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Senegal Solar Report

Prepared by J.v.G. Technology GmbH
J.v.G. Technology GmbH is a German engineering company specializing in turnkey solar module production lines and manufacturing consulting, with project experience ranging from 20 MW to 500 MW per production line, including multi-line and gigafactory projects exceeding this scale.

This Solar Report is part of the **PVKnowHow** Knowledge Network.
The data, analysis, and conclusions in this document are based on real research, consulting insights, and international solar market data.

Gain comprehensive insights into the statistics and metrics surrounding the solar production industry in Senegal

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

Yearly sunshine hours vary by region.

- The average is about 1600-3000 hours per year.
- Areas with high sunshine include deserts.

kWh per kWp installed

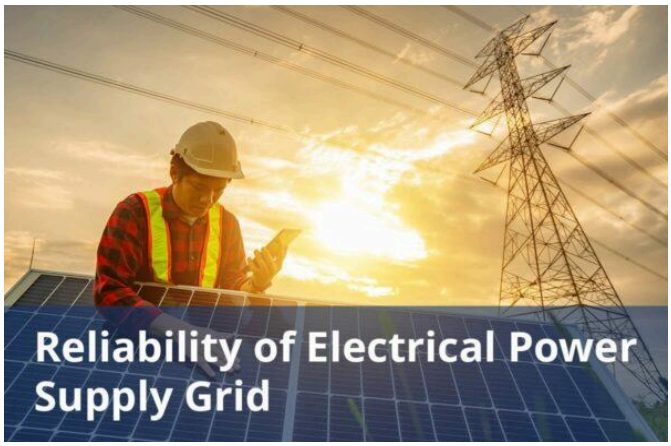
The amount of kWh produced per kWp installed depends on the location and technology used.

- Average values range from 1000 to 1700 kWh/kWp.

Average cost per kWh from utility company

Electricity prices vary widely.

- Average residential costs are around $0.13/kWh.
- Industrial rates can differ significantly.



Reliability of electrical power supply grid

Solar energy systems are generally very reliable.

- Most systems have a 25-year warranty on panels.

DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

As of recent data, total solar capacity installed is approximately 1 million MW.

- This includes both residential and commercial installations.

Total solar panel production capacity (projected)

Future projections suggest solar capacity could reach 2 million MW by 2030.

- Growth is influenced by policy and technology advancements.

Average costs of various electricity generation sources (coal, natural gas, solar, etc)

The average cost of solar panels has decreased significantly in the last decade.

- Typical costs range from $2.50 to $3.50 per watt.

Percentages of various electricity generation sources (coal, natural gas, solar, etc)

Solar energy contributes to a growing percentage of total electricity production.

- Currently, it makes up around 3-5% of total energy.

Average daily availability of electricity from the national grid (measured in hours)

Daily availability of solar energy is highest during summer months.

- Peak production usually occurs from 10 AM to 4 PM.

Number of residential solar panel installations

There are an estimated 2 million residential solar panel installations in the country.

- This number continues to grow annually.

Total number of solar farms (installed and projected)

The number of solar farms has increased significantly.

- There are now over 1000 large-scale solar farms operational.

Off-grid market demand for solar panels (current and projected)

Current off-grid solar capacity is about 30 MW,
with projections to reach 70 MW by 2030.

On-grid market demand for solar panels (current and projected)

Current on-grid solar capacity is around 200 MW,
projected to exceed 400 MW by 2030.

Average monthly income of workers in solar industry (labor cost)

The average salary of workers in the solar industry is described below.
- Electrical Engineer: $180 USD
- Electrician: $165 USD
- Design Engineering Manager: $240 USD
- Solar Energy System Installer: $143 USD
- Solar Energy / Solar Power Engineer: $173 USD
- Solar Installation Electrician: $380 USD

Population of the country

The population of Senegal is approximately 18032473 as of 2023.

Average overhead costs of solar panel production (with a brief breakdown)

Determining the average overhead cost of solar panel production in Senegal involves several factors.
- Raw Material Costs: The costs of essential materials like silicon, aluminum, and copper can significantly impact production expenses.
- Labor Costs: Labor expenses in Senegal are relatively lower compared to developed countries.
- Utilities and Energy Costs: The cost of electricity is a crucial component due to the high energy consumption involved in producing solar panels.
- Electricity Rate: As per SENELEC's current rate, the price of electricity for households in Senegal is 0.2223 USD/kWh.
- Water Charges: There is no single source that provides a definitive monthly water charge for industrial users in Senegal.
- Administrative and Facility Costs: These include expenses for facility maintenance, rent, equipment repairs, and administrative salaries.

A summary of the energy infrastructure

Overall Capacity: As of the end of 2023, Senegal's total installed electricity production capacity stood at 1616.41 MW.
- Renewable Energy: The clean energy mix comprised 459.7 MW, mainly from hydroelectricity, solar, and wind sources.
- Electricity Production Growth: There was an increase in electricity production from 4814.54 GWh in 2020 to 5167.47 GWh in 2021.
- Gas-to-Power Transition: With the gas-to-power strategy adopted in 2018, Senegal is preparing to utilize local gas from the GTA and Yakaar-Teranga projects, expected to start in 2024-2025.

Some of the government regulations surrounding solar panel production

Senegal has the following regulations surrounding solar panel production:
- Renewable Energy Law (2016): This law sets the framework for the development of renewable energy in Senegal and provides incentives for investors.
- Net Metering Regulations: Senegal's net metering regulations allow households and businesses to generate their own electricity and export excess to the grid.
- Grid Connection Regulations: The country's grid connection regulations ensure that renewable energy projects are connected to the grid.

Government initiatives in solar panel production (includes investments and subsidies)

Following are the regulations surrounding solar panel generation:
- Senegal Renewable Energy Fund (SREF): The Senegal Renewable Energy Fund (SREF) is a key component of Senegal's strategy to

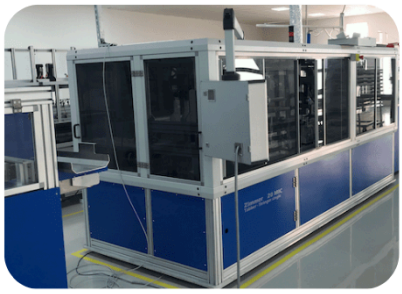
increase the share of renewable energy in its electricity mix to 40% by 2030.
- Duty and VAT Exemptions: Certain solar products are exempt from duty and VAT, making it easier for companies to invest in the sector.
- Feed-in Tariff (FIT) Scheme: Senegal's FIT scheme provides a fixed price for electricity generated from renewable sources.

Notable solar projects in the country (installed and projected)

Notable Solar Projects in Senegal are:
- Senergy 2 SARL: Installed Capacity: 20 MW, Location: Bokhol (Saint Louis)
- Solaria Kima Group: Installed Capacity: 22 MW, Location: Malicounda (Thiès)
- Senergy PV SA: Installed Capacity: 30 MW, Location: Santhiou Mekhe (Thiès)
- Ten Merina: Installed Capacity: 29 MW, Location: Merina Dakhar

Some of the notable solar companies (plus brief details on what they do)

Here’s a brief overview of the solar energy companies operating in Senegal:
- Bernasol: A solar system installer in Senegal, providing solutions with battery storage and installations exceeding 1MWp.
- Bonergie: Since 2010, Bonergie has been offering solar products for productive use, with a focus on income generation and battery storage options.
- Enco: A multinational firm headquartered in Dakar, Enco specializes in environmentally friendly energy solutions.



ABOUT THIS REPORT

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All market data, analysis, and conclusions follow JvG's internal consulting standards and international PV market research practices.

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For a detailed list of references and additional information, please visit our website with the current report at:
https://www.pvknowhow.com/solar-report/senegal/

About J.v.G. Technology GmbH

J.v.G. Technology GmbH is a European engineering and advisory specialist for solar production lines and manufacturing equipment, supporting investors and operators with market, location and production-focused decision frameworks.
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