

INDIA'S CLIMATE ACTION GOALS: RETHINKING THE WORKFORCE FOR A GREEN ECONOMY

Article

Authors: Anagha Wankhede, Chaitanya Pathak, Harsha Sanyukta

'Green Jobs' are defined by the ILO as decent jobs that contribute to preserve or restore the environment, in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency. Green jobs present a key opportunity to boost economic growth in a sustainable manner by employing a skilled workforce within industries that prioritize environmental conservation, especially in a developing economy like India. It is pertinent to study how the green jobs landscape can contribute to creating meaningful jobs at scale.

As its economy emerges from a post-CoViD-19 slump, India has become the only key nation with a double-digit growth rate in the first quarter of 2021. It also boasts of a significant demographic dividend, with a hundred million young people poised to enter the working population in the coming decade¹. Even as we anticipate the creation of nearly 500 million new jobs in the next 5-6 years, it must be ensured that the future workforce

¹ [PwC Nagarik Report, 2018](#)

has the relevant skills necessary to take up these jobs.



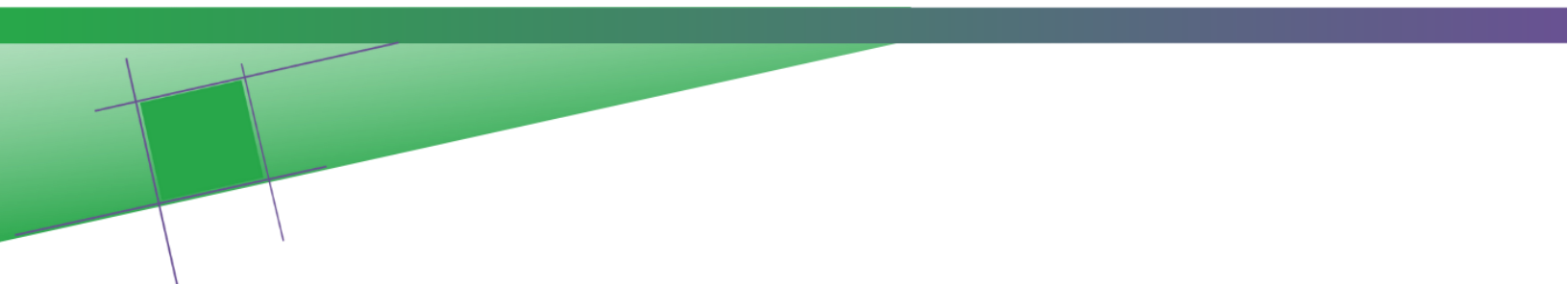
As part of its commitment to the UN Sustainable Development Goals, India has pledged to take urgent action to combat climate change. The Government of India has also set targets to reduce emissions intensity of GDP (volume of emissions per unit of GDP) by 33%-35%, and increase the share of non-fossil-based energy sources to 40% of installed capacity by 2030, as part of the Intended Nationally Determined Contribution (INDC) under the Paris Agreement. This transition to a green economy presents the opportunity to train and employ a skilled workforce equipped to work with systems designed around sustainability and conservation of the environment.

Green Jobs are defined by the International Labour Organization as *decent jobs that contribute to preserve or restore the environment, in traditional sectors such as manufacturing and construction, or in new, emerging green sectors such as renewable energy and energy efficiency*². Green jobs present a key opportunity to boost economic growth in a sustainable manner by employing a skilled workforce within industries that prioritize environmental conservation, especially in a developing economy like India. It is therefore pertinent to study how the green jobs landscape can contribute to creating meaningful jobs at scale.

A SUSTAINABILITY-ORIENTED ECONOMY DEMANDS TALENT

With the emergence of new areas for reducing negative environmental impact – *power generation from alternative sources, energy efficiency and waste management*, to name a

² [Greening with Jobs, ILO](#)



few – the demand for specialized workers skilled to handle evolving systems is expected to rise. The ILO estimates that the transition to a green economy has the potential to generate 24 million jobs globally by 2030. In India alone, the government's target to attain 175 GW of renewable energy-based installed capacity by 2022 presents the opportunity to employ over 3,30,000 people³. There is hence a clear shift towards developing India as a green economy with the potential demand for a sizeable skilled workforce. This shift is being encouraged by several factors.

Firstly, infrastructural growth in India seeks to align with the Paris Agreement. One of the means to achieve India's climate action goals is promoting a shift towards renewable energy and sustainable practices in economic activity. Recent plans for infrastructural growth in India also reflect an awareness about, and active steps to mitigate the carbon footprint of development, as seen in the predominance of solar energy to power metro rail networks in [Delhi](#) and [Nagpur](#).

Secondly, sustainability reporting is now an essential requisite for businesses in India. Regulatory bodies such as the Securities and Exchange Board of India (SEBI) have mandated a new reporting requirement - the Business Responsibility and Sustainability Report (BRSR), to ensure that companies incorporate socially and environmentally conscious practices into their operations⁴. This is expected to encourage businesses to bring about operational shifts towards sustainability, and thus create space for a workforce with a relevant set of skills.

Thirdly, sustainable growth is a major imperative of the Government of India. The Jawaharlal Nehru National Solar Mission (JNNSM) has set an ambitious aim to generate 100 GW of solar power as early as 2022. To accomplish the same, JNNSM provides financial assistance for setting up large scale, grid-connected solar power plants as well as off-grid community managed projects⁵. As a whole, the renewables sector has been inviting significant investments⁶. Missions like Smart Cities and Swachh Bharat operate with sustainability as one of their focus areas, with the latter also promoting organic waste management practices that facilitate biogas generation and fertilizer production for rural use⁷. The encouragement of domestic manufacturing through initiatives such as Make in India, along with a thrust on attaining carbon neutrality by 2030, opens up several avenues for businesses to foray into the green economy, and generate green jobs.

ENABLING ECOSYSTEM FOR TALENT CREATION

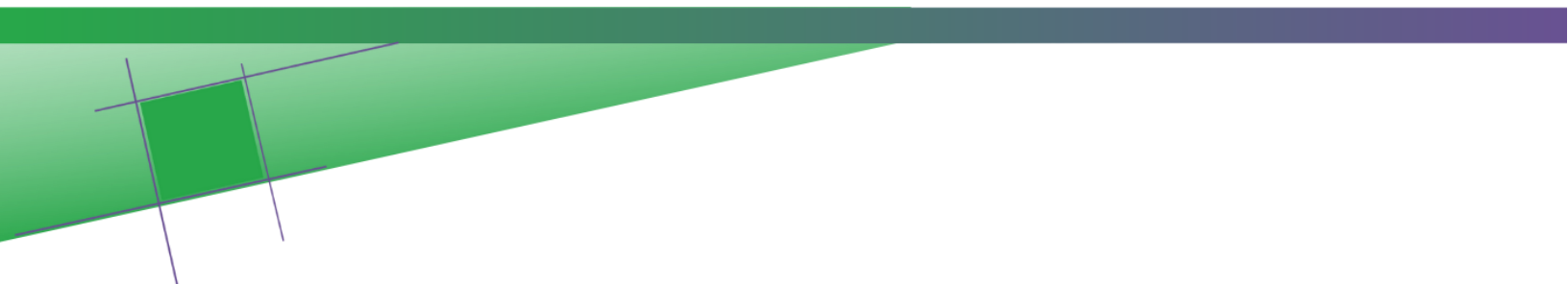
³ [Powering Jobs Growth with Green Energy, CEEW](#)

⁴ [Evolving ESG Regulations in India, Sattva](#)

⁵ [Solar Schemes, MNRE](#)

⁶ [Renewable Energy Industry in India, IBEF](#)

⁷ [Unified Portal of Gobardhan, Swachh Bharat Mission](#)



It is therefore clear that a shift towards sustainable practices in business, encouraged by governmental initiatives presents a potentially immense employment opportunity. This raises questions about the readiness of the existing and future workforce to enter a green economy.

The ecosystem to enable talent creation for green jobs is nascent but evolving. There have been policy-level initiatives over the last decade to create a workforce ready to take up green jobs. The Ministry of Labour and Employment, GoI has led a 'Multi-stakeholder Task Force on Climate Change and Green Jobs' since 2009, which manages the labour market elements of the nation's transition to a greener economy. Supported by ILO, the task force works to align ongoing projects with UN SDGs and identify feasible sectors for job creation.

In addition to this, the Skill Council for Green Jobs (SCGJ) was established in 2015 to look after the skilling and entrepreneurship development initiatives across various sectors. With renewable energy, environment, forests and climate change, and sustainable development as its focus areas, the SCGJ has identified nearly 40 job roles⁸, many of which are in the solar photovoltaic sub-sector, in addition to water treatment, waste management, and energy efficiency. Training for these roles is currently available with certified agencies such as Mahindra Susten, Tata Thrive and TERI University, among others.

INSTALLATION, OPERATION & MAINTENANCE	ASSEMBLY & REPAIR / PRODUCTION & MANUFACTURING
<ul style="list-style-type: none">• Solar PV Installer• Solar PV Designer• Solar PV Maintenance Technician• Wastewater Treatment Plant Technician• Septic Tank Technician• Improved Cookstove Installer	<ul style="list-style-type: none">• Solar PV Manufacturing Technician• Solar Lighting Technician• Portable Improved Cookstove Assembler• Animal Waste Manure Aggregator• Technician - Paper Bag Manufacturing• Paper Bag Maker
BD, MARKETING, SALES & DISTRIBUTION	OTHERS
<ul style="list-style-type: none">• Solar PV Business Development Executive• Portable Improved Cookstove Sales & Maintenance Executive• Portable Improved Cookstove Distributor	<ul style="list-style-type: none">• Rooftop Solar Grid Engineer• Solar PV Project Manager (E&C)• Agri-residue Aggregator• Biomass Depot Operator• Manager- Waste Management

⁸ [Powering Jobs Growth with Green Energy, SCGJ](#)

IMPROVING WOMEN'S LABOUR FORCE PARTICIPATION THROUGH GREEN JOBS

India lags far behind in women's participation in the workforce as compared to other developing economies, at just over 20%⁹. It signifies an immense gap that needs to be bridged for economic and social progress.

Considering the green jobs landscape, the participation of women is hindered primarily by perceptions of the jobs as field-based, time and labour-intensive¹⁰. It is compounded by safety concerns for women at installation sites, inadequate human resource policies and workplace conditions that are not conducive to greater participation of women.

While female participation in the solar energy sector stands at 32% - remarkably higher than the proportion in conventional energy – there remains much ground to be covered, in order to make this sector, as

well as the larger space of green jobs, accessible to skilled women. This calls for a concerted effort, starting with the SCGJ to actively expand the range of green jobs in consultation with industries; skilling organizations that could cultivate awareness, impart vocational training for supplementary skills and offer counselling to ascertain the right person-



job fit; as well as businesses who could work to address concerns of employed women and enable an inclusive working environment. These efforts would contribute to dispelling notions around these jobs as unsuitable for women – opening up employment opportunities that require various levels and nature of skills that are not necessarily time-intensive or involve extended hours away from home. Complemented with formal initiatives to make work environments safer for women, these steps could remarkably reduce the impediments for women to find and sustain gainful employment, and improve their participation in the labour force.

⁹ [Labor Force, female, World Bank.](#)

¹⁰ [Women working in the rooftop solar sector, IEA](#)



TRAINING FOR GREEN JOBS – OPPORTUNITIES FOR SKILLING AGENCIES

It is estimated that the renewable energy sector in India would employ more than 3 million people by 2050¹¹. Coupled with potential green job creation in other industries, this represents a viable avenue to work towards tackling unemployment. Skilling agencies have an important role to play, to execute necessary skilling interventions.

Skilling agencies should consider affiliation with the SCGJ, to gauge and enhance their own capabilities for training candidates to take up green jobs. Coordinating with the SCGJ would also enable these agencies to formulate modules for allied skills, such as soft skills, digital literacy, financial literacy and language proficiency, that candidates might need in addition to technical knowledge.

A crucial prerequisite for training a workforce for green jobs is to ascertain industries which could potentially place skilled workers in the near future. Collecting information about the nature of the jobs, as well as the anticipated workforce requirement would also contribute to designing efficient skilling initiatives. Agencies must therefore sustain active industry connections, and use inputs from the ecosystem to update their curricula and improve the effectiveness of their offerings.

DELIVERING VALUE THROUGH COLLABORATIVE ACTION

To prepare a market-responsive workforce for these jobs, it is imperative for industry, government and skilling agencies to engage in a sustained conversation about different aspects of the green jobs ecosystem, and address potential bottlenecks. Industry and domain experts could collaborate for identification of areas for sustainability-focused redesign at various levels of operation, and for mapping these out to accurately ascertain the demand for green jobs across sectors. New businesses that are emerging as a result of the shift towards sustainability – in renewable energy and waste management, for instance – should actively collaborate with skilling agencies to ensure that they recruit staff with the precise skill sets that their roles demand. It is also an opportunity for these businesses to tap into talent from underserved and underrepresented groups, and build an inclusive workforce at the very outset. This will facilitate effective partnership of businesses with skilling agencies and vocational training bodies which can devise relevant curricula to meet targeted skilling requirements.

There is immense potential for enabling job creation and skilling for futuristic green jobs. Collaborative efforts can contribute considerably towards achieving sustained livelihoods for people across the country. However, a systematic approach is key to unlocking it.

¹¹ [Future Skills and Job Creation with Renewable Energy in India, CEEW](#)