

India on track to exceed 2030 NDC target on emission reduction

- ♦ *Energy efficiency and sustainable lifestyles can deliver highest absolute emissions reductions for India*
- ♦ *Power pricing reforms could push for higher solar rooftop penetration in residential buildings*

New Delhi, 22 May 2025: India is on track to exceed its Nationally Determined Contribution (NDC) target of reducing the emissions intensity of its GDP by 45 per cent by 2030, according to a new emissions modelling analysis by the Council on Energy, Environment and Water (CEEW) and the Alliance for an Energy Efficient Economy (AEEE). The findings, published this week in the international journal *Energy and Climate Change*, project that India's energy sector emission intensity could decrease by 48–57 per cent by 2030 compared to 2005 levels. However, achieving net zero by 2070 will require additional policy interventions, centred around carbon pricing, along with power pricing reforms, fiscal support for clean technologies, enhanced energy efficiency, and behaviour change initiatives.

The journal paper, [*A new scenario set for informing pathways to India's next Nationally Determined Contribution and 2070 net-zero target: Structural reforms, LIFE, and Sectoral Pathways*](#), broadens the understanding of India's pathways to its 2070 net-zero target by examining 18 scenarios. This includes a business-as-usual (BAU) scenario that reflects current policy trajectories without additional climate action. These projections are based on the India-specific Global Change Analysis Model (GCAM) developed by CEEW. The analysis suggests that India's 2035 NDC targets could include reducing emissions intensity of GDP between 55–66 per cent relative to 2005 (with most scenarios indicating a 56 per cent reduction) and increasing the non-fossil fuel share in installed power capacity to 60–68 per cent. Such a goal could help balance India's economic growth ambitions with climate priorities.

Dr Vaibhav Chaturvedi, Senior Fellow, CEEW, said, “Since the Paris Agreement, India has demonstrated climate leadership on several fronts. It has also proven that growth and emissions reduction can happen together. This paper reaffirms that with decisive reforms—across electricity pricing, industrial planning, nuclear electricity, lifestyle change, and urban mobility—India can significantly bend its emissions curve towards net zero. As we head into COP30 this year, India's 2035 NDC must reflect not only enhanced ambition but also economic realism, supported by analytical assessments. A well-calibrated strategy should include an economy-wide emissions intensity target, sector-specific carbon budgets, and a push for low-carbon technologies and clean manufacturing. Only a deliberate, policy-led pathway can shift India onto a resilient and equitable low-carbon track.”

Satish Kumar, President and Executive Director, AEEE, said, “By integrating key energy efficiency parameters as endogenous variables in the underlying climate model, our paper breaks new ground in capturing the real-world potential of demand-side interventions. This approach makes the model more robust and reflective of India's development realities. It also signals a shift toward more holistic climate policymaking where both the demand and supply side are examined in tandem, unlocking co-benefits across equity, resilience and sustainable growth.”

A high-growth, high-manufacturing scenario can also drive emission reductions

In a high-growth scenario aligned with the *Viksit Bharat* vision—marked by strong GDP growth and an increasing share of manufacturing—India's total energy use and emissions could rise significantly. CEEW-AEEE analysis finds that such a scenario would lead to 63 per cent higher absolute emissions by 2070, compared to BAU. However, the emissions intensity of GDP would still fall by 3 per cent relative to BAU, due to greater adoption of efficient technologies and deeper integration of renewables in India's energy mix. This reduction could be even higher if Indian industries prioritise electricity-driven, low-emission manufacturing sectors, such as semiconductors.

Behaviour and lifestyle changes could significantly bring down emissions

One of the most compelling findings of the CEEW-AEEE analysis is the potential of behavioural and lifestyle changes—such as reduced private vehicle use, adoption of energy-efficient appliances, and optimised residential energy use—modelled under India’s *Mission LiFE* framework. These could deliver up to 10 per cent emissions reductions by 2050 relative to BAU, as well as reduce the pressure on land resources. Policies that mandate energy-efficient products and prioritise their procurement could deliver substantial gains at relatively low costs.

Power pricing reforms can drive equitable and scalable electrification

The CEEW-AEEE analysis also finds that rationalising electricity tariffs is critical to unlocking clean energy transitions across sectors. Lower tariffs for industrial and commercial users could accelerate electrification and boost clean energy uptake. Higher residential tariffs, on the other hand, could make rooftop solar more attractive—provided low-income households continue receiving targeted support. These reforms also highlight the need to strengthen grid infrastructure to improve price signals and manage rising electricity demand.

The transport sector needs high EV adoption and public transport push

Transport transformation offers emission reduction opportunities, along with air quality gains and reduced travel time in cities. A central priority is to re-engage people with public transport—especially buses—by making it more reliable, accessible, and aspirational. Currently, buses account for 38 per cent of total passenger-kilometres, but this could fall to just 10 per cent by 2070 under the BAU scenario. Even doubling that share would reduce road transport emissions by only ~three per cent, as most people would shift to two- and three-wheelers or walking. This makes clear that alongside a public transport revival, ambitious electrification that includes buses, two- and three-wheelers, and private vehicles is essential to manage rising travel demand and reduce emissions. Achieving this requires targeted subsidies, charging infrastructure, better bus stops, cycle lanes, and congestion disincentives to shift consumer behaviour at scale.

Read the full paper, *‘A new scenario set for informing pathways to India’s next Nationally Determined Contribution and 2070 net-zero target: Structural reforms, LiFE, and Sectoral Pathways’* by Pallavi Das, Vaibhav Chaturvedi, Joy Rajbanshi, Zaid Ehsan Khan, Satish Kumar, and Akash Goenka [here](#).

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About CEEW

The Council on Energy, Environment and Water (CEEW) — a homegrown institution with headquarters in New Delhi — is among the **world’s leading climate think tanks**. The Council is also often ranked among the **world’s best-managed and independent think tanks**. It uses data, integrated analysis, and strategic outreach to explain — and change — the use, reuse, and misuse of resources. It prides itself on the independence of its high-quality research and strives to **impact sustainable development at scale** in India and the Global South. In over 14 years of operation, CEEW has impacted over 400 million lives and engaged with over 20 state governments. Follow us on X (formerly Twitter) [@CEEWIndia](#) or on LinkedIn for the latest updates.

About AEEE

Alliance for an Energy Efficient Economy (AEEE) is one of the leading organisations in India that works on creating awareness about energy efficiency as a resource. AEEE supports policy implementation and is an energy efficiency market enabler with a not-for-profit motive. We promote data-driven and evidence-based energy efficiency policies and research.