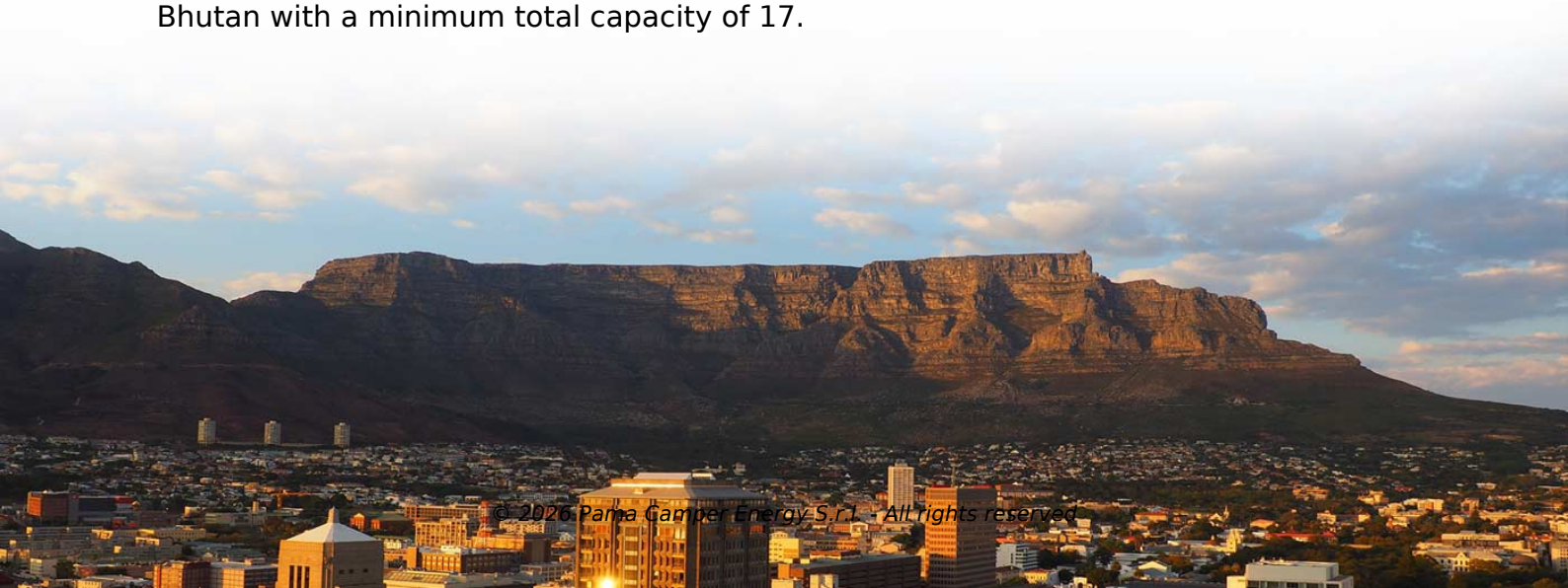
Bhutan Solar Power Generation System

Overview

The project aims to install 45 MW of solar PV and strengthen the regulatory environment to accelerate Bhutan's renewable energy market, fully realising its solar energy plan of 1000 MW as planned by the government in the current five-year plan (2024-2028). The Department of Energy, MoENR announces the commissioning of Phase I (17. 38 MWp) of the Sephu Solar Project in Sephu Gewog, Wangdue Phodrang, marking the launch of the country's first utility scale solar photovoltaic power plant implemented by the Government. The Royal Government of Bhutan (RGoB), through the Ministry of Energy and Natural Resources (MoENR), has partnered with the International Solar Alliance (ISA) to. The Ministry of Energy and Natural Resources, in collaboration with the International Solar Alliance (ISA), today launched the Country Partnership Strategy (CPS) 2025–29 and the National Solar Energy Roadmap (NSER) 2025–40 in Thimphu. 180-kW grid-tied solar photovoltaic (PV) plant. United Nations Capital Development Fund (UNCDF), Bhutan Trust Fund for Environment Conservation (BTFEC), Royal Monetary Authority (Central Bank) To be determined 04/2025 – 06/2026 (DPP, indicative); 03/2027 – 09/2032 (Implementation, indicative) Active Detailed Preparation Phase Call for Projects. The project will finance the construction of one solar photovoltaic (PV) power plant located in central-west Bhutan with a minimum total capacity of 17.



Article Content

Bhutan – Solar Power

The project aims to install 45 MW of solar PV and strengthen the regulatory environment to accelerate Bhutan''s renewable energy market, fully realising its

Bhutan''s Clean Energy Boom and Future Power Outlook

Bhutan is entering a new era of clean energy with major commitments from Adani, Reliance, and Tata to develop large-scale hydro and

Rooftop solar PV in Bhutan: A systemic analysis of feed

This study analyses the prospects of a feed-in-tariff program for solar PV systems in Bhutan. It is based on the analysis of a pilot project covering 361 households in rural areas of Bhutan.

Diversifying energy sources beyond hydropower under

While hydropower remains the backbone of Bhutan''s electricity generation, the policy emphasizes harnessing other renewable energy sources,

Bhutan is tapping into solar energy with its first grid-tied

Electricity in Bhutan is mostly generated from hydropower, a renewable energy source, unlike fossil-fuel driven power plants that are major contributors to

An Overview on the Solar Energy utilization in Bhutan

The only Asian country to have surplus energy generation is Bhutan. Not only energy surplus, but also energy export to India forms an important part of the country''s economy accounting

Rooftop solar PV in Bhutan: A systemic analysis of feed-in-tariff ...

From the field data assessment, it was found that the low existing energy tariff has a cybernetic effect on user acceptability and the financial sustainability of the solar PV feed-in-tariff

Renewable energy in Bhutan

Bhutan''s Department of Renewable Energy helped formulate and launch its Alternative Renewable Energy Policy in order to promote in Bhutan a mix of clean Renewable Energy (RE) technologies—

Launch of Country Partnership Strategy (CPS) and

Complementing the CPS, the NSER sets out a clear pathway to achieve Bhutan''s national solar energy targets. Developed with ISA''s support,

Bhutan launches its first grid-tied solar power plant

The commissioning and inauguration of the 180kW grid-tied ground mounted solar photo-voltaic power plant marks the start of Bhutan''s investment

A Comprehensive Review of Bhutan''s National Energy Policy 2025 ...

Explore Bhutan''s transformative National Energy Policy 2025 (approved June 2025): how it consolidates previous energy frameworks into one cohesive NEP, opens hydropower and solar to

Assessment of solar energy generation potential in Western Bhutan –

In this paper, efforts have been made to assess the future energy potential from the rooftop solar photovoltaic (PV) systems in Thimphu City. For this study, we designed and simulated a

Bhutan is tapping into solar energy with its first grid-tied

The commissioning and inauguration of the 180kW grid-tied Solar Power Plant marks the start of Bhutan''s investment in grid-tied solar energy as a viable

25,000 MW by 2040: Bhutan''s Bold Energy Policy 2025 and

Solar power can generate electricity during sunny winter days when hydropower generation is low, creating a complementary “solar-hydro hybrid” system that provides more

Contributing To Energy Security

Just like plants taking advantage of sun, the solar farm will harness its power and convert it into clean and green energy. Bhutan''s energy demand

Sephu Solar Project -

The Department of Energy, MoENR announces the commissioning of Phase I (17.38 MWp) of the Sephu Solar Project in Sephu Gewog, Wangdue

Energy in Bhutan

Though Bhutan ''s many hydroelectric plants provide energy far in excess of its needs in the summer, dry winters and increased fuel demand makes the kingdom a marginal net importer of energy from India.

Assessment of Solar Energy Generation Potential in Western Bhutan

This study, as such, undertakes a comprehensive assessment of solar energy potential and prospects of solar photovoltaic (PV) systems for both off-grid and grid-connected systems.

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Solar energy offers a cost-effective, rapid, and sustainable complement, ensuring reliable energy supply throughout the year. By combining large-scale infrastructure with decentralized and community

Bhutan : Renewable Energy for Climate Resilience Project

The Sephu Solar Project in Bhutan will be the first utility-scale alternative renewable power plant in the country and the first step to diversify the generation portfolio of Bhutan''s hydropower dominated

Harnessing Bhutan''s solar potential with market-driven solutions

Nearly all of Bhutan''s electricity comes from its glacier-fed hydropower plants. In a first major step towards diversifying its energy mix, the Himalayan Kingdom initiated a 180-kW grid-tied

National Energy Policy 2025 -

The policy targets 25,000MW of installed capacity by 2040 – 20,000 MW of hydropower and 5000 MW solar, to enable Bhutan''s ambition of

Renewable Energy for Climate Resilience Project: Solar Development

However, given the increasing demand for energy in Bhutan on the back of strong demand in the transport and industry sectors, and the increasing threats of climate change a need was felt to

Rooftop PV | Solar Energy Potential | Thimphu Bhutan

Bhutan faces a growing electricity supply-demand gap, making solar energy a viable solution for energy diversification and security. My recent study assessed the

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