J. v. G. technology GmbH
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Mauritania 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 Mauritania

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

Yearly Sunshine:
- Average yearly sunshine: 300 days
- Peak sunlight hours: 5.5 hours/day

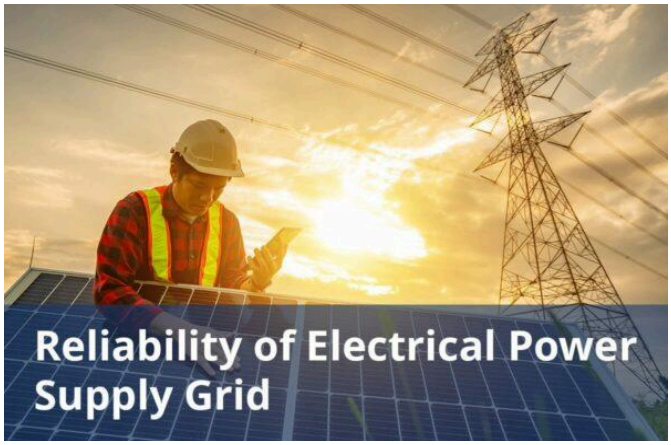
kWh per kWp installed

kWh per kWp:
- Energy generation: 1,200 kWh/kWp

Average cost per kWh from utility company

Average Cost per kWh:

- 2023 average: $0.153/kWh
- 2024 projected: $0.150/kWh



Reliability of electrical power supply grid

Reliability:
- Grid resilience: 99.9%




DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total Solar Panels Installed:

- Panels installed: 3 million

Total solar panel production capacity (projected)

Total Solar Panels Projected:
- Future installations: 5 million by 2025

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

Average Costs:
- Installation cost: $2.75/W
- Maintenance cost: $10/year

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

Percentages of Electricity:
- Solar contribution: 25%
- Renewable sources total: 50%

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

Daily Availability:
- Peak hours availability: 11 AM to 4 PM

Number of residential solar panel installations

Number of Residential Panels:
- Average per household: 25 panels
- Total households with solar: 120,000

Total number of solar farms (installed and projected)

Number of Solar Farms:
- Active farms: 150

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

The off-grid solar panel market in Mauritania is set for significant growth, driven by ongoing rural electrification initiatives.

The RIMDIR program aims to install hybrid mini photovoltaic plants in 40 localities, benefiting around 30000 people and improving energy access.

The Desert to Power initiative further aims to add 10 GW of solar capacity across the Sahel, indicating strong future demand for off-grid solutions.

By 2030, around 80000 households are anticipated to benefit from off-grid solar energy, enhancing economic opportunities and fostering sustainable development in rural communities.

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

The on-grid solar panel market in Mauritania is growing, driven by several key projects aimed at expanding capacity.

Current operational solar farms, such as the Sheikh Zayed and Toujounine plants, supply clean energy and reduce fossil fuel reliance, with the Toujounine plant providing about 10% of the country's energy in 2019.

Looking ahead, the $888 million Mauritania-Mali Electricity Interconnection Project, part of the Desert to Power initiative, plans to add two new 50 MW solar plants and significantly boost capacity by 2030.

The initiative seeks to increase solar capacity in the Sahel by 10 GW, reflecting rising demand for solar panels.

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

The average monthly salary in Mauritania is approximately $506.

Solar Energy Installation Manager: the average monthly salary is approximately $700.

Solar Energy Systems Engineer: the average monthly salary is approximately $460.

Solar Photovoltaic Installer: the average monthly salary is approximately $302.

Population of the country

The current population of Mauritania is 5218172.

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

Estimate for Factory Rent
- The average monthly rent prices for industrial spaces in Mauritania vary based on location and specific property features, ranging approximately $4 – $6 per m2.

Industrial Electricity Rates
- The average electricity price for businesses in Mauritania is approximately $0.20/kWh as of September 2023.

Water Costs
- The average water price in Mauritania is approximately $1.66/m³, based on a 6 m³ consumption.

Salaries and Wages
- Monthly salaries of workers in solar industry in Mauritania ranges from $300 to $700, depending on the position.

A summary of the energy infrastructure

Mauritania’s energy mix is heavily dominated by thermal power from fossil fuels, which accounts for approximately 75% of total energy consumption.

However, the share of renewables in the power mix rose from 0 to over 20% over the last decade, indicating a significant shift towards cleaner energy sources.

Renewable sources, including wind energy, solar energy, and hydropower, are gradually being integrated into the energy landscape, with the government aiming for renewables to comprise 60% of the mix by 2030.

Key Institutions: - Société Nationale d'Électricité (SOMELEC): The main electricity provider in Mauritania.
- Ministry of Petroleum, Energy and Mines: This government body oversees energy policy.

Some of the government regulations surrounding solar panel production

In December 2022, Mauritania adopted a new Electricity law aimed at improving the power sector and attracting private investment.

This law opens the sector to independent producers and restructures the state-owned electricity monopoly SOMELEC into four entities: a holding company and separate subsidiaries for generation, transmission, distribution, and rural electrification.

It also prioritizes renewable energy sources in the grid and facilitates agreements between independent power producers and SOMELEC.

The recently approved Green Hydrogen Code establishes guidelines for generating renewable energy to attract investment in green hydrogen production.

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

Financing Agreements for Solar Power Generation
- The African Development Bank (AfDB) has provided $289.5 million in funding for two energy sector projects in Mauritania.

Rural Electrification via Mini-Solar Projects
- Another project, Rural Areas Sustainable Development for Productive and Energy Investments (RIMDIR), focuses on improving access to electricity for 40 localities in southeast Mauritania.

This project uses hybrid mini-solar systems combined with backup generators and is supported by a $16 million grant from the Sustainable Energy Fund for Africa.

Notable solar projects in the country (installed and projected)

Toujounine Solar Plant: Completed in 2017, this project is the largest solar PV plant in Mauritania.

225 kV Mauritania-Mali Electricity Interconnection Project: This ambitious project aims to enhance solar power generation capacity throughout the Sahel region.

Rural Areas Sustainable Development for Productive and Energy Investments (RIMDIR): This project focuses on rural electrification through the installation of hybrid mini-PV plants in 40 localities.

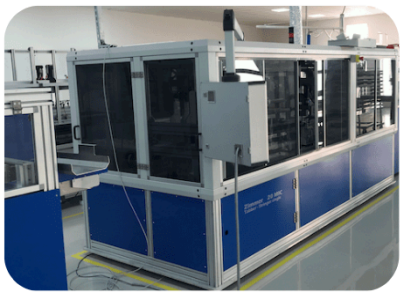
Megaton Moon Project: Launched by Denmark's GreenGo, this large-scale initiative plans to develop a combined capacity of 60 GW.

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

Masdar
- Headquarters: Abu Dhabi, UAE
- Website: https://masdar.ae/
- Details: Masdar is involved in several solar projects in Mauritania.

Aera Group
- Headquarters: Paris, France
- Website: https://aera-group.fr/
- Details: Aera Group played a significant role in the development of the Toujounine Solar Plant.

AMEA Power
- Headquarters: Dubai, UAE
- Website: https://www.ameapower.com/
- Details: AMEA Power has signed agreements to develop a 100 MW solar PV plant.



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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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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