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SOLAR PV MANUFACTURING IN INDIA

Opportunity Assessment & Supply Chain Analysis

By SNP Infra Research

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India's renewable energy capacity has doubled in the last ten years from 58 GW in 2011 to 134 GW in 2020. Growth in solar capacity addition has been phenomenal as it increased from 566 MW to 39.2 GW in 2020. India's solar PV panel market is set for attractive growth as the nation is yet to achieve more than 65% of the 100 GW targets. The target and achievement gap indicates the size of the opportunity for solar PV panel manufacturers and suppliers over the coming years.

India's renewable energy capacity additions in 2020 reflect unprecedented momentum for the energy transition. Despite the COVID-19 induced economic slowdown, India added around 3.2 GW of solar capacity in 2020, a 56% decline compared to 2019. Top three states for large-scale solar capacity addition, accounting for 51% of 2020 installations were - Andhra Pradesh, Rajasthan, and Gujarat.

Besides the site-work-related restrictions and supply chain disruptions, another major challenge in the solar market has been the difficulty faced by government bodies to get distribution utilities to sign power sale agreements. This has affected around 17 GW of projects without a power sale agreement. Other concerns faced by developers include – increase in module prices, logistical costs surged up in the range of 500-800%, and a rise in raw material cost. While these impacts are for the short-run, sourcing panels from domestic manufacturers can – add up resilience to the supply chain; create a solid strategy for the long run to tap future business opportunities.

Compare to global markets, India has one of the lowest costs of labor, which allows investors to employ huge manpower. Taking into account the fact that developing a solar PV manufacturing plant requires 20-30% of high-skilled manpower, India's growth targets does not only employ large segments of society but also enable investors to quickly build their projects. Indian solar PV market is a price-sensitive market. This mandates new solar PV manufacturers to follow least-cost pricing strategies. However, achieving this by adopting competitive sourcing and manufacturing techniques is no more a hard row to hoe.

Competitive solar PV panel prices can lead Indian developers to achieve low solar tariffs and furthered economies of scale, which in return can expand the prospects for industry stakeholders. Honorable Indian Prime Minister in a recent renewable energy event had mentioned that India's green energy capacity will rise to 220 GW by 2022, far higher than its 175 GW target. As of 2020, renewables account for ~35% of India's total capacity, at 134 GW.

With demand for indigenously manufactured solar cells and modules projected to reach ~36 GW over the next three years, the Indian government plans to extend production-linked incentives for high-efficiency solar modules. Solar modules will form one of ten sectors included in a production-linked incentive scheme to help make domestic players more competitive internationally. With the vision to build a large-scale domestic solar PV manufacturing capacity in India, the government has come up with a package including INR45 billion to incentivize domestic and global players.

Due to huge dependency on China most nations are now diversifying their solar procurements, and this gives ample opportunities for Indian players to enter with domestic manufacturing

Amid the challenges and uncertainties during the pandemic, the Indian solar PV panel market is set to expand remarkably given the central government initiatives such as production linked incentives, import duty restrictions, etc., and the relaxations announced by newly elected state governments.

It is here SNP Infra Research as a leading energy and infrastructure advisory firm felt the ardent need to elucidate the developers, industrial companies, and corporate houses on the emerging opportunity to invest in domestic solar PV manufacturing – and simplify the key decision-making factors into an easy, lucid, and interesting report. The report shall motivate corporate leaders to plan and build a successful investment case.

Table of Contents(Draft)

1. Overview of Solar PV Manufacturing

- Technology overview
- Manufacturing process
- Supply chain overview
- PESTLE Analysis

2. Solar PV Production and Sustainability – New High-Tech Solutions

- Recent trends
- Technological developments

3. India Solar PV Panel Market, 2020

- Demand, Supply trends
- Domestic manufacturing
- EXIM Trends
- Demand forecasts for 10 years

4. Government's Role & Initiatives to boost Domestic Manufacturing

- Government's Vision
- Packages, Incentives announced so far
- Other support available for state government

5. Solar PV Production Capital Expenditure Analysis

- Land, Labour
- Equipment, Production Line
- Technology
- Development Costs (Indirect)

6. Solar PV Production – Supply Chain Analysis

- Major Players vs. Countries
- Value addition
- Prices

7. Permits, Compliances & Certifications

- Major requirements
- Recent developments

8. Issues & Challenges for Domestic Manufacturers

- Cost competitiveness
- Policy-related
- Direct competition from Chinese
- Consumer-related

9. Strategies adopted by Existing Manufacturers

- Major Players in India
- Business Performance of Major Players
- Key business strategies
- Company profiles

10. International Best Practices & Case Studies

- North America
- Europe
- China
- Other Asian Countries

11. Outlook & Opportunity Sizing

- Share of Domestic Vs. Import Supplies
- Expected import restrictions
- Size of opportunity 2021-2030

12. Potential Partners

- International suppliers
- Technology companies
- Prospective domestic players

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