


# Uttar Pradesh’s significant strides in solar energy adoption

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Uttar Pradesh has left an indelible mark in the realm of solar energy. Over the past seven years, the state has achieved significant strides in this critical sector, serving as a guiding light for the entire nation. During this period, Uttar Pradesh has successfully added approximately 2,300 MW of solar energy capacity. This remarkable feat owes its success to the unwavering commitment of the state government, complemented by policies like the UP Solar Energy Policy 2022, Solar Cities and Har Ghar Solar Yojana. These policies not only paved the way for new investment opportunities but also delivered substantial benefits to both investors and the public.

The state has set an ambitious target in its ‘Solar State Energy Policy 2022’ to achieve 22,000 megawatts of solar energy implementation by 2026-2027. This bold objective includes a proposal to deploy 6,000 megawatts through solar roohop systems in residential, governmental, organizational, and industrial buildings. To achieve this, Uttar Pradesh is embracing innovative strategies and initiatives.

One of the primary focuses of the policy is the implementation of robust Information, Education, and Communication (IEC) strategies to stimulate demand for solar roohop PV power plants in both residential and non-residential sectors. Furthermore, the state plans to develop 16 Nagar Nigam and Noida City as Solar Cities, starting with Ayodhya to be developed as model solar city where approximately 13,50,000 houses will be equipped with solar rooftop systems during the policy period.

However, implementing utility-scale solar power projects comes with challenges, particularly in acquiring large land parcels, which is crucial for setting up solar power parks. To address this, the Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) is establishing a Land Bank of government revenue land in the Bundelkhand region. Already more than 5,500 acres of land have been leased to joint ventures of CPSU at Rs 1 per acre per annum and to the private developers at Rs 15,000 per acre per annum.

Additionally, Uttar Pradesh recognizes the necessity of a robust transmission system for power evacuation. To address this, a Green Energy Corridor with a capacity for evacuating 4,000 MW of power is coming up under construction in Bundelkhand Region. The first phase, with a capacity of 2,000 MW, is targeted for completion by 2026. Despite technological advancements in renewable energy, challenges persist, particularly in economics, storage, and infrastructure. To encourage the adoption of renewable energy, Uttar Pradesh offers various subsidies and fiscal incentives. For instance, the state provides a subsidy of Rs 30,000 per consumer, in addition to central subsidies, for installing solar rooftop systems.

Uttar Pradesh’s proactive approach to renewable energy extends beyond policies. The state is actively exploring innovative financing models to make solar installations more accessible to lower- middle-class populations. Collaboration with financial institutions and the adoption of EMI schemes are among the strategies being considered.

Demand aggregation and data analytics also play a crucial role in Uttar Pradesh’s solar initiative. Partnerships with NGOs and the utilization of drone and satellite mapping technology help in identifying potential areas for solar installations. The state’s commitment to solarization extends to municipal assets, aiming for a minimum of 10% renewable energy consumption.

Also, Uttar Pradesh ranks ninth in clean energy production despite its significant energy needs. While the state has 75 districts, large-scale solar projects are concentrated notably in Bundelkhand region. As of March 2022, Uttar Pradesh’s total installed energy capacity stood at 30,769 megawatts (MW), with **solar energy** production reaching 2,567 MW by December 31, 2023.

The state government has set a target of generating 22,000 MW of solar power by 2026-27.

## State’s Notable Achievements

**Utility Scale Solar Power Projects:** The government, in collaboration with central PSUs such as THDC, NHPC, and SECI, is poised to install 4,000 MW of capacity within the next two years. In addition to this, private developers are set to add around 1400 MW in the same period for selling power to Industries and for captive use. To facilitate these projects, the State Government has aggregated 14,000 hectares of government land in the Bundelkhand region. Moreover, the state government is working on GEC-2 for the evacuation of solar power from these projects.

**Rooftop Solar Power Projects:** Uttar Pradesh has successfully commissioned a cumulative capacity of 345 MW in rooftop solar installations, benefiting ~16,000 residential consumers. Solar rooftop plants have also been established in ~1,550 buildings belonging to social institutions, educational institutions, universities, medical institutions, government and semi-government bodies, industrial, and commercial entities. To promote the usage of solar rooftops, UPNEDA has adopted various channels, such as the information department, radio jingles, district-level workshops, boot camps, and social media. Awareness campaigns are also underway in districts like Ayodhya, Ghaziabad, Varanasi, Kanpur, Aligarh, and more.

## PM – KUSUM

Farmers will get relief from the problem of irrigation due to electricity as the state government has set a target of installing 30000 solar powered photovoltaic irrigation pumps in various districts under the PM Kusum Scheme. ₹449.45 crore has been proposed for the implementation of PM Kusum Yojana in this year’s budget 2024-25. This initiative aims to provide free electricity to farmers. The target is to achieve 2000 MW capacity of solar energy in Uttar Pradesh by 2027. Approval for 2000 private on- grid pumps in Kusum C-1 has already been granted, and subsidies of 90 percent are available for all farmers, with up to 100 percent subsidies for economically weaker communities. UPNEDA has received 5000 applications for solarisation of private on-grid pumps in Kusum C-1, with plans to solarize 2000 private metered on-grid pumps. This not only reduces power losses for the Power Corporation but also provides substantial benefits to farmers.

## ‘HAR GHAR SOLAR ABHIYAN’

The Uttar Pradesh government has launched ‘Har Ghar Solar Abhiyan’ in Lucknow and Varanasi to promote solar adoption across the state. Through this initiative, the state government aims to bolster solar capacity and achieve the 6 GW solar target set forth in UP’s Solar Energy Policy 2022.

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As part of the Har Ghar Solar Abhiyan, the UP government will conduct camps statewide, providing detailed information on rooftop solar plant installation, application procedures, and net metering facilities.

Uttar Pradesh is steadily advancing towards enhancing its solar energy capacity and embracing clean energy alternatives. The state offers a dedicated solar subsidy for residential consumers, in addition to financial assistance provided by the state to promote rooftop solar installations.

## WAY FORWARD

Uttar Pradesh’s commitment to solar energy reflects its determination to harness renewable resources for a sustainable future. Despite challenges, the state’s proactive measures and innovative solutions demonstrate its unwavering dedication to solar energy adoption. With continued efforts and collaboration, Uttar Pradesh is poised to emerge as a shining example in India’s renewable energy landscape.