

Standing Committee Report Summary

Performance Evaluation of Solar Power Projects

- The Standing Committee on Energy (Chair: Mr. Shirang Appa Barne) presented its report on ‘Performance Evaluation of Solar Power Projects in the Country’ on December 8, 2025. The Committee noted that the total planned solar capacity by 2030 is 306 GW, well above the target of 292 GW. However, it observed several challenges in implementation. Key observations and recommendations include:
- **Inadequate storage capacity:** The Committee noted that variability in generation is one of the biggest issues with renewable energy such as solar. Storage systems such as battery storage and pump storage can be used to store additional production during the daytime to meet peak demand during non-solar hours. Against 243 GW of installed renewable capacity, current storage capacity is around 5.5 GW. The required storage capacity is projected to be 61 GW by 2030. The Committee noted that the main reason for slow development of storage capacity is high costs. It expected the cost to slowly come down as production gains scale. It recommended providing grants to research institutions to conduct storage-related R&D for indigenisation which could bring down prices.
- **Domestic manufacturing of solar panels:** The Committee noted that India has developed self-sufficiency in solar panel manufacturing, with domestic manufacturing capacity at 91 GW per year as of June 2025. However, it remains dependent on import for materials and components such as polysilicon, ingots, and wafers. A two GW capacity has been commissioned for ingots and wafers. There is no polysilicon manufacturing capacity currently. The Committee recommended introducing dedicated production-linked incentive schemes for them.
- **Pending Power Purchase Agreement (PPA):** As of June 2025, PPAs have not been signed for about 44 GW capacity for which bids were invited. The Ministry attributed delays to: (i) a steep hike in bidding activity by implementing agencies since 2023-24, (ii) discoms not acting on their legal obligation to purchase renewables, and (iii) discoms not acting in anticipation of lower future tariffs. It recommended agencies to align bids with the demand from states, and discoms to comply with the renewable consumption obligation to avoid penalties.
- **Challenges for transmission projects:** The Committee highlighted delays in environment and forest clearances and issues related to compensation for right of way, as major causes for delays in transmission projects for renewables. It recommended: (i) adoption of uniform compensation guidelines for right of way by states, (ii) establishing a dedicated portal for clearances, and (iii) improving coordination among authorities.
- **Land-related issues:** The Committee observed that land acquisition for large-scale solar plants remains difficult due to competing usage and variation in compensation charges. It recommended a single window clearance mechanism for easy identification of issues and time-bound resolution.
- **Addressing regional imbalance:** The Committee noted regional imbalance in solar generation capacity, with low deployment in the North-East, Himalayan, eastern, and island regions. Out of 119 GW of total installed solar capacity as of July 2025, these regions together contribute about 3 GW (2.6%). It further observed that long-distance transmission of solar and other renewable energy is both costly and less efficient. It recommended to promote solar power development in these areas through measures such as timely release of central financial assistance.
- **Rating solar power plants:** The Committee noted that there is no reliable system to rate the performance of solar power plants. It observed that a rating framework is necessary for optimum utilisation of solar, land and other resources. It recommended completing the draft rating framework at the earliest to enable timely pilot projects and field tests.
- **PM Surya Ghar Yojana:** This scheme aims to install rooftop solar in one crore households by 2026-27. As of June 2025, 16 lakh installations have been completed (16%). The Committee highlighted low consumer awareness as a major cause for slow adoption.
- **PM-KUSUM:** The Committee highlighted slow progress under the scheme: (i) 6% under Component-A which provides support for setting up decentralised grid-connected solar power plants, (ii) 60% under Component-B which promotes off-grid solar pumps to replace diesel pumps, and (iii) 17% under Component-C which solarises existing grid-connected agriculture pumps. It recommended: (i) improving monitoring to ensure timely completion and (ii) increasing central financial assistance for solar pumps with capacities above 7.5 horsepower to meet irrigation needs in water-deficient areas.

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