PRESS RELEASE

India's clean energy targets could create over 44 lakh jobs by 2030, rooftop solar emerges as biggest employment driver: CEEW-NRDC

- *Rooftop solar could account for 43% of the estimated clean-energy jobs linked to India's clean energy goals*
- *Select clean-energy sectors added over 6.5 lakh workers between FY23 and FY26*
- *Women make up only 11% of the surveyed solar and wind workforce*

New Delhi, 03 June 2026: India's 500 GW non-fossil fuel capacity target and goals under the National Green Hydrogen Mission could generate over 44 lakh full-time equivalent (FTE) jobs, according to a new independent study launched today by the Council on Energy, Environment and Water (CEEW) and the Natural Resources Defense Council (NRDC) India. Rooftop solar is projected to be the single largest employment engine, accounting for ~43 per cent of these estimated jobs.

The study, ***Driving Energy Transition: Workforce, Skills, and Gender in India's Renewable Energy Sector***, was conducted with technical guidance from the Ministry of New and Renewable Energy (MNRE). It is based on a primary survey of companies conducted in 2024–25 across the solar, wind, bioenergy, and hydropower sectors. The study developed new FTE employment coefficients to estimate workforce intensity across different clean energy technologies and business phases across solar, wind, bioenergy, and hydropower sectors, and estimates direct jobs created during component manufacturing, project deployment, and operations. India now ranks third globally in renewable energy installed capacity and achieved its target of meeting 50 per cent of cumulative electric power installed capacity from non-fossil sources in 2025, five years ahead of schedule.

Speaking about the prospects of job creation in clean energy sectors, Shri Santosh Kumar Sarangi, Secretary, MNRE said, "The element of people's involvement is intrinsic to a successful green transition. The positive externalities involved in keeping people as the focus of this green transition is intrinsic, and India has shown that our economic growth trajectory as well as sustainability goals can be pretty well aligned. Last year, we achieved about 51 gigawatts of solar and wind, and hopefully, this momentum will continue and expand in the subsequent years.."

Dr Arunabha Ghosh, CEO, CEEW, said, "India's energy transition must also be a workforce transition. The opportunity is about creating livelihoods, building skills, deepening domestic supply chains, and ensuring that the benefits of clean energy reach households, farmers, workers, and entrepreneurs while also adding gigawatts. Rooftop solar shows why distributed renewables matter: they generate clean power while creating more jobs per MW than utility-scale projects. To convert India's clean-energy ambition into a durable employment engine, India must continue to invest in high-quality skilling, transparent workforce data, and inclusive participation."

Rooftop solar leads workforce addition

The findings are significant as rooftop solar gains momentum. The CEEW-NRDC study finds that of the 6.5 lakh clean energy workers added between FY23 and FY26, the largest share came from rooftop solar, which accounted for 62 per cent of the total workforce addition. This was followed by PM-KUSUM at 16.3 per cent, biomass power at 12.6 per cent, ground-mounted solar at 6 per cent, etc.

Rooftop solar creates more jobs because it has to be installed home by home, shop by shop, and building by building, unlike large solar or wind projects that are built at a single site. This means more workers are needed for customer outreach, site surveys, design, installation, grid connection, and maintenance. For instance, rooftop solar generates 44 times more FTE job-years per MW than utility-scale solar. The study estimates that rooftop solar generates ~45 FTE job-years/MW, compared to 1 FTE job-year/MW for ground-mounted solar and ~0.6 FTE job-year/MW for wind. Decentralised clean energy systems were found to be significantly more jobs-intensive than large-scale systems.

Dipa Singh Bagai, Country Director, NRDC India, said "Clean energy jobs are essential to India's economic growth, energy security, and climate goals. This study shows that distributed renewable energy, especially rooftop solar, can create employment across cities, small towns, and rural areas. But job creation will require deliberate planning, credible workforce reporting, and stronger industry-training partnerships so that workers are ready for the next phase of India's energy transition."

Women remain underrepresented in solar and wind energy jobs

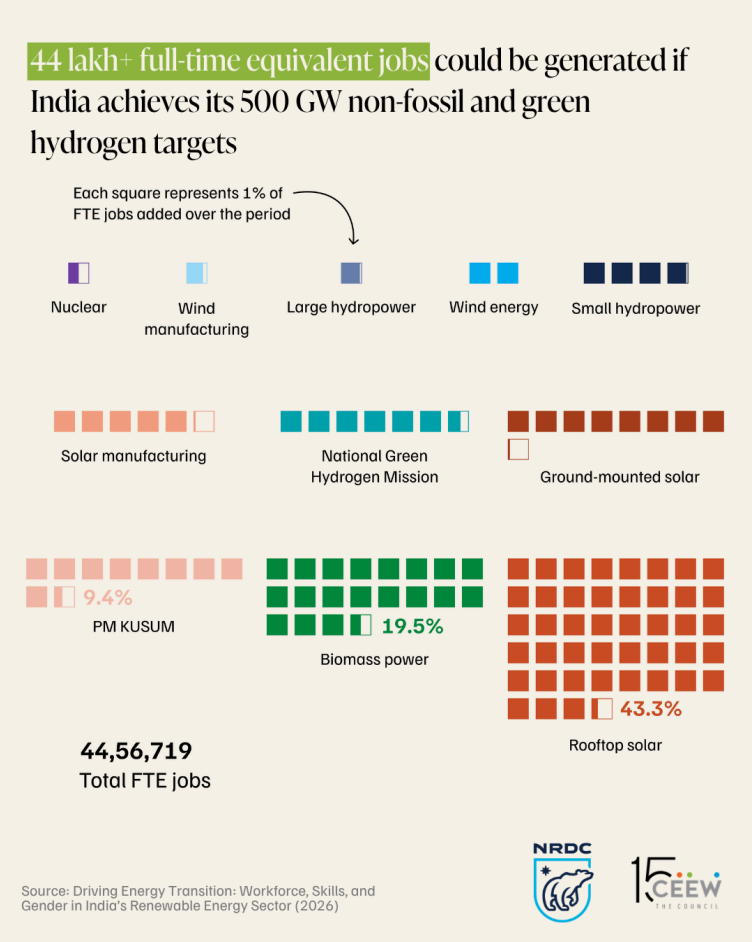
The CEEW-NRDC study finds that women account for only 11 per cent of the total workforce in solar and wind deployment and manufacturing sectors. Women's participation is highest in rooftop solar at 15 per cent, followed by solar module manufacturing at 13 per cent, floating solar at 12 per cent, and ground-mounted solar at 11 per cent. The study also finds that 61 per cent of women in the clean energy workforce are employed in non-technological roles such as human resources, accounting, and administration.

Clean energy jobs will require higher skills

The study also finds that ~13 lakh FTE jobs could be in operations and maintenance and manufacturing roles, sustained over the lifetime of projects or manufacturing facilities. However, realising this employment opportunity will require a stronger skills ecosystem. Around 60 per cent of jobs in clean-energy project deployment require highly skilled or semi-skilled workers. In manufacturing sectors, this rises to 80–90 per cent, underscoring the need for technical training, practical field exposure, and career progression pathways.

Recommendations

The study recommends that MNRE and related institutions institutionalise mandatory workforce reporting through existing processes such as subsidy disbursement, tenders, and regulatory frameworks. It also calls on clean-energy companies to invest in gender inclusion and career advancement programmes, while training institutes should strengthen hands-on learning and keep curricula aligned with changing industry needs. As India scales towards its 2030 clean-energy targets and long-term net-zero goal, the CEEW-NRDC report emphasises that workforce planning, skilling, gender inclusion, and reliable jobs data will be essential to ensure that the clean-energy transition creates not just capacity, but quality livelihoods.



Read the full study, ***Driving Energy Transition: Workforce, Skills, and Gender in India's Renewable Energy Sector*, by CEEW and NRDC here.**

Note: The study estimates direct jobs created during component manufacturing, deployment, and operations. It does not estimate indirect or induced jobs such as those in financing, insurance, hospitality, or other supporting services. The study has not developed FTE coefficients for green hydrogen and nuclear energy; jobs and targets for these sectors are taken from MNRE's 2024 report, *Opportunities in the Green Economy: Skilling and Jobs in Renewable Energy*. Jobs created and workforce added are different measures. The study distinguishes between workers added in recent years and projected FTE job-years linked to future clean-energy targets. FTE job-years standardise work across roles of different durations and are not the same as permanent headcount.

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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 15 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 NRDC

NRDC (Natural Resources Defense Council) is an international non-profit environmental organization with more than three million members and online activists. Since 1970, our lawyers, scientists, and other environmental specialists have worked to protect the world's natural resources, public health, and the environment. In India, NRDC's works with NRDC India and other local partners to help build a low-carbon, sustainable economy.