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Argentina 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 Argentina

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

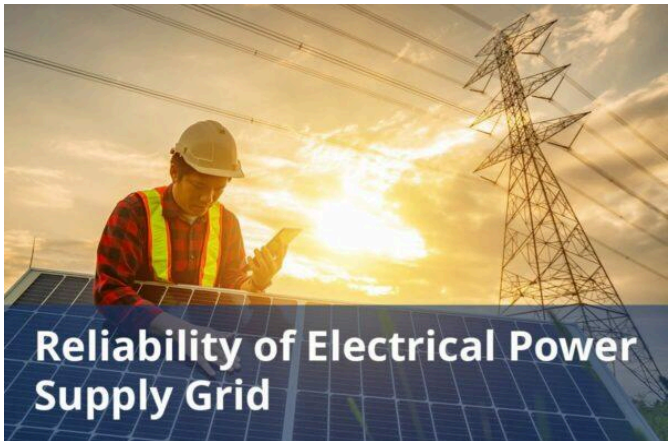
Yearly Sunshine:
- Average annual sunshine: 2500 hours
- Optimal conditions for solar energy generation occur in mid-summer

kWh per kWp installed

Energy Generation:
- Typically, 1 kW of solar can produce 1000-1200 kWh/year

Average cost per kWh from utility company

Average Cost per kWh:
- Residential rates range from $0.08/kWh to $0.20/kWh
- Industrial rates can be lower due to bulk purchasing



Reliability of electrical power supply grid

Reliability:
- Solar panels typically last 25-30 years with minimal maintenance




DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total Solar Panels Installed:
- As of 2023, over 3 million residential solar systems have been installed

Total solar panel production capacity (projected)

Projected Solar Panel Installations:
- Expected to double by 2030 driven by falling costs and incentives

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

Average Costs:
- Prices for solar panels have dropped by about 70% since 2010

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

Percentages of Electricity:
- Solar energy now accounts for 4% of total electricity production

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

Daily Availability:
- Average daily sunlight hours vary by location but generally range from 4-8 hours

Number of residential solar panel installations

Number of Residential Panels:
- Most residential systems are between 4 kW and 10 kW
- Average number of panels per system: 15-25

Total number of solar farms (installed and projected)

Number of Solar Farms:
- Over 2,000 large-scale solar farms across the country

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

There are approximately 25711 off-grid solar installations in rural areas of Argentina, primarily implemented under the PERMER (Rural Electrification project in 2012).

Despite the country's high solar potential, there is a low adoption rate of residential solar systems, with only about 30 MW installed capacity coming from rooftop systems.

Main barriers to residential solar adoption in Argentina include outdated infrastructure, reliance on fossil fuel subsidies, economic instability (high inflation and currency fluctuations), lack of local manufacturing of PV products, administrative complexities of programs like RENOVAR.

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

There are over 1167 self-generation projects have been completed nationwide, with a collective capacity of 21.2 MW, highlighting the shift towards decentralized energy solutions.

These projects are connected to the grid via bi-directional meters, allowing households and businesses to both consume and feed excess energy back into the grid.

Additionally, cooperatives like the Armstrong Cooperative serve approximately 6500 electricity meters, indicating a significant number of households and companies benefiting from solar energy across the country.

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

The average monthly salary in Argentina is approximately $200.

Solar Photovoltaic Installer: the average monthly salary is approximately $27.

Solar Photovoltaic Technician: the average monthly salary is approximately $714.

Solar Photovoltaic Engineer: the average monthly salary is approximately $1411.

Population of the country

The current population of Argentina is 45733442.

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

In 2020, installed utility-scale solar photovoltaics in Argentina cost about $1200/kW.

Modules remained the most expensive component, at around $258/kW. The cost of inverters stood at $40.2/kW.

Industrial and logistics rent prices in Buenos Aires are approximately $7.6 – $7.8 per square meter per month, depending on the location and specific characteristics of the property.

As of 2023, the average electricity price for businesses in Argentina is approximately $0.024/kWh.

A summary of the energy infrastructure

Argentina's energy infrastructure is characterized by a diverse energy mix.

At the moment fossil fuels account for approximately 59% of total generation while renewable sources (hydropower, wind, and solar), contribute about 37% combined.

The government aims to increase the share of renewables to 57% by 2030 as part of its energy transition plan.

Key institutions involved in Argentina's energy sector include:
- Secretariat of Energy: Responsible for formulating and implementing energy policies.
- National Electricity Regulatory Agency (ENRE): Oversees the electricity market and regulates service providers.
- Argentine Renewable Energy Chamber (CADER): Promotes the development of renewable energy projects.
- Instituto Nacional de Tecnología Industrial (INTI): Engages in research and development for energy technologies.

Some of the government regulations surrounding solar panel production

Renewable Energy Distributed Generation Law – This law allows residential users and businesses to generate their own energy from renewable sources, including solar panels.

It encourages the injection of surplus clean energy back into the grid.

Fund for the Distributed Generation of Renewable Energies (FODIS) – Allocates funds for installing renewable energy systems, including loans, interest rate subsidies, and incentives for energy injection into the grid.

Law No. 25,019: This law provides benefits for solar and wind energy installations for a period of 15 years, including fiscal stability and remuneration for generated alternative energy.

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

The initial funding for Fund for the Distributed Generation of Renewable Energies (FODIS) was set at $517000 in 2017.

The FODIS offers various financial mechanisms such as loans with subsidized interest rates and direct incentives for acquiring solar generation systems.

Genneia's Solar Developments: The Argentine power company Genneia is investing $250 million in two solar projects in Mendoza, totaling 273 MW of capacity, expected to supply energy to over 160000 homes and create approximately 1200 jobs during construction.

YPF's Parque Solar Zonda: the state-owned oil and gas utility firm, YPF is developing a 300 MW solar project. Under the RenovAr Program, the country plans to add 10000 MW of renewable power to the grid by 2025.

Notable solar projects in the country (installed and projected)

Genneia is investing $250 million to build 273 MW of solar capacity across two projects in Mendoza.
- 93 MW Project (located in Malargüe): featuring over 160000 PV modules across 312 hectares, costing approximately $90 million.
- 180 MW Project (Parque Solar Anchoris): Situated in Luján de Cuyo, this project will include 360000 solar panels on 395 hectares, with an investment of $160 million.

YPF Luz plans to install a 200 MW solar park in Mendoza, featuring 330000 bifacial solar panels.

In early 2024, Argentina connected three new solar farms adding a total of 47 MW, including:
- 20-MW 360 Energy La Rioja II
- 22-MW 360 Energy La Rioja III
- A smaller 4-MW Algarrobo project in San Juan province.

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

Genneia S.A.:
- Headquarters: Buenos Aires, Argentina
- Website: https://www.genneia.com.ar/en/home%5Fen.php
- Details: Genneia is one of Argentina's leading renewable energy companies, focusing on solar and wind energy.

YPF Luz:
- Headquarters: Buenos Aires, Argentina

- Website: https://www.ypfluz.com/
- Details: A subsidiary of the state-owned YPF, YPF Luz focuses on renewable energy generation.

Canadian Solar Inc.:
- Headquarters: Ontario, Canada
- Website: https://www.canadiansolar.com/
- Details: A global leader in solar technology, Canadian Solar has a significant presence in Argentina.

360 Energy S.A.:
- Headquarters: La Rioja, Argentina
- Website: http://www.360energy.com.ar/
- Details: This company specializes in renewable energy solutions and has developed several solar projects.

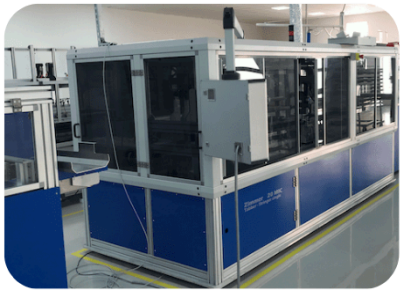
Trina Solar Limited:
- Headquarters: Changzhou, China
- Website: https://www.trinasolar.com/
- Details: Trina Solar is a leading global provider of photovoltaic modules and smart energy solutions.

Empresa Mendocina De Energías A.P.E.M.:
- Headquarters: Mendoza, Argentina
- Website: https://emesa.com.ar/
- Details: This local company focuses on renewable energy production in Mendoza and has been involved in various solar initiatives.

JinkoSolar Holding Co., Ltd.:
- Headquarters: Shanghai, China
- Website: https://www.jinkosolar.com/

- Details: JinkoSolar is one of the largest solar panel manufacturers globally and has supplied panels for numerous projects across Argentina.

Enel Green Power Argentina:
- Headquarters: Buenos Aires, Argentina
- Website: https://www.enelgreenpower.com/
- Details: Part of the Enel Group, this company develops and manages renewable energy plants across Latin America.



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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