



India

Strengthening Quality Infrastructure for the Solar Industry III

Objective	The overall objective of the project is to enable Indian Quality Infrastructure Institutions to offer new and improved services in the fields of photovoltaic systems and energy storage.	
Approach	The expansion of solar photovoltaic (PV) technology plays a critical role in India's clean energy transition. The focus, however, lies primarily on achieving quantitative objectives while safety, quality, and environmental criteria are not being sufficiently considered. The rapid adoption of solar power will also lead to an imminent challenge in end-of-life waste management. Moreover, to stabilize their power grids, India has used increasingly large energy storages during the last few years, where safety risks occur when used improperly. The project addresses these challenges by supporting the improvement of crucial quality infrastructure services for the entire value chain, including plant construction, storage systems, and recycling of solar modules. The multi-level approach of the project is structured in four outputs: implementing participative processes to address safety, quality, and sustainability issues of photovoltaic and energy storage systems and strengthening the exchange and collaboration between quality infrastructure representatives in both fields (Output 1); improving capacity development of quality infrastructure organizations to provide services to the fields of photovoltaics and energy storage (Output 2), expanding quality infrastructure services by considering gender aspects and creating a network for female experts (Output 3), and raising awareness on innovative quality assurance methods (Output 4). The National Institute of Solar Energy (NISE) remains the major implementation partner, while the Ministry of New and Renewable Energy (MNRE) acts as the political partner.	
Impact	The primary impact assumption is that improving respective quality infrastructure services and their increased use enhances the safety, quality, and sustainability of photovoltaic and energy storage systems. This reduces the risks in the sectors and improves the opportunities to expand renewable energies in India. In more detail, based on elaborated action plans (Output 1), the stakeholders can systematically close the identified gaps in the quality infrastructure and therefore, will contribute to an improved offer of quality assurance services. Recycling solar panels that have reached the end of their lifecycle leads to several opportunities such as the recovery of valuable materials including glass, copper, and aluminum. Moreover, improved capacities (Output 2) enable the funded quality infrastructure institutions to expand their portfolio of quality assurance services and to acquire the respective accreditations. Systematically promoting female experts (Output 3) leads to more qualified staff within quality infrastructure institutions and will improve their capacities for providing and further developing quality assurance services. In addition, the measures improve the career opportunities for female employees and therefore contribute to more gender equality at the involved organizations. Finally, it is assumed that stakeholders are of the Indian photovoltaic sector are aware of the importance of quality assurance services and will increasingly use such measures (Output 4).	
Cooperation	The project is part of the <i>Indo-German Solar Energy Partnership</i> and the German programme <i>Promoting the transformation of the Indian energy sector</i> . Together with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) and the Kreditanstalt für Wiederaufbau (KfW), PTB is supporting Indian partners in their endeavour to transform the energy sector towards an increase in renewable energy use.	
Financing	The project is funded by the Federal Ministry for Economic Cooperation and Development (BMZ).	
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