

I Want To Start Solar Power Epc Business In India. Carry Out Detailed Market Research. Writer Report

August 14, 2025

Market Research Summary: Establishing a Solar Power EPC Business in India

Executive Summary

India's solar power EPC (Engineering, Procurement, and Construction) market presents a robust and expanding opportunity, significantly propelled by ambitious government renewable energy targets and decreasing technology costs. While large, established players currently dominate the utility-scale segment, the **Rooftop Solar EPC Market stands out with an impressive 28.5% Compound Annual Growth Rate (CAGR)**, signaling a prime entry point for new businesses. Success for new entrants will hinge on strategic specialization in high-growth niches like rooftop solar and integrated energy storage solutions, coupled with transparent pricing models and a strong emphasis on quality and customer service.

1. Market Overview: India Solar Power EPC Sector

The Indian solar power market is experiencing rapid expansion, driven by increasing energy demand and significant government support.

1.1. Market Size & Growth Forecasts

The solar sector is a key driver within India's broader power EPC market, projected for substantial growth across various segments.

Market Segment	2022 Valuation	Projected Valuation	CAGR (Analysis Period)	Source
India Power EPC Market	N/A	USD 22.84 Bn (by 2028)	6.27% (2023-2028)	Technavio
Overall India Solar Power Market	USD 23.9 Bn	USD 95.3 Bn (by 2033)	13.5% (2022-2033)	Custom Market Insights
India Rooftop Solar EPC Market	USD 2.02 Bn	USD 11.78 Bn (by 2029)	28.5% (2022-2029)	Maximize Market Research

1.2. Key Drivers & Trends

- **Ambitious Government Targets:** India aims for 500 GW non-fossil fuel capacity by 2030, with 300 GW from solar. Current installed solar capacity is 73.35 GW (Dec 2023).
- **Supportive Policies:** National Solar Mission, PLI scheme for domestic manufacturing, PM-KUSUM for agricultural solar, and the Rooftop Solar Programme (now PM Surya Ghar Muft Bijli Yojana).
- **Declining Costs:** Reduced solar panel costs enhance project economic viability.
- **Rising Electricity Demand:** Fueled by industrialization and urbanization.
- **Rooftop Solar Acceleration:** Significant growth in residential and C&I sectors due to incentives and rising grid tariffs.
- **Emerging Technologies:** Increasing integration of Battery Energy Storage Systems (BESS) and development of floating solar projects.
- **"Make in India" Focus:** Government pushing domestic solar manufacturing.

1.3. Government Initiatives & Investment Landscape

India's commitment to renewable energy is underscored by policies like the ₹24,000 crore PLI scheme to boost domestic solar manufacturing and various programs promoting solar adoption. The sector has attracted significant Foreign Direct Investment (FDI), reaching USD 10.2 billion (Apr 2000-Sep 2023), indicating strong investor confidence.

2. Competitive Landscape: Top Solar EPC Players in India

The Indian solar EPC market is diverse, comprising large integrated energy conglomerates, specialized renewable energy firms, and module manufacturers with EPC capabilities.

2.1. Overview of Key Players

Major players like Waaree Energies, Tata Power Solar, Sterling and Wilson, L&T Solar, Vikram Solar, and Enerparc Energy offer comprehensive EPC services, primarily for utility-scale projects. Several module manufacturers (e.g., Vikram Solar, Bluebird Solar, Sunora Solar, Loom Solar) have expanded to offer EPC services, particularly for distributed generation (rooftop) segments, leveraging their manufacturing strength.

2.2. Competitive Landscape Overview & Strategic Positioning

Player Category	Primary Target Segments	Typical Service Offerings	Key Competitive Advantages
Large-Scale EPCs	Utility-scale, Large C&I, Floating	Full EPC (Design to Commissioning), O&M, Project Management	Scale, financial strength, brand reputation, complex project execution.
(e.g., Tata Power Solar, L&T, SWREL, Waaree, Enerparc)			
Integrated Manufacturer-EPCs	Utility-scale, C&I, Residential	Module Manufacturing, Full EPC, O&M, System Integration	Supply chain control, quality assurance, cost efficiency, integrated solutions.
(e.g., Vikram Solar, Bluebird, Sunora)			
Niche/Residential EPCs	Residential, Small Commercial, Off-grid	Solar kits/panels, Installation, Basic O&M, Package deals	Consumer focus, pricing transparency, localized service, tailored solutions.
(e.g., Loom Solar)			

2.3. Pricing Strategies

Specific pricing for large-scale EPC projects by major players is typically not publicly disclosed, as it is customized and determined through competitive bidding. However, in the consumer-facing and small commercial segments, some players like Loom Solar offer transparent, indicative pricing for packaged systems, including installation.

2.4. Key Competitive Advantages

- **Scale & Experience:** Large players excel in executing multi-MW to GW-scale projects.
- **Financial Strength & Brand:** Established companies possess the capital and trust for large undertakings.
- **Backward Integration:** Manufacturers offering EPC can control supply chain and costs.
- **Comprehensive Service:** End-to-end EPC, O&M, and sometimes project development/financing.
- **Niche Specialization:** Focus on specific segments (e.g., residential) allows for tailored expertise.

3. Market Trends & Gaps Identification

3.1. Key Market Trends

- **Explosive Rooftop Solar Growth:** The fastest-growing segment, driven by subsidies (PM Surya Ghar), rising commercial tariffs, and net-metering.
- **Energy Storage Integration:** Increasing demand for Battery Energy Storage Systems (BESS) for grid stability and reliability.
- **Domestic Manufacturing Push:** Government incentives (PLI) are fostering local production.
- **Digitalization & Automation:** Enhancing efficiency in project design, monitoring, and O&M.
- **Hybrid & Off-grid Solutions:** Growing demand for energy independence and rural electrification.
- **Floating Solar:** Gaining traction due to land constraints.

3.2. Identified Market Gaps

- **Transparent Pricing:** A significant opportunity exists for new entrants to offer clear, competitive, and package-based pricing for SME and residential projects.
- **Specialized O&M:** Potential for independent, tech-driven O&M services for post-warranty or smaller systems.

- **Niche Geographic/Sectoral Focus:** Room for regional specialists or EPCs targeting specific sectors like agriculture (PM-KUSUM) or industrial clusters.
- **Streamlined Financing:** A need for easy-to-access financing solutions for C&I and residential consumers.
- **Advanced Technology Integration for Smaller Projects:** Opportunity to integrate IoT, AI, and smart energy management for residential and small C&I clients.

4. Strategic Recommendations for New Entrants

For a new solar power EPC business in India, strategic market entry and growth can be achieved by focusing on identified gaps and high-growth segments:

1 Strategic Niche Specialization:

- * **Prioritize Rooftop Solar (Residential & C&I):** Capitalize on its high CAGR (28.5%) and strong government support. Target MSMEs and housing societies.
- * **Integrate Energy Storage (BESS):** Offer solar-plus-storage solutions to enhance reliability and meet growing demand for energy independence.
- * **Explore Agricultural Solar (PM-KUSUM):** Leverage this scheme's subsidies for solar pumps and grid-connected plants on farmland.

1 Differentiated Value Proposition:

- * **Offer Transparent & Competitive Pricing:** Provide clear, package-based pricing for rooftop and small C&I installations to build trust.
- * **Deliver End-to-End Solutions with Strong O&M:** Emphasize comprehensive packages from design to reliable long-term Operation & Maintenance.
- * **Facilitate Customer-Centric Financing:** Partner with financial institutions to offer attractive financing options, easing upfront investment.
- * **Leverage Technology:** Incorporate smart monitoring (IoT), energy management systems, and AI for superior performance and customer experience.

1 Build Strategic Partnerships:

- * **Collaborate with Local Developers/Builders:** Integrate solar solutions into new construction projects.
- * **Forge Alliances with Financial Institutions:** Secure project financing for clients.

* **Establish Relationships with Quality Domestic Component Suppliers:** Align with "Make in India" initiatives.

* **Engage with MSME Associations:** Access a broad base of potential C&I clients.

1 Geographic Focus:

* Initially, concentrate efforts on a specific state or cluster of cities with favorable solar policies and high electricity tariffs to build a strong local presence and operational efficiency.

1 Emphasize Quality & Reliability:

* Given the long asset lifespan, focus on high-quality components, meticulous installation, and reliable post-sales service to build reputation and drive referrals.

5. Conclusion

The Indian solar power EPC market presents a lucrative landscape, particularly within the burgeoning rooftop solar sector. Despite the presence of formidable established players, new entrants can secure a strong foothold by strategically focusing on high-growth segments, offering transparent and technology-driven solutions, and fostering key partnerships. A steadfast commitment to quality and a customer-centric approach will be crucial for sustainable success in this dynamic market.

Appendix: Sources

- Waaree Energies: <https://waareertl.com/>
- Tata Power Solar: <https://www.tatapowersolar.com/>
- Adani Solar: <https://www.adanisolar.com/>
- Sterling and Wilson Renewable Energy Ltd: <https://sterlingandwilson.com/solar-epc/>
- L&T Solar (Larsen & Toubro): <https://www.lntec.com/businesses/power-transmission-distribution/renewable-energy/>

- Vikram Solar: <https://www.vikramsolar.com/>
- Loom Solar Pvt Ltd: <https://www.loomsolar.com/>
- Bluebird Solar: <https://bluebirdsolar.com/>
- Sunora Solar: <https://sunorasolar.com/>
- Enerparc Energy: <https://enerparc.in/>
- Technavio Market Report (2023-2028 data on Power EPC Market)
- Verified Market Research (2022-2030 data on Power EPC Market)
- Custom Market Insights (2022-2033 data on India Solar Power Market)
- IBEF (Installed capacity data as of December 31, 2023)
- Invest India (Renewable energy capacity and 2030 targets as of October 2023)
- Maximize Market Research (2022-2029 data on India Rooftop Solar EPC Market)
- Future Market Insights (Global Rooftop Solar EPC Market)
- Government of India initiatives and investment data (FDI figures).