Dakar solar pv

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So far, we have conducted calculations to evaluate the solar photovoltaic (PV) potential in 3 locations across Senegal. This analysis provides insights into each city/location"s potential for harnessing solar energy through PV installations.

Seasonal solar PV output for Latitude: 14.6935, Longitude: -17.448 (Dakar, Senegal), based on our analysis of 8760 hourly intervals of solar and meteorological data (one whole year) retrieved for that set of coordinates/location from NASA POWER (The Prediction of Worldwide Energy Resources) API:

To maximize your solar PV system"s energy output in Dakar, Senegal (Lat/Long 14.6935, -17.448) throughout the year, you should tilt your panels at an angle of 13° South for fixed panel installations.

As the Earth revolves around the Sun each year, the maximum angle of elevation of the Sun varies by +/- 23.45 degrees from its equinox elevation angle for a particular latitude. Finding the exact optimal angle to maximise solar PV production throughout the year can be challenging, but with careful consideration of historical solar energy and meteorological data for a certain location, it can be done precisely.

We use our own calculation, which incorporates NASA solar and meteorological data for the exact Lat/Long coordinates, to determine the ideal tilt angle of a solar panel that will yield maximum annual solar output. We calculate the optimal angle for each day of the year, taking into account its contribution to the yearly total PV potential at that specific location.

If you can adjust the tilt angle of your solar PV panels, please refer to the seasonal tilt angles below for optimal solar energy production in Dakar, Senegal. As mentioned earlier, for fixed-panel solar PV installations, it is optimal to maintain a 13° South tilt angle throughout the year.

Our recommendations take into account more than just latitude and Earth"s position in its elliptical orbit around the Sun. We also incorporate historical solar and meteorological data from NASA"s Prediction of Worldwide Energy Resources (POWER) API to assign a weight to each ideal angle for each day based on its historical contribution to overall solar PV potential during a specific season.

This approach allows us to provide much more accurate recommendations than relying solely on latitude, as it considers unique weather conditions in different locations sharing the same latitude worldwide.

The topography around Dakar, Senegal is generally flat with some rolling hills. The nearby areas that would be most suited to large scale solar PV are the coastal plains and the open savannahs. These areas offer plenty of space for large-scale installations and have good access to direct sunlight throughout the year.

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Senegal ranks 69th in the world for cumulative solar PV capacity, with 238 total MW"s of solar PV installed. Each year Senegal is generating 14 Watts from solar PV per capita (Senegal ranks 69th in the world for solar PV Watts generated per capita). [source]

Yes, there are incentives for businesses wanting to install solar energy in Senegal. The government of Senegal has implemented a number of policies and programs to promote the use of renewable energy sources, including solar energy. These include tax exemptions on imported equipment used for renewable energy projects, subsidies for the installation of solar systems, and access to low-interest loans from international development banks. Additionally, the government has established a Renewable Energy Fund that provides grants and other financial support for renewable energy projects.

Do you have more up to date information than this on incentives towards solar PV projects in Senegal? Please reach out to us and help us keep this information current. Thanks!

Contact us for free full report

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