

# Scenario of Solar Energy After Covid 19 in India

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## ABSTRACT

*India is endowed with abundant solar energy, which is capable of producing 5,000 trillion kilowatts of clean energy. Country is blessed with around 300 sunny days in a year and solar insolation of 4-7kWh per Sq. m per day. If this energy is harnessed efficiently, it can easily reduce our energy deficit scenario and that to with no carbon emission. Many States in India have already recognized and identified solar energy potential and other are lined up to meet their growing energy needs with clean and everlasting solar energy. In near future Solar energy will have a huge role to play in meeting India's energy demand. Solar and wind energy generation across the globe has increased substantially during past few years and shares a significant proportion of the total generation in the grid. Out of such alternate energy sources, solar energy has garnered much interest all over the world due to its easy availability and abundance. In this paper, the scenario of solar energy development after Covid 19 is shown. An overview of potential of solar energy harnessing in India in 2022, its present status, barriers and challenges, and the supportive government policies and future prospective is presented.*

**Keyword:** - COVID 19, Development schemes, Government policies, Solar energy

## 1. INTRODUCTION

The challenges during the year notwithstanding, 2021 turned out to be one of the better years for the Indian solar industry. The outlook for 2022 looks promising, according to stakeholders from across the sector. Solar capacity additions have been consistent in the last few years, except for 2020, on account of the Covid-19 pandemic. India has an aggressive installation target of 280 GW of solar by 2030. Reaching the target requires adding nearly 24 GW of solar each year – a daunting prospect. India added 7.4 GW of solar capacity in 9M 2021, an increase of 335% compared to 1.73 GW in the same period in 2020, according to Mercom India Research's recently released report Q3 2021 India Solar Market Update. India's cumulative installations at the end of Q3 2021 stood at 46.6 GW.

## 2. 2021: ONE OF THE BETTER YEARS FOR THE SOLAR SECTOR

In 2021, the installation numbers were affected by several reasons: the second wave of the Covid-19 pandemic, spike in raw material prices, increase in freight charges, and disruptions in the global supply chain. The ongoing projects were impacted, but better preparedness led to fewer disruptions than last year. Pinaki Bhattacharyya, the Managing Director and CEO, Amp Energy, said, "2021 proved to be a comeback year for renewables in India. The sector displayed resilience and strength despite the unprecedented setbacks faced in 2020 due to the Covid-19 pandemic and has been able to achieve significant milestones." "We were able to reach 100+ GW of installed renewable capacity despite the challenges. The solar installed capacity surpassed wind, increase in investments in the sector with large merger and acquisition deals being announced, and aggregation across the supply chain," he said.

## 3. OUTLOOK FOR 2022

Stakeholders believe that renewables in general and solar in particular will grow in 2022. "The commercial and industrial (C&I) segment is fast becoming the major consumer of renewables driven by cost savings and their RE100 targets. The utility sector slowed down with delays in PPA signing. The right-directional approach is that the government graduated from the regular plain vanilla tenders to floating solar, peak power, round-the-clock, and more hybrid bids. The success of the initial bids has ensured that such tenders will be the next growth frontier. We believe that with the proper focus and approach, we would be able to achieve the target of 500 GW of renewable energy by 2030. 2022 will prove to be a more decisive year for renewables in India," Bhattacharyya said. Ritu Lal, Senior VP and Head (Institutional Relations) Amplus solar,

agreed. “Energy transition in India is gaining momentum, and we expect 2022 to be a record year for the growth of solar. Even though there will be challenges regarding raw material prices and supply fluctuations, we look forward to significant capacity additions across all solar segments – utility, hybrid, distributed, and residential. We will see more wind-solar hybrid projects in 2022 and also solar for generating green hydrogen in the utility sector. We also see attractive growth potential in the residential rooftop solar and battery storage this year.”

### 3. SCHEMES AND GOVERNMENT POLICIES

1) The Jawaharlal Nehru National Solar Mission was launched on the 11th January 2010 by the Prime Minister. The Mission has set the ambitious target of deploying 20,000 MW of grid-connected solar power by 2022 is aimed at reducing the cost of solar power generation in the country through:

- (i) long-term policy;
- (ii) large-scale deployment goals;
- (iii) aggressive R&D; and
- (iv) domestic production of critical raw materials, components and products,

2) In April 2021, MNRE approved a Production Linked Incentive (PLI) Scheme, namely, 'National Programme on High-Efficiency Solar PV Modules', with an investment of INR 4,500 crore. The scheme has various provisions for supporting the set up of integrated manufacturing units of high-efficiency solar PV modules by offering Production Linked Incentive (PLI) on sales of such solar PV modules. It aims at enhancing domestic manufacturing capabilities and exports for the coming years.

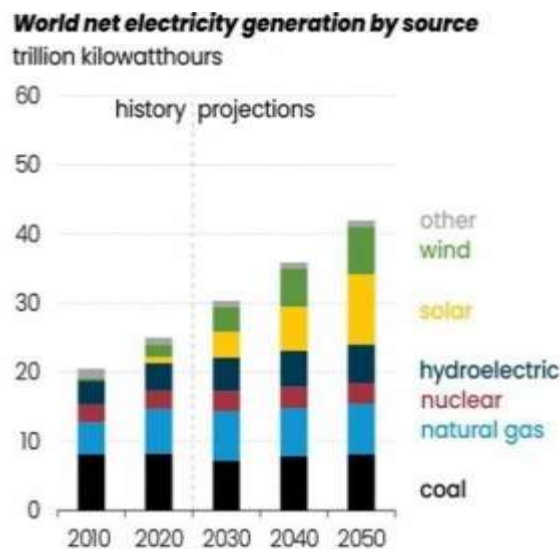
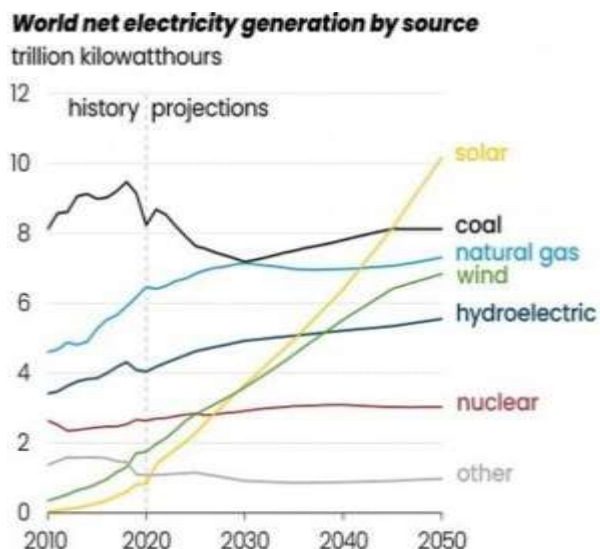
3) Some other schemes implemented by the Ministry of New and Renewable Energy (MNRE) over the last three years are the Solar Park Scheme, the 300 MW defense Scheme, and the 500 MW of VGF (Viability Gap Funding) Scheme. In January 2020, India made an ambitious target of having 450 GW of renewable energy by 2030. The announcement was made by the central government, which is already working on the project of installing around 100 GW of solar energy by 2022.

### 4. RECENT DEVELOPMENTS

- 1. In January 2022, SJVN (Satluj Jal Vidyut Nigam Ltd) bagged a solar project of 125 MW in Uttar Pradesh through a bidding process held by the Uttar Pradesh New and Renewable Energy Development Agency (UPNEDA). It includes a 75 MW grid connected solar project in Jalaun and a 50 MW solar project in Kanpur Dehat districts.
- 2. In December 2021, Tata Power clinched the largest solar plus battery project in India from the Solar Energy Corporation of India. The contract includes a 100 MW EPC solar project and a 120 MWh utility- scale Battery Energy Storage System. The total project outlay was around INR 945 crore.

### 5. TABLES AND FIGURES

Year	Cumulative Capacity
2018 Year	21,651 MW
2019 Year	28,181 MW
2020 Year	34,627 MW
2021 Year	40,085 MW
2022 Year	50,777 MW



**International Energy Outlook 2021**

**6. CONCLUSION**

With India aiming to hit 280 GW in solar energy by 2030, the pace of development in sunrise sectors will also pick up. As ESG (Environmental, Social and Governance) gains spotlight, industry-wide collaboration in greening the power infrastructure and investment in sustainable power solutions will help India progress steadily toward its energy goals. Yet challenges ranging from new variants of the Covid-19 virus, high commodity prices, and raw material shortages will likely weigh on market recovery.

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