

SHINING BRIGHT

THE SOLAR SURGE IN INDIA

Executive Summary

- **India's solar buildout is creating one of the world's largest and fastest-growing markets for solar technology and inputs.** Installed capacity surged from 2.82 GW in 2014 to 119.02 GW by July 2025, with a record 23.84 GW added in FY25.
- **Solar tariffs have plummeted**, making solar one of the most affordable energy sources. Prices dropped from ₹10.9/kWh in 2010 to ₹2.56/kWh in Q1 2025, driven by competitive bidding, falling module prices, and tech innovation.
- **Domestic manufacturing is scaling rapidly.** PV module capacity rose 34x to 80 GW, and cell capacity grew 21x to 25 GW between 2014 and March 2025, supported by government incentives and rising demand.
- **India remains import-dependent for upstream components.** In FY24, ~\$7 billion worth of solar equipment was imported, including polysilicon, wafers, and Balance of System (BOS) components.
- **Strategic opportunities exist for global suppliers.** These include plugging value chain gaps (e.g., wafers, solar-grade glass), partnering with Indian firms under government initiatives like the Production Linked Incentive (PLI) schemes, setting up local assembly units, and targeting high-growth states like Gujarat and Tamil Nadu.
- **Policy support is robust and multifaceted.** ALMM/ALCM lists, DCR mandates, and PLI schemes (₹24,000 crore outlay) are boosting domestic manufacturing readiness. While India's policy push is centered on self-reliance, the need for advanced technologies, upstream materials, and manufacturing equipment means there remains strong demand for imports and global collaborations.
- **India's solar rise is both a domestic and global story.** While aiming for 292 GW of solar capacity by 2030, India will continue to rely on global suppliers for high-efficiency tech and upstream materials, keeping import channels vital.

What importers can do next



Bridge Value Chain Gaps: Import high-demand components like wafers, polysilicon, and solar-grade glass to plug gaps in India's solar manufacturing ecosystem.



Forge Local Partnerships: Collaborate with Indian manufacturers to supply critical inputs and unlock benefits under the government-led incentive programs.



Localize Operations: Set up warehousing or partial assembly units to reduce import duties and improve cost efficiency.



Prioritize High-Potential Markets: Focus on states like Gujarat, Rajasthan, and Tamil Nadu – states leading in solar deployment and serving as key import corridors.



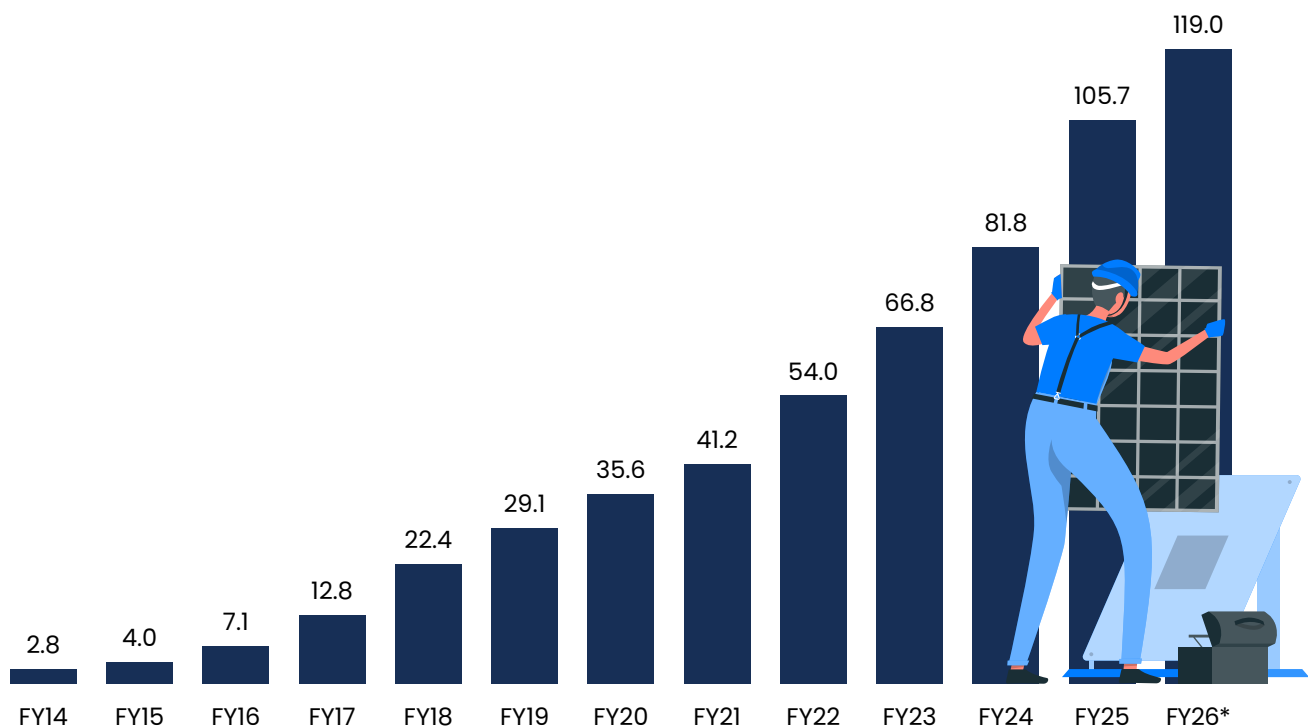
India at the Forefront of the Global Solar Revolution

India is one of the key players in the global clean energy landscape. Over the last decade, the country has invested \$81 billion in renewable energy, with several large-scale projects having been operationalized in recent years¹. At the center of this growth story lies the **solar energy sector, which accounts for the largest share of the total renewable energy capacity at 48%**².

India is the **third-largest solar power generator in the world**, outpacing Japan in 2024. The country now stands behind China and United States in solar energy production, which is a significant milestone towards its ambitious target of 500 GW of non-fossil fuel capacity by 2030.

India's remarkable rise in solar power has been **fueled by a robust expansion in solar capacity**. From a modest 2.82 GW in 2014, India's solar capacity has surged to 119.02 GW as of July 2025. Notably, the year 2024–25 alone saw a record addition of 23.84 GW, underscoring the sector's accelerating momentum.

India's Solar Energy Installed Capacity (Cumulative Figures in GW)



*Data as of July 2025

Source: Ministry of New and Renewable Energy, PIB, Dun & Bradstreet Research

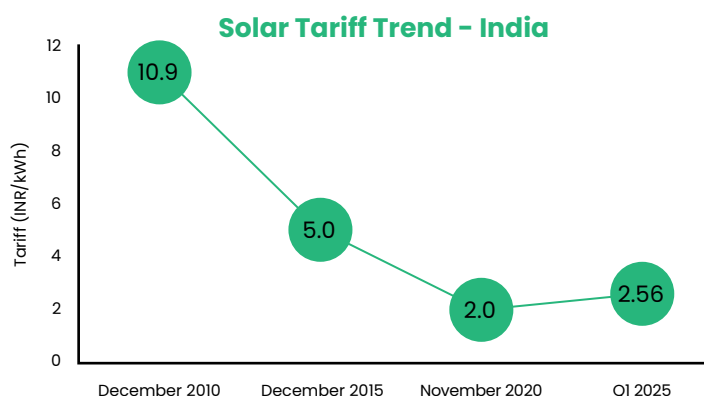
1. <https://www.independent.co.uk/news/india-solar-one-bengaluru-new-delhi-b2761414.html>

2. <https://asian-power.com/news/india-installs-nearly-30-gw-solar-and-wind-power-in-fy-2025>



With the growing adoption of solar energy in India, solar tariffs have steadily declined. In this context, tariffs, which are measured in “Rs per kWh”, refer to the price at which solar power suppliers agree to sell each unit of electricity. These tariffs are usually discovered through competitive bidding processes conducted by government agencies.

From an average bid tariff of Rs 10.9 per kWh in December 2010, tariffs dropped to an average of Rs 5 per kWh in December 2015 and further down to less than Rs 3 per kWh in 2016³. In November 2020, solar power tariffs reached **a historic low of Rs 2 per kWh**. The drop in tariffs has been driven by growing interest from global solar players, availability of funds at lower costs, declining module prices and adoption of new technologies to increase generation⁴. In Q1 2025 (Jan-Mar 2025), the lowest winning tariff in the solar segment was INR 2.56/kWh.

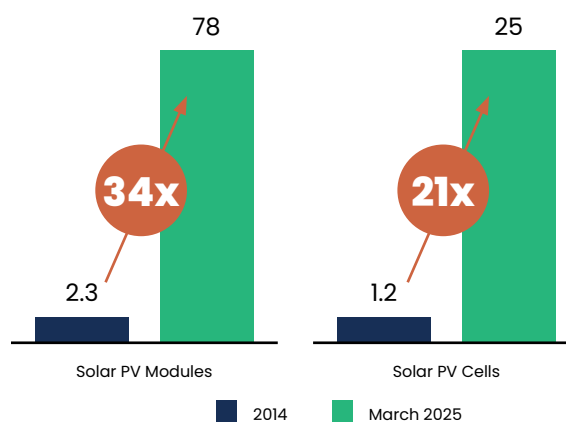


Source: Dun & Bradstreet Research

Domestic Solar Manufacturing – Making Rapid Strides

The surge in solar capacity has positioned India as a global leader in solar energy generation and spurred growth in domestic manufacturing. The capacity to make solar PV modules has clocked a 34-fold increase, surging from 2.3 GW in 2014 to about 80 GW in March 2025. Similarly, India’s capacity to make solar PV cells has grown from 1.2 GW in 2014 to 25 GW in March 2025, marking a 21-fold increase.

Increase in Solar Manufacturing Capacity (in GW)



Source: Press Information Bureau (PIB), Dun & Bradstreet Research

3. <https://amplussolar.com/blog/why-are-solar-tariffs-going-down-in-india>

4. https://ieefa.org/wp-content/uploads/2020/12/Why-Solar-Power-Tariffs-in-India-Reached-an-Historic-Low_December-2020.pdf



Why India Still Needs Imports to Power its Solar Dream

While India aims to accelerate solar expansion to meet its 2030 renewable energy targets, the domestic solar manufacturing industry is still in its early stages, with most projects still relying on imported ready-to-use modules. Furthermore, India's manufacturing capacity is concentrated in select segments, creating sustained demand for critical components from overseas markets.

At the same time, India's domestic ecosystem is still evolving on the technology front, particularly in high-efficiency cell designs, automation, and materials innovation. This creates opportunities for global manufacturers and technology partners to plug in.

Key Components India Needs to Import

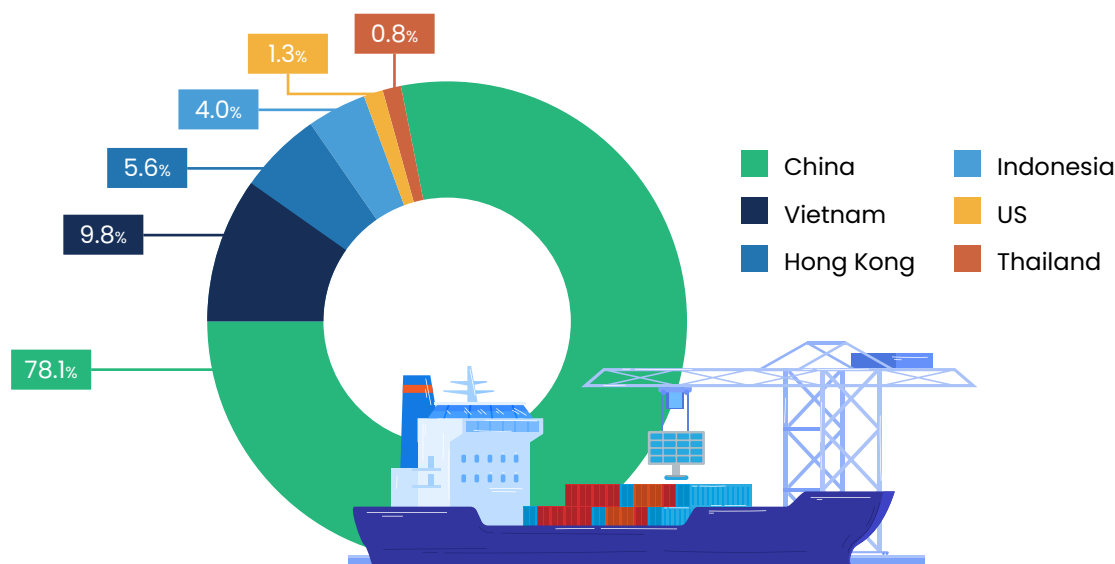
Solar Component	Current Import Volumes/Trends
PV Modules & Cells	- In FY 2023-24, India imported ~\$7 bn worth of solar equipment. Of that, ready-to-use modules were about \$4.4 bn, cells about \$1.9 bn. - Even while imports have begun to fall due to the government's push to improve domestic manufacturing capacity, imports of PV cells from China more than doubled in FY25. - While India's domestic manufacturing capacity is poised to grow in the coming years, the effective operational output remains constrained due to the time required for project stabilization —thereby sustaining a degree of import dependency in the near term.
Polysilicon, Wafers & Ingots	- India has limited capacity in upstream segments (polysilicon, wafer, ingot). - China controls 97% of global polysilicon production, making it difficult for India or any country to compete due to lower prices from China.
Balance of System (BOS) Components (inverters, cables, junction boxes, transformers, mounting structures, glass etc.)	- In FY 2023-24, about \$1 billion of imports were "other essential parts" outside modules and cells, including inverters, cables, junction boxes, transformers and other electrical components. - With annual additions needing to rise (65-70 GW/yr of Renewable Energy (RE) installations to hit 500 GW by 2030), BOS demand will scale significantly – likely driving up imports of key components and materials.





Although India has been steadily increasing its capacity to manufacture solar modules and PV cells, it still relies heavily on imports, especially from China. The country is reliant on imports for key upstream materials like polysilicon, wafers, and even some cells and modules. India imported \$1.3bn worth of solar cells and modules in Q1 FY2025.

Country-wise Breakdown of Indian Solar Imports (% , Q1 2025)



Source: Ministry of Commerce and Industry, Dun & Bradstreet Research

What Indian Importers Can Do Next

As India continues to scale up its solar capacity, global firms and importers have a range of strategic opportunities to tap into this rapidly expanding market.

Opportunity Area	Description	Strategic Benefit
Tap into Value Chain Gaps	Identify and supply critical components like wafers, polysilicon, and solar-grade glass where India has limited domestic production.	Meet unmet demand, establish prominence in underdeveloped segments.
Partner with Indian Manufacturers	Collaborate with local firms to supply key inputs and benefit from government initiatives like the Production Linked Incentive (PLI) schemes.	Access financial incentives, accelerate market entry, and build long-term local presence.
Local Warehousing & Assembly	Set up warehousing or partial assembly units in India to reduce exposure to import tariffs on fully assembled modules.	Improve costs, improve supply chain efficiency, and comply with domestic content norms.
Focus on High-Growth States	Target states like Gujarat, Rajasthan, and Tamil Nadu that lead in solar installations and serve as key import hubs.	Leverage strong infrastructure, policy support, and proximity to major solar projects.

Source: Dun & Bradstreet Research



Policy Landscape: Driving Self-Reliance, Creating Space for Strategic Imports

India's government is actively fostering the adoption of solar energy and taking decisive steps to strengthen domestic manufacturing. The country has introduced key measures like approved manufacturer lists, and domestic content requirements to boost local solar production.

At the same time, while India's policy push is centered on self-reliance, the need for advanced technologies, upstream materials, and manufacturing equipment means there remains strong demand for imports and global collaborations. This creates a window of opportunity for international firms to support India's solar ambitions by supplying critical inputs that are not yet produced at scale domestically.

Initiatives	Details	Impact
Import Tariffs to boost domestic manufacturing	Basic Customs Duties of 20% (solar cells) & 40% (solar modules).	While tariffs raise costs, imports are likely to remain essential for advanced technologies and other solar components not yet widely manufactured in India.
Approved List of Models & Manufacturers (ALMM)	Only government-approved Solar PV Modules to be used in solar projects.	Ensures quality standards, while creating opportunities for importers to fill critical gaps in the value chain such as advanced cell technologies, specialized equipment, or raw materials not yet produced locally at scale.
Approved List of Cell Manufacturers (ALCM)	Only government-approved Solar Cell manufacturers to be used for designated projects.	
Domestic Content Requirement (DCR)	Requires use of domestically manufactured solar components in government-subsidized projects; covers rooftops, solar pumps, and feeder-level solarization.	While stimulating scale and innovation in domestic production, the DCR also opens avenues for importers to support upstream segments.
National Programme on High Efficiency Solar PV Modules	- Tranche I (2021): ₹4,500 crore outlay, 8,737 MW capacity awarded. - Tranche II (2023): ₹19,500 crore outlay, 39,600 MW planned capacity.	Incentivizes high-efficiency solar PV production and builds a robust domestic ecosystem. Drives production of globally competitive, high-efficiency modules.
PLI Scheme for High Efficiency Solar PV Modules	- With an outlay of ₹24,000 crore, the scheme is helping in setting up of 48,337 MW of fully / partially integrated solar PV module manufacturing capacities. - As of March 2025, the capacities which have started production under this scheme include around 17 GW of solar PV module manufacturing, around 6 GW of solar PV cell manufacturing and around 2 GW of ingot-wafer manufacturing	Supports domestic scale-up while creating room for importers to bridge upstream gaps - especially in areas like polysilicon, wafers, and solar-grade glass etc.



Conclusion

India's solar sector is experiencing a transformative surge, driven by record capacity additions, rise in domestic manufacturing, and supportive policy initiatives. With solar now accounting for nearly half of India's renewable energy capacity, the country is emerging as a global leader in clean energy.

Domestic production of solar modules and cells is scaling up, supported by targeted incentives and infrastructure development. However, challenges

remain in building a fully self-sufficient value chain as India's solar ambitions continue to gain momentum.

Importantly, India's solar rise is not just a domestic manufacturing story — it's also a significant opportunity for global suppliers. As the country scales toward 292 GW of installed solar by 2030, demand for high-efficiency technology, specialized equipment, and upstream materials will keep global import channels vital to India's clean energy ambitions.



Drip Capital Customer Testimonial

Working with Drip Capital has transformed our international trade operations. Their innovative approach to trade finance helps overcome liquidity challenges quickly, giving us a competitive edge. With an efficient and responsive execution team, Drip Capital accelerates cash flow and strengthens our supply chain—delivering not just financing, but a strategic partnership.

By Premier Energies Limited

About Premier Energies Limited

Premier Energies, with an annual revenue of ₹6,500 crore, is a leading solar manufacturer with 44+ acres of facilities in Telangana and a 3.2 GW cell / 6 GW module capacity, delivering high-efficiency, globally recognized photovoltaic products while driving sustainability and innovation.



About Drip Capital

Drip Capital is a leading fintech company revolutionizing trade finance for small and medium businesses (SMBs) across the globe. By leveraging technology and data, Drip provides collateral-free working capital solutions that are fast, flexible, and tailored to the needs of growing businesses.

Whether it's exporters or businesses managing procurement, Drip helps bridge cash flow gaps across the trade cycle, covering everything from supplier payments to inventory financing. With simplified digital onboarding, quick credit approvals, and transparent pricing, Drip makes access to trade finance easy and scalable.

Backed by investors like Accel, Sequoia Capital, and Y Combinator, and debt partners including Barclays, the International Finance Corporation and East West Bank, Drip has empowered over 9,000 SMBs and facilitated more than \$7 billion in cross-border trade. As a trusted partner in global trade, Drip Capital is enabling entrepreneurs to grow their business without giving up equity or pledging assets.



Drip Capital Offerings

At Drip Capital, we empower businesses with fast, flexible, and collateral-free solutions for both working capital and procurement, designed to support every stage of global trade.

In India

1 We support Exporters through Receivables Finance.

- Disburse funds within 24 hours
- Credit lines of up to \$2.5 million
- Flexible repayment terms of up to 150 days
- Collateral free working capital

2 We support Importers through innovative procurement solutions.

- Procurement Limits of up to \$3M
- Get up to 90 days to pay when you procure your goods
- Improve margins with cash discounts through supplier prepayments
- Paperless digital process

In the USA

3 We help importers and domestic purchasers with payables financing.

- Credit lines up to \$3 million
- No UCC filings, no personal guarantees
- Repayment terms up to 90 days
- Drip pays your supplier directly, giving you more time to repay later
- Obtain improved pricing through cash discounts by paying early

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This newsletter has been prepared by Drip Capital and its knowledge partner Dun & Bradstreet India.