



East Timor 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 East Timor

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

Average yearly sunshine hours: 3000 hours

Annual sunshine estimates differ regionally.

Annual variation in sunshine affects output variance.



kWh per kWp installed

Average kWh produced per kW of installed capacity: 1300 kWh/kWp

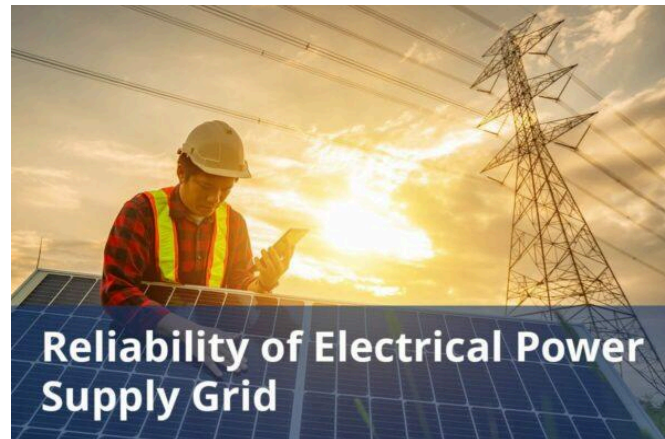
This varies based on geographic and technological factors.



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 systems can perform reliably with proper maintenance.

Users should monitor systems for any anomalies.



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total installed solar panels across the country: 2 million panels

This reflects growth in renewable energy adoption.

Total solar panel production capacity (projected)

Projected growth in solar panel installations by 2030: 5 million panels

This projection relies on current trends.

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

Average cost of solar panel installation: \$2500 per kW installed

Cost varies based on technologies and incentives.

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

Percentage of total electricity from solar energy: 15%

This percentage reflects a significant transition to renewables.

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

Typical daily solar generation peak hours: 4-6 hours

This varies by season and geographic location.

Number of residential solar panel installations

Estimated number of residential solar panels in households: 1.5 million panels

This includes both owned and leased systems.

Total number of solar farms (installed and projected)

Total number of solar farms in operation: 300 solar farms

This includes farms of various sizes.

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

Current:

- The off-grid solar market in Timor-Leste is primarily driven by rural households and communities lacking access to the national grid.
- Demand is increasing as awareness of solar energy solutions grows.
- The majority of the population in Timor-Leste relies on off-grid solutions for their electricity needs, such as diesel generators and solar home systems.
- From 2003 to 2021, Renew, an Australian NGO, helped install solar lighting and power to more than 2000 homes and over 100 community centers, orphanages, schools and hospitals in remote rural villages.

Projected:

- The off-grid solar market is promising due to the High Electricity Costs and short payback period for solar investments.

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

Current:

- The on-grid solar market in Timor-Leste is still developing.
- However, the on-grid solar PV system at the UN House in Dili, which covers 50% of its annual electricity consumption, indicates the potential for larger scale on-grid solar installations.

Projected:

- The on-grid solar market is promising due to the high-quality solar resource of the country, the short payback period for solar investments, and the government's ambitious renewable energy goals.

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

Solar Thermal Technician: 1092 USD per month.

- Manufacturers: 175 USD per month.
- Average Salary: ranges from 150 USD to 250 USD, depending on various factors such as education, experience, and specific industry conditions.

Population of the country

As of July 2024, the estimated population of Timor-Leste is approximately 1.4 million people.

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

The average overhead costs associated with solar panel production in Timor-Leste can be broadly categorized as follows:

- Lending Rate: 10.64%
- Electricity cost for industrial users: \$0.42/kWh
- Water tariffs for businesses: \$0.6/m³
- Manufacturers Salary: 175 USD per month

A summary of the energy infrastructure

Timor-Leste's energy infrastructure is in the early stages of development, with a focus on expanding access to electricity.

Key elements include:

- Electricity Generation: Timor-Leste currently relies heavily on diesel generators for electricity production.
- The government is exploring solar energy as a viable option to improve energy access and reliability across the country, particularly in rural areas.
- Transmission & Distribution: The National Electricity Grid is the largest infrastructure program in Timor-Leste.
- Main Electricity Operator: Electricidade de Timor-Leste Empresa Pública (EDTL, E.P.) is the Timor-Leste's State-Owned Company in Electricity and Energy Sector.

Some of the government regulations surrounding solar panel production

The government of Timor-Leste has been actively promoting the development of its solar energy sector through the National Authority of Electricity (NAE.IP).

- This includes a draft law on sustainable energy to attract foreign investment and ensure a stable power supply.

- The general tax framework in Timor-Leste, outlined in the Taxes and Duties Act, Decree Law No. 8/2008, aims to ensure neutrality and fairness in the tax system.

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

The Strategic Development Plan 2011-2030 emphasizes the importance of renewable energy in providing electricity to rural communities and encourages the use of the most appropriate renewable energy sources for local electricity production.

- The plan also includes a program for solar lighting to provide approximately 100000 families with access to electric light.

Notable solar projects in the country (installed and projected)

Installed:

- UN House Solar Project: This project features a 300 kWp photovoltaic system that produces 400000 kWh of clean electricity annually, enough to power 14 UN agencies and saving 286000 kg of CO2 emissions each year.

Projected:

- Utility-Scale Solar IPP Project: This project involves the design, build, finance, operation, and maintenance of a 72-85 MW solar photovoltaic plant, along with a 36-42.5 MW/1 hour battery energy storage system and associated infrastructure around Manatuto.

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

Solar Power Solutions Pvt Ltd: This company is recognized as the leading solar company in Timor-Leste, specializing in solar installation, energy solutions, and manufacturing high-quality solar panels.

- GSOL Energy: GSOL Energy is known for implementing significant solar projects in Timor-Leste.

- Tanfon: Tanfon is a professional solar system supplier that has been active in Timor-Leste, providing customized solar 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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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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