

Promotion of Solar Technologies for Economic Development (POSTED)

Project name	Promotion of Solar Technologies for Economic Development (POSTED)
Commissioned by	German Federal Ministry for Economic Cooperation and Development (BMZ)
Country	Nepal
Working areas	Policy and legal framework, capacity development, digital systems for monitoring and planning
Lead executing agency	Alternative Energy Promotion Centre (AEPC)
German Contribution	4,000,000 EUR
Duration	06/2021-12/2023
Beneficiaries	National and sub-national government entities, educational and training institutions, employees in solar companies, farmers and rural population.

With the adoption of the White Paper for the Energy Sector in 2018 the GoN set a target for expanding solar generation capacity to 15% of existing hydropower capacity, i.e. to around 150 megawatts (MW).

After adopting the new constitution in 2015, Nepal has moved from an unitary to a federal government system and has devolved authority to local (municipalities) and provincial governments. The sub-national governments are mandated to promote solar installations with a capacity of up to 1 MW. However, the newly established local and provincial governments lack the capacities and means to take up their new task. Similarly the private sector lack competencies and capacities in expanding solar energy potential and harnessing the resulting economic benefits at the local level. To address these challenges and realize the potential contribution of solar PV systems to local economic development, the Government of Nepal and the Federal Republic of Germany are jointly implementing the technical cooperation project *Promotion of Solar Technologies for Economic Development (POSTED)*.

Context

With an annual per-capita income of USD 1,071 Nepal is one of the poorest countries in South Asia and remains one of the poorest countries in the world. A fifth of the population lives below the national poverty line. Considerable bureaucracy and inadequate infrastructure have a detrimental impact on the investment climate and hence on economic development. Nepal's electricity sector is dominated by hydropower, making the country's electricity mix one of the cleanest in the world. But the dependency on only one major energy source poses a challenge to the reliability of supply, especially during the dry season. The Government of Nepal (GoN) has recognized the problem and instigated a series of policy and regulatory measures to improve the energy supply in the country. The national development strategy of Nepal as well as the National Climate Policy and the roadmap for achieving the Nationally Determined Contributions (NDC) emphasize sustainable economic development based on renewable energies (RE) and underline the need for increased use of solar photovoltaic (PV) energy. Aligning the expansion of solar energy more closely to the needs of disadvantaged population groups will also make a contribution to rural development in terms of climate-friendly economic growth.

Our Approach

The POSTED project aims to improve the conditions for the expansion of solar technologies for climate-friendly economic development in selected provinces in Nepal. To this end, the project intervenes in three areas:

- Improving the legal framework conditions for the application of solar technologies for economic development at the sub-national level;
- Improving the range of basic and advanced training courses for the planning and use of solar technologies;
- Strengthening the technological prerequisites for controlling and monitoring the effects of solar systems on the climate, environment, and natural resources.

The project supports the GoN's efforts to promote the use of solar pumps for agricultural irrigation, solar-powered mini-grids, and solar rooftop systems for the energy supply of businesses and industries. Thus, POSTED contributes towards increasing the share of the population with access to electricity and modern energy services and expanding renewable energy-based generation capacity.



L to R.:

- *Inception Workshop with partner organization AEPC in March 2022*
- *Stakeholder Workshop to identify viable options for suggested PV technologies in May 2022*



L to R.:

- *Field visits to existing projects to identify key problems of solar mini-grids in Panchthar (Province No. 1) in June 2022 and*
- *Solta Solar Mini-grid (Sudurpashchim Province) in June 2022*

Additionally, the project will cooperate closely with the Financial Cooperation (FC) module *Promotion of Solar Energy in Rural and Semi-urban Areas* and provide advice in creating an enabling environment at national and subnational level.

Activities

Incentive schemes for solar technologies: By focusing on providing recommendations for improving existing incentive schemes and their delivery mechanisms, the project aims to accelerate the deployment of solar technologies, improve the coordination between key state actors and enhance the sustainability of solar projects financed with public resources. POSTED is also providing support to subnational governments to promote and incentivize solar technologies.

Technical standards and guidelines: The project is providing technical assistance to AEPC for the development of technical guidelines for the design and implementation of solar systems. This will support the private sector during the design process and maintenance as well as the public sector during quality control for building and managing more robust and reliable PV installations.

Capacity development: The project is cooperating with vocational training institutions and universities, to design and offer courses for public and private actors improving the quality of planning, management and long-term maintenance of the promoted solar systems. A strong focus on women and youth contributes to developing the next generation of solar experts in the country.

Digital systems for planning and monitoring: To measure the impacts of solar technologies, the project is working on the development of a number of digital tools. Among others, the project aims to develop digital systems for the design and sizing of solar irrigation systems as well as monitoring groundwater withdrawal. The project is also contributing to the enhancement of the existing national RE data management system by developing modules for estimating avoided greenhouse gas emissions and tracking electronic waste generated by solar projects.

Expected Outcomes:

The project contributes to the 2030 Agenda's SDG 7 (Affordable and clean energy), SDG 8 (Decent work and economic growth) and SDG 13 (Climate action). POSTED will deliver the following outcomes:

- Facilitate the transition to a greener economy through an improved enabling environment to expand PV technologies, and by developing the capacities of the public and private sectors,
- Support in attaining Nepal's goals under the Paris Agreement by assisting in setting up digital management and monitoring systems as well as contributing to the reduction of greenhouse gases,
- More people in the rural areas have sustainable access to electricity for their social and economic development.

Published by	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH Registered offices Bonn and Eschborn, Germany Promotion of Solar Technologies for Economic Development (POSTED) NTNC Complex Khumaltar, Lalitpur T +977 1 551706 E diego.senoner@giz.de I www.giz.de/nepal	Author(s)	Promotion of Solar Technologies for Economic Development (POSTED)
		As at	June 2022
		In cooperation with	Alternative Energy Promotion Center (AEPC)
		On behalf of	Federal Ministry for Economic Cooperation and Development (BMZ)