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Philippines 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 Philippines

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

Average yearly sunshine: 300 days

This means a lot of opportunities for solar energy generation.

Solar panels can generate electricity efficiently during these sunny days.

Potential for energy savings is significant.

The amount of sunshine can vary by region.

kWh per kWp installed

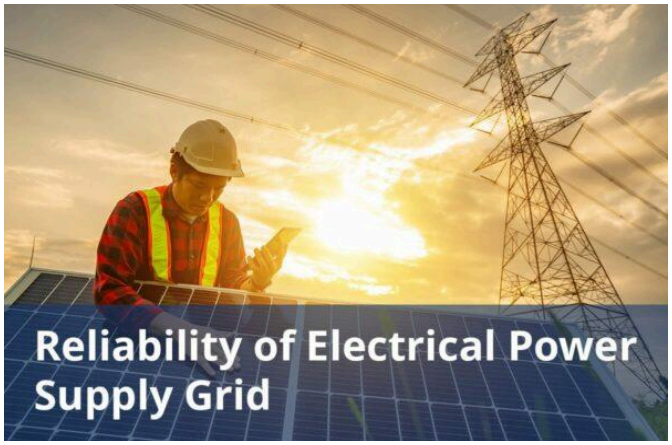
Conversion efficiency: 1250 kWh/KWp

For each installed kilowatt-peak (KWp), we can expect this generation.

This ratio helps determine the size of solar panel systems needed for specific energy needs.

Average cost per kWh from utility company

Electricity pricing model:
- For residential users, the average cost: $0.120/kWh
- Commercial users typically pay more: $0.150/kWh
- Industrial rates can vary: $0.100/kWh



Reliability of electrical power supply grid

Reliability of solar energy:
- Systems can operate efficiently for over 25 years.
- Regular maintenance is necessary to ensure peak performance.
- Monitoring technology helps in tracking system efficiency.




DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total solar panels installed: 1,000,000 panels

This indicates a growing reliance on renewable energy sources.

Solar installations are increasing annually.

Total solar panel production capacity (projected)

Projected solar panel installations by 2030: 2,500,000 panels

The growth rate is estimated at 10% annually.

Investment in solar technology will continue to increase.

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

Average cost of solar panel installation:
- $3.00 per watt installed.
- This includes equipment and labor costs but can vary by location.

- Incentives may reduce out-of-pocket expenses.

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

Percentage of electricity from solar:
- Currently, 10% of total electricity is generated from solar power.
- This is expected to grow to 25% by 2030.

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

Daily availability of solar power:
- Peak production hours: 5-7 hours per day.
- This can vary by location and weather conditions.

Number of residential solar panel installations

Residential solar panels installed: 500,000

This shows a significant adoption rate among homeowners.

Many are looking to reduce energy bills and increase sustainability.

Total number of solar farms (installed and projected)

Number of solar farms: 150 operational farms

These large installations contribute significantly to local energy production.

They allow for more efficient energy generation compared to residential setups.

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

Off-grid market demand for solar panels (current and projected):
There are approximately 8 operational microgrids in remote areas of the Philippines. These microgrids are part of ongoing efforts to electrify unserved and underserved communities, particularly in regions like Cebu, Quezon, and Palawan. The government aims to address the needs of nearly 4 million households that are either unserved or underserved. More than 15000 households in remote areas of the Philippines are expected to benefit from the government's first competitive bidding for microgrid systems. This initiative is part of the National Total Electrification Roadmap (NTER), which aims to ensure 100% electrification by 2028. The initial auction will cover 98 unserved and underserved areas, targeting communities that currently lack reliable electricity access.

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

On-grid market demand for solar panels (current and projected):
As of November 2024, there are nearly 15000 participants in the net metering system in the Philippines, collectively generating over 134000 kWp of solar power. The on-grid solar panel market in the Philippines is projected to grow at a compound annual growth rate (CAGR) of 17.9% from 2025 to 2034. The residential sector is anticipated to grow at a CAGR of 19.8% during the same period, driven by rising energy costs and increased adoption of renewable energy solutions.

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

Average monthly income of workers in solar industry (labor cost):
The average monthly salary in Philippines is approximately $759.15.
- Solar Photovoltaic Installer: the average monthly salary is approximately $523.
- Electrical Engineer: the average monthly salary is approximately $1190 - $1360.
- Sales and marketing manager for solar energy: the average monthly salary is approximately $1105 - $1276.

Population of the country

Population of the country:
The current population of Philippines is 116404190.

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

Average overhead costs of solar panel production (with a brief breakdown):
Estimate for Factory Rent:
The average rent for industrial spaces and warehouses in Philippines ranges between $1.10 to $11.70 per square meter, depending on the location and condition of the property.
Industrial Electricity Rates:
As of January 2025, business consumers in the Philippines can expect slight fluctuations in their electricity rates due to recent regulatory changes and market conditions, with current rates hovering around $0.19/kWh.
Water Costs:

Urban water supply tariffs in the Philippines are set to increase starting January 2025, affecting both Manila Water and Maynilad customers. Here are the key details:
Manila Water Tariffs:
- Monthly consumption of 10 cubic meters: $4.33.
- Monthly consumption of 20 cubic meters: $9.58.
- Monthly consumption of 30 cubic meters: $19.53.
Maynilad Tariffs:
- Monthly consumption of 10 cubic meters: $3.08.
- Monthly consumption of 20 cubic meters: $11.60.
- Monthly consumption of 30 cubic meters: $23.71.

A summary of the energy infrastructure

A summary of the energy infrastructure:
The current energy mix in the Philippines is heavily reliant on fossil fuels, with coal accounting for nearly 60% of power generation. The government aims to increase the share of renewable energy to 35% by 2030 and 50% by 2050.
Key Institutions:
- The Department of Energy (DOE) is the primary regulatory body overseeing the energy sector in the Philippines. It implements policies aimed at promoting energy security, sustainability, and diversification of the energy mix.
- The National Grid Corporation of the Philippines (NGCP) plays a crucial role in managing the electricity transmission system.

Some of the government regulations surrounding solar panel production

Some of the government regulations surrounding solar panel production:

Renewable Energy Act of 2008 (RA 9513): This act promotes the development and utilization of renewable energy resources, including solar energy, through various incentives such as tax holidays and duty-free importation of equipment.
Net Metering Regulations: Implemented in 2013, these regulations allow residential and commercial users to install solar panels up to 100 kW and receive credits for excess energy fed back into the grid.
Green Energy Auction Program (GEAP): Launched in 2022, this program aims to stimulate investment in renewable energy by auctioning contracts for new renewable energy projects, including solar.

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

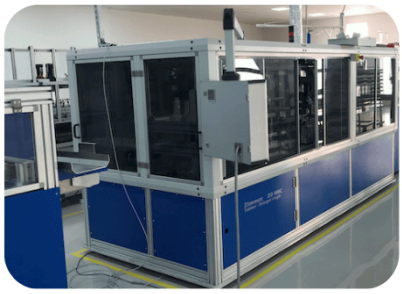
Government initiatives in solar panel production (includes investments and subsidies):
Asian Development Bank (ADB) Financing: ADB signed a $12 million deal with Buskowitz Solar Inc. to develop rooftop solar systems on commercial and industrial buildings, generating approximately 88 GWh of clean electricity annually. This financing supports the transition to clean energy while reducing carbon emissions in multiple provinces.
Meralco Terra Solar Project: The government fast-tracked the Meralco Terra Solar project, which will be the world's largest combined solar PV and battery storage plant, with a total capacity of 3.5 GW.
Green Energy Auction Program (GEAP): The GEAP was launched to stimulate investment in renewable energy by auctioning contracts for new projects, including solar installations.

Notable solar projects in the country (installed and projected)

Notable solar projects in the country (installed and projected):
Terra Solar Project:
- Capacity: 3500 MW (solar) + 4500 MWh (battery storage)
- Location: Bulacan and Nueva Ecija
- Year: Expected completion by February 2026 (first phase)
- Investor: Terra Solar Philippines, Inc. (joint venture of SP New Energy Corporation and Meralco)
- Details: This project aims to be the largest solar power plant in the world, covering 3500 hectares.
Solar Philippines' 4 GW Project:
- Capacity: 4000 MW (combined with existing 500 MW)
- Location: Luzon (Nueva Ecija and Bulacan)
- Year: Expected completion by 2026.

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

Some of the notable solar companies (plus brief details on what they do):
Solar Philippines:
- Headquarters: Quezon City
- Website: solarphilippines.ph
- Details: A leading solar energy company that provides solar panels, solar farms, and residential and commercial solar installations.
First Gen Corporation:
- Headquarters: Pasig City
- Website: https://www.firstgen.com.ph/
- Details: One of the largest renewable energy companies in the Philippines, focusing on geothermal, hydro, wind, and solar power systems.



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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