricultural Research Platform and the BRICS Basic Agricultural Information Exchange System.

2019 XI BRICS Summit Brazil, Brasilia

Quote from the COP, with special attention to the CBDR/RC principle, the new Green Climate Fund, CORSIA

10. We reiterate our commitment to implementing the Paris Agreement adopted in accordance with the principles of the UN Framework Convention on Climate Change (UNFCCC), including the principles of **common but differentiated responsibilities and respective capabilities**, taking into account different national circumstances. We call on Annex II developed countries to enhance the provision of **financial, technological** and capacity building **support** to developing states to help mitigate and adapt to climate change. We expect that the first replenishment of the Green Climate Fund before the end of 2019 will significantly exceed the initial resource mobilisation, thereby ensuring that financial contributions are aligned with the ambitions, needs and priorities of developing countries. We also commit to work towards a successful outcome of the XXV Conference of the Parties to the UNFCCC, in particular a balanced and comprehensive outcome on all remaining items of the Paris Agreement Work Programme.

11. We note the BRICS Memorandum of Understanding on Regional Aviation and value the co-operation among BRICS countries in the field of civil aviation. Recognising the critical role played by the aviation sector in emerging markets, including the BRICS countries, and noting the possible impact of **the Carbon Offsetting and Reduction Systems for International Aviation** (CORSIA) on the growth of the aviation sector, we reiterate our willingness to work together to revise the relevant framework arrangements

2020 XII BRICS Summit Russia, Moscow

Weak text, quote from the Paris Agreement

82. We reiterate our commitment to implement the Paris Agreement adopted in accordance with the principles of the UN Framework Convention on Climate Change (UNFCCC), including the principle of **common but differentiated responsibilities and respective capabilities**, taking into account different national circumstances. We urge Annex II developed countries to enhance the provision of **financial, technical and technological support** and

capacity building assistance to developing States to help mitigate and **adapt to climate change**. We also note the holding of the VI Meeting of Environment Ministers of the countries on 30 July 2020. VI BRICS Environment Ministers' Meeting on 30 July 2020. We welcome the progress made under the BRICS Green Technology Platform, including the initiative to create a "matrix" of the Platform. We look forward to further strengthening cooperation on environmental issues, in particular on tackling the problem of plastic litter in the marine environment, a key aspect of the BRICS Clean Rivers Programme.

2021 XIII BRICS Summit India, New Delhi

Priority of the 2030 Agenda and sustainable development themes, space, return of the Kyoto Protocol, financial and technical assistance from developed countries

35. We reaffirm our commitment to the Agenda for Sustainable Development up to 2030 (2030 Agenda) in its three dimensions - economic, social and environmental. We note with concern that the COVID-19 pandemic has undermined efforts to realise the 2030 Agenda and **reversed years of progress in addressing** poverty and hunger, health, education, **climate change**, access to clean water and environmental protection. While no one has escaped the impact of the coronavirus, the world's poorest and most vulnerable people have been most affected. We therefore call on the international community to strengthen global development partnerships to address the impact of the pandemic and accelerate the 2030 Agenda by improving the means of implementation, with particular attention to the needs of developing countries. We call upon donor countries to honour their Official Development Assistance commitments and to support capacity-building and technology transfer to developing countries, while providing additional resources for development in line with the national development goals of recipient States.

38. Peaceful applications of space technology would make a tangible contribution to the 2030 Agenda. In this regard, we welcome the signing of the BRICS Cooperation Agreement on the Earth Remote Sensing Satellite Constellation, which will help enhance our capabilities **in research on global climate change**, disaster management, environmental protection, prevention of food and water shortages, and sustainable socio-economic development.

46. We reaffirm the commitment to fully implement the UNFCCC, the Kyoto Protocol and its Paris Agreement, as well as the principles of the UNFCCC, including the principle of **common but differentiated responsibilities and respective capabilities**, taking into account different national circumstances. We recognise that peaking greenhouse gas emissions in developing countries will take longer in the context of sustainable development and poverty eradication efforts. We stress the need to ensure a holistic approach to climate change, focusing on all aspects, including **mitigation, adaptation, finance, capacity-building and technology transfer, as well as sustainable lifestyles**. In this regard, we call for further discussion and dedicated activities by the BRICS countries. We note the relevant provisions of

the Paris Agreement, which commit developed countries included in its Annex II to provide the necessary means for its implementation, including through financing, capacity building and technology transfer to developing countries to enable them to take the necessary measures to combat climate change in the context of sustainable development.

2022 XIV BRICS Summit Beijing, China

Climate in the context of the 2030 Agenda, quote from the COP, lots of details about ONUVs, first time about WTO and green barriers

52. We note with concern that the COVID-19 pandemic has undermined efforts to realise the 2030 Agenda for Sustainable Development and reversed years of **progress in addressing** poverty and hunger, health, education, **climate change**, access to clean water and environmental protection. We reaffirm our commitment to the balanced and comprehensive implementation of the 2030 Agenda for Sustainable Development in its three dimensions - economic, social and environmental.

53. We celebrate the 30th anniversary of the UN Framework Convention on Climate Change (UNFCCC) and call on all parties to adhere to the principle of **common but differentiated responsibilities** and respective capabilities, taking into account different national circumstances and in accordance with institutional arrangements for nationally determined contributions, and for the accurate, balanced and comprehensive implementation of the UNFCCC and the Paris Agreement based on existing consensus. We recall the relevant provisions of the Paris Agreement, emphasising that it aims to strengthen global action to address the threat of climate change in the context of sustainable development and poverty eradication efforts, and that developing countries will need more time to achieve appropriate levels of greenhouse gas emissions. We emphasise that developed countries bear the **historic responsibility** for global climate change and must take the lead in scaling up measures to address its impacts and the necessary financial, technological and capacity-building support to developing countries. We express support for the upcoming Egyptian Presidency of the Conference of the Parties (COP-27), work together for a successful COP-27, and promote a COP-27 that focuses on the implementation of the agenda and emphasises enhanced adaptation and implementation, as well as strengthened commitments by developed countries to provide financial support and technology transfer to developing countries.

54. We oppose «**green**» **trade barriers** and reaffirm our commitment to promote coordination on these issues. We emphasise that all **measures to combat climate change** and biodiversity loss should be formulated, adopted and implemented **in full compliance with WTO agreements** and should not be a means of arbitrary and unjustifiable discrimination or a disguised restriction on international trade, nor create unnecessary barriers to international trade. We express our concern about any discriminatory measures that have a distortive effect

on international trade, may lead to new trade frictions and **shift the burden of addressing climate change to other trading partners**, developing countries and BRICS members.

59. We welcome the proposal to organise a BRICS High Level Forum on Sustainable Development. Using this opportunity, we look forward to deepening co-operation, **in particular in the areas** of combating COVID-19, digital transformation, sustainability and stability of industrial and supply chains, and **low-carbon development**.

66. We commend the success of the BRICS Business Forum and welcome the Beijing Initiative of the BRICS Business Community. We encourage the BRICS Business Council to **strengthen co-operation, including in the areas** of agribusiness, aviation, relaxation of state control, digital economy, energy **and green economy**, financial services, infrastructure, manufacturing and skills development. We appreciate the contribution and activities of the BRICS Women's Business Alliance (WBA) in enhancing trade and economic co-operation within BRICS. We welcome the BRICS Women's Business Alliance's hosting of the second BRICS Women's Innovation Competition aimed at empowering women in innovation and entrepreneurship.

2023 XV BRICS Summit South Africa, Johannesburg

First declaration with such a broad list of climate statements, with particular emphasis on the provision of finance, technology and other support to developing countries from developed countries.

28. We believe that multilateral cooperation is necessary to limit the risks arising from geopolitical and geo-economic fragmentation and to enhance efforts in areas of common interest, including trade, combating poverty and hunger, sustainable development, including access to energy, water and food, fuel and fertilisers, as well as **climate change mitigation and adaptation**, education, health, and pandemic prevention, preparedness and response but not limited to them.

34. We reiterate our support for the African Union's Agenda up to 2063 and Africa's integration efforts, including through the operationalisation of the African Continental Free Trade Area (AfCFTA). We stress that the AfCFTA has the potential to create a predictable environment for investment, especially in infrastructure development, and provides an opportunity to establish synergies with cooperation, trade and development partners on the African continent. We emphasise the importance of strengthening the BRICS-Africa partnership to unlock mutually beneficial opportunities for enhanced trade, investment and infrastructure development. We welcome the progress made in the implementation of the AfCFTA Protocol on Women and Youth in Trade and recognise its potential as a catalyst for the economic and financial inclusion of women and youth in Africa's economy. We stress the importance of issues such as industrialisation, infrastructure development, food security, agricultural modernisation for sustainable growth, health and **climate change for Africa's sustainable development**.

51. We welcome continued co-operation on the topics of mutual interest of sustainable and transitional finance, information security, financial technology and payments, and look forward to advancing work in these areas through relevant work streams, including the proposed study on the use of **technology to address climate data gaps in the financial sector**, and support the initiatives put forward to strengthen cybersecurity, including the sharing of knowledge and expertise in this area.

53. We recognise the importance of **implementing the SDGs** in an integrated and holistic manner, **including through** eradicating poverty, **combating climate change**, promoting sustainable land and water management, conserving biological diversity and the sustainable use of its components, and sharing the fair and equitable benefits arising from the utilization of genetic resources, including through the provision of necessary access to genetic resources in accordance with Article 1 of the Convention on Biological Diversity and taking into account national circumstances. We also emphasise the importance of technology and innovation, international cooperation, public-private partnerships, including South-South cooperation.

56. We reiterate the importance of implementing the UN Framework Convention on Climate Change (UNFCCC) and its Paris Agreement and the principle of common but differentiated responsibilities and respective capabilities, facilitating the transfer of low-cost climate technologies, capacity building, and mobilising available, adequate new and timely additional financial resources for environmentally sustainable projects. We agree that multilateral responses to climate change must be protected, promoted and strengthened and work together for a successful 28th Conference of the Parties to the UN Framework Convention on Climate Change (UNFCCC COP-28). We recognise that the means of implementation must be strengthened by developed countries, including through adequate and timely flow of affordable climate finance, technical cooperation, capacity building and technology transfer to implement climate change measures.

In addition, there is a need to develop integrated financial mechanisms to address **loss and damage problems** from climate change, including operationalising the Loss and Damage Fund approved at UNFCCC COP-27 for the benefit of developing countries.

57. We commit to address climate change while ensuring an **equitable, affordable and sustainable transition to a low-carbon and low-emission economy**, in accordance with the principles of common but differentiated responsibilities and respective capabilities, considering different national circumstances.

We favour a just, equitable and sustainable transition based on national development priorities and call on developed countries to lead by example and support developing countries towards such a transition.

58. We emphasise the need for developed countries to support developing countries in providing access to existing and emerging low-emission technologies and solutions to avoid, reduce and eliminate greenhouse gas emissions and to enhance adaptation measures to address climate change. We also stress the need to enhance the transfer of low-cost technologies and mobilise available, adequate new and timely additional financial resources for environmentally sustainable projects.

59. We express our strong commitment to contribute to a successful COP-28 in Dubai later this year, with a focus on implementation and cooperation. As the primary mechanism for assessing collective progress in implementing the Paris Agreement and its long-term goals, as well as advancing climate action on all aspects of the Paris Agreement under the UNFCCC, the Global Stocktake (GST) should be effective in assessing and identifying gaps in the implementation of the global response to climate change, and provide a basis for enhanced efforts by all, in particular developed countries. We call on developed countries to fill existing gaps in the means of implementation of mitigation and adaptation measures in developing countries.

60. We welcome Brazil's bid to host the 30th Conference of the Parties to the UNFCCC, taking into consideration that 2025 will be a key year for the future global response to climate change.

61. We also call on developed countries to fulfill their commitments, including to mobilize US\$100 billion per year by 2020 and up to 2025 to support climate action in developing countries. In addition, **doubling adaptation funding** by 2025 compared to baseline funding in 2019 is important for implementing adaptation measures. However, we expect that a new ambitious collective quantifiable goal will be set before 2025, in line with the needs and priorities of developing countries. This will require enhanced financial support from developed countries, which should be supportive, gratuitous and/or concessional, timely and sufficient to balance the implementation of adaptation and mitigation measures. This includes support for the implementation of nationally determined contributions.

62. We acknowledge that financial and investment mechanisms to support the implementation of environmental and climate change programmes need to be improved and further impetus should be given to reforming these financial instruments, as well as multilateral development banks and international financial institutions. We therefore call on the shareholders of these organisations to take decisive action to increase climate finance and investment in support of climate change-related SDGs and to align their institutional arrangements with the targets set.

63. We oppose trade barriers, including **under the pretext of combating climate change**, imposed by developed countries and reaffirm our commitment to strengthen coordination on these issues. We emphasise that measures taken to combat climate change and

biodiversity loss should be WTO-compatible, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade, and should not create unnecessary obstacles to international trade. Any such measures should be introduced on the basis of the principle of common but differentiated responsibilities and respective capabilities and should take into account the different circumstances of countries. We express our concern about any discriminatory measures inconsistent with the WTO that would distort international trade, risk creating new trade barriers and shift the burden of addressing climate change to BRICS and developing countries.

Annex 2: Coverage of different Climate Change Topics in Statements by BRICS Leaders

	Key issues									Development			Energy in the context of climate change				Other												
	Consultations, climate group	UNFCCC	Paris Agreement	Kyoto Protocol	Reduction of greenhouse gas emissions	Adaptation	Financial and technological assistance, 100 billion	CBDR	A just transition	Principle of equity	Global threat	Sustainable development	Low carbon economy, green development	Socio-economic aspects, poverty	Food security, hunger	Energy efficiency	Renewable energy sources	Peaceful nuclear energy	Fossil fuels	The role of natural gas	WTO, green barriers in trade	Nationally determined contribution	Historically determined responsibility of developed countries	Green Finance	Green Climate Fund	Loss and Damage Fund	Science	Space	
2009 R																													
2010 B																													
2011 C																													
2012 I																													
2013 S																													
2014 B																													
2015 R																													

	Key issues								Development			Energy in the context of climate change				Other														
	Consultations, climate group	UNFCCC	Paris Agreement	Kyoto Protocol	Reduction of greenhouse gas emissions	Adaptation	Financial and technological assistance, 100 billion	CBDR	A just transition	Principle of equity	Global threat	Sustainable development	Low carbon economy, green development	Socio-economic aspects, poverty	Food security, hunger	Energy efficiency	Renewable energy sources	Peaceful nuclear energy	Fossil fuels	The role of natural gas	WTO, green barriers in trade	Nationally determined contribution	Historically determined responsibility of developed countries	Green Finance	Green Climate Fund	Loss and Damage Fund	Science	Space		
2016 I																														
2017 C																														
2018 S																														
2019 B																														
2020 R																														
2021 I																														
2022 C	High-level meeting on climate																													
2023 S																														