

India's Long-Delayed Low-Carbon Plan Expected to Take Off Amid Energy Transition Push



After years of anticipation, India's long-delayed low-carbon development strategy is finally expected to gain traction. Initially presented at the 2022 United Nations Climate Change Conference, the Long-Term Low-Carbon Development Strategy (LT-LEDS) could soon become a policy foundation as the country works toward its 2070 net-zero emissions goal. This marks a critical moment as India seeks to address both its growing energy demands and environmental responsibilities.

The strategy outlines how India intends to lower greenhouse gas emissions while sustaining economic growth. As the world's third-largest carbon emitter, India has maintained a careful balance between energy security, industrial expansion, and environmental responsibility. With the LT-LEDS, policymakers aim to formalize that balance through a sector-wise plan covering energy, transport, industry, agriculture, and land use. While India has pledged to reach net-zero emissions by 2070, the LT-LEDS will provide a roadmap with clear targets, timelines, and sector-specific initiatives.

A major focus of the LT-LEDS is transitioning from coal-heavy power generation, currently accounting for around 75% of electricity, toward a diversified energy mix that includes solar, wind, hydro, nuclear, and green hydrogen. India has already surpassed 100 gigawatts (GW) of installed solar capacity, but system-wide efficiency, energy storage, and grid upgrades are still needed to make renewables a more reliable energy source. Moving away from coal will be no small feat, but the plan outlines incremental steps to boost renewable generation, improve transmission infrastructure, and develop smart grid technologies to support the transition.

In addition, the government is introducing a national carbon market, set to begin with voluntary trading in late 2025, followed by mandatory trading in 2026. This system, enabled by the 2022 Energy Conservation (Amendment) Act, will help incentivize emissions reductions across various industries by assigning a cost to carbon output.

Still, certain sectors, notably heavy industry, present major challenges. A May 2025 report by Global Energy Monitor warned that India's planned coal-based steel capacity could double the sector's emissions. However, about 90% of that capacity remains unbuilt, leaving space for cleaner technologies like electric-arc furnaces to emerge.

"There is potential for India to change course," said Easwaran Narassimhan, director at the Sustainable Futures Collaborative, in comments to AP News. "Only 8% of the proposed steel projects have broken ground. This gives policymakers time to incentivize cleaner technologies."

Experts also point to the need for investments in grid modernization, public-private collaboration, and innovation in carbon capture technologies. The LT-LEDS encourages such steps, but their execution will determine whether India can meet both its environmental and economic goals.

As India moves from planning to implementation, the success of the LT-LEDS will depend on coordinated policy, industry adaptation, and sustained investment. What unfolds next could shape the country's energy future for decades to come.