

Brazil and India:

Landscape Analysis and Proposals for a
Strategic Partnership on Climate Action
and Just Energy Transition



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Executive Summary

Brazil and India maintain a long-standing strategic partnership grounded in shared democratic values, inclusive growth, and a commitment to a fairer international order. Since establishing diplomatic ties in 1948, their relationship has deepened across bilateral, plurilateral, and multilateral platforms such as BRICS, IBSA, BASIC, G20, and the G4 coalition for UN Security Council reform. The two countries are influential voices from the Global South advocating for equitable climate governance and the reform of global financial structures.

Both countries face distinct socio-economic and environmental challenges shaping their climate and energy transition agendas. Brazil combines diplomacy and climate leadership, exemplified by its early submission of a revised Nationally Determined Contribution (NDC) in 2024, its presidency of COP30, and its push for an ambitious Baku to Belém Roadmap to mobilize USD 1.3 trillion in climate finance, with efforts to strengthen resilience and protect biodiversity, particularly in the Amazon. India, while advancing mitigation initiatives such as the International Solar Alliance, places greater emphasis on adaptation, resilient infrastructure, and energy access, notably through the Coalition for Disaster-Resilient Infrastructure, in response to the developmental needs of its large and diverse population.

Despite these differences, Brazil and India share several areas of alignment that offer considerable potential for deeper collaboration. These convergences span sectors that are central to advancing their climate, just transition, and sustainable development objectives, providing a solid foundation for joint action at both bilateral and multilateral levels. Key areas and opportunities for cooperation are outlined in the table below:

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Table 0. Brazil-India: Key Convergences and Opportunities for Cooperation on Climate Action and Just Transition

Topic	Convergences & Opportunities for Cooperation
Renewables	Shared interest in diversifying energy matrices through solar, wind, hydropower, and green hydrogen projects; opportunities to co-develop renewable projects, integrate grids, and expand collaboration within the International Solar Alliance (ISA).
Forests & Biodiversity	Mutual recognition of the importance of preserving tropical forests; potential to collaborate on forest conservation mechanisms, biodiversity protection, and restoration initiatives, including in South-South cooperation contexts.
Agriculture & Food Security	Common goals on sustainable agriculture, productivity gains, and food system resilience; opportunities for cooperation on sustainable farming practices and productivity enhancement.
Bioenergy & Biofuels	Joint interest in advancing sustainable biofuels, flex-fuel vehicles, and Sustainable Aviation Fuel (SAF) to decarbonize transport and aviation, with scope for joint R&D and technology transfer. Ensuring these pathways are just and sustainable requires addressing trade-offs with food and water security and biodiversity.

Green Industrialization

Shared interest in building low-carbon industrial capacity, promoting clean technologies, fostering value addition, and high-skilled green job creation.

Multilateral Cooperation

Strengthen collaboration within the UNFCCC framework, including climate diplomacy exchanges and mutual learning from Brazil's COP30 presidency in light of India's ambition to host COP33; coordinate positions to advance the reform of international financial institutions (IFIs) and multilateral development banks (MDBs) to scale up and improve access to climate finance; work jointly in G20, BRICS, and other multilateral forums to promote equitable, CBDR-aligned approaches to climate action, just transitions, and sustainable development.

Source: Prepared by the authors

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Introduction

Brazil and India share a long-standing, multifaceted, and increasingly strategic partnership that spans bilateral, plurilateral, and multilateral levels. The two countries established diplomatic relations in 1948, opening embassies in each other's capitals in the same year. Over time, this relationship has evolved into a Strategic Partnership, formally established in 2006, and continuously strengthened through high-level visits, institutional mechanisms, parliamentary engagement¹, and growing economic and political cooperation. Both countries collaborate actively in international fora such as BRICS, IBSA, BASIC, G20, and G4², and are vocal advocates for reforming global governance structures, particularly within the United Nations (UN) system. These engagements are underpinned by shared democratic values, a commitment to inclusive economic growth, and a common vision for a more equitable international order.

Economic relations, although below the estimated potential, have deepened significantly in recent years. According to Indian government data³, bilateral trade reached USD 15.2 billion in 2022, reflecting a 32% increase over the previous year. India became Brazil's fifth-largest trading partner in 2021. Key Indian exports to Brazil include refined petroleum products, agrochemicals, pharmaceuticals, and aluminum, while Brazil's main exports to India are crude oil, soy oil, gold, and iron ore. Investment flows have also intensified, though asymmetrically: Indian investments in Brazil are estimated at over USD 6 billion,

1. In Brazil, two parliamentary fora focus on relations with India: the India-Brazil Parliamentary Friendship Group and the India-Brazil Friendship Front. In India, similar initiatives have been active through the India-Latin America and Caribbean (LAC) Parliamentary Friendship Group.

2. The G4 is a coalition of Brazil, Germany, India, and Japan formed in 2004 to advocate for a comprehensive reform of the United Nations Security Council (UNSC), particularly the expansion of permanent membership.

3. Ministry of External Affairs, Government of India, Brief on India-Brazil relations (unclassified) (22 January 2024). Ministry of External Affairs. Available at: https://www.mea.gov.in/Portal/ForeignRelation/Brief_on_India-Brazil_Relations_unclassified_22.1.24_.pdf.

while Brazilian companies have invested approximately USD 1 billion in India. Major Indian firms, including Tata Motors, Infosys, and United Phosphorus Limited, have a strong presence in Brazil, while Brazilian firms such as Vale, Gerdau, and Stefanini operate in India. To support and monitor this growing economic engagement, India and Brazil established a Trade Monitoring Mechanism (TMM), which has met five times since its inception in 2008 - the most recent meeting held in October 2023 in Brasília. Both countries are also engaged in expanding the India-MERCOSUR Preferential Trade Agreement (PTA), originally signed in 2004.

In addition, Brazil and India have areas of convergence regarding climate change and energy transition, although with some policy nuances. As common ground, both countries advocate for the principle of Common But Differentiated Responsibilities (CBDR), acknowledging the different degree of liability between developed and developing countries regarding historical environmental footprint and resource allocation. However, as two large democracies with different energy mixes and emission profiles, the narratives and level of engagement with the climate agenda have fluctuated depending on the domestic imperatives and the international political scenario.

Building on the mutually recognized strategic importance of their relationship, this report aims to address a gap in the current policy-oriented research on Indian-Brazilian relations. The main goal is to identify concrete areas for cooperation between Brazil and India on climate change and just energy transitions, domains closely tied to both countries' national interests and international insertion strategies. To this end, it was essential to first analyse the inner dynamics of the state and closely examine the key variables shaping climate policy formulation and diplomatic strategy on both sides.

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As the objective is to go beyond official statements and academic literature, the methodology encompasses - in addition to primary and secondary sources and public documents -, both online and in-person semi-structured interviews and informal conversations with high-level Indian and Brazilian stakeholders from sectors such as government, academia, civil society, think tanks, and private companies⁴.

Therefore, the report is structured into four sections. The first part presents an assessment of India's historical and current stance on climate change and energy transition, identifying landmark moments, key stakeholders, main partners, and leading sectors. The second section mirrors this structure, focusing on the Brazilian case. The third section synthesizes the main findings into a proposal outlining concrete policy areas in which Brazil and India already share existing common interests and could enhance their cooperation. It also identifies potential partnerships in currently unexplored sectors. Finally, the conclusion explores opportunities to enhance Brazil-India collaboration in the lead-up to and beyond COP30, considering both countries' priorities and climate commitments.

4. These interviews and conversations were conducted under the Chatham House rule of non-attribution. Therefore, although the context will be extensively explored in the report, names and institutions will not be identified.

"Grow Coal to Go Green":

India, Climate Change, and Just Energy Transition

Scene-Setting

10 Although it is widely recognized that climate change effects respect no frontiers and do not restrict their impact to a single territory, some regions and countries are particularly vulnerable to environmental-related disruptions. India is one of the countries most highly susceptible to large-scale climate risks due to its various climate zones, topographies, and ecosystems. *The Global Climate Risk Index 2025*⁵ placed India as the sixth most affected nation due to climate change between 1993 and 2022. There are four points of vulnerability that are particularly worth mentioning: dependence on the monsoons for economic and agricultural systems; long coastline, with one of the highest concentrations of people who are dependent on climate-sensitive livelihoods such as agriculture and fishing; the threat related to Himalayan glaciers, which affects the flow of rivers like the Ganges and the Brahmaputra; and the dependence on natural resource extraction, including in forest zones, especially coal and mining⁶.

Currently, India is the third biggest emitter of greenhouse gases (GHG)⁷. Unlike the first and second biggest emitters - the United States and China -, India should not hit the peak of emissions by 2030, but instead between 2040 and 2045. The

5. Germanwatch e.V., Adil, L., Eckstein, D., Künzel, V. and Schäfer, L. (2025) *Climate Risk Index 2025*. Bonn: Germanwatch e.V., 12 February. Available at: <https://www.germanwatch.org/sites/default/files/2025-02/Climate%20Risk%20Index%202025.pdf>.

6. Ramesh, Shri Jairam. (2012). "Foreword". In *Handbook of Climate Change and India*, 19-22. Abingdon: Earthscan.

7. World Resources Institute (2023). *Interactive Chart Shows Changes in the World's Top 10 Emitters*. Available at: <https://www.wri.org/insights/interactive-chart-shows-changes-worlds-top-10-emitters>.

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annual average temperature in the country increased by about 0.6°C between 1901 and 2010, with more pronounced warming occurring after 1970. Future scenarios based on climate models and projections for the 21st century indicate that the average temperature in India is expected to rise between 2.0°C and 4.4°C by 2100, depending on GHG scenarios⁸.

As a result, India faces significant challenges in simultaneously addressing its broader development ambitions and climate change responsibilities, largely because of the complex mix of factors it must consider when shaping both its domestic policies and its international negotiating position. This dynamic is broadly defined by three key forces: (1) India's pursuit of global leadership; (2) its increasing drive to build an industrial and entrepreneurial economy, with its accompanying energy requirements; and (3) its ongoing efforts to combat poverty and social deprivation⁹. Therefore, India's climate position can be interpreted as deeply rooted in the coexistence of several overlapping developmental identities - specifically, the rural identity, energy security identity, industrial identity, entrepreneurial identity, developing nation identity, and emerging nation identity. These intersecting self-representations reflect a wide array of motivations, perspectives, competing drivers, and expectations that shape India's internal development strategy as well as its role in influencing global emissions patterns¹⁰.

Given this complexity, climate imperatives alone do not determine how India shapes its key domestic policies or frames its positions in international climate negotiations. Instead, India's developmental priorities play a decisive role defining the scope, pace and framing of its climate action.

8. Srinivasan, Jayaraman. (2019). "Impact of Climate Change on India.". In *India in a Warming World: Integrating Climate Change and Development*, 31-44. Delhi: Oxford Academic.

9. Saran, Samir; Jones, Aled. (2017). *India's Climate Change Identity: Between Reality and Perception*. Palgrave Macmillan Cham.

10. Ibid.

These mixed narratives were also tangible in India's earlier positions in climate negotiations, which invoked historical injustices - particularly the argument that developed countries in the Global North, with their high emissions and historical responsibility, are 'imposing' their climate agendas on the Global South, where nations are still fighting poverty. To illustrate this, some of the topics that appeared the most in official Indian speeches during COPs between 2009 and 2012 were, in order of appearance: climate-induced vulnerability; CBDR and equity; climate finance; technology transfer; need for development; energy needs; opportunities for clean development; poverty; need for industrial growth; agrarian dependence; and emerging economy¹¹. This narrative frames climate negotiations in terms of global power imbalance, often described by Indian stakeholders as "climate colonialism."

India's Climate Diplomacy

India's approach to climate policy is grounded in a long-standing normative framework that has consistently emphasized equity, historical responsibility, and the developmental needs of the Global South. A key contribution to this discourse came from the Indian Centre for Science and Environment's influential report *Global Warming in an Unequal World: A Case of Environmental Colonialism*¹², which remains foundational for India's climate narrative. The report articulated three core principles that continue to shape Indian perspectives today: (1) cumulative GHG emissions - stocks, not flows -, should form the basis for assessing climate responsibility; (2) global carbon sinks should be allocated on a per capita basis; and (3) a clear moral distinction should be drawn between the "survival emissions" of the poor and the "luxury emissions" of the rich. The country used these ideas to help reshape the IPCC's principle of "common responsibilities" in global climate negotiations into the now widely accepted formulation of

11. Saran, Samir; Jones, Aled. (2017). *India's Climate Change Identity: Between Reality and Perception*. Palgrave Macmillan Cham.

12. Agarwal, A. and Narain, S. (1991) *Global warming in an unequal world: a case of environmental colonialism*. New Delhi: Centre for Science and Environment. Available at: <https://cdn.cseindia.org/userfiles/GlobalWarming%20Book.pdf>.

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CBDR¹³. The principle underscored India's insistence on a just distribution of responsibilities based on historical emissions and levels of development. As a consequence, its climate efforts show a greater emphasis on adaptation than mitigation, largely due to immediate development needs and the country's vulnerability to climate impacts.

India's climate change policies have initially evolved through three distinct phases. During the first phase, India resisted assuming international commitments, claiming it was still a poor country with developmental needs. Since it turned into a major GHG emitter, there were also rising peer-expectations that it should play an increasing role in global efforts to mitigate climate change. As explained in further detail in the next subsection, the turning point was COP15 in 2009, in Copenhagen, when the second phase of India's climate policy started, characterised by increasing pragmatism. The third phase dates back to 2014, when the "Modi factor" and the BJP agenda requalified some of the country's previous policies and narratives¹⁴.

Tracing India's Early Climate Diplomacy (1972-2008)

India's approach to international climate negotiations has evolved over time, yet it has consistently been shaped by a core set of principles: poverty eradication, equity, environmental justice, and the principle of CBDR. From the very beginning, India positioned itself as a developing country seeking to balance environmental sustainability with pressing developmental needs. India's foundational position was articulated as early as 1972 at the United Nations Conference on the Human Environment in Stockholm, where then Prime Minister Indira Gandhi declared that "poverty is the greatest polluter," underscoring the belief that environmental protection

13. Dubash, Navroz K. (2012). "Introduction." In *Handbook of Climate Change and India: Development, Politics and Governance*, edited by Navroz K. Dubash, 1--10. London: Earthscan.

14. Saryal, Rajnish. (2018). "Climate Change Policy of India: Modifying the Environment." *South Asia Research* 38, no. 1 (January): 1-19. Available at: <https://doi.org/10.1177/0262728017745385>.

cannot be divorced from socio-economic development¹⁵. India's cautious and principled stance was also evident at the New Delhi Conference of Select Developing Countries on Global Environmental Issues in 1990, where key principles such as CBDR, per capita emissions, equity, and environmental justice were formally endorsed among developing nations¹⁶.

At the 1992 United Nations Conference on Environment and Development in Rio de Janeiro (Rio-92), India reaffirmed its commitment to the principle of CBDR, advocating for differential obligations for developed and developing countries based on historical responsibility and current capabilities. India's stance became even more evident at the first Conference of the Parties (COP1) of the United Nations Framework Convention on Climate Change (UNFCCC) in Berlin in 1995. Representing the G77, India drafted the first decision on the adequacy of existing commitments, strongly emphasizing that any new protocol should apply only to Annex I countries (industrialized nations), while exempting developing countries from binding commitments. This position was contested by the Organization of the Petroleum Exporting Countries (OPEC) members, who feared that climate action could harm their economies, leading to internal divisions within the G77. In response, India - on behalf of 72 developing countries, excluding OPEC, known as the "Green Group" -, submitted the Green Paper, a proposal developed in collaboration with environmental non-governmental organizations (NGOs). The Green Paper called for a 20% reduction in CO₂ emissions by industrialized countries by 2005 and its spirit culminated in the adoption of the Berlin Mandate¹⁷, laying the groundwork for the Kyoto Protocol¹⁸.

15. Saran, Samir; Jones, Aled. (2017). *India's Climate Change Identity: Between Reality and Perception*. Palgrave Macmillan Cham.

16. Saryal, Rajnish. (2018). "Climate Change Policy of India: Modifying the Environment." *South Asia Research* 38, no. 1 (January): 1-19. Available at: <https://doi.org/10.1177/0262728017745385>.

17. UNFCCC - United Nations Framework Convention on Climate Change (1995). *Report of the Conference of the Parties on its first session, held at Berlin from 28 March to 7 April 1995*. Addendum. Available at: <https://unfccc.int/resource/docs/cop1/07a01.pdf>.

18. Gupta, Himangana, Ravinder Kumar Kohli, and Amrik Singh Ahluwalia. (2015). "Mapping 'Consistency' in India's Climate Change Position: Dynamics and Dilemmas of Science Diplomacy." *Ambio* 44: 592-599. Available at: <https://doi.org/10.1007/s13280-014-0609-5>.

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Considering the post-Kyoto initiatives, India initially regarded the Clean Development Mechanism (CDM)¹⁹ with suspicion, viewing it as a cost-saving strategy for developed nations to shift mitigation responsibilities onto the developing world. However, this stance began to shift as domestic actors, including the Confederation of Indian Industry (CII) and research institutions such as TERI²⁰, reframed the CDM as a contractual instrument aligned with India's principle that mitigation actions should proceed only if financially supported. This reinterpretation paved the way for India's eventual embrace of the CDM²¹.

When India hosted COP8 in New Delhi from 23 October to 1 November 2002, these long-standing concerns continued to shape its position. Then Prime Minister Atal Bihari Vajpayee resisted calls for binding emission reductions by developing countries, emphasizing that nations like India contributed only a small share of global GHG emissions and could not bear the economic burden of mitigation. His remarks reflected deeper anxieties about dependence on the Global North and resonated with broader anxieties over climate neo-colonialism²².

A notable shift occurred in the post-2007 period, signaling a more pragmatic and proactive posture. At the G8 Heiligendamm Summit in 2007, Prime Minister Manmohan Singh introduced what became known as the Singh Convergence Principle (SCP) - a commitment that India's *per capita* emissions would never exceed those of industrialized countries. The SCP offered a balanced position: it demanded that developed countries reduce their *per capita* emissions first, while allowing India to continue economic development and raise its emissions within a fair and equitable framework²³. Although this move

19. The Clean Development Mechanism (CDM) is a United Nations carbon offset scheme established under the Kyoto Protocol.

20. The Energy and Resources Institute (TERI). *Innovative Solutions for Sustainable Development*. Available at: <https://www.teriin.org/>.

21. Dubash, Navroz K. (2013). "The Politics of Climate Change in India: Narratives of Equity and Cobenefits." *WIREs Climate Change* 4 (3): 191-201. Available at: <https://doi.org/10.1002/wcc.210>.

22. Saryal, Rajnish. (2018). "Climate Change Policy of India: Modifying the Environment." *South Asia Research* 38, no. 1 (January): 1-19. Available at: <https://doi.org/10.1177/0262728017745385>.

23. Ibid.

was intended to reassure global partners, it also drew criticism for masking the high emissions of India's affluent middle class behind its large population living in poverty. It was, however, the inception of what Indian scholars and policymakers consider a turning point for India's climate engagement.

Turning Point: COP15 and the Emerging Country Identity (2009-2014)

Following a period of defensive diplomacy centered on safeguarding its right to development, India entered a transformative phase in its climate posture beginning in 2009. Despite its ongoing emphasis on eradicating poverty and meeting energy demands, India took a significant step at COP15 in Copenhagen by voluntarily pledging to reduce the emissions intensity of its Gross Domestic Product (GDP) by 20-25% from 2005 levels by 2020²⁴. This marked a symbolic departure from India's previous refusal to accept any form of mitigation responsibility, which had long been shielded behind the firewall of historical emissions and the principle of CBDR. In parallel to its national commitments, India also signed the Copenhagen Accord, which signaled a subtle shift. Alongside Brazil, South Africa, and China, India helped shape the final language of the agreement, defending its historical positions while adapting to the evolving geopolitical context. This climate diplomacy coordination grouping has since been referred to as BASIC²⁵.

This change in position did not come without domestic contradictions. Then Foreign Minister S.M. Krishna, speaking at the Non-Aligned Movement (NAM) Preparatory Ministerial in Tehran in 2012, reaffirmed India's steadfast commitment to the CBDR principle and its resistance to mitigation obligations that might constrain domestic development. Parliamentary debates also painted a more nuanced picture. A Lok Sabha

24. Government of India (2010) *India's domestic mitigation actions under the Copenhagen Accord*. 31 January. Available at: https://unfccc.int/files/meetings/cop_15/copenhagen_accord/application/pdf/indiacphaccord_app2.pdf.

25. Thaker, Jagadish, and Anthony Leiserowitz. (2014). "Shifting Discourses of Climate Change in India." *Climatic Change* 123: 107-119. Available at: <https://doi.org/10.1007/s10584-014-1059-6>.

(lower chamber) meeting before Copenhagen reflected an acknowledgment of climate change as a serious issue, especially in terms of developed country responsibilities. In contrast, the post-Copenhagen Rajya Sabha (upper chamber) discussion framed climate change almost exclusively as a foreign policy concern. Indian interests were defined narrowly in terms of preserving sovereignty and growth potential, not around the global urgency of climate action²⁶.

India's strategic shift was also influenced by broader diplomatic goals. As aspirations for permanent membership in the UN Security Council grew, maintaining a hardline, obstructionist stance on climate issues became diplomatically untenable. India's refusal to commit to emissions reductions was not only at odds with developed nations and vulnerable states but also risked undermining its credibility on the global stage. The "co-benefits" narrative gained traction, proposing that mitigation policies could support core national objectives such as poverty alleviation and sustainable development²⁷. This approach was supported by Civil Society Organizations (CSOs), NGOs, and academic voices, which highlighted India's growing vulnerability, particularly that of its poorest citizens, to climate impacts. The emerging scientific consensus underscoring the necessity for developing countries to also adopt low-carbon pathways heightened the sense of urgency.

At COP16 in Cancun (2010), India's international engagement became more proactive and constructive. India played a pivotal role²⁸ in shaping several aspects of the Cancun Agreements²⁹, including the design of the Technology Mechanism and the introduction of the concept of "equitable access to

26. Dubash, Navroz K. (2013). "The Politics of Climate Change in India: Narratives of Equity and Cobenefits." *WIREs Climate Change* 4 (3): 191–201. Available at: <https://doi.org/10.1002/wcc.210>.

27. Thaker, Jagadish, and Anthony Leiserowitz. (2014). "Shifting Discourses of Climate Change in India." *Climatic Change* 123: 107–119. Available at: <https://doi.org/10.1007/s10584-014-1059-6>.

28. Press Information Bureau. *India and UNFCCC* (2010). Available at: <https://www.pib.gov.in/newsite/relcontent.aspx?relid=28457>.

29. United Nations Framework Convention on Climate Change (UNFCCC). *The Cancun Agreements*. Available at: <https://unfccc.int/process/conferences/the-big-picture/milestones/the-cancun-agreements>.

sustainable development.” India also contributed to developing mechanisms for “international consultation and analysis” (ICA) and “international assessment and review” (IAR), showcasing a willingness to bridge divides between negotiating parties³⁰.

BJP’s Agenda

Since 2014, under Prime Minister Narendra Modi and the Bharatiya Janata Party (BJP), India’s climate policy has evolved in a complex and multifaceted way, combining ambitious narratives, targeted institutional reforms, and an expanded role of the private sector, while challenges remain in translating these ambitions into political prioritization and strengthening domestic institutional capacity.

After Modi’s rise to power, his renewed interest in climate issues became clear when, shortly after taking office, he reconstituted the Prime Minister’s Council on Climate Change. This new approach was further reflected when Modi tasked the Ministry of Cultural Affairs with preparing public activities rooted in Indian cultural ethos for Paris COP21³¹. The goal was to highlight India’s historic contributions to environmental protection, emphasizing not only binding emissions targets but also the critical role of lifestyle changes and behavioral regulation in advancing global climate action.

In parallel, he reinvigorated the equity-based framing in the lead-up to the 2015 Paris Agreement by reinforcing the term climate justice. Speaking at the United Nations in September 2015, Modi invoked climate justice to broaden the debate beyond North-South divisions, while still maintaining the ethical and distributive logic of CBDR³². The term ultimately found its

30. Dubash, Navroz K. (2012). “Introduction.” In *Handbook of Climate Change and India: Development, Politics and Governance*, edited by Navroz K. Dubash, 1--10. London: Earthscan.

31. Saryal, Rajnish. (2018). “Climate Change Policy of India: Modifying the Environment.” *South Asia Research* 38, no. 1 (January): 1-19. Available at: <https://doi.org/10.1177/0262728017745385>.

32. PMO India. *PM Narendra Modi’s Full Speech at UNGA* (2015). Available at: <https://www.youtube.com/watch?v=95mj95V6WuE>.

way into the preamble of the Paris Agreement, recognizing “the importance for some of the concept of climate justice”³³.

Under Prime Minister Modi, India has been repositioning itself as a leading voice of the Global South, advocating a principled foreign policy that extends its influence beyond national borders.

On the opening day of COP21 in Paris in 2015, Modi and French President François Hollande launched the International Solar Alliance (ISA), inviting all countries located fully or partially between the Tropics of Cancer and Capricorn to collaborate on boosting solar energy in developing nations³⁴. The alliance aimed to promote cooperation on training, institutional capacity building, regulatory frameworks, common standards, investments, and joint ventures as part of India’s ongoing efforts to operationalize a co-benefits framework. Modi’s position was backed by his record in Gujarat, where as Chief Minister he promoted renewable energy, including building one of Asia’s largest solar parks and pioneering state-wide commercialization of solar power. Therefore, India’s Intended Nationally Determined Contribution (INDC) under the Paris Agreement included reducing carbon emissions intensity (CO₂ emissions per unit GDP) by 33-35% by 2030 from 2005 levels; achieving about 40% of cumulative electric power installed capacity from non-fossil fuel sources by 2030, supported by technology transfer and low-cost international finance, including from the Green Climate Fund; and creating an additional carbon sink of 2.5 to 3 billion tonnes of CO₂-equivalent through expanded forest and tree cover by 2030.

33. UNFCCC – United Nations Framework Convention on Climate Change (2015). *Paris Agreement*. Available at: https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

34. United Nations Framework Convention on Climate Change (UNFCCC). *International Solar Energy Alliance Launched at COP21* (30 November 2015). Available at: <https://unfccc.int/news/international-solar-energy-alliance-launched-at-cop21>.

In 2022, India submitted an updated NDC to the UNFCCC under the Paris Agreement, aiming for net zero emissions by 2070. This plan translates the Panchamrit (five nectar elements) Action Plan³⁵ announced at COP26 in Glasgow. According to India's Economic Survey 2020-21, achieving these NDC goals would require financial resources estimated at USD 2.5 trillion (INR 11 lakh crore) at 2014-15 prices³⁶.

Table 1. India's Updated NDC (2022)

Quantified Goals	
To reduce the emissions intensity of its GDP by 45 percent by 2030, relative to 2005 levels	To create an additional carbon sink of 2.5 to 3 billion tonnes of CO ₂ equivalent through additional forest and tree cover by 2030
To achieve approximately 50% of cumulative electric power installed capacity from non-fossil fuel energy sources by 2030, supported by technology transfer and low-cost international finance, including from the Green Climate Fund (GCF).	
Non-Quantified Goals	
To put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for 'LIFE'-'Lifestyle for Environment' as a key to combating climate change.	
To pursue a climate-friendly and cleaner development path than that historically followed by countries at comparable levels of economic development	

35. Ministry of Environment, Forest and Climate Change. *India's Stand at COP-26* (3 February 2022). Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1795071>.

36. Ministry of Finance, Government of India. *Economic Survey 2020-21, Volume 2*. Available at: https://www.indiabudget.gov.in/budget2021-22/economicsurvey/doc/echapter_vol2.pdf.

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To mobilize domestic resources and secure new and additional funding from developed countries to implement the above mitigation and adaptation actions, addressing both the required resources and the existing resource gap

To strengthen climate adaptation by increasing investments in development programs across vulnerable sectors—particularly agriculture, water resources, health, and disaster management—and in regions such as the Himalayan and coastal areas.

To develop capacities and establish domestic and international frameworks for the rapid deployment of advanced climate technologies in India, as well as for collaborative R&D on future technologies.

Source: Adapted from Government of India, 2022³⁷

While progress has been made on environmental issues, the Modi government's primary focus remains on advancing development. The *Viksit Bharat 2047* project, aimed at transforming India into a developed nation by the independence centennial, although composed of a green growth cross-cutting element, has set ambitious targets for development progress³⁸.

Within this context, the *Make in India* campaign aims to boost manufacturing, attract direct foreign investment, and facilitate technology transfer with the goal of increasing economic growth to 7-8% annually. As rapid industrial expansion frequently happens, this growth trajectory might carry negative implications for carbon emissions and environmental management. These concerns have been voiced by Indian environmental groups, particularly in light of governmental measures to streamline approval processes for industrial projects.

37. Government of India. *India's Updated First Nationally Determined Contribution Under the Paris Agreement (2021-2030)* (August 2022). Available at: <https://unfccc.int/sites/default/files/NDC/2022-08/India%20Updated%20First%20Nationally%20Determined%20Contrib.pdf>.

38. NITI Aayog. *Working Paper on Strategic Imperatives* (April 2025). Available at: https://www.niti.gov.in/sites/default/files/2025-04/Working%20Paper%20on%20Strategic%20Imperatives_04042025_NEW.pdf.

Under Prime Minister Narendra Modi, the BJP government has sought to reposition India's climate stance by emphasizing renewable energy, particularly solar power, as a driver of sustainable development and national growth. The renaming of the former Ministry of Environment and Forests to include "Climate Change" reflects a narrative adjustment in India's climate policy. While some solar targets established prior to Modi's tenure have been recalibrated, the government continues to advance renewable energy initiatives, fostering opportunities for private-sector investment and technological innovation. Meanwhile, state-owned enterprises, once central to energy transition efforts, have gradually ceded prominence to private-sector involvement in the energy sector, introducing both new investment opportunities and challenges related to public oversight.

At the same time, India faces ongoing challenges in translating ambitious climate objectives into domestic implementation, particularly given the scale and complexity of energy and environmental governance. The Modi government's approach reflects a continued emphasis on national sovereignty and strategic engagement in international climate negotiations, with a focus on securing financial and technological support to advance its climate goals. Balancing these objectives, encouraging private-sector participation, maintaining state-owned enterprise involvement, and strengthening domestic institutional capacity, remains central to the government's climate strategy³⁹.

39. Dröge, Susanne; Wagner, Christian (2015). India's Position in International Climate Negotiations: No Shift under Modi. SWP Comment No. 14/2015. Berlin: Stiftung Wissenschaft und Politik (SWP) - *German Institute for International and Security Affairs*. Available at: <https://nbnresolving.org/urn:nbn:de:0168-ssolar-424046>.

India's current climate strategy under the *Bharatiya Janata Party* (BJP) carries a strong foreign policy and economic development dimension, leveraging platforms such as the International Solar Alliance and Mission LiFE to strengthen India's position as a normative shaper in global climate debates. Historically, the BJP's approach to international climate policy has contrasted with that of the Congress Party, which has tended to frame climate issues through a more multidimensional and domestically focused lens, emphasizing the integration of climate action with broader developmental objectives.

While domestic political commitment presents some ambivalence, India has emerged as an increasingly active and innovative player in global climate diplomacy. Moving beyond a strictly multilateral approach under the UNFCCC, India now engages strategically across four interrelated external tracks: multilateral adaptation, minilateral innovation, trilateral bridging, and bilateral expansion.

1. **Multilateral Adaptation:** India continues to participate in UNFCCC-led processes increasingly viewing the regime as a coordination node within a broader ecosystem of climate governance. The country practices “forum shopping,” seeking the most strategic forums to pursue its climate interests and priorities while remaining formally committed to global frameworks.
2. **Minilateral Innovation:** India has championed several minilateral platforms, such as the ISA⁴⁰, the Coalition for Disaster Resilient Infrastructure⁴¹ (CDRI), and the QUAD Climate Change Adaptation and Mitigation Package⁴² (Q-CHAMP). These initiatives are presented as contributions to the global public good, particularly for the Global South, while also advancing India's geopolitical influence.

40. International Solar Alliance. *About Us*. Available at: <https://isa.int/about-us>.

41. Coalition for Disaster Resilient Infrastructure. *Home*. Available at: <https://www.cdri.world/>.

42. Ministry of Foreign Affairs of Japan. *Japan's Foreign Policy: A Vision for the 21st Century*. Available at: <https://www.mofa.go.jp/files/100348057.pdf>.

3. **Trilateral Bridging:** India is positioning itself as a South-South-North climate hub, creating partnerships that link developing countries to advanced economies in mutually beneficial climate cooperation. This bridging role seeks to strengthen India's image as a leader of the Global South, while also securing support from key Northern partners.
4. **Bilateral Expansion:** India is increasingly integrating climate concerns into its bilateral economic diplomacy, linking energy transition targets to broader investment agendas in sectors like technology, infrastructure, and transportation.

India's Domestic and Institutional Frameworks

Domestic climate policy debates in India remain highly contentious and fragmented. Achieving consensus - whether at the national, state, or local level -, on how to assess and address climate change is a persistent challenge. However, the government has been trying to find common ground through the establishment of institutional initiatives. India's institutional engagement with climate change was formalized with the establishment of the Prime Minister's Council on Climate Change⁴³ in 2007 (later reinstated by Modi in 2014), followed by the launch of the National Action Plan on Climate Change⁴⁴ (NAPCC) in 2008⁴⁵. The NAPCC was a foundational document for Indian climate policy, including the formulation of India's NDC under the Paris Agreement. Currently, although still valid as a framework, it has not been mobilized by Modi as a core

43. Ministry of Environment and Forests (2010). *India and UNFCCC*. Available at: <https://www.pib.gov.in/newsite/erecontent.aspx?relid=28457>.

44. Ministry of Environment, Forest and Climate Change (2018). *National Action Plan on Climate Change*. Available at: https://moef.gov.in/uploads/2018/04/NAP_E.pdf.

45. The NAPCC outlines eight core "missions," aiming to simultaneously advance climate goals and national development: National Solar Mission; National Mission for Enhanced Energy Efficiency; National Mission on Sustainable Habitat; National Water Mission; National Mission for Sustaining the Himalayan Ecosystem; Green India Mission (afforestation); National Mission for Sustainable Agriculture; and the National Mission on Strategic Knowledge for Climate Change.

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organizing element, as the Prime Minister has been focusing on the initiatives described in the previous section.

Recognizing the limits of centralized policymaking, India adopted a dual-level approach by encouraging states to formulate State Action Plans on Climate Change (SAPCCs), aligning with the NAPCC's framework while tailoring responses to regional specificities. By 2023, 34 Indian states had submitted their SAPCCs⁴⁶. Some states, such as Gujarat, demonstrated early leadership by creating a dedicated Department of Climate Change before even finalizing their SAPCC. Meanwhile, certain cities, including Mumbai, have also developed city-level climate action plans⁴⁷, reflecting a growing awareness of the urban dimension of climate vulnerability. Nonetheless, the effectiveness of the SAPCCs has been uneven. Many face limited implementation due to insufficient technical capacity, weak scientific integration, and a lack of financial resources. The decentralization intended to foster context-specific solutions has often resulted in policy fragmentation, with a number of states disregarding national guidelines or adopting minimalist commitments. Additionally, reliance on foreign expertise has sometimes produced superficial results due to a limited understanding of India's complex socio-spatial dynamics⁴⁸.

In line with the country's climate diplomacy strategies, climate finance for adaptation measures comes primarily from the domestic budget, with the Finance Commission at the national level playing a key role in allocations. For mitigation, India continues to call for international investment but also seeks to enhance its domestic capacity to attract such financing. As for developments in financial regulation on green investments, India has published some guidelines, including the *2019 National Guidelines on Responsible Business Conduct*⁴⁹ (NGRBC); the

46. Ministry of Environment, Forest and Climate Change (2023). *India's Climate Action and International Leadership*. Available at: <https://www.pib.gov.in/PressReleaseFramePage.aspx?PRID=1895857>.

47. Municipal Corporation of Greater Mumbai. *Mumbai Climate Action Plan*. Available at: <https://mcap.mcgm.gov.in/>.

48. Saran, Shyam. (2019). "India's Climate Change Negotiations: From Copenhagen to Paris." In *India in a Warming World: Integrating Climate Change and Development*, edited by Navroz K. Dubash, 143–151. New Delhi: Oxford University Press.

49. Indian Institute of Corporate Affairs (2018). *National Guidelines on Responsible Business Conduct*. Available at: <https://iica.nic.in/images/National-Guidelines-on-Responsible%20Business%20Conduct.pdf>.

*Business Responsibility and Sustainability Report*⁵⁰ (BRSR); the *Green Deposits for Regulated Entities*⁵¹; and a regulatory framework for the issuance of green debt securities in 2017, which outlines an illustrative list of activities that can be financed through green debt securities. The framework was revamped in 2023 by introducing the concepts of transition bonds (funds raised for transitioning to a more sustainable form of operations, in line with India's NDC); blue bonds (related to water management and marine sector) and yellow bonds (related to solar energy); and circular economy as sub-categories of the green debt securities. In addition to these measures, the Government of India has included Sovereign Green Bonds⁵² (SGrBs) in its overall market borrowings with the aim of mobilising resources for green infrastructure. On the whole, SGrBs worth USD 1.8 million were issued in FY23 and USD 2.3 million in FY24.

India's institutional design also faces operational constraints: major climate missions require coordination among multiple ministries - in some cases, three or four simultaneously. The effectiveness of the Ministry of Environment, Forest and Climate Change (MoEFCC) is undermined by fragmented coordination with other bodies, particularly the Ministry of External Affairs (MEA), which no longer maintains a dedicated climate unit.

To sum up, despite the institutional advances, climate change has yet to emerge as a central political issue in India. During the 2024 general elections, neither the ruling BJP nor the Indian National Congress highlighted climate change in their platforms - even as the country experienced deadly heat waves. Unlike some other democracies, India lacks a strong environmentalist political party capable of pushing climate issues into mainstream political discourse. Instead, climate policy is shaped primarily by elite strategies, development imperatives, and international visibility aspirations.

50. Securities and Exchange Board of India (SEBI) (2021) *Business responsibility and sustainability reporting format*. May. Available at: https://www.sebi.gov.in/sebi_data/condomdocs/may-2021/Business%20responsibility%20and%20sustainability%20reporting%20by%20listed%20entitiesAnnexure1_p.PDF.

51. Reserve Bank of India (2023) Framework for Acceptance of Green Deposits. Available at: <https://rbi.org.in/Scripts/NotificationUser.aspx?Id=12487&Mode=0>.

52. Ministry of Environment, Forest and Climate Change (2022) Sovereign green bonds and thematic funds for blended finance for climate action announced in the Union Budget 2022-23. Available at: <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1885728>

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Stakeholders and Partnerships

India's climate policymaking is influenced by a complex web of domestic stakeholders and international partnerships. Currently, at the core of India's domestic climate governance structure is the Prime Minister's Office (PMO), which plays a central coordinating role, followed by the Ministry of External Affairs (MEA) - despite the aforementioned lack of a dedicated climate unit. The MoEFCC, while traditionally the primary agency for environmental matters, now operates under the strategic leadership of the MEA and PMO. Other ministries, such as the Ministry of Commerce, Ministry of Finance (particularly in climate finance discussions), Ministry of New and Renewable Energy, and the Ministry of Petroleum and Natural Gas, also hold specific mandates. The governmental think tank NITI Aayog⁵³ serves as a crucial policy lab, offering technical support to the government and acting as a bridge between civil society and the state. It was part of the five-year plan committee and played a significant role during consultations to elaborate India's energy transition plan to achieve net-zero by 2070⁵⁴.

States, although critical for implementation, are largely peripheral in decision-making processes. Most climate policymaking remains centralized, with limited systematic consultation of subnational governments. India does not participate in global subnational coalitions such as the Coalition for High Ambition Multilevel Partnerships (CHAMP)⁵⁵, thereby reinforcing the top-down nature of its governance model. CSOs have become increasingly prominent since the mid-2000s, shifting from a traditional "environmentalism of the poor" to engagement with change through both sustainability and climate justice lenses. The Indian Network for Comprehensive

53. NITI Aayog. *Home*. Available at: <https://www.niti.gov.in/>.

54. Ministry of Environment, Forest and Climate Change (2023) *Net zero emissions target*. Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1945472>.

55. COP28 UAE. *Coalition for High Ambition Multilevel Partnerships for Climate Action*. Available at: <https://www.cop28.com/en/cop28-uae-coalition-for-high-ambition-multilevel-partnerships-for-climate-action>.

Climate Change Assessment⁵⁶ (INCCCA), coordinated by the MoEFCC and bringing together over 125 scientific institutions, further supports the country's regional leadership through knowledge production⁵⁷. While some CSOs cooperate with the state in technical and scientific domains, others critically address issues of unequal climate impacts and advocate for domestic climate justice. Despite their growing role, CSOs often face institutional barriers and their influence remains constrained by the dominance of the state-centric model⁵⁸.

India's corporate sector has undergone a gradual transformation in its climate engagement. Following the liberalization of the 1990s, business actors shifted their focus from social responsibility to competitiveness and profitability. However, since the 2000s, international pressure, scientific evidence, and global frameworks - such as the Paris Agreement and the Sustainable Development Goals (SDGs) -, have led to increased corporate climate commitments. Based on international and domestic requirements (including the aforementioned NGRBC and BRSR), several large Indian firms now report emissions data, adopt science-based targets, and participate in international coalitions like the Carbon Pricing Leadership Coalition (CPLC). Entities, such as the World Business Council for Sustainable Development (WBCSD) and the World Economic Forum, have collaborated with these efforts, coordinating open letters and public commitments from major companies, including joining the We Mean Business Coalition⁵⁹.

56. Ministry of Environment, Forest and Climate Change (2017) *Executive summary: greenhouse gas emissions from anthropogenic activities in India*. Available at: <https://moef.gov.in/uploads/2017/08/EXECUTIVE-SUMMARY-PS-HRP.pdf>

57. For instance, in 2010, INCCA published a "4 x 4 Assessment" of climate change in India. More information is available at: Ministry of Environment & Forests (2010). *Climate Change and India: A 4X4 Assessment – A Sectoral and Regional Analysis for 2030s*. Indian Network for Climate Change Assessment (INCCA). Available at: <http://www.indiaenvironmentportal.org.in/files/file-rpt-incca.pdf>.

58. Swarnakar, Pradip (2019). "Climate Change, Civil Society, and Social Movement in India." In *India in a Warming World: Integrating Climate Change and Development*, edited by Navroz K. Dubash, 337–354. New Delhi: Oxford University Press.

59. Venkateswaran, Shankar; Rajan, Mulund (2019). "Business Action on Climate Change: A Perspective from the Private Sector." In *India in a Warming World: Integrating Climate Change and Development*, edited by Navroz K. Dubash, 355–370. New Delhi: Oxford University Press.

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Public companies like the Oil and Gas Natural Corporation (ONGC) and start-ups and private companies, such as the TATA Group, Mahindra, Infosys, ReNew Power, Reliance Group, and Hindustan Construction Company, are engaged in climate initiatives and seven Indian companies are already part of the World Bank's Carbon Pricing Leadership Coalition⁶⁰. Business associations, such as the Confederation of Indian Industry⁶¹ (CII) and the Federation of Indian Chambers of Commerce and Industry⁶² (FICCI), play an important role in mainstreaming sustainability. Yet, the sector remains heterogeneous: while multinational and large corporations take the lead in climate-related initiatives, micro, small, and medium-sized enterprises (MSMEs) lag behind due to limited incentives and structural constraints.

In addition, India's external partnerships have evolved to serve both technological and strategic goals. The European Union (EU), Denmark, and the United Kingdom are key partners in terms of investments and, to some extent, technology transfer⁶³. With the EU, India has also established the India-EU Clean Energy and Climate Partnership⁶⁴ and has released leaders' joint statements⁶⁵. Cooperation with the EU also offers both parties a strategic counterbalance to China. One example was the recent announcement of the India-Middle East-Europe Economic Corridor⁶⁶ (IMEEC), an initiative not limited to, but at

60. Carbon Pricing Leadership Coalition. *Home*. Available at: <https://www.carbonpricingleadership.org/>.

61. Confederation of Indian Industry. *Home*. Available at: <https://www.cii.in/>.

62. Federation of Indian Chambers of Commerce & Industry. *Home*. Available at: <https://ficci.in/>.

63. Danish Ministry of Foreign Affairs (2025). *Denmark Forges Strategic Alliance for Green Transition with India*. Available at: <https://indien.um.dk/en/news/denmark-forges-strategic-alliance-for-green-transition-with-india>.

64. CAN South Asia (2025). *EU-India Climate Cooperation Brief*. Available at: <https://cansouthasia.net/eu-india-climate-cooperation-brief/>.

65. In the [Joint Statement from 2017](#), parties reaffirmed the target for industrialised countries to mobilise financing for climate action, although this commitment concerns only the EU and not India. It means that, even in its bilateral interactions, India has not given up on its assertion about the division between developing and industrialised countries.

66. Ministry of External Affairs, Government of India (2025). *Rajya Sabha unstarred question no. 1666: Transcontinental India-Middle East-Europe Economic Corridor*. 13 March. Available at: <https://www.mea.gov.in/rajya-sabha.htm?dtl/39193/>

least partly intended at countering the expansion of the Chinese Belt and Road Initiative. Japan supports India's technological development in clean energy and China is central in solar technology supply chains, despite geopolitical tensions. The United States, despite past and current trade disputes, remains a key economic partner in energy transition investments, with cooperation focusing on investments and job creation rather than climate *per se*.

Multilateral groupings, such as BRICS, play an increasingly prominent role. India uses the platform for economic and strategic balancing, particularly vis-à-vis China. Although coordination on climate within BRICS has grown, with declarations signaling alignment on principles and goals, groupings like BASIC and IBSA have seen their influence wane, as will be described in the following sections. Regional partnerships, such as those through the South Asian Association for Regional Cooperation (SAARC), the Shanghai Cooperation Organization (SCO), the dialogue with the Association of Southeast Asian Nations (ASEAN), or bilateral cooperation with neighbors like Nepal, Bhutan, and Bangladesh, remain relevant. Brazil, while not yet a central partner, is increasingly viewed as a country with significant potential for climate collaboration, especially in areas like agriculture, biofuels, and digital finance. Brazil could also serve as a strategic bridge between India and China and enhance South-South cooperation on sustainable development. The prospects of the Indian-Brazilian partnership will be detailed in the following sections.

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Key Sectors

India's approach to climate mitigation is deeply rooted in its energy security concerns. India's energy challenges can be broadly categorized into three areas: ensuring affordability and access (especially in rural areas); securing reliable energy supplies amid import dependence; and increasing domestic production, including storage capacity. As one of the world's fastest-growing economies, it faces surging energy demands driven by rapid industrialization, urbanization, and demographic growth. More than 300 million people still lack access to modern energy, making universal right to energy an urgent priority. This creates a time lag between expanding access and transitioning to clean energy. Energy use in India concentrates across four major sectors: residential (10%), industrial (43%),⁶⁷ transport (9%), and agriculture (4%)⁶⁸.

As such, India's climate rhetoric, including its emphasis on climate justice, must be understood within the context of its developmental needs and energy security imperatives.

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India's access to domestic energy resources remains limited and it is increasingly vulnerable to the volatility of global coal and gas prices, governance issues, and declining coal reserve estimates. Although the country is making significant progress in expanding renewable energy and promoting energy efficiency, these measures are often motivated more by their economic and energy security co-benefits than by decarbonization goals alone.

Coal continues to dominate the energy mix due to its critical role in ensuring reliable electricity supply and supporting industrial development. It therefore remains dominant, accounting for 60%

67. In 2023, the industrial sector contributed about 25% to India's GDP. For further information, please see: World Bank Open Data, Industry (Value Added, % of GDP) - *India* (2025). Available at: <https://data.worldbank.org/indicator/NV.IND.TOTL.ZS?locations=IN>.

68. India Climate & Energy Dashboard (2025). *Sector-Wise Primary Energy Supply*. Available at: <https://indiaenergydashboard.org/sector-wise-primary-energy-supply/>.

of national energy consumption. Despite coal's declining share in generation mix over recent years, India's coal consumption rose by 12% in 2023/2024, reaching nearly 548 million tonnes of oil equivalent (MTOE)⁶⁹. This was driven by a growing electricity demand, higher cement and steel production, warmer weather, and decreased hydropower output. Coal powers nearly 73% of electricity generation, underpins key industries, sustains regional economies, and provides jobs⁷⁰ - particularly in mining states such as Odisha, Jharkhand, and Chhattisgarh. India is also exploring coal gasification as a cleaner method of using domestic reserves of this fossil fuel. Current projects include coal-to-synthetic-natural-gas and coal-to-ammonium-nitrate initiatives, along with a 2024 pilot project for underground coal gasification. Meanwhile, natural gas, heavily consumed by the industrial sector - especially the fertilizer industry -, amounted to 67% of gas use in 2023⁷¹.

Renewable energy sources represent only about 2% of India's total energy mix⁷², despite steady growth. Some positive examples include projects under the Green Energy Corridor (GEC), aimed at establishing an intra-state transmission system that enhances grid capabilities for renewable energy; the National Bioenergy Programme, structured around three main pillars - the Waste to Energy Programme, the Biomass Programme, and the Biogas Programme; and the National Green Hydrogen Mission⁷³. The expansion of these programmes faces major structural barriers, notably an inadequate and outdated power distribution network that is incompatible with decentralized renewable generation. Biofuels, particularly those derived from sugar, also raise concerns, as their use for

69. Ibid.

70. NITI Aayog. *Indian Power Capacity - Overview*. Available at: <https://iced.niti.gov.in/energy/electricity/generation>.

71. U.S. Energy Information Administration. *Country Analysis Brief: India*, June 2025. Available at: https://www.eia.gov/international/content/analysis/countries_long/India/pdf/India.pdf.

72. India Climate & Energy Dashboard. *Source-Wise Primary Energy Supply*. Available at: <https://iced.niti.gov.in/energy/electricity/generation>.

73. Ministry of Power (2025). *Green Energy Corridor*. Available at: <https://powermin.gov.in/en/content/green-energy-corridor>.

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energy production may pose risks to biodiversity, food security, and water security, as discussed in the following sections.

Despite the growth of renewables, they are still framed within a broader discourse of energy diversification rather than a clear pivot away from fossil fuels. This creates a gap between India's ambitious international climate diplomacy and its domestic energy strategy, underscoring the need to examine actions at the ministerial and state levels instead of relying solely on commitments made at the international level.

India's energy transition is further complicated by institutional, technological, and federal governance challenges. State governments and State-Owned Enterprises (SOEs) play a central role in implementing energy policies, particularly in coal-producing and industrial states. These actors are crucial for ensuring a coordinated and just transition, given their capacity and developmental mandates. Technological progress remains uneven - while solar and nuclear energy investments are expanding, the overall pace of innovation is insufficient to meet long-term decarbonization goals. The social dimension of the energy transition cannot be overlooked as well. Job losses in traditional energy sectors pose a serious challenge, particularly in coal-dependent regions. India's government-owned Coal India Limited may need to cut approximately 73,800 jobs by 2050, with most of these losses likely impacting low-skilled workers from vulnerable socioeconomic backgrounds who require reskilling to transition into new roles. At the same time, the country anticipates the creation of 3.7 million green jobs by 2025⁷⁴. To support this transition, the government launched the Skill Council for Green Jobs⁷⁵ in 2015 to promote green skills training and integrate environmental awareness into broader skilling initiatives.

On a promising note, India's Climate Performance Ranking (2025) improved from 31st in 2014 to 7th in 2024 - although it went down three positions from 2024 to 2025, now ranking 10th. The government reported creating a carbon sink of 1.97 billion

74. Arkalji, Caroline (2024). "Job Losses and Gains in India's Energy Transition." ORF America, October 17 October, 2024. Available at: <https://orfamerica.org/orf-america-comments/india-energy-transition-jobs>.

75. Skill Council for Green Jobs (2025). Welcome to SCGJ. Available at: <https://sscgi.in>.

tonnes since 2005. Nonetheless, coal production continues to rise, reaching 893 million tonnes in 2022-2023, a 14% increase from the previous year. The government has stated that no coal plants will be closed before 2030, highlighting the tension between economic priorities and climate goals⁷⁶. This complex duality is often captured in the phrase, “India will grow coal to go green.” In the meantime, the country has taken important policy steps, such as passing the Energy Conservation Act in 2001, amended in 2022 to mandate the use of non-fossil energy sources; enforce energy efficiency codes in buildings; and regulate energy consumption in vehicles and ships. However, questions remain over whether the Ministry of Power is the appropriate regulatory and accountability body, given the MoEFCC oversees climate matters.

Despite setting a target of 40 GW for rooftop solar by 2022, India had only installed 6.7 GW by that deadline⁷⁷. Broader solar targets are also falling short, with a 32 GW gap expected in achieving the 100 GW solar capacity goal. Inconsistent policies, disincentives for residential users, and a preference for large-scale renewable projects have contributed to this underperformance.

Following the aforementioned updated NDC at COP26 PM in 2021, Narendra Modi emphasized five main goals (called by him the *Panchamrit*, or five *elixirs*): (1) achieving electricity generation capacity from non-fossil fuel sources of 500 GW by 2023; (2) reaching the capacity to have 50% of energy needs through renewable sources by 2030; (3) reducing projected carbon emissions by one billion tonnes by 2030; (4) lowering the carbon intensity of the economy, i.e. the total emitted per unit of GDP generated, by 45% by 2030; (5) and, as the main highlight, achieving carbon neutrality by 2070⁷⁸. In COP27,

76. Wadhwa, Radhey (2024). Evaluating India's Climate Policy Action Plan. *Australian Institute of International Affairs*. Available at: <https://www.internationalaffairs.org.au/australianoutlook/evaluatingindias-climate-policy-action-plan/>.

77. Zachariah, Sachin, Tyagi, Bhawna, Kuldeep, Neeraj (2023). “Mapping India's Residential Rooftop Solar Potential: A Bottom-Up Assessment Using Primary Data.” New Delhi: Council on Energy, Environment and Water. Available at: <https://www.ceew.in/publications/residential-rooftop-solar-market-potential-in-indianhouseholds>.

78. Ministry of Environment, Forest and Climate Change (2022). India's stand at COP-26. 3 February. Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1795071>.

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there was a strong promotion of Mission LiFE - Lifestyle for the Environment initiative, which aims to spread a more sustainable lifestyle through the cultural interpretation of a more sustainable stance. While India's updated NDC has been framed as ambitious by government actors, the Climate Action Tracker⁷⁹ rates its targets as "highly insufficient," noting a lack of sector-specific strategies and implementation roadmaps.

Beyond the energy sector, India's climate policy encompasses other critical sectors. Forests play a vital role in the country's climate strategy, but progress in this area has been uneven. The Green India Mission, launched under the NAPCC to enhance forest-based ecosystem services through afforestation and reforestation, has fallen short of its objectives, achieving only around 70% of its afforestation targets between 2015-16 and 2020-21. Notably, several key states, such as West Bengal, Jammu & Kashmir, and Himachal Pradesh, have not yet participated in the initiative. Compounding these challenges, India did not sign the voluntary COP26 Glasgow Leaders' Declaration on Forests and Land Use, which included a commitment to halt and reverse forest loss by 2030⁸⁰. A further area of concern has been the lack of transparency in official data on forest cover. While the India State of Forest Report 2023 concluded that the total forest and tree cover of the country has increased by 1445.81 km² compared to the 2019 assessment⁸¹, several discrepancies have been identified by independent researchers and international observers, and even experts from the UN have raised doubts about India's long-standing claims of increasing forest cover⁸². According to

79. Climate Action Tracker (2025). *India Country Analysis*. Available at: <https://climateactiontracker.org/countries/india/>.

80. Sharma, Sonali (2023). "India's Climate Change Policy: Challenges and Recommendations." *Indian School of Public Policy*. Available at: <https://www.ispp.org.in/indias-climatechange-policy-challenges-and-recommendations/>.

81. Forest Survey of India (2023). *India State of Forest Report 2023: Volume I*. Dehradun: Ministry of Environment, Forest and Climate Change, Government of India. Available at: https://fsi.nic.in/uploads/isfr2023/isfr_book_eng-vol-1_2023.pdf.

82. Business Standard (2019). "'UN questions India's forest cover data over lack of transparency & clarity,'" 3 January. Available at: https://www.business-standard.com/article/current-affairs/un-questions-india-s-forest-cover-data-over-lack-of-transparency-clarity-119010200637_1.html.

Global Forest Watch⁸³, from 2002 to 2024, India lost 5.4% of its humid primary forest - highlighting a significant divergence between domestic and international assessments.

In terms of adaptation, India's climate policy has gained increasing prominence in recent years, reflecting the country's acute vulnerability to the impacts of climate change. While India's *per capita* emissions remain low and its development strategy prioritizes low-carbon growth, significant barriers persist - particularly in terms of renewable energy storage technologies, mineral access, and infrastructure development. Adaptation expenditures rose from 3.7% of GDP in FY2016 to 5.6% in FY2022, illustrating a growing national emphasis on climate resilience⁸⁴. India's Initial Adaptation Communication, submitted to the UNFCCC in December 2023, outlines key priorities, including infrastructure development, regional and sector-specific strategies, and the need for substantial financial support⁸⁵. However, adaptation efforts have thus far been financed primarily through domestic resources, with limited flows of international finance - most of which remain mitigation-focused rather than adaptation-oriented. The outcomes of COP29 in Baku in November 2024, particularly regarding the New Collective Quantified Goal (NCQG) on climate finance, have done little to alter this *status quo*.

Domestically, adaptation strategies are increasingly integrated across multiple ministries and policy domains. The MoEFCC has initiated the development of a National Adaptation Plan (NAP)⁸⁶, which will build upon existing sectoral missions and local governance initiatives. These include the National

83. Global Forest Watch (2025). *India Country Dashboard: Forest Change*. Available at: <https://www.globalforestwatch.org/dashboards/country/IND/?category=forest-change&lang=en>.

84. Government of India, "Climate and Environment: Adaptation Matters." Available at: <https://www.indiabudget.gov.in/>.

85. India (2023). *Adaptation Communication: Version 1*, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/documents/636648>.

86. Devdiscourse News Desk (2025). *India's National Adaptation Plan: a blueprint for climate resilience and sustainable development*. 18 March. Devdiscourse. Available at: <https://www.devdiscourse.com/article/law-order/3312410-indias-national-adaptation-plan-a-blueprint-for-climate-resilience-and-sustainable-development>.

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Mission on Sustainable Habitat (NMSH); the Atal Mission for Rejuvenation and Urban Transformation (AMRUT); the Smart Cities Mission; the River Cities Alliance (RCA); and the National Aquifer Mapping Project (NAQUIM).

Water resource management also features prominently in India's climate planning. Sustainable water use is deeply linked to both adaptation and mitigation strategies, particularly in agriculture and energy. As India expands renewable energy infrastructure, investments in research and development - especially in battery storage and waste recycling technologies - are essential to ensure energy security and sustainability. The mission-oriented development of carbon capture, utilization, and storage (CCUS) technologies is also viewed as an important step in facilitating the continued, more sustainable use of thermal power during the transition period. In agriculture, the development of climate-resilient seeds and modernized farming techniques - coupled with the rejuvenation of traditional water bodies and aquifer systems -, will be vital for improving adaptive capacity.

Air pollution represents another pressing environmental and public health concern, with direct implications for India's climate governance. In response, the government launched the National Clean Air Programme⁸⁷ (NCAP) in 2019, marking the first national-level strategy dedicated to improving air quality. The NCAP emphasizes the implementation of City Action Plans (CAPs), tailored to the specific pollution sources and mitigation needs of individual urban areas. While not formally part of India's NDC, the NCAP complements broader climate objectives by targeting the reduction of airborne pollutants - many of which overlap with GHG emissions.

Having examined India's historical trajectory, domestic frameworks, and key sectoral challenges in the context of climate change and the just energy transition, the next section turns to Brazil, a country with significant environmental assets, a distinct emissions profile, and an important role in international climate negotiations.

87. Ministry of Environment, Forest and Climate Change (2024). *Goals set under National Clean Air Programme (NCAP)*. 8 August. Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2043004>.

From “Pushing the Whole Lot Through” to Renewed - but Imperfect - Commitments:

A Brief Assessment of Brazil’s Contemporary Climate Policy Landscape⁸⁸

Scene-Setting

Brazil plays a critical role in the global climate landscape. As the most biodiverse country on the planet, home to a significant portion of the Amazon rainforest, and an emerging economy with considerable geopolitical influence, Brazil holds both the potential and the responsibility to contribute meaningfully to the global climate agenda. Its role as a leader among developing countries has been marked by active participation in major environmental negotiations, from the Stockholm Conference in 1972 to Rio-92, Rio+20, and now COP30 in 2025.

Historically, Brazil has presented a dual legacy in climate policy. On the one hand, just like India, it has taken on a leadership role in advocating for the principle of CBDR, seeking to ensure that environmental commitments consider historical inequalities and the right to development. On the other hand, domestic contradictions, particularly those related to deforestation in the Amazon, land use change, and inconsistent enforcement of environmental regulations, have at times undermined its credibility on the international stage.

88. This section was based on several chapters from the book *Brazilian Foreign Policy and Climate: Towards an Environmentally Responsible and Socially Just Brazil*, organized by Maiara Folly, Marília Closs, and Vitória Gonzalez, and published by FUNAG in 2024 (Folly, Maiara; Closs, Marília; Gonzalez, Vitória orgs. (2024). *Brazilian Foreign Policy and Climate: Towards an Environmentally Responsible and Socially Just Brazil*. Brasília: FUNAG. Available at: <https://funag.gov.br/biblioteca-nova/produto/1-1281>.

Brazil's emissions profile is distinct from that of most major economies. Rather than energy or industry, land use change - especially deforestation - accounts for the largest share of emissions.

In 2022, 48% of Brazil's gross emissions came from land use change, followed by agriculture (27%), energy (17%), industry (5%), and waste (3%)⁸⁹. Therefore, to achieve meaningful climate results, Brazil must advance a cross-sectoral approach that integrates climate action across agriculture, transport, industry, energy, and land use. There are, however, solid foundations to build upon. Brazil continues to operate one of the cleanest electricity systems in the world, with 84%⁹⁰ of its electric power and 49% of the overall energy matrix power generation in 2023 sourced from renewables⁹¹ - a process that does not go without its own contradictions, as will be stressed in the following sections. Hydroelectricity remains dominant, but wind and solar energy have grown rapidly - reaching 26 GW and 37 GW of installed capacity, respectively. The country is also a pioneer in the use of biofuels, supported by the National Policy on Biofuels⁹² (RenovaBio), which seeks to decarbonize the transportation sector while promoting energy security and rural development. Nonetheless, fossil fuels continue to play a significant role in Brazil's economy, and new exploration projects, including in environmentally sensitive areas such as the Amazon Basin, remain controversial.

89. Observatório do Clima. *Sistema de Estimativas de Emissões e Remoções de Gases de Efeito Estufa (SEEG)*. Available at: https://plataforma.seeg.eco.br/?highlight=br-gross-emissions-by-sector-nci&_gl=1*dqdnx9*_ga*NDMyODg4NDI5LjE3NDg1Mjk0MzA.*_ga_XZWSWEJDWQ*cze3NDg1Mjk0MjkkbzEkZzAkdDE3NDg1Mjk0MjkajYw-JGwwJGgw.

90. Agência Nacional de Energia Elétrica (2024). *Matriz Elétrica Brasileira Alcança 200 GW*, 7 March 2024. Available at: <https://www.gov.br/aneel/pt-br/assuntos/noticias/2024/matriz-eletrica-brasileira-alcanca-200-gw>.

91. Empresa de Pesquisa Energética (EPE). *Balanço Energético Nacional 2024*. Available at: <https://www.epe.gov.br/pt/publicacoes-dados-abertos/publicacoes/balanco-energetico-nacional-2024>.

92. Agência Nacional do Petróleo, Gás Natural e Biocombustíveis (ANP). *RenovaBio — Política Nacional de Biocombustíveis*. Available at: <https://www.gov.br/anp/pt-br/assuntos/renovabio>.

As the world's sixth largest emitter of GHG, the country currently plays a significant role in global emissions, with a substantial share linked to illegal deforestation in the Amazon and other biomes. A positive turning point occurred in the early 2000s, when Brazil dramatically reduced Amazon deforestation, cutting annual rates by over 80% between 2004 and 2012 through robust monitoring, enforcement, and supply chain interventions⁹³. However, this trend reversed after 2012, peaking again in 2021 with over 13,000 km² of forest loss. Since 2023, under renewed federal leadership, enforcement agencies and environmental governance institutions have been strengthened, with a 50% drop in Amazon deforestation rates compared to the previous year.

In recent years, Brazil's climate diplomacy has seen important shifts. The Bolsonaro administration (2019–2022) was marked by weakened environmental governance and increased deforestation, leading to tensions with international partners and reduced climate ambition. Since 2023, under President Luiz Inácio Lula da Silva, the country has sought to reestablish itself as a constructive player in global climate governance. The return to international cooperation, strengthening of domestic environmental institutions, and Brazil's leadership in South-South partnerships - including with India - signal a renewed commitment to sustainable development and a just energy transition.

93. INPE – Instituto Nacional de Pesquisas Espaciais (2025). *PRODES – Monitoramento do Desmatamento por Corte Raso na Amazônia Legal*. Available at: <https://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>.

Brazil's Climate Diplomacy

Brazil has historically played a proactive and influential role in global environmental diplomacy, often positioning itself as a leading voice for the Global South. Its participation in climate negotiations has evolved significantly over the decades, marked by moments of international prominence, setbacks, and, more recently, renewed ambition.

From Stockholm to Paris⁹⁴

The country's active engagement in climate governance dates back to the 1972 United Nations Conference on the Human Environment in Stockholm, where Brazil advocated for the right to development of third world countries while emphasizing the disproportionate responsibility of industrialized nations for environmental degradation. At the time, Brazil was under a military dictatorship whose support relied heavily on macroeconomic performance, particularly GDP growth, rather than on equitable income distribution or social inclusion. This context gave rise to a developmentalist agenda that prioritized major public infrastructure projects such as the Trans-Amazonian Highway and the nuclear power plant in the municipality of Angra dos Reis, with little consideration to environmental concerns. The country's stance in Stockholm thus reflected a strong call for addressing historical inequalities and responsibilities.

During this era, the dominant discourse on development in some global circles had begun to shift. Influential groups and intellectual currents, such as those represented by the Club of Rome, questioned the sustainability of economic growth itself, advocating for “zero growth” or limits to growth⁹⁵. At the same

94. This section was based on the book *Stockholm, Rio, Johannesburg: Brazil and the Three United Nations Conferences on the Environment*, written by Ambassador André Aranha Corrêa do Lago and published by FUNAG in 2009 (Corrêa do Lago, André Aranha. (2009). Stockholm, Rio, Johannesburg: Brazil and the Three United Nations Conferences on the Environment. Brasília: Instituto Rio Branco; Fundação Alexandre de Gusmão. Available at: https://funag.gov.br/loja/download/528-Stockholm_Rio_Johannesburg_Brazil_and_the_Three_United_Nations_Conferences_on_the_Environment.pdf).

95. Meadows, Donella. H., Meadows, Dennis L., Randers, Jørgen., Behrens III, William W. (1972). *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind*. Universe Books, New York.

time, there was an increasing concern that rapid development in authoritarian contexts could exacerbate both environmental degradation and human rights violations. Against this backdrop, the Brazilian delegation, coordinated by Ambassador Araújo Castro, adopted a proactive and strategic stance. Rather than boycotting the Conference, Brazil sought to reshape its scope and focus by emphasizing that environmental concerns must be addressed alongside development goals - a position that aligned with the Indian stance. The delegation's aim was to prevent the meeting from becoming a narrowly conservationist initiative consistent with the interests of a few industrialized nations.

A key element of Brazil's position was to reframe development not as a threat to the environment, instead presenting it as part of the solution, particularly considering the circumstances faced by developing countries. By the final session of the Preparatory Committee, Brazil had achieved several important victories. Most notably, it succeeded in articulating a broader vision that integrated environmental protection with social and economic development - an approach that continues to shape global environmental negotiations to date. This strategy not only challenged the restrictive environmental narratives advanced by some developed nations but also helped align other developing countries around a common position. Brazil, already playing a leading role in institutions such as the United Nations Conference on Trade and Development (UNCTAD) and the Economic Commission for Latin America (ECLAC), leveraged its diplomatic capital to consolidate this coalition. The Brazilian position therefore did not seek to obstruct the international environmental agenda, as some delegations had claimed. Rather, it offered a constructive alternative to purely environmentalist frameworks, advocating for a more equitable and development-oriented multilateralism.

A landmark moment came in 1992, when the country hosted the Rio-92. Held in a newly democratized Brazil, the conference marked a turning point in the international environmental agenda. In December 1988, the government of President José Sarney proposed Brazil as the host, a bold move driven by the recognition that, despite the political risks, the potential gains in terms of global image and diplomatic influence far outweighed

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the downsides. It was also a response to a surge in global environmental awareness largely sparked by the dissemination of the Brundtland Report, which popularized the concept of “sustainable development.”⁹⁶

Meanwhile, media attention increasingly focused on the alarming rise in Amazon forest fires, as data suggested escalating deforestation rates with climate and biodiversity loss implications. In this context, the Sarney government, although consumed by significant political challenges and severe economic instability at home, was compelled to take decisive action to demonstrate Brazil’s commitment to environmental issues both domestically and internationally. At the national level, in 1988, right after the new Brazilian Constitution was enacted, the government suspended tax incentives for agricultural projects in dense rainforest areas. Two weeks later, the murder of environmental activist Chico Mendes in the state of Acre drew worldwide attention and further emphasized the urgency of protecting the Amazon and its defenders. In response, the government reinforced its environmental institutional framework by establishing the Brazilian Institute for the Environment and Renewable Natural Resources (Ibama). Around this time, global environmental governance discussions began to incorporate the notion of a right to intervene on ecological issues – a concept opposed by many, yet indicative of a growing recognition of the transnational nature of environmental threats.

Unlike its more defensive stance at the Stockholm Conference in 1972, Brazil took on a leadership role in the preparations for Rio-92. The conference was grounded in many of the principles that Brazil itself had championed two decades earlier, particularly the inseparability of environmental protection and sustainable development.

Rio-92 gave rise to the three foundational treaties: the UNFCCC, the Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD).

96. World Commission on Environment and Development (1987). *Our Common Future*, United Nations. Available at: <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.

It also produced other key instruments, including Agenda 21⁹⁷, the Rio Declaration⁹⁸, and the Forest Principles⁹⁹. Rio-92 was notable not only for its official outcomes, but also for the unprecedented civil society mobilization it generated. Parallel to the formal proceedings, the Global Forum gathered over 10,000 representatives from NGOs and social movements, highlighting Brazil's ability to convene a broad, inclusive environmental debate. Importantly, Rio-92 also enshrined the principle of CBDR, which remains a central tenet of both Brazil's and India's climate positions to this day.

In 2012, Brazil again hosted a milestone event: Rio+20, the 20th anniversary conference that assessed progress since Rio-92 and laid the groundwork for the Agenda 2030 and its SDGs¹⁰⁰. Between these two landmark conferences, Brazil actively participated in climate negotiations, including negotiations around the Kyoto Protocol. During COP3, Brazil proposed a mechanism to penalize countries that failed to meet emissions targets - an idea that later inspired the CDM, allowing developing countries to issue carbon credits. Brazil also played a central role in the Paris Agreement negotiations at COP21 in 2015, and, in that same year, contributed significantly to the negotiation of the SDGs and the Addis Ababa Action Agenda on Financing Sustainable Development¹⁰¹.

97. United Nations (1992). *Agenda 21: Programme of Action for Sustainable Development*, United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992.

98. United Nations (1992). *Rio Declaration on Environment and Development*, United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992. Available at: https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf.

99. United Nations Department of Public Information (1992). *Earth Summit: Rio Declaration and Forest Principles* - final text, United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992. Available at: <https://digitallibrary.un.org/record/170821>.

100. Governo do Brasil (2012). *Contribuição Brasileira à Conferência Rio+20*, Rio de Janeiro: Comitê Nacional Rio+20. Available at: http://www.rio20.gov.br/documentos/contribuicao-brasileira-a-conferencia-rio-20/at_download/contribuicao-brasileira-a-conferencia-rio-20.pdf.

101. United Nations (2015). *Addis Ababa Action Agenda: Outcome Document of the Third International Conference on Financing for Development*, Addis Ababa, 13-16 July 2015. Available at: https://sustainabledevelopment.un.org/content/documents/2051AAAA_Outcome.pdf.

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Setback and Disassembly (2016-2022)

Brazil's climate diplomacy suffered a major setback between 2016 and 2022. During this period, the country adopted a markedly antagonistic posture towards global environmental governance: deforestation surged, environmental regulations were dismantled, and international credibility declined, which contributed to record-breaking deforestation rates in the Amazon. Especially under Bolsonaro (2019-2022) and Minister of Environment Ricardo Salles, the Brazilian climate policy was marked by budget and personnel cuts, flexibilisation of environmental protection legislation, dismantling of key institutions, and paralysis of the territorial planning process, such as the demarcation of new Indigenous lands and land titling of quilombola territories. This period was also characterized by openly anti-environmentalist rhetoric, including a statement from Salles during a Ministerial Meeting in which he argued that Brazil should flexibilise international regulations to “push the whole cattle lot through,” while the public's attention was focused on the Covid-19 pandemic¹⁰².

Although Bolsonaro ultimately refrained from withdrawing Brazil from the Paris Agreement - a campaign pledge to emulate Trump's exit, which was strategically reversed just before Bolsonaro's participation in the World Economic Forum in Davos -, his government nonetheless signaled disengagement from multilateral climate efforts. A clear example was the country's withdrawal from hosting COP25 in 2019, officially justified by “budget constraints.”¹⁰³. This move was widely interpreted as indicative of the administration's lack of commitment to climate diplomacy.

Bolsonaro's environmental rhetoric, often confrontational and dismissive, generated both domestic and international

102. Alessi, Gil (2020). “Salles sees opportunity with coronavirus to “pass the herd” for deregulation of environmental protection.” El País Brasil. (22 May). Available at: <https://brasil.elpais.com/brasil/2020-05-22/salles-veoportunidade-com-coronavirus-para-passar-de-boiada-desregulacaoda-protecao-ao-meio-ambiente.html>.

103. Agência Senado (2018). “CRE pede que governo reveja desistência do Brasil de sediar a COP-25,” 28 November 2018. Available at: <https://www12.senado.leg.br/noticias/materias/2018/11/28/cre-pede-que-governo-reveja-desistencia-do-brasil-de-sediar-a-cop-25>.

backlash. Notably, when devastating fires swept through the Amazon rainforest, the former President baselessly accused environmental NGOs of orchestrating the blazes, drawing intense criticism. Ironically, it was the agribusiness sector - traditionally aligned with Bolsonaro -, that expressed concern over the reputational damage these statements were causing. Former Agriculture Minister and soy entrepreneur Blairo Maggi warned that such policies risked damaging Brazil's image abroad, citing growing calls in Europe for boycotts of Brazilian beef¹⁰⁴.

Further controversy arose when Environment Minister Ricardo Salles attempted to unilaterally alter the governance of the Amazon Fund, a key financial mechanism supported by Germany and Norway since 2008 to combat deforestation. The proposed changes, which undermined transparency and accountability, led both donor countries to suspend contributions totalling approximately USD 70 million. Bolsonaro responded with disdain, arguing that European nations were in no position to lecture Brazil on environmental matters. The domestic consequences of Bolsonaro's policies were equally alarming. Land invasions of Indigenous territories surged by 150% following his election, accompanied by a documented wave of violence. At least sixteen serious attacks against Indigenous communities were recorded during this period, including incidents of stoning and four homicides¹⁰⁵. These developments highlighted not only the erosion of environmental protection but also the dismantling of institutional safeguards for Indigenous rights.

At the same time, the government's revisions to Brazil's NDC allowed for higher emissions trajectories than previously committed, drawing accusations of "climate backpedalling"¹⁰⁶.

104. Lemos, Vinícius (2019). 'Teremos que refazer a imagem do Brasil no exterior', BBC News Brasil, 25 August. Available at: <https://www.bbc.com/portuguese/brasil-49465968>.

105. Casarões, Guilherme; Flandes, Daniel (2019). "Brazil First, Climate Last: Bolsonaro's Foreign Policy." GIGA Focus | Latin America, no. 5 (September). Hamburg: GIGA German Institute of Global and Area Studies. Available at: https://eaesp.fgv.br/sites/eaesp.fgv.br/files/pesquisaeaespp-files/arquivos/brazil_first.pdf.

106. Observatório do Clima (2020). *NDC and the Carbon Trick Maneuver: How Brazil Reduced the Ambition of its Goals under the Paris Agreement*. Available at: <https://www.oc.eco.br/wp-content/uploads/2020/12/NDC-analysis-EN.pdf>.

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In 2022, following legal actions at the domestic level, Brazil once again submitted a target that allowed for higher future emissions levels rather than a progressive drop in emissions. As a result of its loss of international credibility, Brazil's participation in COP26 in Glasgow and COP27 in Sharm El Sheikh was fragmented, with civil society and subnational actors occupying a larger space than the federal government.

Tentative Return (2023-Onwards)

The election of Luiz Inácio Lula da Silva in 2022 marked a turning point. His administration signaled a return to climate ambition and multilateral engagement, with commitments to restore environmental governance and reassert Brazil's leadership role. Even before taking the oath, Lula participated in COP27 in the capacity of president-elect and announced¹⁰⁷ that Brazil would be willing to host COP30 in 2025, as well as convene an Amazon Summit bringing together the heads of state of the Amazon Cooperation Treaty Organization (ACTO), which took place in August 2023. The event was preceded by the Amazon Dialogues, a large civil society forum that gathered more than 30,000 participants. In parallel to international movements, Lula has refurbished some of the previously dismantled domestic policies, including programmes such as the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm)¹⁰⁸, which was resumed on his first day in office.

Despite the need to adopt specific disruptive measures to reshape domestic and foreign climate policy, Lula kept some principles intact. At the 2023 Summit for a New Global Financing Pact in Paris, he strongly criticized¹⁰⁹ rich countries for failing

107. G1 Globo (2022). "Veja íntegra do discurso de Lula na COP 27," 16 November 2022. Available at: <https://g1.globo.com/meio-ambiente/cop-27/noticia/2022/11/16/veja-integra-do-discurso-de-lula-na-cop-27.ghtml>.

108. Ministério do Meio Ambiente e Mudança do Clima (2023). *Plano de Ação para Prevenção e Controle do Desmatamento na Amazônia Legal (PPCDAm)*, 5ª Fase (2023-2027). Available at: <https://www.gov.br/mma/pt-br/assuntos/controle-ao-desmatamento-queimadas-e-ordenamento-ambiental-territorial/controle-do-desmatamento-1/amazonia-ppcdam-1>.

109. Presidency of the Republic of Brazil (2023). *Speech by President Luiz Inácio Lula da Silva During the Summit for a New Global Financial Pact in France*. Available at: <https://www.gov.br/planalto/en/follow-the-government/speeches-statements/2023/speech-by-president-luiz-inacio-lula-da-silva-during-the-summit-for-a-new-global-financial-pact-in-france>.

to deliver on climate finance and called for a just international financial system. His rhetoric embraced the CBDR principle in practice, combining strong domestic commitments with demands for international solidarity and historical responsibility.

Brazil's Domestic and Institutional Frameworks

Brazil was an early mover among developing countries, passing the National Policy on Climate Change (PNMC)¹¹⁰ in 2009. In 2010 at COP16 in Cancun, it announced its domestic legislative regulation of the PNMC, a movement that turned Brazil into the first country to formally embrace emission reduction targets voluntarily before the Paris Agreement. The PNMC was followed by the new version of the Forest Code in 2012¹¹¹. In 2015, Brazil submitted its first NDC¹¹², and two years later, it institutionalized its domestic implementation of the UNFCCC with the creation of the Climate Change Coordination Office under the Ministry of Science and Technology. The NDC was later updated on other occasions, such as in 2020¹¹³ during the Bolsonaro administration, and in 2024¹¹⁴ during COP29. The current NDC (2024) was built based on the Plano Clima (Climate Plan), which

110. Ministério do Meio Ambiente (2018). *Política Nacional sobre Mudança do Clima (PNMC)*. Available at: <https://antigo.mma.gov.br/clima/politica-nacional-sobre-mudanca-do-clima.html>.

111. However, since the adoption of the National Policy on Climate Change (PNMC) in 2009, Brazil's emissions trajectory has remained essentially flat. Studies attribute this stagnation primarily to the failure to meet deforestation reduction targets, particularly in the Amazon.

112. Brazil (2022). *First Nationally Determined Contribution (Updated submission)*, United Nations Framework Convention on Climate Change. Available at: <https://unfccc.int/sites/default/files/NDC/2022-06/Brazil%20First%20NDC%20%28Updated%20submission%29.pdf>.

113. Observatório do Clima (2020). Brazil's Updated NDC in the Paris Agreement: *How Brazil Reduced the Ambition of its Goals under the Paris Agreement*, 10 December 2020. Available at: <https://www.oc.eco.br/wp-content/uploads/2020/12/NDC-analysis-EN>.

114. Brazil (2024). *Second Nationally Determined Contribution (NDC)*: November 2024, United Nations Framework Convention on Climate Change. Available at: https://unfccc.int/sites/default/files/2024-11/Brazil_Second%20Nationally%20Determined%20Contribution%20%28NDC%29_November2024.pdf.

will be introduced below, and includes reducing GHG emissions by 53% (1.2 gigatonnes of carbon dioxide equivalent) by 2030 and achieving net zero emissions by 2050.

To consolidate and expand its climate and development agenda, Brazil has recently launched a new generation of federal programs:

1. **Ecological Transformation Plan (2023):** led by the Ministry of Finance, this plan integrates climate goals with Brazil's industrial and economic development strategy. It contains five main pillars, namely sustainable infrastructure and urban transition; bioeconomy and forest conservation; energy transition and reindustrialization; circular economy and waste management; and adaptation and resilience. The plan adopts a "just transition" approach, aiming to boost competitiveness, attract investment, generate employment, and reduce social inequalities while supporting emissions reductions. Its tools include a sustainable tax reform, a regulatory taxonomy for green investments, and instruments to leverage blended finance¹¹⁵.
2. **Nova Indústria Brasil (2024):** Brazil's new industrial policy, launched by the Ministry of Development, Industry and Trade (MDIC) and the Brazilian National Development Bank (BNDES), with a focus on technological innovation and decarbonization. Among its six missions, three incorporate clear climate components: promoting bioeconomy and sustainable use of biodiversity; decarbonizing industry; and improving sanitation and water security. The plan is backed by financing from national development banks and policy instruments, such as public procurement, concessional loans, and fiscal incentives¹¹⁶.

115. Ministry of Finance, Government of Brazil (2024). *Ecological Transformation Plan (ETP)*. Available at: <https://www.gov.br/fazenda/pt-br/aceso-a-informacao/acoes-e-programas/transformacao-ecologica/english-version>.

116. Government of Brazil (2024). "Brazil launches new industrial policy with development goals and measures up to 2033," 22 January 2024. Available at: <https://www.gov.br/planalto/en/latest-news/2024/01/brazil-launches-new-industrial-policy-with-development-goals-and-measures-up-to-2033>.

3. **Plano Clima (2024):** coordinated by the Ministry of Environment and Climate Change (MMA), it establishes sectoral guidelines and revises Brazil's long-term strategy. Its pillars include specific plans for mitigation and adaptation, setting targets for zero deforestation, energy transition, circular economy, adaptation and resilience, and nature-based solutions. The plan also aims to increase transparency and improve climate governance through better inter-ministerial coordination¹¹⁷.

Stakeholders and Partnerships

Brazil's climate diplomacy has been shaped by a wide array of bilateral, regional, and multilateral partnerships. These partnerships play a crucial role in supporting the country's ecological transition, financing climate action, promoting technology transfer, and strengthening South-South cooperation. At the national level, the BNDES has emerged as a cornerstone of Brazil's green transition. In 2023¹¹⁸ alone, BNDES approved over R\$ 39.3 billion (approximately USD 8 billion) in financing aligned with climate and environmental objectives, representing a 46% increase compared to 2022. Its strategic focus includes renewable energy, energy efficiency, sustainable agriculture, and sanitation. In cooperation with the Ministry of Finance, BNDES is tasked with playing a leading role in implementing the aforementioned Ecological Transition Plan through instruments such as green bonds and subnational climate finance.

Brazil also leverages South-South frameworks to build shared climate solutions. Alongside India, it is also an active member of the IBSA, BRICS, and BASIC groupings. Within IBSA, the IBSA Fund¹¹⁹ has supported climate-related initiatives in countries like Haiti, Guinea-Bissau, and Senegal, spanning renewable

117. Ibid.

118. BNDES (2024). *Relatório Anual 2023*. Available at: https://www.bndes.gov.br/hotsites/Relatorio_Anual_2023/BNDES_RA2023.pdf.

119. India, Brazil, and South Africa (2024). *IBSA Fund for Poverty and Hunger Alleviation*, IBSA Dialogue Forum. Available at: https://www.ibsa-trilateral.org/ibsa_fund.html.

energy, waste management, and soil degradation mitigation. The group also created a trilateral task force on biofuels¹²⁰ in 2006; signed a Memorandum of Understanding (MoU) on cooperation in wind resources¹²¹ in 2007; and a Memorandum of Cooperation on solar energy¹²² in 2010; besides establishing a working group¹²³ on climate and environment in 2008.

Through the BRICS grouping, Brazil participates in multilateral efforts for sustainable development, particularly via the New Development Bank (NDB) - which played a role in the provision of financing for infrastructure recovery of the state of Rio Grande do Sul after the 2024 floods. However, despite its mandate to fund sustainable infrastructure, the NDB's portfolio remains skewed towards fossil fuels. Nevertheless, initiatives such as the BRICS Energy Research Cooperation Platform¹²⁴ and the Roadmap for BRICS Energy Cooperation 2025-2030¹²⁵, with an emphasis on biofuels and renewables, represent important steps for climate cooperation among emerging economies. Within BASIC, Brazil has also consistently advocated for the principle of CBDR.

120. Government of India, Government of Brazil, and Government of South Africa (2006). *Memorandum of Understanding on Establishing a Trilateral Task Team on Biofuels*, 13 September 2006. Available at: <https://www.ibsa-trilateral.org/mou/20060913IBSABiofuels.pdf>.

121. Government of India, Government of Brazil, and Government of South Africa (2007). *Memorandum of Understanding on Cooperation in Wind Resources*, 17 October 2007.

122. Government of India, Government of Brazil, and Government of South Africa (2010). *Memorandum of Understanding on Cooperation in the Area of Solar Energy*, 15 April 2010. Available at: <https://www.ibsa-trilateral.org/mou/23042010solarenergy.pdf>.

123. Government of India, Government of Brazil, and Government of South Africa (2008). *Memorandum of Understanding on Cooperation in the Field of Environment under the India Brazil South Africa (IBSA) Dialogue Forum*, 15 October 2008. Available at: <https://www.ibsa-trilateral.org/mou/20081015IBSAEnvironment.PDF>.

124. Ministry of Mines and Energy, Brazil (2019). *BRICS Energy Research Cooperation Platform: Interim Results and Plans of Development*, 11 November 2019, Brasília. Available at: <https://www.gov.br/mme/pt-br/arquivos/document-0-6888761507266883.pdf>.

125. BRICS Brasil (2025). "BRICS Energy Ministers approve Joint Statement," *BRICS Brasil Bulletin* #08, 23 May 2025. Available at: <https://brics.br/en/news/brics-brasil-bulletin/08-brics-energy-ministers-approve-joint-statement>.

In regional terms, the ACTO¹²⁶ has gained new relevance in recent years. The Amazon Heads of State Summit, held in Belém in August 2023, produced the Belém Declaration¹²⁷, which contains clear commitments to enhance cooperation to avert the Amazon's tipping point and to promote the region's sustainable development. Key proposals include a Green Alliance to Combat Deforestation and new regional coordination mechanisms for airspace control and law enforcement to combat illicit activities, including environmental crimes. Within Mercosur, Brazil has emphasized the importance of aligning trade agreements, such as the pending EU-Mercosur Comprehensive Agreement, with reindustrialization and balanced environmental protection goals, in order to avoid the risks of green protectionism and the reinforcement of a commodity-based development model.

With China, Brazil has long-standing cooperation in environmental monitoring through the China-Brazil Earth Resources Satellite (CBERS)¹²⁸ program, which provides key data on deforestation and natural disasters. In April 2023, both countries signed a joint declaration¹²⁹ on climate change and discussions are underway to establish joint standards for supply chains free of environmental and social violations, possibly through the China-CELAC Forum¹³⁰. However, given that China is Brazil's largest trade partner, more needs to be done to establish reliable accountability frameworks that help ensure that Brazilian exports to China are not linked to illegal activities or deforestation.

126. The Amazon Cooperation Treaty Organization (ACTO) is an intergovernmental body of the eight Amazonian countries: Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru, Suriname, and Venezuela.

127. Amazon Cooperation Treaty Organization (2023). *Belém Declaration*, 9 August 2023. Available at: <https://www.gov.br/planalto/pt-br/agenda-internacional/missoes-internacionais/cop28/belem-declaration>.

128. Instituto Nacional de Pesquisas Espaciais (2025). *Programa CBERS – Satélite Sino-Brasileiro de Recursos Terrestres*. Available at: <https://www.gov.br/inpe/pt-br/programas/cbers>.

129. Government of Brazil and Government of China (2023). *Brazil-China Joint Statement on Combating Climate Change*, 14 April 2023. Available at: <https://www.gov.br/mre/en/contact-us/press-area/press-releases/brazil-china-joint-statement-on-combating-climate-change>.

130. China-CELAC Forum (2025). Official website. Available at: <http://www.chinacelacforum.org/eng/>.

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In parallel, climate cooperation with another major partner, the United States, has experienced its ups and downs. It gained momentum in the 2000s with agreements on biofuels and the creation of a bilateral Climate Change Working Group¹³¹ (CCWG) in 2016, but cooperation on climate issues stalled under Trump's first term (2017-2021) and Bolsonaro's administration (2019-2023). This group was reactivated in 2023 during a meeting between Brazil's Minister of the Environment Marina Silva and U.S. Special Envoy for Climate John Kerry¹³², signaling a renewed alignment under the Biden and Lula administrations, but it once again lost momentum during Trump's second term.

The European Union has been another central partner. The EU and Brazil established a strategic partnership¹³³ in 2007, emphasizing joint action on global environmental challenges. In 2023, the EU reaffirmed its support by endorsing Brazil's bid to host COP30 in Belém and announcing new funding streams, including €2 billion for green hydrogen development and energy efficiency in the Brazilian industry. In parallel, measures like the EU's Green Deal Industrial Plan and carbon pricing mechanisms, such as the Carbon Border Adjustment Mechanism (CBAM), have been causing political tensions between Brazilian and European stakeholders.

On the multilateral front, Brazil continues to advocate for increased climate finance from developed countries. In this

131. Government of Brazil and Government of the United States (2015). *U.S.-Brazil Joint Statement on Climate Change* - Washington, D.C., 30 June 2015. Available at: <https://www.gov.br/mre/en/contact-us/press-area/press-releases/u-s-brazil-joint-statement-on-climate-change-washington-d-c-june-30-2015>.

132. Ministério do Meio Ambiente e Mudança do Clima. Brasil (2023). "Comunicado Conjunto por Ocasão do Encontro entre a Ministra do Meio Ambiente e Mudança do Clima Marina Silva e o Enviado Especial do Presidente dos Estados Unidos para o Clima John Kerry," 28 February 2023. Available at: <https://www.gov.br/mma/pt-br/assuntos/noticias/comunicado-conjunto-por-ocasio-do-encontro-entre-a-ministra-do-meio-ambiente-e-mudanca-do-clima-marina-silva-e-o-enviado-especial-do-presidente-dos-estados-unidos-para-o-clima-john-kerry>.

133. European Commission (2007). "Communication from the Commission to the European Parliament and the Council: Towards an EU-Brazil Strategic Partnership," 30 May 2007. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52007DC0281&from=EN>.

context, the Amazon Fund¹³⁴ - re-established in early 2023 after being suspended under the previous government -, has regained strategic relevance. From 2008 to 2019, it raised USD 1.3 billion in voluntary contributions. Meanwhile, new pledges from the United States (USD 500 million)¹³⁵, the European Union (€20 million), and the United Kingdom (£80 million) signal renewed international confidence in Brazil's environmental leadership. The successful mobilization of external partnerships can play an important role in elevating climate ambition and further advancing national initiatives such as the Action Plan for the PPCdAm, the low-carbon agriculture program, land regularization, and territorial planning, which are largely funded by domestic resources.

Key Sectors

Brazil's energy matrix is widely considered clean due to the dominance of hydropower, which accounted for over 65% of electricity generation in 2025¹³⁶. However, recent trends reveal growing emissions from the energy sector. According to SEEG data, emissions rose from 387 million tonnes of CO₂e in 2020 to 435 million tonnes in 2022, a 12.5% increase, the largest spike in 50 years¹³⁷. This shift is due to multiple factors, including extreme droughts that reduced hydroelectric capacity and ethanol consumption, as well as deeper structural issues tied to

134. Amazon Fund (2025). Official Homepage. Available at: <https://www.amazonfund.gov.br/en/home/>.

135. The U.S. pledge was announced under the Biden administration.

136. Agência Nacional de Energia Elétrica (ANEEL) (2025). *Tariff Flags System*. Available at: <https://dadosabertos.aneel.gov.br/dataset/bandeiras-tarifarias#:~:text=O%20Brasil%20%C3%A9%20um%20dos,termel%C3%A9tricas%20e%20da%20gera%C3%A7%C3%A3o%20e%C3%B3lica.>

137. Observatório do Clima (2025). *SEEG Brazil - Gross Emissions by Sector (NCI)*. Available at: https://plataforma.seeg.eco.br/?highlight=br-gross-emissions-by-sector-nci&_gl=1*dqdnx9*_ga*NDMyODg4NDI5LjE3NDg1Mjk0MzA.*_ga_XZWSWEJDWQ*cZ-E3NDg1Mjk0MjkkbzEkZ-zAkdDE3NDg1Mjk0MjkajYwJGwwJGgw.

fossil fuel dependency and policy choices. The electricity sector remains highly centralized, with major hydroelectric dams like *Belo Monte* and *Jirau* located in the Amazon primarily supplying the southeastern region. These projects have triggered large-scale environmental degradation and social displacement, especially among Indigenous and traditional communities.

Over the past two decades, fossil fuel production has expanded significantly, particularly offshore oil. Between 2000 and 2020, Brazil's oil output increased by 113%¹³⁸, largely for export, with this growth contributing to both direct and indirect emissions. Additionally, new legislation, such as the 2021 Law No. 14.134¹³⁹ (the "Gas Law"), has promoted the natural gas sector, leading to the expansion of gas and coal infrastructure, especially in states like Santa Catarina.

Subsidies for fossil fuels have persisted, despite global calls for phasing them out, as there is a continued state support for fossil energy generation and storage. While renewable sources like biomass and biodiesel (mainly soybean-based) have grown, they are closely tied to agribusiness and land concentration. Brazil is now the second-largest biodiesel producer¹⁴⁰ globally, after the United States, with 70% of its production sourced from soy. Civil society organisations have expressed concerns that programs like the aforementioned *RenovaBio*¹⁴¹, designed to increase biofuel efficiency, may, even if indirectly, benefit

138. Cardoso, Alessandra; Banegas Williams, Monica, Camerra, Ricardo (2022). Brazil's Energy Matrix and the Paris Agreement: Between Lack of Ambition and the Many Challenges of NDC Implementation. *INESC – Institute of Socioeconomic Studies*. Available at: https://www.inesc.org.br/wpcontent/uploads/2022/09/INESC-Rel_NDC-EN_v5-1.pdf.

139. Brasil (2021). Lei no. 14.134, de 8 de abril de 2021 – Dispõe sobre as Atividades Relativas ao Transporte de Gás Natural. Available at: https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2021/lei/l14134.htm.

140. Governo do Brasil (2021). "Brasil avança no setor de biocombustíveis," 29 July 2021. Available at: <https://www.gov.br/pt-br/noticias/energia-minerais-e-combustiveis/2021/07/brasil-avanca-no-setor-de-biocombustiveis>.

141. Mongabay Brasil (2021). "RenovaBio: expansão de biocombustíveis apresenta fragilidades," 3 August 2021. Available at: <https://brasil.mongabay.com/2021/08/renovabio-expansao-de-biocombustiveis-apresenta-fragilidades/>.

producers linked to land-use change and deforestation GHG emissions, particularly in the Cerrado and Amazon biomes.

Energy planning instruments, such as the Ten-Year Energy Expansion Plan 2031¹⁴² and the National Energy Plan 2050¹⁴³, incorporate climate considerations but still favor a model of high energy output with little emphasis on social and environmental impacts. Furthermore, many major energy laws were passed via provisional measures or fast-tracked procedures, limiting public participation and transparency - including the recent 2025 PL da Devastação -, which significantly weakens Brazil's environmental licensing process. As the government lacks a majority in Congress, these initiatives have largely been driven by congressional forces rather than the executive.

Despite important social policies that, for instance, once again led to Brazil's removal from the Food and Agriculture Organization's (FAO) hunger map in 2025, energy poverty is still a challenge. Between 2016 and 2022¹⁴⁴, more households began relying on firewood and coal due to rising gas prices, which disproportionately affected women and Afro-Brazilian communities. The weakening of state-owned Petrobras, especially after 2016, curtailed its transition from an oil company to a diversified energy corporation. In 2018, it withdrew from wind energy and suspended renewable energy¹⁴⁵ investments. This was accompanied by a wave of energy privatization, including

142. Ministry of Mines and Energy, Brazil (2022). 2031 *Ten-Year Energy Expansion Plan: Introduction*. Available at: https://www.gov.br/mme/pt-br/assuntos/secretarias/sntep/publicacoes/plano-decenal-de-expansao-de-energia/pde-2031/english-version/relatorio_pde2031_introducao_eus.pdf.

143. Agência Nacional de Mineração (2023). *Anuário Mineral Brasileiro - Principais Substâncias Metálicas 2022 (Ano Base 2021)*. Available at: <https://www.gov.br/anm/pt-br/assuntos/economia-mineral/publicacoes/anuario-mineral/anuario-mineral-brasileiro/PreviaAMB2022.pdf>.

144. Cunha, Gabriela; Roizman, Lilián; Lobo, Natália, Moreira, Sarah, Moreno, Tica. (2021). *Democratização Energética e uma Transição Justa na América Latina e no Caribe: Obstáculos à Transição Justa e à Democratização da Energia no Brasil - Resumo Executivo*. CSA/CSI. Available at: https://csa-csi.org/wp-content/uploads/2022/08/BRA_Resumen-Ejecutivo-Investigacion-Brasil_port.pdf.

145. Folha de S.Paulo (2021). "Petrobras mantém renováveis fora de novo plano de investimentos," 25 November 2021. Available at: <https://www1.folha.uol.com.br/mercado/2021/11/petrobras-mantem-renovaveis-fora-de-novo-plano-de-investimentos.shtml>.

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the 2022 sale of Eletrobras, then a state-owned company and the largest Brazilian electric power generation company.

Mining is another critical sector. Data from 2022¹⁴⁶ positions Brazil as the world's top niobium producer (up to 90% of global output) and it holds major shares of bauxite. These minerals are key to global energy transitions but pose environmental and social risks. Large private companies dominate the mining sector, which contributes 5% of the country's total emissions and has caused major disasters - such as the Mariana and Brumadinho dam collapses. The sector has faced regulatory rollbacks. Between 2016 and 2022, illegal mining within Indigenous lands surged by 787%¹⁴⁷, fueled by deregulation, weak law enforcement, and political neglect from the federal administrations during this period. Presidential decrees and provisional measures, alongside transnational corporate lobbies, facilitated mining expansion while weakening socio-environmental safeguards, and have played a decisive role in shaping this expansion.

Agriculture is central to Brazil's economy and climate profile. It is the second-largest emitting sector, responsible for 25% of national emissions in 2021¹⁴⁸ - totalling 601 million tonnes of CO₂e, with a 3.8% increase that year alone. The main driver of emissions is deforestation, which is closely tied to the expansion of the agricultural frontier into the Amazon and Cerrado biomes. Agribusiness, especially the export of commodities like soy and beef, has considerable political power, including a strong congressional presence. Simultaneously, family farming has at

146. Agência Nacional de Mineração (2023). *Anuário Mineral Brasileiro - Principais Substâncias Metálicas 2022 (Ano Base 2021)*. Available at: <https://www.gov.br/anm/pt-br/assuntos/economia-mineral/publicacoes/anuario-mineral/anuario-mineral-brasileiro/PreviaAMB2022.pdf>.

147. G1 Globo (2023). "Garimpo aumenta 787% em terras indígenas entre 2016 e 2022, aponta Inpe," 11 February 2023. Available at: <https://g1.globo.com/meio-ambiente/noticia/2023/02/11/garimpo-aumenta-787percent-em-terras-indigenas-entre-2016-e-2022-aponta-inpe-infografico.ghtml>.

148. SEEG - Sistema de Estimativas de Emissões de Gases de Efeito Estufa (2025). *Historical Data: Greenhouse Gas Emissions in Brazil by Sector and State, 1990-2023*. Available at: <https://plataforma.seeg.eco.br/?yearRange%5B0%5D=1990&yearRange%5B1%5D=2023&emissionType%5B0%5D=1&gas=8&groupBy=Sector&rankBy=State&filter=stTab=highlights&statisticsTab=historical>.

certain periods experienced budget cuts and limited access to credit. For instance, the National Program for Strengthening Family Agriculture (PRONAF) faced a 24% funding reduction between 2014 and 2018¹⁴⁹. Credit has become concentrated regionally and sectorally, focusing on grains like soy, corn, and coffee in the South and Central-West. In 2022, 33 million Brazilians experienced food insecurity - a 70% increase from 2020 -, highlighting the disconnect between export-led agriculture and domestic food access¹⁵⁰. While Brazil exited the UN Hunger Map in 2025, this recent history reveals how vulnerable food security remains. In parallel to the growth of the primary sector, the country has also undergone intense deindustrialization, with the manufacturing sector's share of GDP declining from 48% in 1985 to just over 24% in 2024¹⁵¹.

Considering other aspects of the climate-related agenda, Brazil is a megadiverse country and plays a key role in global biodiversity governance. The bioeconomy - a model based on the sustainable use of biological resources -, is gaining traction as a viable economic and equitable-sharing path. At the 2022 Biodiversity COP in Montreal, Brazil endorsed the Kunming-Montreal Global Biodiversity Framework, which sets the goal of protecting 30% of global nature by 2030¹⁵². The agreement seeks to increase financial support for developing countries. Despite this, domestic challenges persist, including the expansion of genetically modified organisms (GMOs) and pesticide use, driven by agribusiness interests. Nevertheless, even with the high vulnerability of Brazil's semi-arid Northeast to land degradation, the country plays a timid role in the UN

149. Climate Policy Initiative/Pontifical Catholic University of Rio de Janeiro (2023). *Family Farming in Brazil: Inequalities in Credit Access*. Available at: <https://www.climatepolicyinitiative.org/publication/family-farming-in-brazil-inequalities-in-credit-access/>

150. Rede PENSSAN (2022). *II National Survey on Food Insecurity in the Context of the Covid-19 Pandemic in Brazil - Executive Summary*. Available at: <https://olheparaafome.com.br/wp-content/uploads/2022/09/OLHESumExecutivoINGLES-Diagramacao-v2-R01-02-09-20224212.pdf>.

151. Poder360 (2025). "Peso da indústria no PIB cai no pós-redemocratização." Available at: <https://www.poder360.com.br/poder-economia/peso-da-industria-no-pib-cai-no-pos-redemocratizacao>.

152. Convention on Biological Diversity (2022). *15/4. Kunming-Montreal Global Biodiversity Framework*. CBD/COP/DEC/15/4, 19 December 2022. Available at: <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>.

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Convention to Combat Desertification (UNCCD), which falls short of its potential.

Against this backdrop of renewed climate ambition and diversified partnerships, Brazil's relationship with India emerges as a strategic pillar of its South-South diplomacy. Building on shared principles, including the CBDR and the pursuit of just energy transitions, the two countries are positioned to deepen cooperation in areas that include energy, agriculture, biodiversity preservation, green technologies, and multilateral climate governance.

Current and Potential India-Brazil Cooperation on Climate Change and Just Energy Transition

Scene-Setting

India and Brazil, as two of the largest developing economies, share growing strategic interests in tackling climate change and advancing the global energy transition. This partnership has evolved from a multilateral foundation - marked by coordination in forums like the United Nations and the General Agreement on Tariffs and Trade (GATT) in the early Indian post-independence years -, into a more bilateral dynamic, particularly since the 2000s. In 2002, the two governments announced the India-Brazil Joint Commission on Political, Economic, Scientific, Technological and Cultural Cooperation, chaired by their respective Ministries of Foreign Affairs. In 2006, both countries established a Strategic Partnership¹⁵³, and, in 2020, signed an Action Plan¹⁵⁴ to further strengthen it. Ever since, several initiatives have been launched in climate change and energy transition-related areas, including the creation of joint working groups on bioenergy, oil and gas, and geology and mineral resources. However, the Partnership and the Action Plan are rarely mentioned as a normative foundation for the bilateral engagement, which remains highly niched and sectoral, illustrating that there is much progress to be made

153. Government of India & Government of Brazil (2006). “India - Brazil Joint Communique.” Ministry of External Affairs, India. Available at: <https://www.mea.gov.in/bilateral-documents.htm?dtl/6335/>.

154. Government of Brazil & Government of India (2020). “Action Plan to Strengthen the Strategic Partnership between Brazil and India - 25 January 2020.” Ministério das Relações Exteriores do Brasil. Available at: <https://www.gov.br/mre/en/contact-us/press-area/press-releases/action-plan-to-strengthen-the-strategic-partnership-between-brazil-and-india-january-25-2020>.

to consolidate and operationalize various agreements and memoranda that have been signed between the two countries.

With India now ranking as the world's fourth-largest economy and on track to become the third—joining the U.S. and China as the only countries expected to surpass USD 10 trillion in GDP—economic and energy cooperation between the two nations has intensified significantly. In 2023, India became Brazil's fifth-largest trading partner, underscoring the economic relevance of the relationship. In this context, the energy and climate partnership between India and Brazil is strategically significant and ripe for expansion.

Given India's role in global energy demand and Brazil's leadership in low-carbon solutions, deeper cooperation could bring mutual benefits and help accelerate the global transition to a more sustainable future.

Although fossil fuels remain an important area of trade, biofuels and solar energy have become key pillars of current engagement, while emerging areas such as green technology and climate-resilient infrastructure offer promising new directions.

Energy Transition: National Contexts and Complementarities

As introduced in the previous sections, India's energy transition is shaped by its dependence on fossil fuels, especially coal and imported crude oil. It is currently the third-largest energy consumer globally, with energy consumption having tripled between 1990 and 2018¹⁵⁵ and holding a share of approximately 5.8% of the world's consumption. As the Indian middle class grows and urbanization deepens, energy demand and per capita consumption is projected to rise significantly. As demonstrated in Table 2 below, 53% of all Indian carbon emissions are driven by electricity and heat producers. This is directly linked to the national dependence on fossil fuels for providing energy to industries and urban centres. In contrast to Brazil - where emissions are dominated by land use and deforestation -, India's climate challenge centers on decarbonizing its energy sector. As explored above, India has set ambitious targets for renewables and has committed to achieving net zero emissions by 2070. To this end, India is diversifying its energy matrix, investing in solar energy and green hydrogen. Nevertheless, these measures have been accompanied by an expanded role for natural gas, while oil is expected to remain a central component of India's energy mix for the foreseeable future. Even in the most optimistic scenarios for renewable energy, petroleum will still account for around 25% of India's primary energy demand by 2040.

155. Corrêa do Lago, André Aranha (2023). "Brasil-Índia: Dimensão Energética da Parceria Estratégica." In *Brasil e Índia: Os 75 anos de Relações Diplomáticas e uma Agenda para o Futuro*, organizado por Eduardo Uziel, 173-182. Brasília: Fundação Alexandre de Gusmão.

Brazil's extensive experience in renewable energy, especially in biofuels and hydropower, positions it as a natural partner for India. At the same time, differences in resource availability - including India's more limited access to water and arable land -, require cooperation efforts to be carefully tailored. In the field of bioenergy, there is complementarity: Brazil's mature ethanol industry and flex-fuel technology can support India's strategy to promote ethanol-blended fuels and sustainable mobility. Potential environmental and resource-related risks, including impacts on biodiversity, food, and water security, should be jointly assessed to ensure a sustainable and equitable approach.

Biofuels: Cooperation and Socio-Environmental Dilemmas

Biofuels have emerged as a cornerstone of India-Brazil cooperation. India's government has set a target of 20% ethanol blending in gasoline by 2025, creating major opportunities for technological and policy exchange with Brazil. A MoU on Bioenergy Cooperation¹⁶⁷ signed in 2020 laid the foundation for closer collaboration. When the MoU was announced, the Indian government highlighted that Brazil was the world's second largest producer and consumer of biofuels and reaffirmed that biofuels and bioelectricity accounted for 18% of Brazil's energy mix.

Additionally, the partnership was built on India's rapid growth in ethanol output, which increased from 1.73 billion liters in 2019 to over 5 billion liters by 2023. As the world's third-largest ethanol producer, India expected to gain from Brazil's decades of experience and technological advancement in ethanol production, especially in areas such as flex-fuel vehicles, sugarcane productivity, and second-generation biofuels. Authorities reinforced that India had also set a target to achieve 20% blending of ethanol in petrol and 5% blending of biodiesel in diesel by 2030, following the announcement of the

167. Press Information Bureau. "Cabinet Approves Signing of MoU between India and Brazil on Bioenergy Cooperation." <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1597366>.

new policy on Biofuels in 2018¹⁶⁸. This was further deepened by the launch of the Ethanol Talks¹⁶⁹ initiative and intensified contacts between Indian and Brazilian authorities. India's strong sugarcane sector, employing nearly 50 million people, makes ethanol development politically and economically attractive.

Political engagement has been key to advancing bilateral partnerships, with India's Minister of Petroleum and Natural Gas, Hardeep Singh Puri - former ambassador to Brazil -, playing a central role alongside Minister of Transport Nitin Gadkari and industry representatives from the Society of Indian Automobile Manufacturers (SIAM). These efforts culminated in the 2022 Joint Statement¹⁷⁰ between the Minister of Petroleum and Natural Gas of India and the Minister of Mines and Energy of Brazil on Cooperation between India and Brazil in the Energy Sector, Bioenergy and Biofuels, as well as in the 2023 launch of the Global Biofuels Alliance¹⁷¹ during India's G20 presidency, led by India, Brazil, and the United States. Also, during the G20 Agriculture Ministerial Meeting held in September 2024 in Cuiabá, India and Brazil reached an agreement to strengthen collaboration on ethanol production technology¹⁷². The discussions, led by India's Minister of State for Agriculture, Ram Nath Thakur, and Brazil's Minister of Agriculture, Carlos Fávaro, emphasized enhancing cooperation in science, technology, and market access in the bioenergy and agricultural sectors.

168. Ministry of Petroleum and Natural Gas, Government of India. (2018) *National Policy on Biofuels - 2018*. New Delhi: Government of India. Available at: https://mopng.gov.in/files/uploads/NATIONAL_POLICY_ON_BIOFUELS-2018.pdf

169. UNICA, ISMA, APLA, MRE/DEN & Apex-Brasil (2022). "Sustainable Mobility: Ethanol Talks - India Concept Note." Available at: https://www.ethanoltalks.com/wp-content/uploads/2022/07/Sustainable_Mobility_Ethanol_Talks_India_-_Concept_Note.pdf.

170. Government of India & Government of Brazil (2022). "Joint Statement between Minister of Petroleum and Natural Gas of India and Minister of Mines and Energy of Brazil on Cooperation between India and Brazil in the Energy Sector, Bioenergy and Biofuels." Available at: <https://www.gov.br/mme/pt-br/assuntos/noticias/brasil-e-india-forjarao-alianca-para-a-promocao-da-bioenergia-e-dos-biocombustiveis/final-joint-statement-brasil-april-2022.pdf>.

171. Ministry of Petroleum & Natural Gas, Government of India (2024). *Global Biofuels Alliance launched*. 25 July. Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2036867>.

172. Biofuels Digest (2024). "India and Brazil forge ethanol partnership at G20 agriculture meeting." Available at: <https://www.biofuelsdigest.com/bdigest/india-and-brazil-forge-ethanol-partnership-at-g20-agriculture-meeting/>.

Closer biofuels cooperation between Brazil and India could also generate positive spill-over effects and create new opportunities for addressing long-standing discussions in the World Trade Organization (WTO) disputes over sugar subsidies, helping to gradually transform contentious issues into areas of shared interest for sustainable development. In a nutshell, Brazil is increasingly viewed as a valuable partner in India's energy transition, particularly due to its advanced expertise in biofuels and the integration of renewable sources into its national power grid. This complements India's interest in sustainable aviation fuels (SAF) and bioenergy for clean cooking - a central pillar of the Indian perspective on just transition.

Despite the growing alignment of interests, institutional contact remains limited - for example, there is little collaboration between the national research academies of both countries. India also regards Brazil as an underexplored market and partner, particularly in terms of scientific and technological cooperation. Strengthening bilateral dialogue is essential, especially as both countries navigate external pressures from developed nations while striving to secure sustainable development paths for their own populations.

It is important to emphasize that, although biofuels are often presented as a sustainable decarbonization pathway for both countries, their expansion entails significant social and environmental trade-offs. Scaling up feedstock production, particularly for ethanol, may require additional land, potentially driving deforestation—and consequently biodiversity loss and increased GHG emissions—while also diverting areas away from food cultivation and placing further strain on water resources¹⁷³. This is particularly challenging for India, the world's most populous country, which, according to the Hunger Security Index, continues to face a serious level of food insecurity¹⁷⁴.

173. Down to Earth (2023). "India's ethanol mandate comes with some hidden trade-offs" Available at: <https://www.downtoearth.org.in/energy/india-s-ethanol-mandate-comes-with-some-hidden-trade-offs-89867>; Observatório do Clima (2024). Futuro da Energia: Visão do Observatório do Clima para uma Transição Justa no Brasil. Brasil 2045: Construindo uma Potência Ambiental, v.4, October, 2024. Available at: https://www.oc.eco.br/wp-content/uploads/2024/10/OC_Futuro-da-Energia_DIGITAL.pdf.

174. Global Hunger Index (2024). India. Available at: <https://www.globalhungerindex.org/india.html>.

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Similar challenges are evident in Brazil, where the expansion of sugarcane production for ethanol and biodiesel has generated land conflicts and pressure on traditional communities, in addition to negative impacts on other crops and biodiversity. For these reasons, any further expansion of biofuels must be accompanied by robust socio-environmental safeguards to prevent and mitigate these harms, developed through close consultation and with the active participation of affected communities, civil society organizations, and academia¹⁷⁵.

Oil Trade and Energy Security

Beyond renewables, oil remains a major vector in India-Brazil energy relations. Crude oil accounts for about a quarter of Brazilian exports to India, while petroleum products - such as refined diesel -, make up a third of Indian exports to Brazil¹⁷⁶. Brazilian oil is seen as a reliable source to support India's strategy of diversifying its oil suppliers beyond traditional sources in the Middle East and West Asia. Nearly all of India's petroleum needs must be met through imports, since it holds a disproportionate share of roughly 20% of the world's population but only approximately 0.2% of the world's oil reserves. Even with oil production increasing by 15% between 2005 and 2015, India's oil consumption rose by more than 60%—a rate four times higher than production growth. As a result, nearly 90% of the country's oil demand is now met through imports.

Despite Latin America's declining share in India's oil imports - from 20% in 2014 to around 5% in 2022¹⁷⁷ -, Brazil is seen as a reliable and relevant partner. In 2022, energy products represented almost 39% of total bilateral trade. India's

175. Observatório do Clima (2025). *A Petrobrás De Que Precisamos. Brasil 2045: Construindo uma Potência Ambiental*, v.5, 2025. Available at: https://www.oc.eco.br/wp-content/uploads/2025/09/OC_Estudo-Petrobras_DIGITAL.pdf

176. Corrêa do Lago, André Aranha (2023). "Brasil-Índia: Dimensão Energética da Parceria Estratégica." In *Brasil e Índia: Os 75 anos de Relações Diplomáticas e uma Agenda para o Futuro*, organizado por Eduardo Uziel, 173-182. Brasília: Fundação Alexandre de Gusmão.

177. The decline can be related to multiple reasons, but the impact of the U.S. sanctions on Venezuela must be considered. Numbers are expected to rise in the short-term as India has been establishing a partnership with Guyana for oil extraction and exports.

government-owned Indian Oil Corporation (IOC) and Brazil's Petrobras have signed long-term supply agreements foreseeing a flux of 1.7 million metric tonnes per annum. While energy trade between India and Brazil is bidirectional — encompassing both imports of Brazilian crude and exports of Indian refined petroleum — investments remain largely limited to Indian energy ventures in Brazil. Indian energy companies, including ONGC Videsh and Bharat Petroleum, have made upstream investments in Brazilian oil fields, although some assets are currently being divested.

Renewable Energy

India's leadership in promoting the International Solar Alliance (ISA)¹⁷⁸, co-founded with France in 2015, reflects its global aspirations in the renewable sector and aims to foster cooperation among solar-rich countries. Brazil became a full member in 2022 and Indian achievements in solar infrastructure offer valuable lessons for Brazil's own energy matrix diversification¹⁷⁹. Also, in 2019 India launched the Coalition for Disaster-Resilient Infrastructure (CDRI)¹⁸⁰, with Brazil joining in 2021. This adds an important multilateral dimension to the bilateral relationship. Brazilian companies, in turn, are playing a growing role in India's clean energy infrastructure, while Indian conglomerates like Sterlite Power have expanded their presence in Brazil, participating in major transmission auctions that include projects to integrate renewable energy sources into the national grid.

The potential was also recognized by both countries during Prime Minister Modi's state visit to Brazil, following the BRICS Summit in July 2025, when a roadmap to strengthen bilateral ties over

178. International Solar Alliance (2025). "International Solar Alliance (ISA)." Available at: <https://isa.int>.

179. Tyagi, Aditi (2023). "Harvesting Solar Power: A Comparative Analysis of Solar Energy Capacity in India and Brazil." Available at: <https://thebulletin.brandtschool.de/harvesting-solar-power-a-comparative-analysis-of-solar-energy-capacity-in-india-and-brazil>.

180. CDRI (2025). "Coalition for Disaster Resilient Infrastructure (CDRI)." Available at: <https://cdri.world>.

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the next decade was agreed around five priority pillars, including energy transition and climate change¹⁸¹.

Table 3. Brazil-India Joint Statement: Highlights of the Energy and Climate Change Pillar

Topic	Key Commitments & Initiatives
Bioenergy & Biofuels	Collaboration in bioenergy and biofuels; renewed engagement in the Global Biofuels Alliance; recognized the role of sustainable biofuels, flex-fuel vehicles, and Sustainable Aviation Fuel (SAF) in decarbonizing transport and mobility and reducing aviation emissions.
Tropical Forests & COP30	India welcomed Brazil’s launch of the Tropical Forests Forever Fund; both underscored promoting actions for an international mechanism to protect tropical forests; India appreciated the invitation to join the COP30 Circle of Finance Ministers to contribute to the “Baku to Belém Roadmap to USD 1.3 trillion”.
Climate Cooperation	Renewed commitment to broaden, deepen, and diversify bilateral cooperation under the UNFCCC, Kyoto Protocol, and Paris Agreement; address climate change in the context of sustainable development and poverty eradication; work towards implementing the Paris goals based on equity and urgency; enhance the multilateral response to also address inequalities.
Joint Global Initiatives	Underscored the importance of joint projects with the International Solar Alliance (ISA) and the Coalition for Disaster Resilient Infrastructure (CDRI) in third countries; India assured support to Brazil’s COP30 presidency in Belém.

181. The following are the five priority pillars of the India-Brazil strategic roadmap: Defence and Security; Food and Nutritional Security; Energy Transition and Climate Change; Digital Transformation and Emerging Technologies; and Industrial Partnerships in Strategic Areas.

Finance & Development	Acknowledged the importance of deepening economic and financial relations; agreed to enhance cooperation on sustainable development, local currency financing, climate finance, and capital markets; reaffirmed collaboration in multilateral fora, including the G20 Finance Track, BRICS, IBSA, World Bank, International Monetary Fund, Asian Infrastructure Investment Bank (AIIB), and NDB.
Seville Commitment & ODA	Supported the adoption of the Seville Commitment; emphasized improving access to concessional finance, reversing the decline in Official Development Assistance (ODA), and urged developed countries to meet ODA commitments to developing nations.
Bioeconomy & Circular Economy	Reaffirmed commitment to the 2030 Agenda; highlighted bioeconomy and circular economy as tools for sustainable development in environmental, economic, and social dimensions.

Source: Joint Statement: India and Brazil - Two Great Nations with Higher Purposes¹⁸²

Among the several agreements and MoUs signed on the occasion of the state visit, the Brazilian Ministry of Mines and Energy and the Indian Ministry of New and Renewable Energy endorsed a document aimed at establishing a strategic partnership between Brazil and India, with a focus on clean technologies and public policies to expand renewable energy sources¹⁸³. Priority areas include solar, wind, hydropower, bioenergy, energy storage, and low-emission hydrogen. The document also envisions technical training initiatives, expert exchanges, and the joint promotion of research and innovative

182. Government of India & Government of Brazil (2025). “Joint Statement: India and Brazil – Two Great Nations with Higher Purposes,” 8 July 2025. Ministry of External Affairs, India. Available at: <https://www.mea.gov.in/bilateral-documents.htm?dtl/39783>.

183. Ministério de Minas e Energia (2025). “Brasil e Índia firmam acordo para ampliar cooperação em energias renováveis.” Available at: <https://www.gov.br/mme/pt-br/assuntos/noticias/brasil-e-india-firmam-acordo-para-ampliar-cooperacao-em-energias-renovaveis>.

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projects. As part of the agreement's implementation, a Joint Working Group will be created to coordinate initiatives and promote the exchange of information, experiences, and best practices between the two countries. The agreement will initially be in effect for five years.

Agriculture and Food Security

Agricultural cooperation between Brazil and India is another promising area. India's agricultural system remains heavily reliant on smallholder farming and traditional methods, while Brazil offers relevant experience in agricultural modernization and energy integration, such as the use of solar power for rural production. Simultaneously, both countries face serious but distinct food security challenges. While Brazil's food insecurity stems primarily from internal distribution issues, India's concerns are shaped by its large population, inequality, and climate exposure. Despite differences, both governments recognize that food security cannot be addressed solely through production but must also consider cultural and social factors. This understanding is reflected in their long-standing collaboration, including Brazil's export of bovine genetics for dairy development in India. The resumption of climate-resilient traditional crops such as millets, promoted by India through the 2023 UN-declared International Year of Millets, underscores the nation's approach. As a setback, the public food purchasing policies that regulate the Indian market are not widely known, as well as the specificity of the country's own food customs. Meanwhile, the Brazilian Bean and Pulses Institute (IBRAFE) and India's Pulses Importers Association (IPGA) signed a MoU¹⁸⁴ to enhance cooperation and information exchange in this sector.

As India consumes about 25 million tonnes of vegetable oils annually, importing about 55% of this total, this high demand presents another promising area. Despite Brazil being one of the top soybean producers - its soybean oil exports to India tripled between 2020 and 2021, and tripled again between

184. Ibrafe (2024). "Nova Déli - Índia assina acordos com Brasil e Argentina para importação de Pulses." Available at: <https://www.ibrafe.org/noticias/nova-deli-india-assina-acordos-com-brasil-e-argentina-para-importacao-de-pulses>.

2021 and 2022, reaching about USD 2.3 billion -, it still trails Argentina in soybean oil exports to India. Recent changes in India’s import tariffs generate new possibilities for deepening supply chain integration - a new venue that was opened after an intense campaign from the Brazilian government and diplomatic representatives in India.

Related topics were also addressed during Prime Minister Modi’s July 2025 state visit to Brazil, where food and nutritional security was underlined as one of the five key pillars of bilateral cooperation.

Table 4. Brazil-India Joint Statement: Highlights of the Food and Nutritional Security Pillar

Topic	Key Commitments & Initiatives
Development & Social Inclusion	Reaffirmed commitment to development, reducing inequalities, and promoting social inclusion, with an emphasis on those most affected by poverty, hunger, and malnutrition.
Food & Nutritional Security Goals	Stressed the urgent need for concrete action to increase food and nutritional security through sustainable agriculture, remunerative returns, income support for farmers, and greater access to health and quality education.
Global Hunger Eradication	Recalled the goal of eradicating hunger worldwide by 2030; renewed support for the Global Alliance Against Hunger and Poverty, recognizing its role in mobilising resources and knowledge for effective policies and social technologies.
Agricultural Trade	Emphasized the importance of fair and open agricultural trade for productive, sustainable, and resilient agrifood systems; reaffirmed the government’s role in maintaining agricultural markets, public stockholding for food security, and supporting farmers’ livelihoods.

Bilateral & Multilateral Cooperation	Agreed to enhance cooperation on agriculture and rural development, including at the multilateral level, to ensure food and nutritional security and introduce sustainable agricultural technologies.
Trade Principles	Called on the international community to avoid unilateral restrictions or protectionist measures under the pretext of environmental, security, or climate concerns, while upholding a transparent, equitable, and rules-based multilateral trading system with the WTO at its core.
Joint R&D & Innovation	Highlighted the potential for joint research and development to boost agricultural productivity and improve animal genetics through reproductive biotechnology, enhanced animal nutrition, and other mutually beneficial initiatives.

Source: Joint Statement: India and Brazil - Two Great Nations with Higher Purposes

Infrastructure and Development Finance

The demographic differences between the two countries - India's urban population is about 35%¹⁸⁵, compared to Brazil's 87%¹⁸⁶ -, create distinct infrastructure demands. These differences offer opportunities for exchange in urban planning, energy transition, and decarbonization strategies. Both countries are members of the International Development Finance Club (IDFC), represented by Brazil's BNDES and India's Small Industries Development Bank (SIDBI). This platform could serve to foster joint investments and innovative financing models, particularly in renewable energy and infrastructure.

185. TheGlobalEconomy.com (2024). India: Percent Urban Population. Available at: https://www.theglobaleconomy.com/India/Percent_urban_population/.

186. TheGlobalEconomy.com (2024). Brazil: Percent Urban Population. Available at: https://www.theglobaleconomy.com/Brazil/Percent_urban_population/.

Biodiversity, Oceans, and Water Resources

Cooperation between Brazil and India in the areas of biodiversity, oceans, and water resources remains limited but increasingly relevant. One notable initiative is India's launch of the International Big Cat Alliance¹⁸⁷, which aims to strengthen biodiversity conservation and combat wildlife trafficking. Brazil is not a member country yet, although negotiations are in progress, as the country is included in the range area that encompasses the natural habitat of several species. While the alliance carries geopolitical undertones - framing India as a conservation leader in the Global South -, it also reflects a shared recognition of the need to protect biological diversity beyond emissions-focused agendas. Both countries are megadiverse and possess extensive coastlines, yet ocean policies in India remain relatively underdeveloped. This opens an opportunity for Brazil to contribute technical expertise and promote bilateral cooperation on marine conservation, sustainable fisheries, and coastal resilience.

Multilateral Alignment

Brazil and India have long shared a strategic partnership rooted in shared positions in multilateral fora. As discussed in previous sections, since the 1992 Rio Earth Summit, both countries have been vocal advocates of the principle of CBDR, a cornerstone of the BASIC group's climate diplomacy. Their cooperation is not merely circumstantial - it is grounded in a long-standing convergence of perspectives, particularly regarding the "right to development" and integration of environmental and social priorities, a view championed since the 1972 Stockholm Conference.

Over the years, the two nations have collaborated in a variety of groupings, including the G77+China, BRICS, BASIC, IBSA, and the G4 coalition advocating for the UN Security Council reform. Despite its early relevance, IBSA has been overshadowed

187. IBCA (2025). "About IBCA. International Biofuels Compact Alliance." Available at: https://ibca.world/about_ibca.

by the emergence of BRICS - although IBSA continues to be invoked symbolically, it has struggled to find a renewed purpose, particularly as its members invest more political capital in the BRICS grouping. The BASIC group, too, has seen its influence wane in climate negotiations. Once central during COP15 in Copenhagen, BASIC's internal cohesion has weakened - partly due to growing India-China frictions -, making room for more flexible alignments within the BRICS and G77 coalitions. Nevertheless, BASIC remains relevant as a discursive platform, particularly for India and Brazil to reaffirm their shared developmental priorities in climate discussions. These similarities were acknowledged in both the 2023¹⁸⁸ and 2025 Joint Statements¹⁸⁹ signed by Presidents Lula and Modi, which emphasized cooperation on energy transition and climate change mitigation.

BRICS, in contrast, has gained renewed prominence. In 2023, according to UNCTAD, the expanded BRICS+ group accounted for 27% of the global economy, 42% of the world's population, and approximately 30% of global oil production. It also attracted around 11% of all international direct investment. India, described by many analysts as a "growing economy with an energy deficit," has found in BRICS a platform to diversify its partnerships beyond the West. In 2022 alone, India engaged in over USD 100 billion in trade with BRICS countries and signed an agreement to import two million tonnes of crude oil from Russia - transacted in rupees. Brazil, in turn, is a key bilateral partner within this framework, as per the aforementioned data on bilateral energy trade.

There is, however, no shared strategic vision for the BRICS bloc among all its members, even as both Brazilian and Indian scholars actively research its potential. While the group's internal

188. Government of Brazil & Government of India (2023). "Joint Statement - New Delhi, 10 September 2023." Ministério das Relações Exteriores do Brasil. Available at: <https://www.gov.br/mre/en/contact-us/press-area/press-releases/brazil-india-joint-statement-2014-new-delhi-10-september-2023>.

189. Government of India & Government of Brazil (2025). "Joint Statement: India and Brazil - Two Great Nations with Higher Purposes," 8 July 2025. Ministry of External Affairs, India. Available at: <https://www.mea.gov.in/bilateral-documents.htm?dtl/39783>.

heterogeneity remains, the bloc offers a forum to explore a more adaptive, context-sensitive model of development - one that does not rely on Western templates but instead is rooted in the unique socio-economic challenges of its members. In this sense, BRICS members share the understanding that none of their domestic challenges have clear parallels in Europe or North America and that topics like energy transition must be addressed at a magnitude and pace that demand new and fairer developmental frameworks. Following the 2025 BRICS Summit, hosted by Brazil, the foreign ministers' meeting reaffirmed common principles and signaled interest in coordinated engagement, including on environmental policy, despite ongoing geopolitical tensions, as reflected in the Presidency's Declaration¹⁹⁰. Furthermore, the final declaration of the 2025 BRICS Summit reflected the shared priorities of both Brazil and India¹⁹¹. The climate-related sections of the declaration were structured around four main topics: climate finance, food security, the defense of multilateralism, and the energy transition. However, the document acknowledged that fossil fuels continue to play a central role in ensuring energy security and development.

India's and Brazil's recent G20 presidencies and Brazil's leadership of COP30 in 2025 offered further opportunities to enhance coordination. While Brazil positions itself as a consensus-builder, India has adopted a more assertive and skeptical posture, particularly in calling out the lack of progress in climate finance and the global adaptation agenda. This divergence became evident in COP29 negotiations, where India came close to blocking consensus, while Brazil worked diplomatically to secure agreement, including by

190. BRICS (2025). "Declaração da Presidência da Reunião de Ministros das Relações Exteriores/ Relações Internacionais dos Países Membros do BRICS." Ministério das Relações Exteriores do Brasil. Available at: https://www.gov.br/mre/pt-br/canais_atendimento/imprensa/notas-a-imprensa/declaracao-da-presidencia-da-reuniao-de-ministros-das-relacoes-exteriores-relacoes-internacionais-dos-paises-membros-do-brics.

191. BRICS (2025). "Declaração de Líderes do BRICS 2014 (Rio de Janeiro, 06 de julho de 2025)." Ministério das Relações Exteriores do Brasil. Available at: https://www.gov.br/mre/pt-br/canais_atendimento/imprensa/notas-a-imprensa/declaracao-de-lideres-do-brics-2014-rio-de-janeiro-06-de-julho-de-2025.

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closely engaging with the Azerbaijani presidency to facilitate meaningful outcomes. Nevertheless, both countries continue to converge on key structural narratives - such as the importance of *per capita* emissions as a metric of fairness and the critique of overconsumption patterns in developed nations.

Looking ahead, both countries recognize that, beyond bilateral engagement, they must work together to reshape global governance mechanisms in ways that reflect the realities and ambitions of the Global South. India's growing involvement in the aforementioned initiatives, such as the ISA and the CDRI, reflects its intent to "lead by example" and is instrumentalized to promote its leadership credentials. Brazil has responded in kind by emphasizing the need for a just energy transition, in line with its role as COP30 host and co-leader of the Baku to Belém Roadmap to 1.3 trillion, which includes measures to expand access to multilateral development banks and to both public and private climate finance.

Recent diplomatic statements reinforce that both countries are increasingly aware that acting together - as influential democracies in the Global South - can help reshape the global conversation on development, climate, and cooperation. India's climate diplomacy is increasingly tied to its ambition to lead the Global South. While India often positions itself as a counterbalance to China geopolitically, on climate issues, the dichotomy is more North-South. In fact, in some sectors like renewables, China has advanced further - dominating solar panels and critical mineral supply chains, a strategic concern for India.

Final Remarks:

COP30 and the Road Ahead

Brazil and India are preparing for COP30 with shared ambitions but different priorities, with each placing varying emphasis on mitigation and adaptation. Brazil is leveraging its diplomatic skills to encourage countries to submit more ambitious NDCs - including by setting an example through the early release of its revised NDC¹⁹² in 2024, during COP29 - and is pushing for an operative Baku to Belém Roadmap¹⁹³ to help mobilize USD 1.3 trillion in climate finance from various sources. India's new NDC, to be submitted after the original deadline, is expected to prioritize adaptation, resilience infrastructure, implementation mechanisms, and renewable achievements - while the phase-out of fossil fuels is unlikely to feature prominently. It is also improbable that India will use COP30 to introduce 1.5°C-aligned mitigation targets.

At the same time, there are notable areas of convergence between Brazil and India on the climate change agenda. Anchored in South-South cooperation, the two countries share promising opportunities for partnership, particularly in the exchange of green technologies¹⁹⁴. Given that each nation has its own specific context shaping its climate policies, such technology transfer could help advance the energy transition while fostering sustainable development in both. For instance, Brazil's expertise in biofuels and other renewable sources

192. Government of Brazil (2024). "Second Nationally Determined Contribution (NDC), November 2024." UNFCCC. Available at: https://unfccc.int/sites/default/files/2024-11/Brazil_Second%20Nationally%20Determined%20Contribution%20%28NDC%29_November2024.pdf.

193. UNFCCC (2025). "Baku to Belém Roadmap to 1.3T." Available at: <https://unfccc.int/topics/climate-finance/workstreams/baku-to-belem-roadmap-to-13t>.

194. Kentikelenis, Alexandros; Bradlow, Benjamin .H. (2025). BRICS and the Green Industrialization of the Future. Plataforma CIPÓ. Available at: https://plataformacipo.org/wpcontent/uploads/2025/07/PB_BRICS-GREENGLOBALIZATION-2-1.pdf.

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could contribute significantly to India's efforts to combat climate change. Conversely, as a leader of the ISA, India has extensive experience in solar energy, which could support Brazil's ongoing energy transition.

The timing, however, has been stimulating a new momentum for Indian-Brazilian relations, since as Brazil prepares to host COP30 in Belém, there is growing Indian interest in understanding Brazil's climate policy approach. According to Indian and Brazilian diplomats, Indian policymakers have been interested in learning from Brazil's strategies, particularly in the realms of biofuels, energy transition, climate diplomacy, and green technology. The state visit of Prime Minister Narendra Modi to Brazil, following the 2025 BRICS Summit, and the recent visits to India by Brazilian Minister of the Environment Marina Silva, and COP30 President, Ambassador André Corrêa do Lago (former Brazilian Ambassador to India), including meetings with the TATA Group and other high-level officials, were positively received and signaled a new chapter of bilateral engagement on climate issues¹⁹⁵. The road to COP30 may also serve as a potential moment for the revitalization of the BASIC group.

Beyond the environmental agenda, bilateral cooperation is expanding in sectors such as agriculture, defense, and high technology, with over fifty business and official missions exchanged in recent years. These areas may further consolidate the partnership in the lead-up to COP30, especially as India has already announced its intention to host COP33 in 2028¹⁹⁶, when UNFCCC member countries will undergo the second Global Stocktake of the Paris Agreement.

195. Brazilian Secretariat for Social Communication (SECOM) (2025). "In India, Marina Silva receives global award for contributions to sustainable development, climate action". Available at: <https://www.gov.br/secom/en/latest-news/2025/03/in-india-marina-silva-receives-global-award-for-contributions-to-sustainable-development-climate-action>.

196. Press Information Bureau (2023). English Translation of Special Address by Prime Minister at the Inauguration of High-Level Segment of COP-28 of Heads of State/Heads of Government. Available at: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=1981612>.

About the Authors



Marianna Albuquerque is a tenured professor at the Institute of International Relations and Defense at the Federal University of Rio de Janeiro (IRID-UFRJ). She holds a post-doctorate in Military Sciences at the Army Command and General Staff College (ECEME), a PhD in Political Science from the Institute of Social and Political Studies at UERJ (IESP/UERJ), and a Master's degree in Political Science from the same institution.



Maiara Folly is the Executive Director and Co-Founder of Plataforma CIPÓ. She is Co-Director of the Global Governance Innovation Network (GGIN) and serves as a member of the Advisory Board of the Think20 (T20). She holds a Master's degree from the Department of International Development at the University of Oxford (UK) and a Bachelor's degree in International Relations from the Pontifical Catholic University of Rio de Janeiro (PUC-Rio).



Matheus Petrelli is completing his Master's in International Political Economy at the Federal University of Rio de Janeiro (PEPI-UFRJ). He holds a bachelor's in Defense and International Strategic Management at the Institute of International Relations and Defense (IRID-UFRJ), is a researcher at the India-focused Asian Studies Laboratory (LEA-UFRJ), and at the South American Political Observatory at UERJ (IESP/UERJ).

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About Plataforma CIPÓ

Plataforma CIPÓ is a Brazil-based research institute dedicated to promoting international cooperation to advance climate action and sustainable development, with a focus on the needs and priorities of the Global South.



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