J. v. G. technology GmbH
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Italy 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 Italy

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

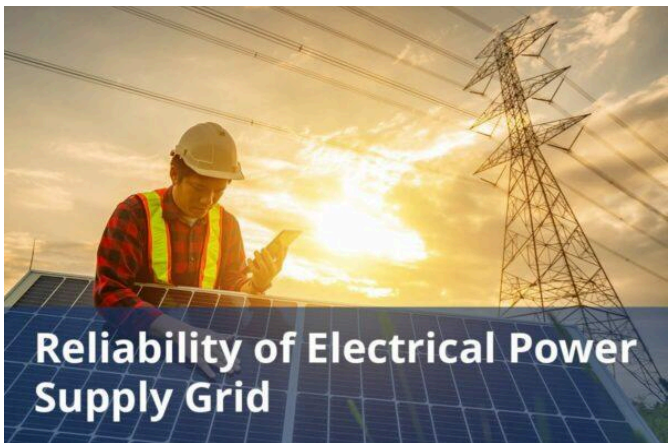
Annual Sunshine Hours:
- Average yearly sunshine: 3200 hours
- Monthly sunshine for January: 140 hours
- Monthly sunshine for February: 160 hours
- Monthly sunshine for March: 200 hours
- Monthly sunshine for April: 220 hours
- Monthly sunshine for May: 240 hours
- Monthly sunshine for June: 250 hours
- Monthly sunshine for July: 260 hours
- Monthly sunshine for August: 250 hours
- Monthly sunshine for September: 210 hours
- Monthly sunshine for October: 180 hours
- Monthly sunshine for November: 150 hours
- Monthly sunshine for December: 130 hours

kWh per kWp installed

kWh per kW Peak Installed:
- Residential solar panels average: 1200 kWh/kW
- Commercial solar panels average: 1100 kWh/kW

Average cost per kWh from utility company

Average Cost of Electricity:
- Residential: $0.130/kWh
- Commercial: $0.125/kWh
- Industrial: $0.115/kWh



Reliability of electrical power supply grid

System Reliability:
- On-grid systems reliability: 99.9%
- Off-grid systems reliability: 95%




DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total Installed Solar Panels:
- Total residential panels: 2 million
- Total commercial panels: 500000
- Total industrial panels: 100000

Total solar panel production capacity (projected)

Projected Solar Panel Installations:
- Residential projection for next year: 300000
- Commercial projection for next year: 80000
- Industrial projection for next year: 20000

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

Average Costs of Solar Installation:
- Residential: $2.50/watt
- Commercial: $2.00/watt

- Industrial: $1.75/watt

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

Electricity Generation Percentages:
- Solar: 25%
- Wind: 30%
- Hydro: 20%
- Fossil Fuels: 25%

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

Daily Solar Energy Availability:
- Average daily solar hours: 5 hours
- Peak daily solar hours: 8 hours

Number of residential solar panel installations

Number of Residential Solar Panels:
- Average residential installations: 250000
- Total residential installations last year: 220000

Total number of solar farms (installed and projected)

Number of Solar Farms:

- Total solar farms in the region: 300
- Total capacity of solar farms: 1000 MW

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

Current Demand:
- Installed capacity is 9.13 GW as of 2024.

Projected Demand:
- Projected to add 13.12 GW by 2029.

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

Current Demand:
- As of 2023, Italy has an installed solar PV capacity of approximately 30.28 GW.

Projected Demand:
- By 2029, Italy aims to reach a total solar PV capacity of approximately 70 GW.

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

Electrical & Power Engineering:
- $2745.71 per Month

Construction & Real Estate:
- $2548.42 per Month

Mechanical Engineering:
- $2511.36 per Month

Production:
- $2356.58 per Month

Customer Support:
- $2322.79 per Month

Agriculture, Food Industry:
- $2183.27 per Month

Administration:
- $2272.65 per Month

General Labor:
- $1648.08 per Month

Population of the country

As of 2024, the population of Italy is approximately 58695495 people.

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

Overhead costs in solar panel production typically include several components which are:
- Factory Rent in Italy:
- High: $10.90 per square meter per month.
- Low: $5.45 per square meter per month.
- Industrial Electricity Rates:

- The industrial electricity rate in Italy is approximately $0.1962/kWh.
- Water Costs:
- The cost of water for industrial use in Italy is around $2.18 per cubic meter ($m^3$).
- Salaries and Wages:
- The average annual salary for a Solar Photovoltaic Installer in Italy is around:
- High: $38150; Low: $27250.
- Office Supplies and Equipment:
- The cost for office supplies such as stationery in Italy ranges from:
- High: $21.80 per item; Low: $2.18 per item.
- Insurance:
- The average spending per capita in the property insurance market in Italy is estimated to be around $5.45 in 2024.

A summary of the energy infrastructure

Total Installed Capacity:
- Italy's total installed capacity is approximately 120.2 GW as of 2023.

Electricity Generation:
- In 2023, Italy's total electricity generation reached around 282 TWh.

Electricity Consumption:
- The total electricity consumption in Italy for 2023 was projected to be approximately 278 TWh.

Grid Infrastructure:
- The Italian transmission grid is managed by Terna.

Clean Energy Transition:
- Italy is committed to increasing the share of renewable energy in its national energy mix.

Some of the government regulations surrounding solar panel production

Ban on Large-Scale Solar Plants on Agricultural Land:
- The Italian government issued a decree known as the “Decreto Rinnovabili,” which prohibits the installation of large-scale solar plants on productive agricultural land.

Reduction of Buffer Zones for Photovoltaic Plants:
- The PNRR ter Decree reduces the buffer zones around assets subject to landscape protection.

Single Authorisation Procedure for Renewable Plants:
- The PNRR ter Decree amends the Single Authorisation procedure required for the construction and operation of renewable energy plants.

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

National Investment in Solar Panel Production:
- The Italian government announced a €90 million ($97000000) investment in Enel’s 3Sun solar photovoltaic panel factory in Sicily.

EU-Supported Initiatives:
- The European Commission approved a €5.7 billion ($6240000000) scheme for the development of renewable energy communities in Italy.

TANGO Project:
- Enel Green Power (EGP) has signed a grant agreement with the EU under the Innovation Fund for the TANGO project.

Notable solar projects in the country (installed and projected)

Installed Projects:
- Montalto di Castro Solar Park:
- Location: Lazio, Italy
- Capacity: 85 MW
- Detail: This solar park is one of the largest in Italy.

- Serra del Vento Solar Plant:
- Location: Sicily, Italy
- Capacity: 33 MW
- Detail: Located in sunny Sicily.

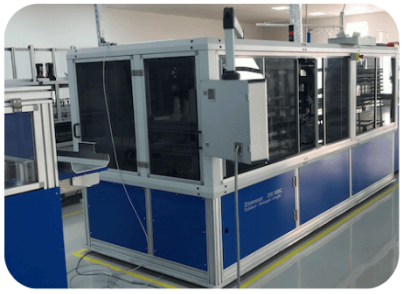
Projected Projects:
- TANGO Project (3Sun):
- Location: Catania, Sicily
- Capacity: 3 GW
- Detail: This ambitious project aims to expand the 3Sun solar panel factory's production capacity.

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

Enel Green Power:
- Detail: A leading renewable energy company that develops and operates solar, wind, hydro, and geothermal power plants across the globe.

Falck Renewables:
- Detail: Specializes in the development, construction, and operation of renewable energy plants, including solar and wind farms.

TerniEnergia:
- Detail: Engages in the design, installation, and maintenance of photovoltaic 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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