



Lithuania 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 Lithuania

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

Annual sunshine hours can vary significantly:

- Average annual sunshine in the region: 2600 hours
- Maximum annual sunshine in the region: 3200 hours



kWh per kWp installed

Average energy production:

- Average kWh produced per kWp: 1300 kWh/kWp

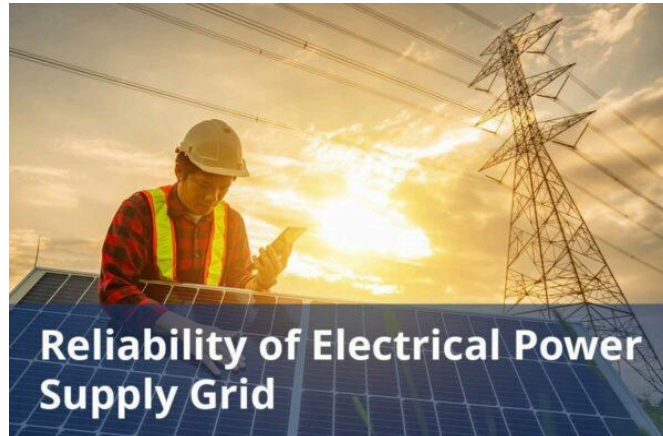


Average cost per kWh from utility company

Electricity pricing structure:

- Residential average cost: \$0.120/kWh
- Commercial average cost: \$0.140/kWh

- Industrial average cost: \$0.100/kWh



Reliability of electrical power supply grid

Energy system reliability factors:

- System availability: 97%
- Average downtime per year: 10 hours



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total installed solar panels:

- Number of solar panels installed in the region: 150000 panels

Total solar panel production capacity (projected)

Future solar panel projections:

- Projected number of solar panels in 5 years: 250000 panels

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

Installation costs for solar panels:

- Average cost per solar panel: \$250/panel
- Average total installation cost: \$15000

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

Renewable energy contributions:

- Percentage of electricity from solar: 25%
- Percentage of electricity from wind: 15%

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

Daily energy generation insights:

- Average daily energy generation: 4.5 kWh/day per panel

Number of residential solar panel installations

Residential solar panel statistics:

- Average number of panels per household: 20 panels

Total number of solar farms (installed and projected)

Solar energy farms in the region:
- Total solar farms operating: 30 farms

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

Current:

Lithuania's off-grid solar market is small, mainly due to the reliable national grid and the rise of "prosumers" (people who both generate and use electricity, often with rooftop solar).

Since prosumers are usually grid-connected and use net metering, there's less need for fully off-grid systems.

Off-grid setups also face higher initial costs, battery storage requirements, and permitting challenges.

Projected:

Growth in the off-grid sector is anticipated, driven by government support for residential solar, including subsidies for both on- and off-grid systems up to 10 kW (financed by the EU structural fund), and initiatives like "Solar Community" and plug-in PV systems.

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

Current:

Lithuania's on-grid solar market is experiencing rapid expansion.

As of August 2024, 1707 MW of solar power plants were connected to the grids (212 MW to the transmission grid and 1495 MW to the distribution grid).

The number of prosumers (those generating and consuming their own electricity while connected to the grid) exceeded 61000 in early 2024.

Projected:

Continued strong growth is anticipated, fueled by ambitious government targets for increased solar capacity.

The promotion of “prosumers” is expected to be a major driver of this growth.

Furthermore, large-scale projects, such as the Jonava solar park, will also contribute significantly to expanding Lithuania’s on-grid solar capacity.

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

Average monthly salaries (before taxes) for solar sector jobs in Lithuania range from \$550 to \$3900.

Specialized roles, such as software engineers at companies serving the solar industry, can earn significantly more and up to \$7100.

The national minimum wage is \$1000 per month.

Population of the country

Approximately 2.85 million.

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

A breakdown of potential overhead costs would include:

Labor Costs:

Manufacturing sector salaries typically range from \$1300 to \$2200 monthly.

Regional variations exist, with Kaunas having higher average salaries than rural areas.

Utilities:

- Electricity:

Electricity prices for non-household consumers vary based on consumption levels, with higher prices (\$0.278/kWh in 2022) for users consuming between 500 and 2000 MWh annually, and lower prices (\$0.237/kWh in 2022) for those exceeding 20000 MWh annually.

- Water:

Wastewater management for businesses costs approximately \$2.30/m³, plus monthly subscription fees.

Facility Costs:

Costs vary significantly by facility type.

A summary of the energy infrastructure

Lithuania's energy infrastructure is comprised of a well-developed electricity transmission network managed primarily by public operators.

Transmission Network (Litgrid):

Litgrid operates approximately 7048 kilometers of high-voltage transmission lines (110 kV, 330 kV, and 400 kV), including about 400 kilometers of undersea cables connecting to neighboring countries.

Distribution Network (ESO):

ESO, the main distribution system operator, serves approximately 1.6 million customers across Lithuania.

It manages roughly 130000 kilometers of electricity lines (71% overhead, 29% underground cables).

Pumped Storage Hydropower Plant (PSHP):

The Kruonis PSHP is a key power reserve, helping balance electricity supply and demand and ensuring grid stability, especially during peak times.

Some of the government regulations surrounding solar panel production

Lithuania has established a regulatory framework to encourage the development and use of solar energy.

Key regulations and initiatives include:

- Law on Energy from Renewable Sources:

This law establishes the rules and targets for renewable energy in Lithuania, including solar, and promotes its integration into the national grid.

- Permitting Process for Electricity Generation:

VERT (National Energy Regulatory Council) issues electricity generation permits to both individuals and businesses in Lithuania.

- Simplified Grid Connection Procedures:

Connecting smaller renewable energy systems (under 30 kW) to the grid in Lithuania is now easier and faster, reducing paperwork and delays.

- The Breakthrough Package:

These energy law amendments, passed by the Lithuanian Parliament, simplify renewable energy development.

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

Lithuania actively promotes solar energy through a range of initiatives:

- Subsidies:

Direct financial support for residential and business solar installations.

- Soft Loans:

Low-interest financing options for businesses to acquire solar power plants.

- Net Metering Program:

This program enables households and businesses to sell excess solar energy back to the grid.

- Virtual Net Billing:

This program lets people buy into off-site solar farms, benefiting from solar power even without space for their own panels.

- Online Platform (“Solar Community”):

This platform makes it easier for consumers to access solar energy, including buying or renting parts of solar farms.

Notable solar projects in the country (installed and projected)

Installed:

- Švenčionys Solar Park:

Location: Švenčionys (approximately 80 km north of Vilnius);

Capacity: 80 MW;

Status: Under construction by Nordic Solar, providing enough energy for roughly 26000 households.

- Tauragė Solar Plant:

Location: Tauragė District;

Capacity: 22 MW;

Status: Under construction, with commercial operation expected in 2024.

Planned:

- Jonava Solar Park:

Location: Jonava;

Capacity: 252 MW;

Status: Under development by Ignitis Renewables, with grid connection secured.

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

- SoliTek (Founded 2009):

A top Lithuanian maker of high-efficiency solar panels, specializing in glass-glass and solar roof systems for homes and businesses across Europe.

- Sun Investment Group (SIG) (Founded 2017):

One of the largest investors and developers of solar energy projects in the Baltics.

- Green Genius (Founded 2018):

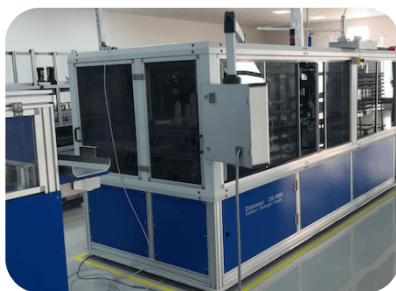
A renewable energy company developing solar power plants and energy storage solutions across Europe.

- Via Solis (Founded 2009):

Manufactures solar modules and develops commercial and industrial solar projects across Europe.

- Saulės Graža (Founded 2012):

A major Lithuanian solar energy company specializing in design and installation of 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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