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Sudan Solar Lighting Power System



Overview

The United Nations Development Programme (UNDP) and the Government of Japan have announced a \$1 million initiative to install solar-powered infrastructure in Sudan's Blue Nile and White Nile states. Can solar energy be used in Sudan?

Research and projects on solar energy in Sudan have primarily concentrated on solar PV systems, with relatively limited focus on solar thermal energy. Nevertheless, there are some studies that have explored power generation using CSP technologies.

What is the energy supply in Sudan?

The energy supply in Sudan is primarily derived from crude oil, hydroelectricity, biomass, and renewable energy sources such as wind, solar, and geothermal energy. As illustrated in Figure 2a, biomass is the largest contributor, accounting for 52% of Sudan's total energy consumption.

How much solar power will Sudan have by 2035?

Plans are underway to deploy 1200 solar pumps in West and North Kordofan. By 2035, the government also plans to establish 190 MW of solar PV home systems, 400 MW of solar pumping, 250 MW of rooftop PV systems, and 27 MW of PV-diesel hybrid systems. In wind energy, Sudan aims to achieve a total installed capacity of 1550 MW by 2035.

How many solar plants are there in Sudan?

The government has identified six additional sites capable of producing a total of 2197 MW, though no significant new installations have been recently initiated. As part of the Sunbelt region, Sudan possesses substantial solar energy potential. However, the grid-connected capacity remains limited to the 5-MW El Fasher solar PV plant.

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The ASCENT-Sudan project is electrifying 150 off-grid communities with solar power, creating jobs and building climate resilience. [Learn about this model for the future.](#)

Discover how a \$1M UNDP and Japan initiative is bringing solar-powered water stations and lighting to Sudan, supporting over 8,600 people affected by conflict. [Learn more.](#)

This article highlights the potential applications of solar energy and its role in enhancing economic development in Sudan. Empirical data gathered from various focus group ...

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Sudan - Solar (PV) Powered Pumping System (Desert-to-Power Initiative) - IPR July 2025 ,

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