

# South Sudan Photovoltaic Solar Energy Program

Can solar energy help South Sudan?

Dr. Lord is the 2018 recipient of the IEEE Undergraduate Teaching Award. More than 1 billion people in the world currently live in energy poverty. Solar energy has vast potential for South Sudan but there are challenges to implementing it.

What is the solar energy potential of Sudan?

The African Development Bank (AFDB) has another project in the west and north Kordofan states. Sudan possesses a relatively high amount of solar energy, the annual global horizontal irradiation (GHI) varies between 2118-2483 kWh/m<sup>2</sup>/year[7]. Sudan photovoltaic electricity potential is shown in Fig. 1.

Will South Sudan host a new grid-connected solar plant?

The capital of South Sudan is set to host a new 12 MWp grid-connected solar plant. The nation had just 1 MW of grid solar at the end of 2021, according to the International Renewable Energy Agency (IRENA), but that figure could be set to leap thanks to a project under development in Juba by Ugandan company Aptech Africa.

What challenges do photovoltaics face in South Sudan?

Particular challenges for photovoltaics in South Sudan were highlighted. For example, measurements at Standard Test Conditions (STC) can be misleading in such extreme temperature environments. Choosing among different battery chemistries for energy storage must consider the specific environmental conditions.

Will South Sudan build a 12 MWp solar plant in Juba?

Kampala-based developer Aptech Africa says it plans to build a 12 MWp solar plant in Juba. The capital of South Sudan is set to host a new 12 MWp grid-connected solar plant.

Where is Sungate solar based in South Sudan?

In 2013, with seed funding from IEEE and clean energy investors, he founded SunGate Solar, which is headquartered in the South - Western city of Wau and has more than 30 employees with offices across the country, making it the largest solar power company in South Sudan. Mr. Riiny is married and lives with his wife and two sons in Wau.

Kampala-headquartered Aptech Africa has commissioned a 12MWp solar PV plant in Juba for Ezra Construction & Development Group. The commissioning of the plant has quintupled South Sudan's installed solar capacity, which was previous just 3MWp.

in rural and peri-urban areas of South Sudan. Index Terms--IEEE Standards, renewable energy, pvlib python, solar photovoltaic, South Sudan, techno-economic modeling Open License: CC-BY I. INTRODUCTION "We have entered the decade of renewables!" [1]. In 2019, about 80% of the newly installed global electricity

capacity

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The United States Institute of Peace (USIP) has proposed a "green pivot" for South Sudan, where solar energy could help decouple economic growth from the geopolitics of oil and gas.

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A public-private partnership in South Sudan has launched the country's first major solar power plant and Battery Energy Storage System (BESS) in the capital Juba, where ...

Solar PV Systems. South Sudan is endowed with high solar PV potential boasting more than 10 hours of daily sunshine - approximately solar radiation of 5.5 - 6.0 Kwh/m<sup>2</sup> /day year-round. Such abundant sunshine is ubiquitous in the ten ...

Global Photovoltaic Power Potential by Country Specifically for South Sudan, country factsheet has been elaborated, including the information on solar resource and PV power potential country statistics, seasonal electricity ...

Topics included Introduction to energy access in South Sudan, Principles of Electricity and Solar Energy Generation, Building blocks of a solar power system, Architecture of various solar power systems, Solar Company, and Design of Off-Grid PV Systems. Particular challenges for photovoltaics in South Sudan were highlighted.

The overhead costs for solar panel production in Sudan typically range from 20% to 25% of the total production cost. Labor coststhe labor cost in Sudan varies depending on the industry,type of work, education, experience, industry, and location; Sudan"s monthly minimum wage ranges between \$33.20 USD - \$49.80 USD. 15. Utility Cost: 3 16. Industrial Electricity Prices : ...

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