2022: Year zero in the race to net-zero 2070

The investment buzz has begun but policy frameworks still lag the process

YEAR OF RESET
2022
GREEN

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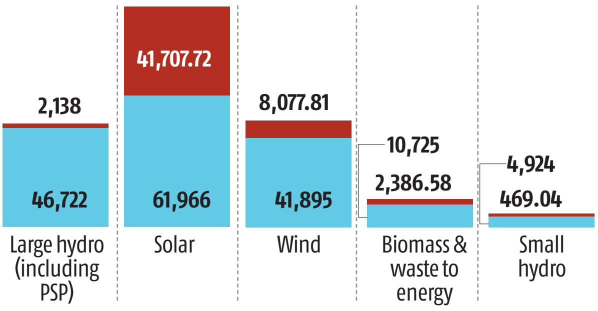
POWER TO NET-ZERO

Capacity of non-fossil fuel sources

(In Mw) Current installed capacity | Capacity addition (2017-2022)

TOTAL 166,232 | 54,779.15



Source: Central Electricity Authority (CEA) draft electricity plan

INDIA'S UPDATED NDCs SUBMITTED TO UNFCC IN AUGUST 2022

50% **country's installed electric power capacity** will come through non-fossil sources by 2030

Reduction in carbon intensity of GDP by 45% by 2030 (from 2005 levels)

Creation of an additional carbon sink of 2.5 to 3 bn tonnes of carbon dioxide equivalent through additional forest and tree cover by 2030

Mass movement called LiFE (Lifestyle for the Environment)

Long-term goal of reaching net-zero by 2070

Source: India NDC submission

To think that the value zero can attract million dollars worth of investment may appear far-fetched, even in the country where the concept of zero was invented. From November 2021 onwards, when Prime Minister Narendra Modi declared at the COP26 in Glasgow that India would be a net carbon-zero economy by 2070, any and every announcement, policy directives in key sectors, and corporate investment have revolved around it. The target is still a good 47 years away but the buzz has started and rightly so.

The spotlight has shifted to renewable energy (RE), green fuels, decarbonisation, green financing and electric mobility. If 2021 was the year of announcements, this year plans started taking shape — but with significant challenges erupting alongside, in some cases quite literally. Electric vehicles caught fire, COP27 failed to be a watershed meet for poor nations, India's self-declared target of touching 175 Gw of renewable energy by 2022 remained beyond reach, and the Electricity Bill 2021, which was poised to unleash a new era in the sector, is yet to become law.

Fluctuating green power: Capacity addition in the renewable energy sector, which was the key driver for greening the electricity sector, was hit during the last two years of the pandemic. Although project construction revived, policy and market fluctuations were major roadblocks.

According to JMK Research, in the January-September 2022 period about 9.3 Gw of utility-scale solar and 1.89 Gw of new wind capacity was added, indicating a recovery in project deployment over the Covid year of 2022. JMK expects 13.6 Gw of solar and 2.6 Gw of wind power capacity to be added during this fiscal. But this addition would still fall short of the Centre's target of touching 175 Gw of renewable capacity (sans large hydro) by 2022.

Two significant policy changes marked the beginning of this fiscal for the RE sector. The Centre imposed a 25 per cent basic customs duty (BCD) on imported solar cells and 40 per cent on imported modules from April 2022 onwards in order to support domestic solar manufacturing. Additionally, projects awarded after April 2021 were mandated to procure solar equipment from the Approved List of Models and Manufacturers (ALMM), drafted by the Ministry of New and Renewable Energy. The latest ALMM of 58 companies were all indigenous.

These policies have hit close to 20 Gw of solar power capacity in the pipeline since the last fiscal year, and several project developers could look at rising costs, resulting in a revision of the tariff at which they won the projects. Close to 85 per cent of Indian solar capacity is built on imported cells and modules, mostly from China.

As Srivatsan Iyer, CEO, Hero Future Energies, pointed out, "Government policy must ensure minimal financial impact on existing installed capacity. RE projects typically do not have the financial leeway to absorb retrospective changes unless a specific pass-through/Change in Law provision is made available, as almost 90 per cent of the capital required to operationalise the asset comes in the form of upfront capex."

Green fuels — new kids on the investment block: Every leading conglomerate with an interest in the energy sector, new-age RE companies and even automobile makers have announced either investment or consumption plans for green fuels. Adani Enterprises, Reliance Industries Ltd, Tata Group, JSW Energy, L&T, ACME Group, ReNew Power and many others have announced investment plan. Ashok Leyland, one of India's leading commercial vehicle makers, is looking at a tie-up to run a section of their fleet on green hydrogen.

So money has started pouring in, but a clear policy directive is missing. Sector experts say a clear policy is needed for this nascent market, especially to drive demand. But a national hydrogen policy is still being drafted, with the government said to be holding extensive consultations.

"In terms of interest, globally it is believed that 'electron to molecule' is the next big thing. There have been large investment commitments made. The reality is that on-ground developments, whether in India or globally, are much behind the hype. Everyone is trying to get a seat on the table. But for huge capital commitments, industry needs a clear path in terms of either policy or adoption or green premiums and technology. These puzzle pieces are still work in progress," said Rajat Seksaria, CEO, ACME Group.

Another similar sector where investment has preceded policy directions is battery manufacturing. Arising out of the need to address growing demand and investment in electric mobility and storage-linked RE projects, battery storage has yet only received a production-linked incentive (PLI) scheme.

A just transition? The big question, however, remains on India's transition to a low-carbon economy while keeping the social impact in mind. Coal continues to be the backbone of the electricity supply and the mobility sector is still driven by fossil fuels. At the same time, though India has defined its decarbonisation targets, a plan for climate adaptation and just energy transition is still missing. There were some baby steps — the Ministry of Coal for the first time has a "just transition" division that will plan and execute coal mine closures. National miner Coal India Ltd has also set up a similar division. Coal-rich Jharkhand has also formed a "just transition task force" that will draft a plan for the state's transition to a green economy and safeguard the working population, most of which is fossil fuel-dependent.

COP27 delivered a major win for developing nations including India, which wanted a separate loss and damage fund for facing the climate crisis. But global funding for energy transition is a larger question for a country like India, especially when it is still reluctant to join a "Just Energy Transition Partnership" if the phase-out of coal is on the discussion table for the Global North to fund its energy transition. The country is yet to develop a robust indigenous climate financing mechanism or agency. There are some steps being taken to have a development finance institution for climate financing but that will take a long time to fructify.

India's energy transition, experts believe, is an attractive global investment opportunity. All the country needs to do is build a robust framework to facilitate it.