



BUHLE POWER

# **Solar panels power generation in Khartoum Desert**





## Overview

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Will solar power meet Khartoum's electricity demand by 2030?

Ahmed et al. projected that installing 4-kW rooftop PV systems in 420500 homes could meet the city's entire electricity demand by 2030. Taha designed a 25-kW solar-powered farm to meet the annual demand for 66,000 kg of Yellow Potato and 79200 heads of Rocket Arugula for Al-Anfal Supermarket in Khartoum.

Can solar power improve energy harvesting in Khartoum?

Taha designed a 25-kW solar-powered farm to meet the annual demand for 66,000 kg of Yellow Potato and 79200 heads of Rocket Arugula for Al-Anfal Supermarket in Khartoum. Ahmed, Demirci, and Tercan further reported that incorporating solar tracking systems into 22-32 kW PV systems in Khartoum could improve energy harvesting by 50%.

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.

How much energy does Khartoum produce a year?

The capital city, Khartoum, produces approximately 7 million tons of combustible and putrescible (wet organic) waste annually, with the potential to generate 64212 TJ of energy .



## Solar panels power generation in Khartoum Desert



### [Solar PV Analysis of Khartoum, Sudan](#)

Aug 13, 2022 · Ideally tilt fixed solar panels 14° South in Khartoum, Sudan To maximize your solar PV system's energy output in Khartoum, Sudan (Lat/Long 15.5006544, 32.5598994) ...

### [THE POTENTIAL FOR ROOFTOP SOLAR PHOTOVOLTAICS ...](#)

Jun 30, 2022 · ABSTRACT Many sub-Saharan African cities, such as Khartoum - the capital of Sudan, suffer from frequent power outage due to insufficient power capacity. However, the ...



### [Khartoum Solar Power Project](#)

Aug 15, 2025 · Articles and Resources Additional data To access additional data, including an interactive map of global solar farms, a downloadable dataset, and summary data, please visit ...

### [Renewable Energy in Sudan: Current Status and Future ...](#)

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 ...



[Determination of panel generation factor using peaks over ...](#)

Jan 1, 2023 · In this research, the authors used the Peaks over Threshold (POT) method alongside short-term electricity generation data belonging to a 5.5 kW p off-grid photovoltaic ...



[Triple win: solar farms in deserts can boost power, incomes](#)

Feb 20, 2024 · As land degradation becomes more severe (see *Nature* 623, 666; 2023), desert photovoltaics are a triple-win, fostering not only clean-energy generation but also ecosystem ...



[Impact of high temperature on PV productivity in hot desert ...](#)

Dec 8, 2022 · Hot dry climate regions enjoy high solar irradiation, albeit with high ambient temperatures. These two factors have a contradictory effect on the power generated from PV ...



### Impact of high temperature on PV ...

Dec 8, 2022 · Hot dry climate regions enjoy high solar irradiation, albeit with high ambient temperatures. These two factors have a contradictory effect ...

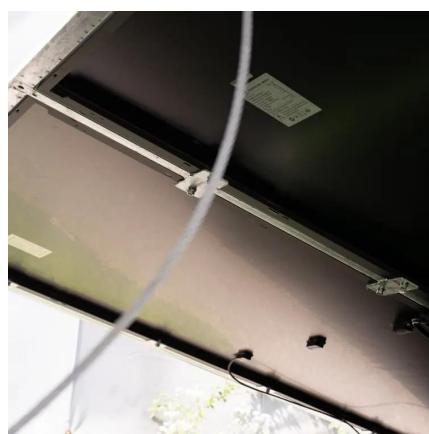


### Photovoltaic panels power generation in Khartoum Desert

The average energy production per day for each kilowatt (kW) of installed solar capacity varies by season: 7.17 kWh/day in summer, 6.84 kWh/day in autumn, 6.45 kWh/day in winter, and an ...

### The potential for rooftop solar photovoltaics to meet future ...

This paper investigates the potential for widespread grid connected residential rooftop solar PV to meet electricity demand increase in Khartoum by 2030. Three different rooftop solar PV sizes ...



### Cost to Build a Solar Factory in Khartoum: 20-50 MW Model

Oct 21, 2025 · Thinking of investing in Sudan's solar market? Get a complete cost breakdown for a 20-50 MW solar module factory in Khartoum, from land to operations.



### Renewable Energy in Sudan: Current Status ...

Research and projects on solar energy in Sudan have primarily concentrated on solar PV systems, with relatively limited focus on solar thermal energy. ...



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