

The Effects of the September 2025 GST Reforms on Solar Tariffs in India: *Challenges, Opportunities, and Policy Recommendations*

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Abstract

In September 2025, the Government of India made major changes to the Goods and Services Tax (GST). They cut the tax on solar panels and inverters from 12% to 5%. This change also lowered the total project tax from about 13.8% to 8.9%. The goal of these reforms is to reduce project costs, help domestic manufacturing, and speed up India's shift to clean energy. This research paper looks at the various effects of the GST reforms on solar energy prices, pointing out both the benefits and drawbacks. By reviewing government reports, industry studies, and expert opinions, the study examines how these reforms are likely to make solar energy cheaper and easier to access. It also addresses issues such as supply chain problems, delays in input tax credits, and uncertainties in contracts. The paper provides recommendations to reduce potential issues, making sure that India's solar energy goals remain strong while supporting economic stability.

Key Words: GST Reforms 2025, Solar GST Tariff, Solar Energy, Impact on Solar Industry, Lower GST Rates,

Introduction

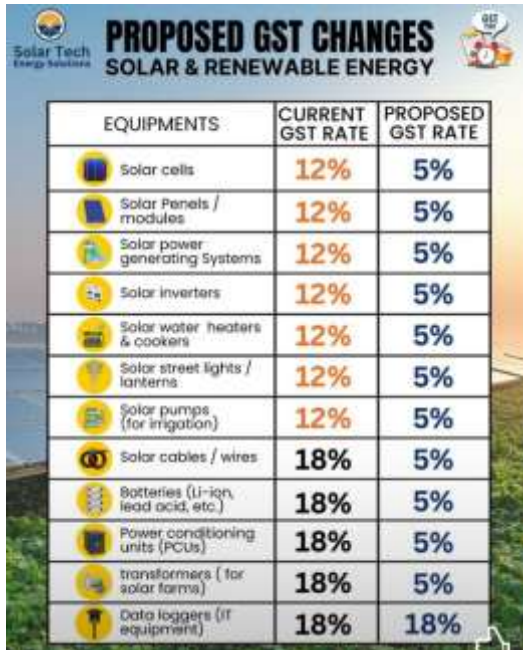
India's renewable energy journey has seen rapid growth, ambitious goals, and changing policy frameworks. Solar energy is a key part of this transition. It has gained from technology improvements, competitive prices, and supportive government actions. However, tax structures have often created hurdles, especially when they vary by state and depend on multiple exemptions and rebates.

The Goods and Services Tax (GST), which started in 2017, combined indirect taxes across India. Unfortunately, it also increased the cost of solar projects by adding a 12% tax on essential components like panels and inverters. This extra financial burden slowed adoption and made it harder to access formal financing.

To address the issues from the earlier tax system, the Indian government made reforms in September

2025. They lowered the GST on solar panels and inverters to 5% and reduced the overall project tax from 13.8% to about 8.9%. This reform has been hailed as a new beginning for India's solar sector. It aims to make energy cheaper, more accessible, and in line with the government's vision of Atmanirbhar Bharat, meaning self-reliant and globally competitive.

However, even though the reforms promise cost cuts and market growth, they also raise worries about uncertainties during the transition, issues with input credits, and the speed at which the supply chain can adapt. This paper aims to examine these challenges along with the benefits, providing a complete view of how the reforms will influence India's solar energy future.



EQUIPMENTS	CURRENT GST RATE	PROPOSED GST RATE
Solar cells	12%	5%
Solar Panels / modules	12%	5%
Solar power generating Systems	12%	5%
Solar inverters	12%	5%
Solar water heaters & cookers	12%	5%
Solar street lights / lanterns	12%	5%
Solar pumps (for irrigation)	12%	5%
Solar cables / wires	18%	5%
Batteries (Li-ion, lead acid, etc.)	18%	5%
Power conditioning units (PCUs)	18%	5%
Transformers (for solar farms)	18%	5%
Data loggers (if equipment)	18%	18%

Image 1: Proposed GST Changes

Source: MNRE

Purpose of the Study

The study aims to offer a detailed look at the GST reforms that took place in September 2025 and their impact on solar tariffs in India. The main objectives are:

- To examine** the direct effect of lower GST rates on the capital costs and affordability of solar projects.
- To evaluate** how these reforms impact financing models, supply chains, and investment patterns.
- To identify** the operational challenges, such as delays in input tax credits and legal uncertainties, may come up during the implementation phase.
- To highlight** the potential long-term benefits of lower tariffs, better domestic manufacturing, and a faster energy transition.
- To propose** practical suggestions that reduce risks while supporting the sector's growth.
- To provide** a fair look at the situation includes both the good and bad effects. This way, the policy suggestions are based on what really happens in practice.

Methodology

This research uses a qualitative method that focuses on collecting detailed secondary data, case studies, and expert analyses. The approach brings together multiple sources to ensure strong findings and reliable conclusions.

Data Sources

1. Government Reports

The study uses publications from the Ministry of New and Renewable Energy (MNRE), GST Council notifications, and policy statements from the official communications of the Government of India.

2. Industry and Market Reports

Reports from the International Institute for Sustainable Development (IISD), the Council on Energy, Environment and Water (CEEW), and rating agencies such as CRISIL offer quantitative insights into pricing trends, funding patterns, and project viability.

3. Media Articles

Trusted sources like Reuters, Economic Times, Times of India, and other media outlets, both national and international, provide views from policymakers, developers, and investors.

4. Expert Interviews and Case Studies

Interviews and data from solar developers, financial institutions, and compliance experts provide detailed insights into the challenges of implementation.

Analysis Approach

Data were categorized into positive and negative impacts. They were evaluated using a comparative analysis across regions and project sizes. The research also referenced the reform's official infographic, which highlighted key changes in tax rates and expected benefits. These benefits include lower project costs, cheaper rooftop solar installations, support for domestic manufacturing, and faster energy adoption.

Thematic coding helped identify patterns in cost structures, compliance challenges, and financing

issues. This was followed by cross-referencing with expert opinions to confirm assumptions.

Results

Positive Effects of the September 2025 GST Reforms

1. Lower Capital Costs for Solar Projects

The drop in GST from 12% to 5% on solar panels and inverters directly lowers the initial costs for solar installations. Industry estimates show that projects could save between 5% and 7% on equipment costs, depending on the scale and supplier pricing.

2. Cheaper Rooftop and Commercial & Industrial (C&I) Solar Installations

The reforms should make rooftop solar cheaper, especially for homes and small businesses. Lower tariffs will also help make commercial and industrial solar systems possible, leading to savings on energy costs.

3. Boost to Domestic Manufacturing

With lower taxes, manufacturers of solar panels and inverters can scale production and compete globally. This supports government efforts to encourage domestic supply chains and reduce reliance on imports.

4. Accelerated Energy Transition

The combination of lower costs and better financing should attract more developers to invest in renewable energy projects. This will likely speed up India's shift to cleaner energy sources and cut carbon emissions.

5. Improved Market Confidence

Clear taxation guidelines and less uncertainty will likely boost investor confidence. Institutional financiers are expected to provide credit more easily, which will support larger project pipelines.

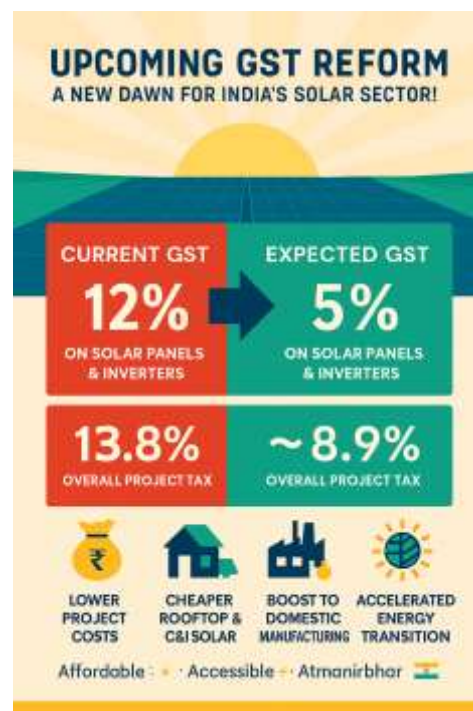


Image 2: Upcoming GST Reform – A Game Changer for India's Solar Sector

Source: MNRE and Times of India

How solar projects are billed today (70:30 composite supply contracts):

70% of contract value = Goods → taxed at 12%

30% of contract value = Services → taxed at 18%

Effective project tax = 13.8%

With the upcoming GST reform:

70% of contract value = Goods → taxed at 5%

30% of contract value = Services → taxed at 18%

Effective project tax = ~8.9%

What this means:

Lower project costs → higher viability & faster adoption

Rooftop & C&I solar becomes cheaper for households, MSMEs & industries

Boost to domestic manufacturing → stronger “Make in India”

Accelerated clean energy transition → progress towards 500 GW RE by 2030

A **4.9% drop in effective tax** may look small on paper, but in reality, it means crores of savings for developers and consumers — making clean energy more affordable, accessible, and Atmanirbhar.

Negative Effects of the GST Reforms

1. Transitional Challenges and Legal Ambiguities

Developers are uncertain about how past contracts will be handled under the new tax rules. Current Power Purchase Agreements (PPAs) signed before the reform might need to be renegotiated. This could raise legal costs and add to administrative work.

2. Input Tax Credit Delays

Despite lower tax rates, developers are worried about delays in getting their input tax credits. Smaller businesses, especially, struggle to manage cash flow gaps during this transition.

3. Supply Chain Disruptions

The move to lower tax rates requires suppliers and logistics providers to adjust their invoicing and compliance processes. Areas with weaker administrative frameworks may face delays in implementation, which can impact project timelines.

4. Fragmented Implementation Across States

Although GST is a national reform, states must implement compliance measures locally. Different interpretations or enforcement could cause delays and confusion, particularly in remote areas.

5. Increased Short-Term Costs

Some developers may experience higher costs during the transition period. This is due to rework in accounting, changes to financing arrangements, and the need to renegotiate contracts.

Discussion

The September 2025 GST reforms aim to improve the affordability and growth of solar energy in India. These reforms can lead to lower equipment costs, better market access, and a rise in domestic manufacturing. They support India's larger energy goals and global climate commitments.

However, the reforms come with some challenges. Delays in processing input tax credits, inconsistent compliance rules, and contract uncertainties create

significant risks for developers, especially smaller businesses with limited financial resources. Additionally, areas with weaker administrative systems may struggle more with implementation, making the reforms less effective there.

Balancing the Opportunities and Risks

The challenge is to balance the long-term benefits of the reforms with their immediate disruptions. Policymakers must focus on ways to minimize transitional difficulties while keeping the benefits of harmonized taxation. For developers, taking a proactive approach is essential. This means updating contracts, securing short-term financing, and working closely with local compliance authorities to ensure that project execution continues without interruption.

Strategic Implications for Stakeholders

For government agencies, clear communication, consistent guidelines, and training programs will be key to reducing disruptions. For investors, reviewing risk models and providing developers with working capital will be essential for keeping project pipelines steady. For developers, using digital tax platforms, improving supply chains, and connecting with industry groups can help reduce compliance uncertainties.

Recommendations

Based on the findings, this paper suggests the following recommendations to reduce the negative impacts of the GST reforms and improve their benefits:

1. Sector-Specific Tax Guidelines

Developing clear guidelines for the solar industry, including templates for contract changes and compliance rules, will lessen confusion and legal disputes.

2. Fast-Track Input Tax Credit Processing

Implementing digital platforms with set timelines and automated tracking systems will ease cash flow issues and support smoother transitions.

3. Uniform State Implementation Framework

Regular training programs for tax officials in different states and setting up helplines for developers can help maintain consistency in GST enforcement.

4. Support for Small and Medium Enterprises (SMEs)

Offering low-interest loans, insurance-supported credit lines, and financial incentives for small and medium-sized enterprises can help them handle challenges during transitions.

5. Promotion of Domestic Manufacturing

Incentives for local production, such as tax rebates and infrastructure grants, will lessen reliance on imports. This approach will lower long-term costs and stabilize supply chains..

6. Stakeholder Engagement Platforms

Creating forums for developers, financiers, government agencies, and technology providers will promote teamwork in solving problems and sharing best practices..

7. Public Awareness Campaigns

Educating consumers and developers about new compliance requirements and financial models will improve transparency and encourage informed decision-making.

Conclusion

The September 2025 GST reforms signal a major change for India's solar energy sector. By lowering tax rates on essential equipment and simplifying compliance, these reforms aim to make solar energy more affordable, accessible, and scalable. The expected benefits include lower project costs, greater access to financing, increased manufacturing, and faster adoption of clean energy. These changes are significant and support India's long-term energy goals..

At the same time, challenges like delays in input tax credits, supply chain disruptions, and gaps in regional compliance pose serious risks. We need to

tackle these issues with coordinated policy actions and industry teamwork. A balanced and practical approach that recognizes both opportunities for reform and the realities of implementation will be crucial for maintaining growth.

India stands at a crucial point in its renewable energy journey. By improving its tax system, supporting stakeholders, and investing in infrastructure and skill development, the nation can make the GST reforms a driving force for inclusive and sustainable energy change. This approach will promote affordability, innovation, and environmental strength for future generations.

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