



France 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 France

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

Average yearly sunshine: 300 days

Yearly sunshine can greatly impact solar panel efficiency.

Areas with high yearly sunshine, such as deserts, can lead to more energy production.



kWh per kWp installed

Typical kWh per kWp: 1200 kWh/kWp

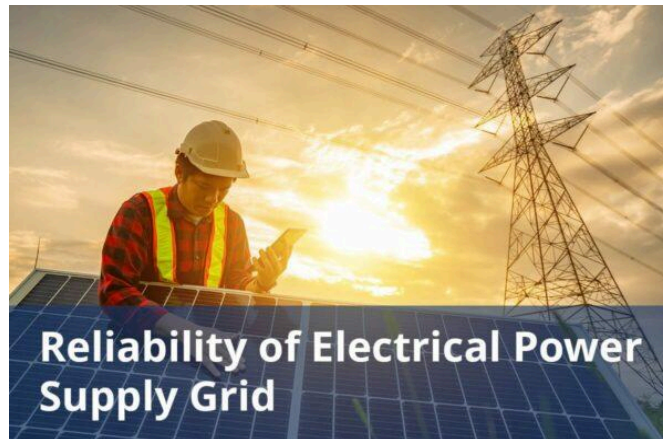
This value indicates the energy production expected from each kilowatt-peak of solar panels.



Average cost per kWh from utility company

Average cost per kWh: \$0.130/kWh

The cost of electricity varies by region and can influence energy choices.



Reliability of electrical power supply grid

Solar panel reliability is crucial for consistent energy production.

Most modern panels come with warranties of 25 years or more.



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total solar panels installed: 2 million

The growth of solar installations has accelerated in recent years.

Total solar panel production capacity (projected)

Projected total solar panels by 2030: 10 million

Significant growth expected as technology advances and costs decrease.

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

Average installation cost: \$3.00/watt

Costs have been decreasing, making solar more accessible.

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

Percentage of electricity from solar: 10%

Solar energy contributes increasingly to the global energy mix.

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

Daily availability of solar energy can fluctuate based on weather conditions.

Cloudy days can reduce energy production significantly.

Number of residential solar panel installations

Number of residential solar panels: 1.5 million

Residential installations have seen rapid growth.

Total number of solar farms (installed and projected)

Number of solar farms: 5,000

The rise of utility-scale solar farms is a critical part of renewable energy expansion.

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

France's residential solar PV market is poised for significant growth, with an expected CAGR of 8.1% from 2022 to 2030.

The off-grid segment is anticipated to experience even more rapid growth, with a CAGR of 18.1% driven by increasing energy demand in remote areas and supportive policies promoting decentralized power generation.

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

France's on-grid solar panel market is currently valued at 22.96 GW and is expected to expand significantly to 44.68 GW by 2029, representing a CAGR of 14.24%.

This rapid growth supports France's goal of achieving 100 GW of solar PV installations.

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

In France, the average annual salary for a solar engineer is approximately \$53,601, with a salary range of \$37,450 to \$69,454, with the median salary sitting at \$53,601.

Population of the country

As of 2024, the population of France is estimated to be approximately 68.37 million people.

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

There is no specific data on the overhead costs of solar panel production in France, but generally in more developed countries, overhead costs range from 25-35 % of the total production cost.

Rent/Facility Costs

- Compared to other prominent European cities like London and Berlin, France offers relatively affordable rental and facility costs.
- Specifically, in the greater Paris region, the average annual prime rent for large industrial spaces was approximately \$80.44 per square meter in Q4 2023.

Utilities

- France: Electricity costs below EU average, \$0.22/kWh (incl. taxes).

Labor Overhead

- France (May 2023): Avg. hourly wage \$18, Min. wage (SMIC) \$12.50, helping keep labor overheads low.

A summary of the energy infrastructure

Here's a summary of the France solar energy infrastructure:

Electricity Generation

- France (May 2024): Total electricity capacity reaches 41,134 GWh.
- Primary sources: nuclear (65%), hydro (12%), coal (6%), renewable energy such as wind, solar, and biomass (17%).

Major power plants: The Cordemais Power Station, Civaux Nuclear Power Plant, Chinon Nuclear Power Plant, Saint-Laurent Nuclear Power Station, Emile Huchet Power Station, Grand'Maison Dam, Revin Pumped Storage Power Plant, Roselend Dam, Le Pouget hydroelectric power station, Bouillante 2 Power Plant.

Renewable Energy Plants: They represent almost 47% of the installed capacity.

- Nuclear Plants: Over 41% of the installed capacity comes from nuclear power plants.

Some of the government regulations surrounding solar panel production

France's renewable energy sector is governed by a comprehensive legal framework, encompassing the Energy Code, Environmental Code, Town Planning Code, General Local Authorities Code, Code of Public Procurement, and General Code on Public Property.

Additionally, France is bound to implement the "Clean energy for all Europeans package", a suite of EU legislation aimed at promoting clean energy and reducing carbon emissions.

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

The Eco-Interest-Free Loan offers financial assistance for various home energy improvements, including the installation of thermal and photovoltaic solar panels.

- With a maximum funding amount of \$10,725 for thermal panels, this loan can be combined with other energy renovation projects.

The Photovoltaic Self-Consumption Incentive, introduced in 2024, provides financial relief for solar panel purchases.

- This grant is distributed over five years and is paid in tandem with the income generated from excess energy sales, based on the solar panel's power output.

Tax Exemption

- Solar installations that meet specific criteria may be eligible for an income tax exemption.

Notable solar projects in the country (installed and projected)

Cestas Solar Park

- French renewable energy leader, Neon, has developed a solar park with a total solar capacity of 300 MW.

Toul-Rosières Solar Park

- EDF Energies Nouvelles successfully completed the Toul-Rosières Solar Park featuring 1.4 million solar modules to generate clean energy.

Gabardan Solar Park

- The 67.5 MW Gabardan Solar Park was brought to life by EDF Energies Nouvelles, featuring innovative thin-film PV modules.

Les Mées Solar Park

- A comprehensive solar energy project comprising multiple farms developed by Enfinity and Eco Delta, with a combined installed capacity of 90 MW.

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

Albioma SA specializes in high-value photovoltaic power station projects, leveraging storage technology to maximize efficiency.

TotalEnergies SE offers services for renewable energy projects, including development, construction, maintenance, and asset management.

Meeco AG delivers end-to-end solar project solutions, including implementation and management of renewable energy systems.

Voltaia SA specializes in the end-to-end development of power stations utilizing a range of renewable sources.



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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