



# Mexico 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.

**Disclaimer:** This document represents an independent market and manufacturing analysis. It is provided for informational and educational purposes only and does not constitute a commercial offer, binding proposal, or contractual commitment.

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

## KEY POINTS

All figures have been converted into USD



## Yearly sunshine (sun hours per year)

Average yearly sunshine hours: 2800 hours

Peak sunshine hours per day: 5.5 hours



**kWh per kWp installed**

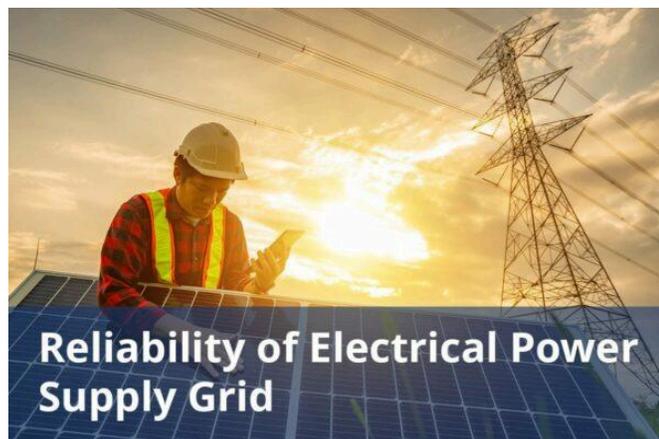
Energy production per kWp: 1300 kWh/kWp annually



**Average cost per kWh from utility company**

Average residential electricity cost: \$0.129/kWh

- Solar energy cost: \$0.075/kWh



## Reliability of electrical power supply grid

- System reliability estimates: 98%  
- Outage frequency: 0.5 times per year



## DETAILED INFORMATION

All figures have been converted into USD

### Total solar panel production capacity (installed)

Total solar panels installed as of 2023: 2000000 panels

Total capacity: 1500 MW

### Total solar panel production capacity (projected)

Projected total solar panels by 2030: 4000000 panels

- Expected capacity: 3000 MW

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

Average installation cost per solar panel: \$300

- Total system cost per residential installation: \$18000

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

Percentage of electricity from renewable sources: 25%

- Solar energy contribution: 10%

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

Daily energy availability: 5.5 hours

Total daily energy production: varies by season

## **Number of residential solar panel installations**

Number of residential solar panels in the area: 100000

- Average panel output: 300 W/panel

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

Number of solar energy farms: 50

- Average size of solar farm: 50 acres

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

Current Demand:

- As of 2023, the off-grid solar market in Mexico solar energy market is estimated to have an installed capacity of approximately 200 MW.
- This demand is primarily driven by rural and remote areas lacking access to the national grid.

Projected Demand:

- The off-grid solar market in Mexico is expected to grow significantly, reaching around 500 MW by 2030.

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

Current Demand:

- As of 2023, the installed capacity for on-grid solar PV in Mexico is approximately 9338.7 MW.

Projected Demand:

- The on-grid solar PV market in Mexico is projected to continue its growth, with an expected compound annual growth rate (CAGR) of over 10% from 2022 to 2035.

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

Solar Installers:

- \$430-\$540 per month.

Electrical Engineers:

- \$1080-\$1620 per month.

Project Managers:

- \$1350-\$1890 per month.

General Labors:

- \$380-\$430 per month.

## **Population of the country**

As of 2024, the population of Mexico is approximately 129336718 people.

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

The overhead costs for solar panel production in Mexico typically range from 20% to 25% of the total production cost.

Labor costs

- for operating machinery, assembling panels, and quality checks are significant. The labor cost ranges from \$15 to \$30 per hour, depending on the specific tasks and location of the factory.

Facility Maintenance costs

- related to maintaining the manufacturing facilities, including rent, equipment maintenance, and repairs, typically range from \$3000 to \$10000 per month.

Utilities

- Energy consumption for running production lines is a major component, with costs ranging from \$0.10 to \$0.50 per kilowatt-hour, depending on the location.

#### Administrative Expenses

- costs associated with the management of the production process, including salaries of administrative staff, office supplies, and other general expenses, typically add up to a substantial part of the overhead.

#### Quality control

- expenses incurred to ensure the solar panels meet performance and safety standards, including testing and inspections.

## **A summary of the energy infrastructure**

#### Total Installed Capacity:

- As of 2022, the total installed capacity in Mexico reached 92503 MW, which includes power generation plants from both the Federal Electricity Commission (CFE) and private companies.

#### Electricity Generation:

- In 2022, the National Power System generated 340713 GWh of electricity. Of this, 31.2% came from clean energy sources (renewable and non-renewable), while 68.8% was from fossil fuels.

#### Electricity Consumption:

- The total electricity consumption in 2022 was 333662 GWh, with an expected annual growth rate of 2.5% from 2023 to 2037.

#### Grid Infrastructure:

- Mexico's National Power System (SEN) comprises nine interconnected regions plus a binational electricity system in Baja California.

## **Some of the government regulations surrounding solar panel production**

General Law on Climate Change:

- This law sets out the framework for the reduction of greenhouse gas emissions and promotes the use of renewable energy sources, including solar power.

Energy Transition Law:

- This law mandates that 35% of Mexico's electricity should come from clean energy sources by 2024. It sets the regulatory framework for the integration of renewable energy into the national grid.

National Electric System Development Program (PRODESEN):

- PRODESEN outlines Mexico's strategic planning for the expansion and modernization of its electric infrastructure, with significant emphasis on increasing the capacity of renewable energy sources.

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

Solar Bond Program:

- The Mexican Climate Initiative (ICM) has developed a Solar Bond program to redirect part of the expenditure on electricity subsidies towards the acquisition and installation of photovoltaic modules.
- The program aims to make solar installations affordable for low and middle-income households. In 2022, the program allocated approximately USD 500 million for these efforts.

## Incentives for Distributed Generation:

- Mexico provides various incentives for distributed generation (DG) systems, which include small-scale solar installations.

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

### Installed Projects

#### Villanueva Solar Park:

- Location: Coahuila
- Capacity: 828 MW
- Details: One of the largest solar parks in Mexico, operational since 2018.
- Investment: USD 650 million

#### La Pimienta Solar PV Park:

- Location: Campeche
- Capacity: 444 MW
- Details: Operational since 2020, this park significantly boosts the region's renewable energy production.

### Projected Projects

#### Puerto Peñasco Solar Park:

- Location: Sonora
- Capacity: 1 GW
- Details: Expected to be the largest photovoltaic project in Latin America.

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

Enel Green Power:

- Active in Mexico since 2008, focusing on building and operating renewable energy plants, including notable projects like Villanueva Solar Park and Don José Solar Park.

Engie Mexico:

- Involved in the generation, transmission, and distribution of electricity and natural gas, contributing to Mexico's clean energy goals through investments in solar energy projects.



## 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/mexico/>

# 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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