

Exponential power demand fuelling India's solar energy industry: Tata Power

Prasanth Aby Thomas, DIGITIMES, Bangalore Wednesday 2 March 2022



Ashish Khanna, President of Renewables, Tata Power. Credit: Tata Power

India's emerging economy is "power-hungry," but the country struggles to meet the need through traditional sources. This has led to a tremendous demand for solar power, and major power companies are rushing to fill this market gap.

Speaking to DIGITIMES Asia recently, Ashish Khanna, President of Renewables at Tata Power, explained that the country has more than 748GW of solar energy potential, most of which remain untapped.

"India is facing problems in fulfilling its energy demand, and this is where solar energy can play an important role in providing energy security," Khanna said. "The debate of global warming and climate change is compelling the world to move from fossil-based energy towards clean and green energy. With its pollution-free nature, virtually inexhaustible supply, and global distribution, solar energy is a very attractive energy resource."

As of September 2021, India had 101.53GW of renewable energy capacity, accounting for 38 percent of the overall power capacity. The country is targeting

about 500GW of installed renewable energy capacity by 2030 – about 60 percent of this is expected from solar.

Why the demand is high now

Multiple factors have contributed to this demand and driven consistent growth. First, several companies are installing renewable energy plants due to environmental regulations. Second, several countries are also focused on eco-friendly power generation solutions to reduce their carbon emissions. Third, the problem of power cuts and unavailability of electricity, especially in rural areas, has been a cause of concern for the government.

"Most of this energy demand is fulfilled by subsidized kerosene, leading to a loss for the exchequer," Khanna continued. "India, with its natural advantage of being a tropical country, can fulfill this need. Last but not least, with technology and manufacturing advancement, the cost of generating solar power has become drastically low, which helps a cost-conscious country like India to adopt it."

Tata's strategies to expand in solar

Tata Power recently announced a significant expansion of its state-of-the-art manufacturing facility in the southern city of Bengaluru, expanding the total production capacity of cells and modules to exceed 1,100MW. This includes expansion of cell manufacturing capacity from 300MW to 530MW with Mono PERC and expansion of the module manufacturing capacity from 400MW to 580MW with Mono PERC Half-cut technology.

"The expansion is based on the significant increase in demand that the company has seen for its solar modules, as well as the expected increase in demand due to supportive policy steps announced recently by the Government of India for creating 'Atmanirbhar Bharat' (Self-Reliant India)," Khanna said. "We are also planning to set up a greenfield manufacturing plant of 400MW cell and 400MW of module manufacturing."

Growth in the residential sector is another factor in increasing demand. The rising adoption of decentralized energy production systems, especially in developing economies, is expected to draw attention towards solar energy. Efforts related to off-grid electrification will also provide impetus to the solar cell modules market. Technological developments that lower production costs and enhance performance efficiency will fuel demand further.

"Keeping these factors at the heart of our expansion plans, Tata Power is going to grow at least 2GW per year in our own investments," Khanna added. "We will retain our leadership position in our EPC (engineering, procurement, and construction) businesses. We expect to have multiple times growth in each of the businesses between 5-10 times in the next five to six years. Overall, we will multiply five times in five years, if not more."

Unique requirements of the Indian market

India's status as the world's lowest-cost solar power provider indicates a continuing trend toward renewable energy as the driving force behind the global energy revolution. More than 73 million homes in rural parts of the world obtain energy from solar lanterns, solar home systems (SHSs) that can power multiple gadgets, and local solar-based micro-grids rather than from a traditional power grid.

"Off-grid devices and systems provide life-changing services to individuals who live in areas without access to centralized power networks, as well as helping to promote the usage of renewable energy," Khanna said. "While driving solutions for rooftop, solar agricultural pump systems, micro-grids, we have developed products & services which are the most cost-effective and have the highest quality for these segments."

Biggest customers in India

There has been considerable growth in all types of projects, from home solar to commercial and industries. Currently, there is an uptick in utility projects, prompting the industry to focus on upstream growth.

Renewable energy (RE) adoption by corporates is also seeing strong growth. A recent report by WWF shows that 69 percent of the top 100 companies in NSE (India's national stock exchange) by market capitalization procure RE in some form, and 22 percent have clean energy procurement targets.

"We are looking for an upbeat growth in residential rooftop as well," Khanna said. "The process might be slow considering the apprehensions people will have in mind. However, seeking the sustainable interest consumers have, we will be able to promote the residential solar rooftop. Thinking about the policy amendments and initiatives government is taking, we are much more optimistic toward an upward growth."

Growing demand ahead

India's solar power industry is growing at a rapid pace. The government is committed to increased use of clean energy sources and is already undertaking various large-scale sustainable power projects and promoting green energy heavily. The country recently reached the 5th position in solar power deployment, surpassing Italy.

Khanna says that his company has seen solar installations in India growing seven times in the last seven years. With continuing demand, the growth rate could remain high for the foreseeable future.