

India's current climate policies significant; will reduce ~4 billion tonnes of CO₂ emissions between 2020 & 2030: CEEW Study

- India's climate policies on power, transport & residential sectors have saved 440 MtCO₂ from 2015 to 2020
- Solar and wind are expected to make up 43% of India's electricity generation by 2050
- Further policy enhancements are crucial for achieving India's 2070 net-zero targets

New Delhi, 07 November 2024: India's current climate policies are already helping bend its long-term emissions curve and are projected to reduce CO₂ emissions by almost 4 billion tonnes between 2020 and 2030, according to a new, independent study by the Council on Energy, Environment and Water (CEEW). This reduction is equivalent to nearly 1.6 times the European Union's CO₂ emissions in 2023. It is a significant achievement given India's [commitment](#) to reducing emissions by 1 billion tonnes by 2030 at COP26 in Glasgow. The study, *Impact of Select Climate Policies on India's Emissions Pathway*, found that policies for India's power, residential, and transport sectors have already saved 440 million tonnes of carbon dioxide (MtCO₂) between 2015 and 2020. The highest reduction due to the policy interventions is observed in India's power sector, given that its share of the country's carbon emissions is significantly higher than other sectors. Over the coming decades, India must scale up decarbonisation efforts and continue championing climate policies to meet its net-zero goal by 2070.

CEEW's first-of-its-kind modelling assessment shows how India's climate policies have collectively saved emissions and pushed India towards a higher share of renewables in its energy mix, increased adoption of electric vehicles, and improved energy efficiency in domestic air conditioning and lighting. It also examines how policies, like the *National Solar Mission*, *FAME I & II* schemes, *Standards & Labelling* scheme, and *UJALA* programme, will continue to affect future energy demand and supply.

According to the study, in the **power sector** alone, policies promoting renewable energy are expected to drive a 24 per cent decline in coal-based electricity generation by 2030, relative to a no-policy scenario. This is equivalent to avoiding 80 GW of coal-based power plants that would have otherwise been installed to meet India's burgeoning power demand. India currently has an installed RE (excluding large hydro) capacity of [~155 GW](#). Further, with strategic support and competitive tenders, the share of combined solar and wind power in the energy mix for India is projected to go up to 26 per cent by 2030 and 43 per cent by 2050, up from only ~3 per cent in 2015. This will decisively reduce reliance on coal, which is currently the source of nearly half of the country's total carbon dioxide emissions. This shift is crucial for bending India's emissions curve downward, but achieving net zero by 2070 will require even more ambitious action.

Dr Arunabha Ghosh, CEO, CEEW, said, "India has demonstrated formidable climate leadership over the past decade, from scaling renewables to advancing energy efficiency and electric mobility through policies. This has not only diversified our energy mix and doubled down on energy security, but also created new markets and significantly cut India's carbon dioxide emissions. The road to net zero needs bolder action, and the foot cannot be taken off the pedal now. To enable the Global South's efforts, COP29 must ensure climate finance flows to developing countries like India, without riders. This would deepen renewable markets and a sustainable future for all."

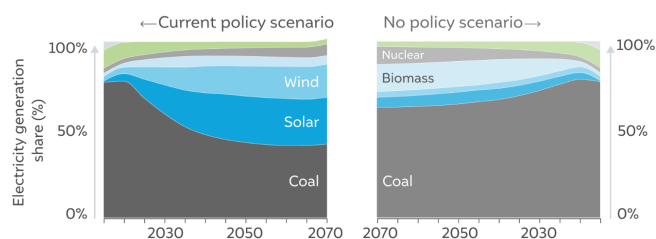
In the **transport** sector, the CEEW study found that policies such as the *FAME* (2015-2022) schemes have set the stage for significant growth in the electric vehicle market. Projections show that by 2030, electric two-wheeler and four-wheeler sales could make up 19 and 11 per cent of their respective segments. This could lead to a 13 per cent reduction in oil and gas demand in this decade. By 2050, these figures are

expected to rise dramatically to above 65 per cent for both EV categories, resulting in a 55 per cent reduction in the sector's oil and gas demand relative to the no policy scenario.

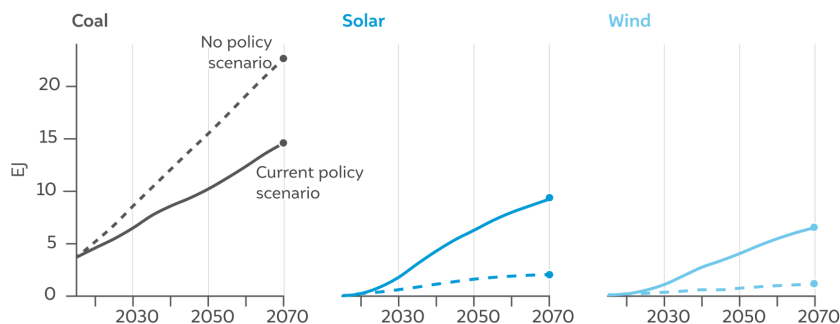
In the **residential sector**, the 2006 *Standards and Labelling* programme has led to significant energy efficiency improvements in air-conditioning and cooling. The CEEW study found that air conditioning-related electricity consumption in Indian households is projected to double between 2020 and 2030 and then soar by almost ten times by 2050. This growth would be driven not just by hotter summers and higher incomes but also due to lower electricity prices on the back of higher renewable energy penetration. Meanwhile, the *UJALA* programme – by promoting and distributing over [367 million](#) energy-efficient LED bulbs since 2015 – is projected to reduce residential lighting electricity use by 48 per cent by 2030 and 59 per cent by 2050 relative to the no policy scenario.

Dr Vaibhav Chaturvedi, Senior Fellow, CEEW, and lead author of the study, emphasised the importance of enhancing existing policies: "Our findings show that current policies have set India on the right path. New policies that build on existing climate policies are already being formulated to accelerate efforts to meet the 2070 net-zero target. Immediate steps should include scaling up investments in renewable energy, enhancing the domestic Carbon Credit Trading Scheme, and focusing on energy efficiency in key sectors like industry, transport and buildings. The recently announced *PM-EDRIVE* scheme will build on the gains made by the *FAME* initiative, accelerating the adoption of electric vehicles and driving deeper emission reductions in the transport sector. These actions will be instrumental in decisively bending India's emissions curve towards our net-zero goal and ensuring its energy security in the long run."

India's climate policies are projected to push the share of solar and wind to 43% of electricity generation by 2050



Policies such as the National Solar Mission, Onshore Wind Auction, etc. are projected to tangibly increase solar and wind in the energy mix



Source: Impact of Select Climate Policies on India's Emissions Pathway (2024)

Limitations: The CEEW analysis hasn't considered the impact of the government's Perform, Achieve and Trade (PAT) scheme on India's industrial energy efficiency use. Earlier studies have found it to have marginal impact on reducing emissions. The analysis also didn't cover some recent policies - the *National Green Hydrogen Mission*, *Carbon Credit Trading Scheme (CCTS)*, *PM Suryaghar Yojna* and *PM-eBus Sewa Scheme*- given that these are fairly recent to reveal their impact. These are expected to significantly impact India's future emission pathways and will be evaluated in due course.

Read the full study, 'Impact of Select Climate Policies on India's Emissions Pathway' by Vaibhav Chaturvedi, Anurag Dey, and Ritik Anand here.

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About CEEW

The Council on Energy, Environment and Water (CEEW) is one of Asia's leading not-for-profit policy research institutions and among the world's top climate think tanks. The Council uses data, integrated analysis, and strategic outreach to explain — and change — the use, reuse, and misuse of resources. The Council addresses pressing global challenges through an integrated and internationally focused approach. It prides itself on the independence of its high-quality research, develops partnerships with public and private institutions, and engages with the wider public. CEEW has a footprint in over 20 Indian states and has repeatedly featured among the world's best-managed and independent think tanks. Follow us on X (formerly Twitter) @CEEWIndia for the latest updates.