



Renewable Energy for Sustainable Growth

India's journey towards *Viksit Bharat@2047* demands an energy system that is clean, secure, affordable and capable of supporting sustained economic growth. Renewable energy is emerging as a powerful enabler of this transformation, with expanding solar, wind, bioenergy and green hydrogen initiatives. Beyond reducing dependence on fossil fuels, the clean-energy transition can create jobs, strengthen rural livelihoods, promote domestic manufacturing and drive technological innovation. Harnessing this potential can help India build a resilient, self-reliant and sustainable economy for the future.

India stands at a defining moment in its development journey. As the country moves towards the goal of *Viksit Bharat@2047*, ensuring clean, affordable and reliable energy will be essential for sustainable economic growth. Rising industrialisation, urbanisation and improving living standards are driving energy demand, making the transition towards a more sustainable energy system increasingly important.

Renewable energy can play a crucial role in this transformation by strengthening energy security, reducing dependence on imported fossil fuels, creating

employment and supporting rural livelihoods. With abundant solar, wind and biomass resources, India has significant potential to expand its clean-energy base. According to the Ministry of New and Renewable Energy (MNRE), the country's total renewable energy capacity, including large hydropower, reached 288.59 GW as of 30 June 2026, comprising 162.15 GW of solar power and 57.44 GW of wind power.

India has also achieved the milestone of obtaining 50 per cent of its cumulative installed electricity capacity from non-fossil fuel sources in June 2025, more than five years ahead of its 2030 commitment under the Paris Agreement. The country is working towards

the target of 500 GW of installed non-fossil fuel capacity by 2030.

Renewable energy, therefore, is no longer merely an environmental necessity. It is becoming an important driver of economic growth, energy security, rural development, employment and technological innovation. For *Viksit Bharat@2047*, the expansion of renewable energy can help create a more secure, competitive and sustainable energy system while opening new opportunities for rural communities and enterprises.

Major Government Initiatives

The Government of India has introduced a range of programmes covering household solar power, agriculture, manufacturing, bioenergy, green hydrogen and transmission infrastructure. Together, these initiatives provide an integrated framework for the country's transition to clean energy.

PM Surya Ghar: Muft Bijli Yojana

The PM Surya Ghar: Muft Bijli Yojana, launched in February 2024, aims to install rooftop solar systems in one crore households by 2026-27. It is designed to make households active participants in energy generation

while reducing their electricity expenditure.

The scheme has already achieved significant scale. As of 22 July 2026, 39.72 lakh rooftop solar systems had been installed, benefiting more than 48 lakh households. During 2025-26 alone, 18.71 lakh rooftop solar systems were installed, adding 6.7 GW of capacity.

The scheme also has an employment dimension. The Government estimates that around 17 lakh jobs can be created in manufacturing, logistics, installation, operation and maintenance, sales and related services.

Rooftop solar can therefore contribute simultaneously to household welfare, clean electricity generation, employment and greater energy self-reliance.

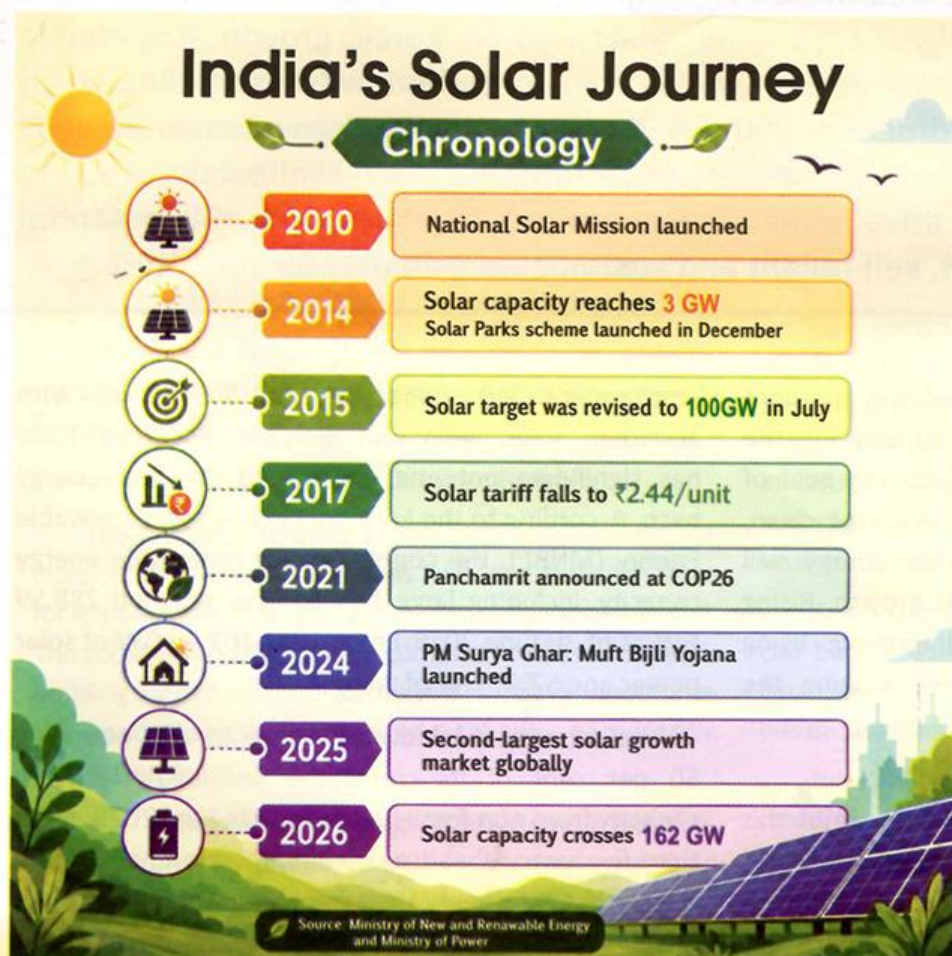
PM-KUSUM: Empowering Farmers through Solar Energy

The Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyaan (PM-KUSUM) connects renewable energy with agricultural development. Its three components support decentralised renewable-energy plants, standalone solar agricultural pumps and the solarisation of grid-connected agricultural pumps.

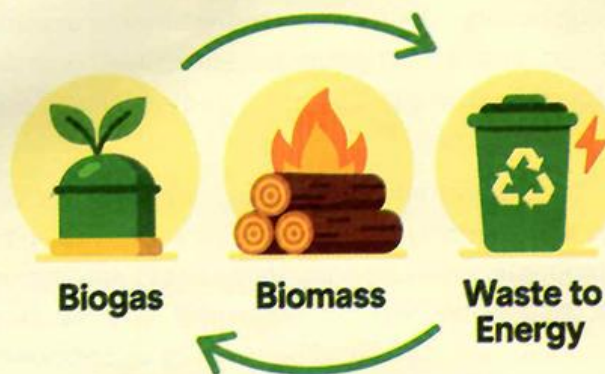
The scheme was designed to add 34,800 MW of solar capacity by March 2026, with total Central Financial Support of ₹34,422 crore. Under Component A, individual farmers, groups of farmers, cooperatives, Panchayats and Farmer Producer Organisations can establish renewable-energy-based power plants on suitable land.

PM-KUSUM can reduce farmers' dependence on diesel, support irrigation and create additional income opportunities. Farmers can also install grid-connected solar power plants on barren or fallow land and sell the electricity generated to local DISCOMs at tariffs determined by the State Electricity Regulatory Commission.

As of 31 July 2026, the PM-KUSUM portal reported 1,606.82



Achievements under National Bioenergy Programme



MW of installed capacity under Component A, 8,28,351 installed standalone solar pumps under Component B, and more than 10 lakh solarised pumps each under Component C's individual-pump and feeder-level solarisation components.

By enabling farmers to become both consumers and producers of clean energy, PM-KUSUM can strengthen farm-level energy security, reduce dependence on diesel and create new avenues for supplementary income.

National Green Hydrogen Mission

Renewable energy can also transform sectors where direct electrification is difficult. The National Green Hydrogen Mission aims to make India a global hub for the production, use and export of green hydrogen and its derivatives.

The Mission focuses on reducing dependence on fossil-fuel imports, promoting technological development and creating new industrial opportunities. It includes support for pilot projects in areas such as low-carbon steel, mobility and shipping, along with the development of Green Hydrogen Hubs and a domestic ecosystem for green hydrogen production and utilisation.

Green hydrogen can become particularly important for decarbonising industries such as steel, chemicals, fertilisers and heavy transport. Its development can also create new opportunities in manufacturing, research, exports and skilled

employment, while strengthening India's clean-energy technology capabilities.

National Bioenergy Programme

Renewable energy in India is not limited to solar and wind. The National Bioenergy Programme promotes the productive use of agricultural, industrial and urban waste and residues for energy generation.

The programme includes the Waste-to-Energy, Biomass and Biogas sub-schemes. It supports the recovery of energy in the form of biogas, BioCNG and electricity from waste and residues. The programme can contribute to cleaner villages and cities while providing additional value from agricultural and other waste streams. For rural India, the productive use of biomass and organic waste can also create local enterprises, diversify rural incomes and support a circular economy.

For rural India, biomass and biogas can also support decentralised energy generation, create local value and complement agricultural livelihoods.

Green Energy Corridor

Increasing renewable generation requires equally strong transmission infrastructure. Renewable-energy-rich areas are often located far from major centres of electricity consumption. The Green Energy Corridor is therefore an important component of India's clean-energy strategy.

The scheme supports the development of transmission lines and substations required to evacuate and integrate renewable power into the national grid. Government initiatives also include long-term transmission planning and grid strengthening measures to accommodate the rapid growth of renewable energy.

A modern electricity grid, supported by energy storage, forecasting and flexible power systems, will be essential for ensuring that renewable energy translates into reliable electricity for households and industries.

Solar Parks and Ultra Mega Solar Power Projects

The Scheme for Development of Solar Parks and Ultra Mega Solar Power Projects facilitates large-scale solar development by providing common infrastructure and enabling facilities, including transmission facilities. It enables developers to establish projects at scale and helps reduce some of the infrastructure constraints associated with large renewable-energy projects.

Large solar projects, together with decentralised rooftop and agricultural solar systems, can provide a balanced pathway for expanding clean electricity generation.

Renewable Energy and Rural Transformation

The contribution of renewable energy to *Viksit Bharat@2047* will be incomplete without rural India. Villages can increasingly become producers as well as consumers of clean energy.

Solar-powered irrigation, rooftop solar on Panchayat buildings, solar street lighting, decentralised biogas plants and renewable-energy-based enterprises can improve rural services while reducing energy costs. Panchayats, cooperatives, Self-Help Groups, Farmer Producer Organisations and local entrepreneurs can play a greater role in developing community-based renewable-energy systems and enterprises.

The convergence of PM-KUSUM and PM Surya Ghar with rural development and Panchayati Raj programmes is particularly significant because it can connect the energy transition with local institutions and community participation.

Such decentralisation can generate local employment, create new income opportunities and strengthen the economic foundations of rural communities.

Creating a Green Employment and Innovation Ecosystem

India's young population provides an important advantage in the clean-energy transition. Renewable-energy expansion will require technicians, engineers, entrepreneurs, researchers and skilled workers across the entire value chain.

The development of solar manufacturing, battery storage, green hydrogen, electric mobility, waste-to-energy and smart-grid technologies can generate new employment opportunities. The Government's emphasis on skilling under the National Green Hydrogen Mission is one example of efforts to prepare the workforce for emerging clean-energy industries.

At the same time, universities, technical institutions, start-ups and industry need to collaborate on research and innovation. Greater attention to energy storage, recycling, energy efficiency and locally appropriate

technologies will be crucial for making the transition both cost-effective and sustainable.

Way Forward

India's progress demonstrates that renewable energy can become a major pillar of *Viksit Bharat@2047*. The next phase should focus on five priorities: accelerating renewable capacity addition; strengthening domestic manufacturing; expanding storage and transmission infrastructure; promoting decentralised energy solutions; and building a skilled green workforce.

The transition must also remain inclusive. Renewable-energy projects should incorporate appropriate environmental safeguards, efficient land use, responsible waste management and meaningful community participation. The recycling and responsible disposal of solar modules and batteries will become increasingly important as installed capacity expands.

Policy stability, innovative financing and stronger Centre-State cooperation will also be essential. The private sector, cooperatives, Panchayati Raj Institutions, start-ups and local communities all have an important role to play in India's clean-energy journey.

Conclusion

The vision of *Viksit Bharat@2047* requires an economy that is prosperous, resilient, self-reliant and environmentally responsible. Renewable energy can help advance all these objectives.

India's progress from rapid growth in solar and wind capacity to the expansion of rooftop solar, solar agriculture, green hydrogen and domestic manufacturing shows that the energy transition is already underway. As renewable energy becomes more deeply integrated into agriculture, industry, households and rural development, it can create opportunities that extend far beyond electricity generation.

The goal should therefore be not simply to produce more renewable energy, but to build a clean-energy ecosystem that generates jobs, strengthens rural livelihoods, promotes domestic manufacturing, reduces import dependence and improves the quality of life for citizens. A renewable-energy-powered India can provide the foundation for sustainable and inclusive economic growth. In this sense, the clean-energy transition is not separate from the vision of *Viksit Bharat@2047*, it is an essential pillar of that vision. 

