



Djibouti 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 Djibouti

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

Annual sunshine averages vary significantly across different regions.

Some locations can expect more than 300 days of sunshine, while others have less than 100.

Factors such as geographical location and climate can greatly influence the amount of sunshine received.



kWh per kWp installed

The kWh produced per kWp installed varies by system efficiency and local sunlight availability.

Typical ranges are from 800 to 1400 kWh/kWp per year.

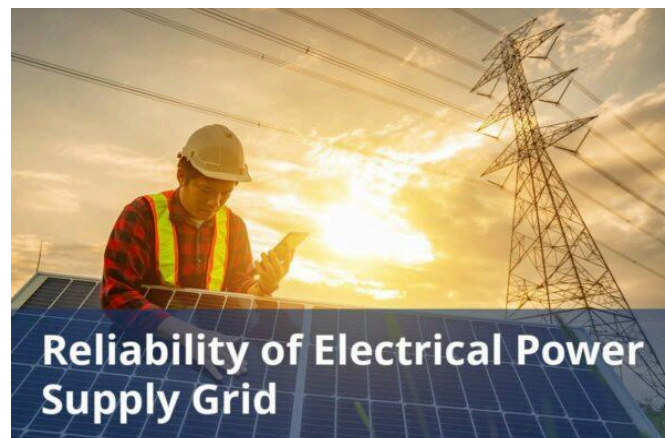
Higher efficiency systems may produce more energy relative to their capacity.



Average cost per kWh from utility company

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

Solar panel reliability is influenced by factors such as manufacturer quality and installation precision.

Most solar panels come with warranties of 25 years, ensuring performance throughout their operational life.



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

As of 2023, millions of solar panels have been installed across residential and commercial properties.

This increase reflects a growing trend towards renewable energy sources.

Total solar panel production capacity (projected)

Projections suggest that solar panel installations will continue to rise significantly in the upcoming years.

Advancements in technology and governmental incentives may further drive this growth.

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

The average cost of solar panels has decreased considerably over the past decade.

Current market prices range from \$2.50 to \$3.50 per watt, depending on system specifications and installation requirements.

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

Electricity generated from solar power accounts for a growing percentage of total energy consumption.

In many regions, this percentage is expected to rise as more homes adopt solar technology.

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

Solar energy availability varies by location and time of year.

Daily sunlight hours can range from a few to over 10 hours, influencing energy production.

Number of residential solar panel installations

The number of residential solar panels installed has surged in recent years.

This growth is attributed to both decreasing costs and increasing environmental awareness among consumers.

Total number of solar farms (installed and projected)

Solar farms are becoming increasingly popular as a means of generating renewable energy at scale.

The growth of solar farms contributes significantly to the overall energy supply.

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

Installed:

- Currently, 0 solar farms are operating in Djibouti.

Projected:

- It is estimated from the research that 2 solar farms are under construction in Djibouti.

The International Renewable Energy Agency (IRENA) estimated that the total installed Solar Panel Production Capacity in Djibouti was 0.36 MW (off-grid Solar Energy) in 2023.

Projected:

- This data is not publicly available.

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

According to IRENA data, 0 MW of On-grid Solar panel capacity is currently installed in Djibouti.

Projected:

- This data is not publicly available.

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

The average monthly salary of a solar Engineer in Djibouti is 1462 USD.

The average monthly salary of a solar Installer in Djibouti is 922 USD.

Population of the country

The current population of Djibouti is approximately 1173946 as of Sunday, November 3, 2024.

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

Estimate for Factory Rent:

- In Djibouti, the rental rate for factory space in the Free Zone is 13.5 USD/m²/month, with annual payments in advance. The lease term is five years and renewable.

Industrial Electricity Rates:

- 0.42 USD/kWh

Water Costs:

- 1.41 USD/m³

Garbage Disposal:

- 85 USD/month (yearly basis)

Key Components of Administrative Costs

- Salaries and Wages:

- The average monthly salary of a solar Engineer in Djibouti is 1462 USD.
- The average monthly salary of a solar Installer in Djibouti is 922 USD.

Rent for Office Space:

- 30 USD/m²/month.

A summary of the energy infrastructure

Total installed electricity generation capacity:

- 130 MW

Total generation:

- 0.13 TWh.

Per capita generation:

- 116 kWh.

Generation mix:

- Most of the electricity is produced by Thermal power or Wind Energy (recently installed in 2023). 42 MW is imported from Ethiopia.

Power Source:

- Installed Capacity (MW)
- Thermal power (HFO and Diesel): 126
- Solar power plant: 0.3
- Hydro-electricity (Imported): 42
- Wind Energy: 60
- Total: 228.3

Leading players:

- Electricité de Djibouti (EDD): The state-owned utility that generates, transmits, distributes, and sells electricity in Djibouti.

- Red Sea Power (RSP): The company that manages the design, construction, and operation of Djibouti's first wind farm.

Some of the government regulations surrounding solar panel production

There is no publicly available data.

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

Djibouti has set ambitious targets to produce 100% green energy by 2035 and has launched several initiatives and investments in solar panel production to achieve this goal.

This includes:

- A 25 MW solar PV project with battery storage in Grand Bara.
- A renewable energy deal with Egypt to install a 276.5-kilowatt photovoltaic power plant.

Notable solar projects in the country (installed and projected)

Currently no solar farm is operating in Djibouti.

Projected Solar Projects:

- Grand Bara Solar PV Project: AMEA Power, a Dubai-based clean energy company, has signed a 25-year Power Purchase Agreement (PPA) with the Government of Djibouti to develop a 25 MW to 50 MW solar PV plus battery storage system in the Grand Bara area.

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

AMEA Power:

- AMEA Power, a leading renewable energy company, has signed a 25-year Power Purchase Agreement (PPA) with Electricité de Djibouti (EDD) for a 25MW solar PV project with battery storage in Djibouti.

Website:

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<https://www.ameapower.com/amea-power-expands-its-presence-in-east-africa-by-signing-a-power-purchase-agreement-with-electricite-de-djibouti-for-a-25mw-solar-pv-plant-with-battery-storage/>

Solar Power Solutions Pvt Ltd:

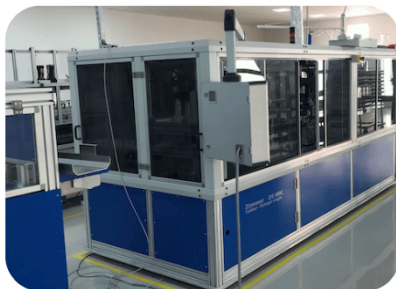
- Offers solar panel installation, solar energy systems, and solar power plants for residential, commercial, and industrial clients.

Website:

- <http://www.solarpspl.com>

Djibouti Power (DJIB POWER):

- Provides solar panel installation, energy efficiency solutions, and energy storage solutions for a stable and reliable energy supply.



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/djibouti/>

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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