India Solar Energy Market By Technology (Solar Photovoltaic (PV) and Concentrated Solar Power (CSP)), By Solar Module (Monocrystalline, Polycrystalline, Cadmium Telluride, Amorphous Silicon Cells, Others), By Application (Residential, Commercial, Industrial), By End-Use (Electricity Generation, Lighting, Heating, Charging), By Region, Size, Share, Trends, Opportunity, and Forecast, 2029F

Market Report (3 business days) | 2023-10-03 | 83 pages | TechSci Research

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Report description:

India Solar Energy Market is anticipated to grow at a steady pace in the forecast period, 2025-2029, due to the favorable government regulations and rising number of solar PV system. The fourth most desirable renewable energy market in the world is located in India. As of 2020, India's installed capacity for renewable energy was in fourth place. The installed capacity for renewable energy has increased over the last several years, with a CAGR of 15.92% between 2016 and 2022. The market for renewable power is expanding most rapidly in India, where new capacity additions are anticipated to triple by 2026. The government's enhanced support and the economy's improvement have made the industry more appealing to investors. Renewable energy is going to be essential as India attempts to satisfy its own energy requirement, which is further anticipated to total 15,820 TWh, by 2040.

Solar energy is the term used to describe the energy derived from solar radiation, which can be captured and transformed into a variety of types, including heat and electricity. This energy is abundant and sustainable, making it a desirable replacement for conventional fossil fuels that are limited and cause climate change. Different technologies can be used to capture solar energy, including photovoltaic cells, and concentrated solar power systems, which turn sunlight directly into electricity, that utilize the heat of the sun to produce energy for a number of purposes like electricity generation and others. Utilizing solar energy provides a variety of advantages, such as lowering greenhouse gas emissions and reliance on fossil fuels, while also promoting a cleaner and more sustainable energy future.

Government Promoting High-Efficiency Solar PV Module Policies Driving the Market Growth

Recently, several government measures were planned to boost solar energy's future contribution to India's mix of renewable energy sources. In April 2021, a Production Linked Incentive (PLI) Scheme called the "National Programme on High-Efficiency Solar PV Modules" was authorized by MNRE with an investment of INR 4,500 crore. (USD 545.1 Million) by providing Production Linked Incentive (PLI) on sales of such solar PV modules. The plan offers a number of rewards to stimulate the development of integrated manufacturing facilities for high-efficiency solar PV modules. The goal is to increase local manufacturing capacity and exports in the upcoming years.

Additionally, the 300 MW defense programme, the 500 MW VGF (Viability Gap Funding) programme, and the Solar Park Programme, are some of the other examples of government initiatives towards Solar Energy. The Ministry of New and Renewable Energy (MNRE) was conducted during the past three years and consequently, India announced an ambitious goal of 450 GW of renewable energy by 2030, in January 2020.

The Gujarat government launched "the Surya Urja Rooftop Yojana" project in December 2020 with the goal of installing solar roofs for 8 lakh household users. This programme provides a 40% state subsidy for installing systems up to 3 kW and a 20% state subsidy for larger systems. Owing to these latest motions in energy sector, the India Solar Energy Market is expected to register a high CAGR in the forecast period.

Reduction in the Cost of Solar PV Technology

The prospects for the industry are anticipated to arise from an increase in off-grid solar utilization driven by reducing costs of solar PV technology and favorable national attempts to reduce carbon emissions. For instance, in India, the Department of Energy's (DOE) SunShot Initiative depends on the development of more effective, inexpensive photovoltaics (PV) and concentrating solar power (CSP) technologies with less cost. Solar power installed capacity has increased by more than 18 times, from 2.63 GW in March 2014 to 49.3 GW at the end of 2021. In 2022, till November, India has added 12 GW of solar power capacity. The projects' objectives are to: Boost efficiency, cut expenses, and Improve dependability.

To reduce carbon emission, India has set goals to reach net-zero % carbon emissions target by 2070 and to achieve cumulative 50% of renewable energy installations by 2030, lowering the carbon intensity of the country's economy by less than 45%. Additionally, by 2030, India aims to possess produced five million tons of renewable hydrogen. A total of 125 GW of renewable energy capacity and now 57 solar parks with a combined capacity of 39.28 GW have been authorized.

Growing Awareness of Solar Projects & Latest Investments in Renewable Energy

India is moving towards renewable energy consumption, owing to the growing carbon emission awareness. For instance, the Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA) launched a bidding procedure in January 2022, and SJVN (Satluj Jal Vidyut Nigam Ltd) won the contract for a 125 MW solar project in Uttar Pradesh. It consists of a 50 MW and a 75 MW grid-connected solar project in the Kanpur Dehat and Jalaun districts, respectively. Additionally, the largest solar plus battery project in India will be completed by Tata Power in December 2021, according to the Solar Energy Corporation of India. The agreement covers both a 120 MWh utility-scale battery energy storage system and a 100 MW EPC solar project. About INR 945 crore (USD 114.4 Million) was spent on the project, overall.

Market Segmentation

India Solar Energy Market is segmented based on Technology, Solar Module, Application, End-Use and Region. Based on Technology, the market is divided into Solar Photovoltaic (PV) and Concentrated Solar Power (CSP). Based on Solar Module, the market is divided into Monocrystalline, Polycrystalline, Cadmium Telluride, Amorphous Silicon Cells, and Others. Based on Application, the market is divided into Residential, Commercial, and Industrial. Based on End-Use, the market is divided into Electricity Generation, Lighting, Heating, and Charging. Based on region, the market is divided into West, North, South and East.

Market Players

Major market players in the India Solar Energy Market are Adani Enterprises Ltd Emmvee Photovoltaic Power Private Limited, Azure Power India Limited, JinkoSolar Holding Co., Ltd., NTPC Limited, The Tata Power Company Limited, Torrent Power Limited, Mahindra Susten Private Limited, Vikram Solar Limited, Vivaan Solar Private Limited.

Report Scope:

In this report, the India Solar Energy Market has been segmented into following categories, in addition to the industry trends which have also been detailed below:

-India Solar Energy Market, By Technology:

o Solar Photovoltaic (PV)
o Concentrated Solar Power (CSP)
- India Solar Energy Market, By Solar Module:
o Monocrystalline
o Polycrystalline
o Cadmium Telluride
o Amorphous Silicon Cells
o Others
- India Solar Energy Market, By Application:
o Residential
o Commercial
o Industrial
- India Solar Energy Market, By End-User:
o Electricity Generation
o Lighting
o Heating
o Charging
- India Solar Energy Market, By Region:
o West India
o North India
o South India
o East India
Competitive Landscape
Company Profiles: Detailed analysis of the major companies present in the India Solar Energy Market.
Available Customizations:
India Solar Energy Market report with the given market data, Tech Sci Research offers customizations according to a company's specific needs. The following customization options are available for the report:
Company Information
- Detailed analysis and profiling of additional market players (up to five).

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