

# India Navigates its Climate Commitments amidst Domestic and Geopolitical Uncertainties

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## Introduction

The scientific consensus on the severity of the climate crisis and the urgency to limit temperature rise beyond 1.5- or 2-degree Celsius by the end of this century continues to grow. Yet global efforts fostered largely through multilateral and bilateral arrangements seem to be falling short of meeting the required targets. As the Donald Trump administration prepares to pull out of the Paris Agreement, there is much scrutiny over rather unambitious and unfulfilled climate commitments of many countries in the Global North. India however, over the past few years, has taken a huge leap forward and emerged as a proactive player in the international climate agreements. While advocating for the rights and concerns of the Global South, India has put forward several climate targets, yet challenges remain when it comes to fulfilling them due to domestic constraints and geopolitical uncertainties.

India's aspiration to achieving developed country status by 2047 and 2070 net zero target present unprecedented opportunities and challenges. Although India's per capita emissions continue to be low – 2.07 metric tons (Mt) in 2023 – in comparison to countries in the Global North and most emerging economies in the Global South, its growing emissions that stood at 4.3 giga tons (Gt) in 2023 (up by 6.1% from 2022) present many hurdles in its way of designing climate-compatible development policies and proclaiming global climate leadership. In this context, this article discusses the global emissions and finance gaps and India's climate action efforts.

It unpacks India's climate policy achievements and shortcomings thus far, and the challenges and opportunities that lie ahead for the country.

## The Emissions Gap and India's Priorities

Equity and climate justice concerns have underpinned India's climate diplomacy approaches since the beginning of the climate change negotiations, with a focus on the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC). Recently, at the Baku climate conference (29<sup>th</sup> Conference of Parties or COP-29), while upholding equity and CBDR-RC, India expressed extreme displeasure at the reluctance of industrialized countries to define climate finance and provide "at least USD 1.3 trillion every year till 2030, without subjecting developing countries to growth-inhibiting conditionalities." While many climate-vulnerable countries staged a walk-out, India rejected the USD 300 billion climate finance deal that was approved by the COP-29 presidency and alleged that it was "stage-managed."

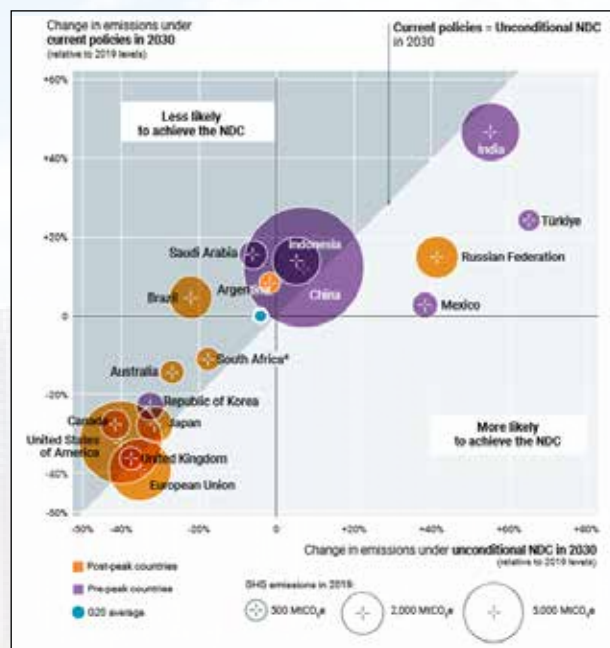
A study published by the Council on Energy, Environment and Water (CEEW) indicates that collectively, the industrialized countries are collectively projected to emit more carbon dioxide (about 3.7 Gt) in 2030 than the reduction goals as per their Nationally Determined Contributions (NDCs), with only Norway and Belarus on track to achieving the 2030 targets. This would eventually mean an emission overshoot by 38% and about 83% of this overshoot would be caused by the United States (US), Russia, and the European Union (EU).

The first Global Stocktake synthesis report also raises concerns over the net-zero emissions target of 2050 (set by most developed countries) and argues that this target signals a “gross lack in ambition”. It also points to the recognition of historical responsibility as the industrialized countries have failed to meet their pre-2020 targets. This includes their failure to meet their Copenhagen (2009) financial pledge of USD 100 billion annually by 2020 for climate mitigation and adaptation efforts in the Global South. In 2022, the Organization for Economic Co-operation and Development (OECD) confirmed that it met this target fully, but a report by Oxfam International revealed that the actual financial support amounted to only around USD 35 billion, as much of the financing was in the form of loans and/or was repackaged development aid and not additional finance.

The 2024 Emissions Gap Report of the United Nations Environment Programme (UNEP) highlights that eleven G-20 countries, most of which have high per capita emissions and have peaked emissions decades ago, are not on track to meet their 2030 targets. **India however is on track to achieving its targets.** Similarly, according to the Climate Change Performance Index 2025, the United Kingdom (UK) and India are the only high performers, while most countries of the Global North and even emerging economies such as China and Brazil are medium and low-performing countries. This has resulted in significant gaps, both in terms of ambition and implementation of the Paris Agreement, as well as created an atmosphere of mistrust that India is well

cognizant about.

**Figure 1:** The Landscape and Trajectory of Current NDCs of G-20 Member States. Source: Emissions Gap Report 2024, UNEP.



### India's Climate Action Efforts

India is one of the most climate-vulnerable countries in the world. In addition, being the world's most populous country with a rapidly growing economy, its resource demands and environmental footprint are expected to increase. In order to ensure an ecologically sustainable development trajectory and to meet the global climate targets, India has undertaken a series of climate action measures.

**Table 1:** India's Climate Commitments during 2015-2022 and Achievements. Source: Based on data gathered from Center on Global Energy Policy, Columbia University, 2023; CEEW, 2024; Forest Survey of India (FSI), 2023; and various government/ministry websites

Item	National Statement at United Nations Sustainable Development Summit (2015)	2016 NDC	National Statement at COP26 (2021)	2022 Updated NDC	Achievements (as of March 2025) / Remarks
Renewable energy generation capacity	175 GW by 2022		500 GW by 2030	50% of energy requirement by 2030	44.5% of total capacity from non-fossil sources (201.5 GW out of 452.7 GW) as of September 2024
Emissions intensity relative to GDP (from 2005 levels)		30–35% reduction by 2030	45% reduction by 2030	45% reduction by 2030	33% reduction achieved between 2005 and 2019

Item	National Statement at United Nations Sustainable Development Summit (2015)	2016 NDC	National Statement at COP26 (2021)	2022 Updated NDC	Achievements (as of March 2025) / Remarks
Non-fossil-fuel-based electricity generation capacity		40% by 2030	50% by 2030	50% by 2030	43.81% achieved as of October 31, 2023
Additional carbon sink through forestry		2.5–3 billion metric tons of CO <sub>2</sub> equivalent		2.5–3 billion metric tons of CO <sub>2</sub> equivalent	Specific data pending; FSI data suggests that “India has already created more than 2 billion tonnes of additional CO <sub>2</sub> equivalent since 2005.”
Reduction of total projected carbon emissions			1 billion tons from 2022 till 2030		Data pending; CEEW data suggests that “current climate policies projects to reduce CO <sub>2</sub> emissions by almost 4 billion tonnes between 2020 and 2030.”
Net-zero goal			Net zero by 2070		Target set for 2070

Table 2: Select Mitigation Schemes in India as per the 2024-25 Economic Survey

Scheme	Sector and Ministry	Target	Total Financial Outlay	Achievements
				(as of March 2025)
PM JANMAN (Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan) and PM JUA (Pradhan Mantri Janjatiya Unnat Gram Abhiyan)	Tribal and Particularly Vulnerable Tribal Groups (PVTGs); Ministry of Tribal Affairs, Ministry of New and Renewable Energy, and Ministry of Jal Shakti, among others	Electrifying 100,000 households across 63,000 villages through off-grid solar systems (apart from other development targets such as water supply)	₹915 crore (approx. USD 105,000,000)	91,194 PVTG households electrified
PM Surya Ghar: Muft Bijli Yojana (PMSGMBY)	Households; Ministry of New and Renewable Energy	Install rooftop solar panels in 10 million households; achieve 30 GW of rooftop solar capacity	₹75,021 crore (approx. USD 8,600,000)	Rooftop panels installed in more than 1,000,000 households
PM KUSUM (Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan)	Agriculture; Ministry of New and Renewable Energy	To add 34.8GW of solar capacity through small solar-grid, solar-powered agricultural pumps and solarisation of existing pumps connected to grid	₹2,600 crore (Union Budget 2025-26) (approx. USD 299,027)	728,000 agricultural pumps have been solarised; 397 MW of decentralised solar capacity installed



Scheme	Sector and Ministry	Target	Total Financial Outlay	Achievements
				(as of March 2025)
Atal Mission for Rejuvenation and Urban Transformation (AMRUT) and AMRUT 2.0	Ministry of Housing and Urban Affairs; Urban Housing	Promote National Mission for Sustainable Housing	AMRUT 1.0 (2015-2020): ₹50,000 crore (approx. USD 5,700,000) AMRUT 2.0 (2021-2026): ₹299,000 crore (approx. 34,000,000)	Under AMRUT 2.0, a total of 8,998 projects have been approved
Mangrove Initiative for Shoreline Habitats & Tangible Incomes (MISHTI)	Forestry; Environment, Forest and Climate Change	Create a carbon sink of 4.5 million tonnes	Utilized existing financial mechanisms such as Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Funds	Achieved restoration of over 22,500 hectares of degraded mangroves across 13 states and union territories
The FAME (Faster Adoption and Manufacturing of Hybrid and Electric Vehicles in India)	Transportation; Ministry of Heavy Industries	Fame II (2019-2024): Support 7090 e-Buses, 500,000 e-3 Wheelers, 55,000 e-4 Wheeler Passenger Cars, and 1,000,000 lakh e-2 Wheelers	₹11,500 crore (approx. USD 1,300,000)	2-wheelers: achieved 75% of its target. 3-wheelers: 84% Passenger cars: 55% Buses: 66%

India has been able to achieve some of the above-mentioned broader goals because of various innovative policy strategies. These include subsidies and production linked incentives to boost production and adoption of renewable energy, a mechanism of Renewable Purchase Obligations (RPO) to encourage use of renewable energy and also create a market for it, improvements in administrative processes to encourage investments, establishing new guidelines to promote responsible conduct by businesses, and various financial mechanisms such as the introduction of sovereign green bonds (for green infrastructure) and viability gap funding (for solar and offshore wind energy projects).

Multiple initiatives have been undertaken for adaptation as well. While the process of developing a National Adaptation Plan is underway, schemes for ensuring urban resilience, resilience in agriculture and water management have been introduced. The initiation and adoption of the Mission LiFE (Lifestyle for Environment), an overarching approach to promote sustainability across all dimensions with a focus on reviving traditional knowledge systems, has received global recognition. An International Energy Agency (IEA) study based on this concept has projected that worldwide adoption of LiFE could lead to a reduction of 2 billion tonnes of global

annual CO<sub>2</sub> emissions.

India has also been assuming global leadership in climate action by taking initiatives and aiding various countries. Creating and supporting multilateral frameworks such as the International Solar Alliance, Coalition for Disaster Resilient Infrastructure, and Global Biofuels Alliance are some of the India's global climate initiatives with implications for its aspirational climate leadership.

### Challenges and Opportunities for India

Though India has been on track to meet its NDCs, it has time and again received criticism from the Global North and some parts of the Global South due to its reluctance to adopt a coal phase-out strategy. Since most of India's coal power capacity expansions took place during the 2010s, a complete phase-out of coal is not seen as economically feasible. According to Ministry of Coal estimates, "the all-India coal production in the year 2023-24 was 997.826 Million Tonne (MT) in comparison to 893.191 MT in the year 2022-23 with a growth of about 11.71%." With India planning to add 90 GW coal-powered plants by 2032, there are concerns regarding potential competing effects on renewable energy capacity additions.

**Figure 2:** India's Coal Power Capacity Additions. Source: Data from Central Electricity Authority, India and Bloomberg, 2024.



In the renewable energy sector, several challenges persist. It has been reported that prevailing and increasing renewable energy capacity has not been able to meet the surging demands. Data suggests the total solar output was at its slowest with a growth of 18.4% in 2024 since 2015. Between 2020 and 2024, approximately 38.3 GW of planned capacity – equivalent to 19% of the total – was scrapped due to issues with tender design, site selection or land acquisition challenges, technical constraints, financial and capacity gaps, lack of investor interest, a lack of sufficient storage capacity and investments for grid integration, and delays in finalizing power supply agreements. Although solar capacity is projected to grow faster, supplying clean energy during non-solar hours remains a major hurdle. This is where wind energy could be an alternative. As per an Ember study, if India had achieved its 2022 wind energy target of 60 GW, wind power

could have contributed up to 14.5% of the electricity needed during non-solar periods. However, India missed its 2022 renewable energy (including wind) target. In addition, renewable energy deployment in the country is characterised by regional imbalances and this poses significant challenges for just transitions, especially in coal-dependent states such as Jharkhand and Chhattisgarh.

## Conclusion

It is well accepted now that the window for climate action is rapidly closing. Scientific reports reveal that the current trajectory is not sufficient to limit the temperature rise. The Global North however has lagged significantly in their actions and commitments. The anticipated US withdrawal from the Paris Agreement will create a massive gap in not only emissions reduction but also much-needed financial and technological transfer that the Global South is dependent upon for climate action. Even changing geopolitical and security equations leading to Europe being forced to increase defence spending and US-China trade and technological competition would have ripple effects on European countries' capacity to maintain external climate finance to developing countries such as India, and global energy transitions owing to critical mineral dependence to meet the renewables demand, respectively. In such a scenario, India along with its partners such as the EU could work together to ensure that the momentum towards global climate action does not get derailed by disruptive changes in the international system.