



Belarus 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 Belarus

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

The average yearly sunshine is essential for solar energy production.

It varies across different regions depending on geographical factors and climate.

States with more sunshine can generate more solar energy.



kWh per kWp installed

The average output of solar panels is measured in kWh per kWp.

This defines how much electricity can be generated from a system size of 1 kWp.

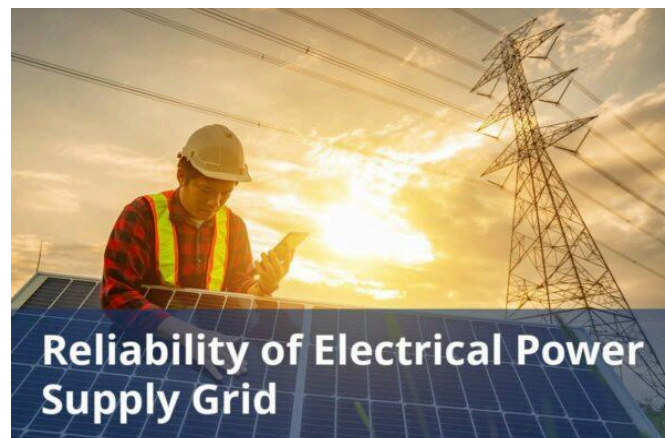
Typically, this value ranges based on the efficiency and technology used in solar panels.



Average cost per kWh from utility company

Residential Electricity Prices:

- For 0-100 kWh: \$0.135/kWh
- For 100-600 kWh: \$0.135/kWh
- For 600-1000 kWh: \$0.1945/kWh
- For consumption above 1000 kWh: \$0.2196/kWh



Reliability of electrical power supply grid

Solar energy systems have high reliability with proper installation and maintenance.

Factors affecting reliability include system components and geographical conditions.

Regular maintenance ensures optimal performance over time.



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

As of this year, there are significant numbers of solar panels installed nationwide.

The growth rate of installations has been increasing rapidly.

Such growth contributes to renewable energy goals.

Total solar panel production capacity (projected)

Projecting future installations indicates an upward trend in solar panel use.

Policies and incentives play a crucial role in driving this growth forward.

Forecasts suggest that installations will continue to rise significantly.

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

The average cost of solar installations has decreased over the years.

This trend is due to advancements in technology and increased competition.

Lower costs encourage more homeowners to adopt solar energy solutions.

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

Currently, a notable percentage of electricity comes from renewable sources.

Solar energy contributes a growing share to the overall energy mix.

This shift reflects changing policies and public attitudes toward sustainability.

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

Daily solar energy availability varies based on weather conditions and time of year.

Longer days in summer provide more solar energy potential.

Understanding these patterns helps optimize solar energy utilization.

Number of residential solar panel installations

The number of residential solar panels has increased significantly.

This reflects growing interest in renewable energy among homeowners.

Government incentives and falling prices have contributed to this trend.

Total number of solar farms (installed and projected)

The number of solar farms is also on the rise.

These large-scale installations play a crucial role in meeting energy demands.

They support local economies and promote renewable energy adoption.

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

Current Off-Grid Market Demand in Belarus:

- The off-grid solar market in Belarus is gradually evolving, driven by the need for energy independence and diversification of energy sources.
- Approximately 1.78 MW of solar photovoltaic capacity has been established in projects like the Mogilev region plant, generating 1,600 MWh annually and reducing CO2 emissions by 770 tonnes.
- Such initiatives, supported by financing programs like BelSEFF and international donors, reflect increasing interest in renewable energy.

- Community-level adoption is also growing.
- For example, the SOS Children's Village in Maryina Gorka installed solar panels on five homes, cutting summer electricity use by 64% and reducing emissions by 22,500 kg annually.
- Complementary technologies, like a wind generator used to power playground lighting, further showcase the role of off-grid systems in underserved communities.

Future Off-Grid Market Demand in Belarus:

- The demand for off-grid solar solutions in Belarus is expected to rise significantly as renewable energy integration becomes central to the country's energy strategy.
- Future projects will likely focus on expanding solar microgrids, scaling community-based systems, and supporting eco-friendly developments.

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

Current On-Grid Solar Market Demand in Belarus:

- The on-grid solar market in Belarus is experiencing a gradual expansion as the country seeks to diversify its energy sources and reduce dependence on imported fossil fuels.
- As of 2021, Belarus had a total installed capacity of over 150 MW of solar power, contributing to the grid.
- Notable projects include the 5.7-5.8 MW solar farm in Molodechno and the 55 MW solar farm in Rechytsa, which became the largest in the country in 2017.
- The demand for solar power is bolstered by the state's commitment to connect renewable energy sources to the national grid and purchase energy generated from these systems.
- In 2020, the government set a target to increase the total capacity of solar power plants to 250 MW.

Future On-Grid Solar Market Demand in Belarus:

- The on-grid solar market in Belarus is expected to see significant growth in the coming years.
- With the government's goal to diversify the energy mix and reduce reliance on fossil fuels, the demand for solar power is likely to increase.
- The largest solar power plant in the country, a 109 MW facility in the Mogilev region, is set to enhance the grid's capacity.

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

A Solar Photovoltaic Installer working in Brest typically earns around \$8,530 USD per year, with salaries ranging from approximately \$5,145 USD to \$12,770 USD, depending on experience and qualifications.

Population of the country

The current population of Belarus is 9,034,281.

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

Estimate for Factory Rent:

- Monthly Average Warehouse Rental Cost:
- The lowest rent is \$6.53 USD/month for a 487 m² warehouse in Chaciezynski sielski Saviet, and the highest rent is \$8,219.34 USD/month for a 900 m² warehouse in Vialikaje Sciklieva.

Key Components of Administrative Costs:

- Salaries and Wages: A Solar Photovoltaic Installer working in Brest typically earns around \$8,530 USD per year.

- Commercial Electricity Prices:
- In Belarus, the electricity price for businesses is around USD 0.099 per kWh.

A summary of the energy infrastructure

Electricity Generation:

- In 2022, Belarus generated 39.4 billion kWh of electricity, with consumption reaching 38.6 billion kWh.
- The country has completed its first nuclear power plant, which consists of two power-generating units with a total output capacity of 2,400 MW.

Transmission & Distribution:

- Belarus's power grid spans 279,730 kilometers of transmission, distribution, and interconnection lines, supported by 1,357 transformer substations.

Some of the government regulations surrounding solar panel production

1. Electricity Supply and Grid Access:

- The Resolution of the Council of Ministers No. 1394 governs grid connections, obliging regional electricity companies to facilitate access for renewable energy producers.

2. Energy Efficiency Legislation:

- The Law on Energy Savings promotes the use of energy-efficient technologies and equipment, which can include solar energy systems.

3. Development Plans and Programmes:

- The State Programme for Energy Saving includes provisions for increased renewable energy deployment.

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

1. Financial Resources and State Programmes:

- The State Programme for Energy Saving allocates financial resources to promote renewable energy development, which may include supporting local solar panel production.

2. Indirect Support through Energy Policies:

- Legislative frameworks, such as the Resolution No. 1394 on grid access, create favourable conditions for solar energy producers.

3. Green feed-in tariff:

- In Belarus, a “green feed-in tariff” is a government-supported policy designed to encourage investment in renewable energy projects.

Notable solar projects in the country (installed and projected)

Current Projects:

1. Project Name: Velcom Bragin Solar PV Park

- Location: Gomel, Belarus
- Capacity: 22.3 MW
- Starting Date: Commissioned in August 2016

2. Project Name: 55 MW Solar PV Power Plant

- Location: Rechitsa District, Belarus
- Capacity: 55 MW
- Starting Date: Launched in August 2013

3. Project Name: Solar Farm in Molodechno

- Location: Molodechno, Belarus
- Capacity: 5.7-5.8 MW

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

Eco-Engineering ALC is a solar system installer based in Minsk, Belarus.

- Location: Room 5, d. 22, st. Volodko, Minsk, 220007, Belarus
- Contact: +375 29 6095599
- Website: green-energy.by

OOO Ferdinal Group is a solar system installer located in Minsk, Belarus.

- Location: Off. 114-115, 1st Floor, 7, Maxim Goretsky St., Minsk, 220078, Belarus
- Contact: +375 17 2381201
- Website: ferdinal.by

OOO Glavenergo is a solar system installer based in Minsk, Belarus.



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:

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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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