

Accelerating Climate Action

Global Temperature Rise at Record High, Mitigation Falling Behind

Despite making significant strides in renewable energy and setting ambitious targets, India's climate commitments, including its aim for net-zero emissions by 2070, face challenges especially in the wake of energy efficiency and coal dependence. With the urgency to accelerate energy transition and adapt to climate impacts, India's path forward is crucial for both its own sustainability and its leadership in global climate action, **Ankit Todi** writes.

In 2023, global temperatures soared to 1.2°C above the 20th century average of 13.9°C, marking the warmest year since records began in 1850, a milestone that 2024 has already surpassed.¹ The impacts of climate change are becoming increasingly severe, not only through more frequent and widespread extreme climate events but also in everyday life, affecting weather patterns, food inflation, and more. A GlobeScan survey indicates that the percentage of people who feel personally impacted by climate change has risen sharply, from about 31 per cent in 2020 to 45 per cent in 2024 worldwide.¹ Despite global commitments and efforts, the current emission trajectory remains significantly misaligned — currently increasing at 1.5 per cent annually versus the 7 per cent annual reduction required to meet the 1.5°C threshold, underscoring the urgent need for accelerated action.

The climate crisis has severe consequences for the entire world, but it disproportionately affects developing countries like India. As one of the most nature-dependent economies, with 33 per cent of its GDP stemming from sectors such as agriculture, forestry, fisheries, and energy, India faces

significant climate risks. Projections suggest that the crisis could further push 50 million people into poverty². Accelerated action is hence essential to safeguard a sustainable, equitable future.

Global and National Efforts

Nationally Determined Contributions (NDCs) are national climate action plans submitted by each country under the Paris Agreement. These plans outline the signatories' climate action objectives, including GHG emission reduction targets and adaptation strategies to achieve these goals. After the original NDCs were submitted in 2015, a second round followed in 2020/2021.³ The next iteration, referred to as NDCs 3.0, is due in early 2025 and will define countries' intended climate actions through 2035. However, the Global Stocktake, a process to track progress in NDCs reveals that current NDCs account for only about 5 per cent of the emissions reduction needed by 2030, falling significantly short of the 43 per cent required to meet global climate goals.⁴ This highlights an

urgent need for more ambitious NDCs. Several countries, including the UK and Brazil, recently announced updated NDCs at COP29 in Baku, signalling progress towards stronger commitments.⁵

India, as a developing economy facing significant social and environmental challenges, has demonstrated notable ambition in its climate commitments. Through its updated NDCs and Long-Term Low Emission Development Strategy (LT-LEDS), India aims to achieve net-zero emissions by 2070, establish 500 GW of non-fossil energy capacity by 2030, and reduce the carbon intensity of its economy by 45 per cent from 2005 levels,⁶ having commendable goals. Other major emitters have also set ambitious climate goals. China, for instance, targets a 25 per cent share of non-fossil fuels in its primary energy consumption, plans to increase its forest stock volume by 6 billion cubic metres by 2030 compared to 2005 levels and increase installed capacity of wind & solar power to over 1200 GW by 2030 and carbon neutrality by 2060.⁷ Meanwhile,

1 US Environmental Protection Agency - National Oceanic and Atmospheric Administration

2 WEF- A third of India's economy relies on nature

3 UN- All about the NDCs

4 WEF Letter to COP29 - Every fraction of a degree counts

5 WEF Blog - COP29: What are NDCs and why do they matter?

6 UNFCC- India's Updated First Nationally Determined Contribution

7 UNFCC- China's Achievements, New Goals and New Measures

the European Union is pursuing an economy-wide net reduction of at least 55 per cent in greenhouse gas emissions by 2030 compared to 1990 levels, with a net-zero target set for 2050.⁸ These commitments highlight global efforts to address climate change, though much depends on effective implementation and collaborative progress.

Progress and Milestones: On the Right Track

Despite being the third-largest global emitter of greenhouse gases, India has managed to maintain low per capita emissions — around 2.8 tCO₂e⁹ — significantly below the global average of 6.8 tCO₂e. This fact alone underscores the nuances of India's role in global climate discussions – highlighting the challenge of balancing development goals with climate action. However, it is evident that both can progress together.

India has made significant strides in renewable energy (RE). The country has successfully installed around 203 GW of non-fossil fuel-based electricity capacity, accounting for approximately 45 per cent of its total energy mix,¹⁰ placing India fourth globally in terms of renewable energy capacity.¹¹ Additionally, solar energy has been a shining success for India, positioning the country as the third-largest solar power generator in the world.¹² Ambitious targets in the electric vehicle (EV) sector—like achieving 30 per cent of new vehicle sales from EVs by 2030¹³—show how the country

8 UNFCCC- The update of the nationally determined contribution of the European Union and its Member States

9 The Hindu: India needs climate justice, not just targets

10 PIB- India's Renewable Energy Capacity

11 Grant Thornton: Achieving 500 GW of renewable energy capacity by 2030

12 WEF: India is making strides on climate policy that others could follow

13 The Economic Times: India aims for 30 percent of all vehicle sales to be electric by 2030: Care Edge Ratings

is integrating climate action across industries.

However, as with any large-scale transition, some areas have seen slower progress. India's reliance on coal continues to remain high with coal accounting for 46 per cent of the total energy mix and oil taking up 26 per cent in 2022.¹⁴ While India cannot immediately phase out coal, there is significant potential to improve efficiency in its use. The country is enhancing the efficiency of coal-based power generation by renovating and modernizing older plants, including retrofitting units with advanced technologies to enhance operational efficiency and reduce emissions. Furthermore, India's net-zero target of 2070 lags behind other developing nations like Brazil (2050), and China and Russia (2060), leaving scope for us to be more ambitious. Afforestation is another area where we can ramp up efforts to meet the goal of increasing forest cover for carbon sinks by 2030.

Scope for Improvement: Right Metrics and Annual Reviews

Meeting climate action is primarily driven by energy transition, which has 3 key sub-components: transitioning to renewable energy, focusing on energy efficiency, and increasing electrification. Choosing the right metrics for NDCs at the country level is also essential. For instance, renewable electricity targets should focus on generational share rather than solely installed capacity. This becomes critical since 1 GW of fossil fuel generation capacity and 1 GW of solar or wind generation capacity are not comparable in terms of generated electricity through the year. Similarly, establishing specific benchmarks for energy efficiency, particularly in manufacturing and building sectors, is necessary to track progress effectively. Electrification should not only prioritize

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the transport sector, which is crucial, but also address other industrial processes in manufacturing and hard-to-abate sectors. Instituting an annual performance review will further help ensure that progress is on track. This will help improve the NDCs for all countries, give clarity to their respective industries and help further accelerate progress.

Conclusion: The Road Ahead for India

Sustainability has always been deeply embedded in India's heritage. For centuries, we have lived in harmony with nature, with eco-conscious practices rooted in our culture and history. This legacy can be carried forward, as reflected in Mission LiFE (Lifestyle for Environment), which promotes collective action and encourages both societal and individual climate-conscious behaviours. Adopting climate-conscious technology and embedding it in our industry will help us move along rapidly. Collaboration among government, private sector and civil society is also essential.

India's climate commitments are robust, and the country is following through with clear actions and policies. However, the journey towards achieving these goals is not without its challenges. India must focus on accelerating all elements of energy transition, particularly energy efficiency in the short-term. As a nation highly vulnerable to the effects of climate change, greater emphasis must now be placed on adaptation strategies. The remainder of this decade will be pivotal. India can emerge as a leader for the developing world in the global fight against climate change. While we are moving in the right direction, we must now accelerate our pace. ■

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