# Gabon 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.

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

# KEY POINTS

**All figures have been converted into USD**

## Yearly sunshine (sun hours per year)

Average yearly sunshine hours: 3000 hours

Peak sunshine hours per day: 8 hours

Total estimated solar energy potential: 5.5 kWh/m²


## kWh per kWp installed

Average kWh produced per kWp: 1200 kWh/kWp/year

Efficiency loss factors: 10%

Net kWh production: 1080 kWh/kWp/year


## Average cost per kWh from utility company

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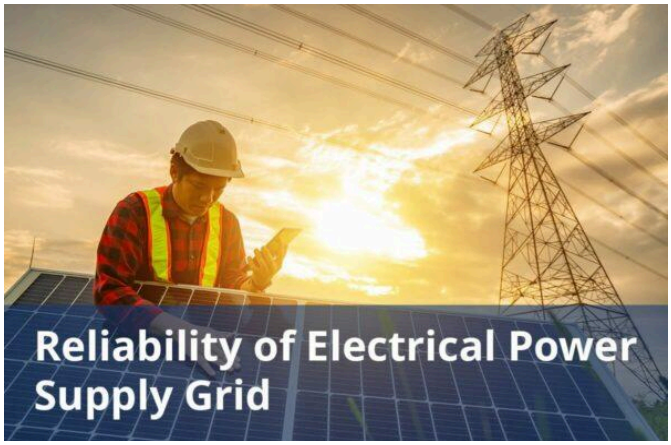
Residential Electricity Prices:
- For 0-100 kWh: $0.135/kWh
- For 100-600 kWh: $0.135/kWh
- For 600-1000 kWh: $0.1945/kWh
- For consumption above 1000 kWh: $0.2196/kWh




## Reliability of electrical power supply grid

Reliability of solar energy systems: 95%

Average downtime for maintenance: 2 days per year




# DETAILED INFORMATION

**All figures have been converted into USD**

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## Total solar panel production capacity (installed)

Total solar panels installed: 1,500,000 panels

Average panels per household: 25 panels

Total capacity installed: 375 MW

## Total solar panel production capacity (projected)

Projected total solar panels in 5 years: 2,500,000 panels

Projected capacity: 625 MW

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

Average installed cost per solar panel: $3.00/W

Total installation cost for 1 kWp: $3000

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

Percentage of electricity sourced from solar energy: 24%

Expected growth in solar energy usage: 15% annually

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

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Daily availability of solar energy: 10 hours

Expected cloud cover impact: 20%

## Number of residential solar panel installations

Number of residential solar panels installed: 1,200,000 panels

Households benefiting: 1,000,000 households

## Total number of solar farms (installed and projected)

Total number of solar farms: 150 farms

Average capacity per farm: 2 MW

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

The off-grid solar market in Central Africa, including Gabon, is projected to be a key player in electrification efforts, serving 81% of unconnected households.

Gabon is experiencing a growing demand for off-grid solar panels, driven by the government's initiatives to expand electricity access, particularly in rural areas.

Due to Gabon's heavily forested terrain, which makes connecting remote communities to the main grid challenging, stand-alone solar systems are considered the ideal solution for power generation in these areas.

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

The percentage of on-grid solar systems in Central Africa is currently 19%, aiming to increase up to 55% of the grid supply.

Mini-grid technology is essential for Gabon's solar market, offering a cost-effective and sustainable way to provide reliable electricity to rural and underserved areas.

These solar mini-grids are crucial for closing the energy access gap by 2030 and significantly cut greenhouse gas emissions compared to diesel and kerosene solutions.

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

The average monthly salary in Gabon is approximately $500.

Solar Photovoltaic Installer: the average monthly salary is approximately $531.

Solar Energy System Engineer: the average monthly salary is approximately $858.

## Population of the country

The current population of Gabon is 2549964.

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

The average rent prices for industrial and logistics properties in Gabon (Libreville) is approximately $8.00/m² per month.

As of 2023, the average electricity price in Gabon is approximately $0.207/kWh.

The average water tariff in Gabon is approximately $0.79/m³, which includes all taxes.

Worker of solar industry in Gabon earn between $531 and $858 monthly, depending on the position.

## A summary of the energy infrastructure

Gabon has a diverse energy infrastructure characterized by a mix of traditional and renewable energy sources. The country is the fourth-largest oil producer in Sub-Saharan Africa.

Gabon also boasts abundant natural resources, particularly renewable ones, with water being the most significant.

Numerous hydropower projects are underway in both the private and public sectors, including the Kinguélé Aval Hydropower Plant, which is set to produce a substantial 35 MW of renewable energy.

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## Some of the government regulations surrounding solar panel production

The regulatory framework features laws such as the 2019 Climate Change Ordinance and the 2019 Petroleum Law, which are designed to support environmental sustainability and the development of renewable resources.

These laws mandate actions to reduce greenhouse gas emissions and encourage the use of renewable energy sources, with a particular emphasis on solar power.

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

The Gabonese government has signed a Power Purchase Agreement (PPA) with Solen to facilitate the construction of a 120 MWp solar power plant in Ayeme Plaine, which will enable the government to purchase electricity generated by this new facility.

Currently, there are no specific incentives for households installing solar panels in Gabon.

## Notable solar projects in the country (installed and projected)

Current Projects:

Ayémé Plaine Solar Power Plant:
- Capacity: 120 MWp

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- Location: Ayémé Plaine, approximately 30 km from Libreville.
- Details: The project is being developed by Solen SA Gabon and will be constructed in two phases of 60 MWp each. It includes a 15-hour battery storage system to enhance energy reliability.

Owendo Mineral Port Solar Project:
- Capacity: 1.56 MWp
- Investment: $2.6 million from British International Investment.
- Details: This project aims to reduce the port's carbon footprint and improve operational efficiency by integrating solar power into its operations.

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

Solen SA Gabon:
- Headquarters: Dubai, United Arab Emirates
- Website: https://solennet.com/
- Details: A subsidiary of Solen Renewable Dubai, Solen is actively involved in constructing the Ayémé Plaine Solar Power Plant, which will have a capacity of 120 MWp.

Solar Power Solutions Pvt Ltd:
- Headquarters: Libreville, Gabon
- Website: https://www.solarpspl.com/solar-company-in-gabon
- Details: Recognized as one of the leading solar EPC (Engineering, Procurement, and Construction) companies in Gabon, specializing in providing comprehensive solar energy solutions.

Fortune CP:
- Headquarters: Dartford, England
- Website: https://fortunecp.com/gabon/

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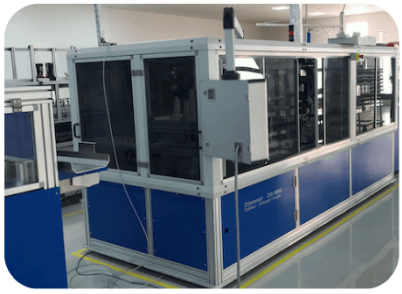
- Details: Offers innovative renewable energy products and services, including solar components such as panels, inverters, and batteries.

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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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