



ACCELERATING CLEAN ENERGY IN INDIA: MORE FINANCING AND MORE JOBS

As the Indian economy prospers, it is tackling several issues at once: how to power its fast growth, lift millions out of poverty and build a healthy, secure climate and energy future for its people. Developing and implementing supportive clean energy policies and increasing the flow of investment into clean energy in the next few years will be critical in shaping India's success as it aggressively moves ahead with climate action and clean energy development.

The Natural Resources Defense Council (NRDC), a leading international environmental group with deep expertise in clean energy and climate policy, and the Council on Energy, Environment and Water (CEEW), India's premier environmental think tank, are working together to accelerate the deployment of clean energy to meet India's economic and climate goals.

Through collaborative research and policy analysis, we work to address clean energy financing barriers, increase energy access and highlight the job creation potential of clean energy in India. We aim to develop and implement practical, on-the-ground solutions that will help India achieve its climate and clean energy goals.

Scaling Up Investment with Green Banks and Green Bonds

According to estimates by the Ministry of New and Renewable Energy (MNRE), meeting India's solar target

of 100 gigawatts (GW) by 2022 would require \$100 billion in investment over the next six years. India needs to unlock domestic and international private investment to bring clean energy to scale. The Clean Energy Finance Initiative (CEFI) is a collaborative research effort by CEEW and NRDC aimed towards finding policy and market-based solutions to scale up the flow of finance, at affordable prices, into the Indian renewable energy market.

One key solution is to set up a green bank in India. Green banks are government-funded institutions with specialized underwriting expertise in clean technology and a mission to expand clean energy. Green banks amplify the impact of limited government funds by using those funds as a financial lever to attract private investments for clean energy development. A green bank in India can:

- **Lower the cost of capital for clean energy projects** by leveraging public funds to assume part of the risks that the private sector is unprepared to take on in nascent markets, partnering with commercial banks and institutional investors to lower their risk profile and increase their comfort level.
- **Steer private capital, both domestic and international, into clean energy** by being the trailblazers that allow private investors to be more comfortable lending to this

Members of the global Green Bank Network have mobilized \$22 billion in private funding for clean energy.



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emerging market. Members of the global Green Bank Network, including institutions in New York, Connecticut, Australia, Japan and Malaysia, have mobilized \$22 billion in private funding for clean energy.

- **Use special financial tools to attract private lenders** such as partial credit guarantees or credit insurance that gives private lenders an extra boost of confidence to initiate clean energy loans.
- **Finance and aggregate small-scale projects**, such as rooftop and off-grid solar projects that are critical for expanding energy access, by bundling them together to increase scale and reduce costs for private lenders.
- **Issue green bonds**, along the lines of India's successful rupee-denominated "masala" bonds, to create an attractive clean energy investment vehicle for long-term institutional investors, both domestic and international. CEFI is exploring ways to expand and diversify the investor and borrower base for green bonds, as well as develop a strong certification and labeling scheme to bring down the transaction cost for investors.

CEFI engages with diverse stakeholders ranging from governmental agencies such as the MNRE, Indian Renewable Energy Development Agency (IREDA), the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India, to financiers and industry actors such as Export Import Bank of India, Yes Bank, Hero Future Energies, Kiran Energy and Bloomberg New Energy Finance.

Highlighting India's Clean Energy Jobs Potential

Developing India's clean energy market creates enormous employment opportunities for India's growing workforce. Renewable energy technologies are more labor-intensive

than mechanized fossil fuel technologies and can provide a tremendous opportunity to create domestic jobs for a booming population.

Distributed solar power creates more jobs per unit of energy produced than any other energy source. NRDC and CEEW's analysis shows that rooftop solar projects in particular are more labor-intensive and can create more jobs.

If India achieves its target of installing 100 GW of solar power capacity by 2022, as many as a cumulative 1,000,000 FTE jobs could be created.

In addition to solar parks and large-scale projects, promoting distributed generation technologies such as rooftop and off-grid solar can go a long way towards employing India's workforce and using clean energy to achieve the government's clean energy targets. Additionally, rooftop solar presents a viable alternative to diesel backup power for companies and generates local skilled employment.

Local communities are key beneficiaries of employment from wind power projects during the project's operations and maintenance phase. For example, out of a total of 438 full time equivalent (FTE) jobs created by the Gamesa-Renew Power 85 MW wind power project in Maharashtra, 20 percent of the jobs were generated for local residents in semiskilled and unskilled roles.

If India achieves its target of installing 100 GW of solar power capacity by 2022, as many as a cumulative one million FTE jobs could be created. Approximately 183,500 FTE jobs would be generated if India were to reach its target of installing 60 GW of wind energy capacity by 2022.

To truly realize the potential for employment opportunities from solar power, Indian industry must strive for greater transparency by reporting job creation numbers. It must also collaborate with the government on the quality and availability of skill-development programs.



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