



Belgium 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 Belgium

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

Average Yearly Sunshine:

- Region A: 2500 hours
- Region B: 3000 hours
- Region C: 2800 hours



kWh per kWp installed

Kilowatt-hours Per Kilowatt Peak:

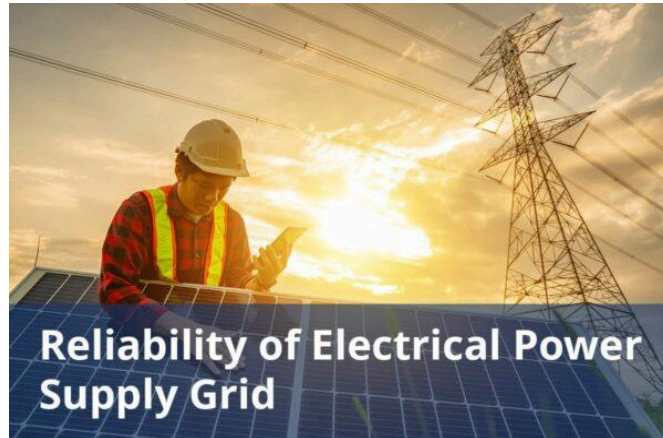
- Average: 1200 kWh/kWp



Average cost per kWh from utility company

Average Cost Per kWh:

- Residential: \$0.130/kWh
- Commercial: \$0.150/kWh



Reliability of electrical power supply grid

System Reliability:

- Average uptime: 95%
- Failures per year: 2



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total Solar Panels Installed:

- Residential: 200000 panels
- Commercial: 50000 panels

Total solar panel production capacity (projected)

Projected Total Solar Panels:

- By 2025: 300000 panels
- By 2030: 500000 panels

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

Average Costs of Installation:

- Residential: \$3000 per panel
- Commercial: \$2500 per panel

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

Source of Electricity:

- Solar: 25%
- Wind: 15%
- Hydro: 10%

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

Daily Solar Availability:

- Peak Hours: 5 hours
- Non-Peak Hours: 19 hours

Number of residential solar panel installations

Number of Residential Panels:

- Total: 100000
- Average per home: 5

Total number of solar farms (installed and projected)

Number of Solar Farms:

- Total: 50
- Operating: 45

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

The daily availability of electricity in Belgium is approximately 24 hours, with a reliability of 99.99%.

Belgium's high electrification rate means traditional off-grid solar opportunities are limited; however, niche applications still exist, such as providing power in remote or isolated areas, serving as backup power during grid outages, supporting mobile or temporary installations, and

offering solutions for those seeking energy independence and sustainability.

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

Current:

- Belgium's PV market had a successful year, with 1.7 GW of newly installed capacity, representing a 72% increase over the 2022 additions of 985 MW.
- This record annual installation capacity moved Belgium up three ranks to 8th place in the 2023 rankings.
- It marks the third time Belgium has surpassed the 1 GW milestone, following similar achievements in 2011 and 2020, although with a smaller margin.

Projected:

- The Belgium Solar Energy Market is expected to grow from 8.30 gigawatts in 2023 to 10.64 gigawatts by 2028, registering a CAGR of 5.10% during the forecast period (2023-2028).

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

The average monthly salaries for solar energy professionals include:

- Solar Engineer: Approximately \$3000-\$5000
- Solar Design Engineer: Approximately \$3000-\$6400
- Solar Sales Engineer: Approximately \$2000-\$6000
- Solar Installer: Approximately \$1000-\$4200
- Solar Technician: Approximately \$1200-\$3500

- Solar Manager: Approximately \$5000-\$9000

These salaries reflect the average earnings for these roles and can vary based on experience, company, and specific job responsibilities.

Population of the country

The population of Belgium is more than 11.72 million.

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

The average overhead costs for solar panel production in Belgium involve several components:

Raw Material Costs:

- Raw materials, such as silicon, aluminum, and copper, are major expenses. These costs fluctuate based on global supply and demand, geopolitical events, and economic conditions.

Labor Costs:

- Labor costs in Belgium for the solar industry can be significant.
- The average labor cost for skilled technicians and factory workers is relatively lower than in developed countries but varies widely depending on the skill level and region.

Minimum Wage:

- Belgium has a national minimum wage that varies depending on the sector.
- Public Sector: Around \$2200 USD per month

- Private Sector (non-agricultural): \$2000 per month

Average Salary:

- The average salary in the solar market in Belgium can vary widely based on job role, experience, and region. Generally, salaries for professionals in the solar sector, such as engineers, project managers, and technicians, range around \$2000 to \$10000 USD.

Utilities and Energy Costs:

- Belgium's energy costs for industrial use are relatively high.
- Electricity Prices: Electricity prices for commercial and industrial sectors range between \$0.04 to \$0.066 per kWh.

A summary of the energy infrastructure

Belgium's energy infrastructure is characterized by a diverse mix of energy sources and a commitment to achieving European Union (EU) energy and climate targets.

The country has a federal structure, with responsibilities divided between the federal and regional governments. The federal government oversees large-scale energy infrastructure, including nuclear power and offshore wind, while regional governments manage renewable energy, energy efficiency, and local energy distribution.

Belgium's National Energy and Climate Plan (NECP) outlines ambitious targets for 2030, including a 35% reduction in non-EU Emissions Trading System (ETS) greenhouse gas emissions compared to 2005 levels, a 17.5% share of renewable energy in gross final energy consumption, and significant increases in renewable electricity generation.

The country has been expanding its offshore wind capacity, with a planned increase from the current 2.26 gigawatts (GW) to up to 3.5 GW by developing new offshore wind zones.

Some of the government regulations surrounding solar panel production

Renewable Energy Directive (RED II):

- Belgium adheres to the EU's RED II, which mandates a 32% renewable energy share in total consumption by 2030, influencing national policies and renewable energy targets.

Flemish Region Regulations:

- In the Flemish Region, solar energy is incentivized through green certificates, net metering, and investment grants, with specific planning and permit requirements for installations, and energy efficiency standards for new and renovated buildings.

Walloon Region Regulations:

- Wallonia offers green certificates and investment grants for solar PV systems, along with net metering and energy efficiency requirements that mandate solar energy integration in building projects.

Brussels-Capital Region Regulations:

- The Brussels-Capital Region provides green certificates and net metering benefits, along with investment grants for solar installations and mandates renewable energy solutions in building renovations.

Federal Regulations:

- On the federal level, Belgium provides tax incentives for solar investments, regulates grid connection standards, and sets national strategies aligning with EU directives for renewable energy adoption.

Other Considerations:

- Larger solar projects may require environmental impact assessments, and all installations must comply with maintenance, safety, and operational standards.

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

Belgium has been actively involved in promoting solar energy and supporting the production and installation of Belgium solar panels through various government initiatives.

Incentive Programs:

- **Green Certificates:** Belgium offers green certificates for the production of renewable energy. These certificates can be sold to electricity suppliers who need to meet renewable energy quotas.
- **Investment Grants:** Financial support or subsidies may be available for individuals and businesses investing in solar panel installations. These grants help offset the initial costs of solar technology.

Tax Benefits:

- **Tax Reductions:** Tax incentives are available for individuals and companies investing in solar panels. These can include deductions on personal income tax or corporate tax benefits for renewable energy investments.
- **VAT Reductions:** Reduced VAT rates for solar panel installations can make the technology more affordable for consumers and businesses.

Regulatory Support:

- **Net Metering:** Belgium has implemented net metering policies that allow solar panel owners to feed excess electricity back into the grid

and receive compensation. This helps to increase the economic viability of solar energy systems.

- Renewable Energy Obligations: Belgian utilities are required to source a certain percentage of their energy from renewable sources.

Notable solar projects in the country (installed and projected)

The success of solar energy in Belgium can largely be attributed to the collective awareness of the global renewable energy initiative among authorities.

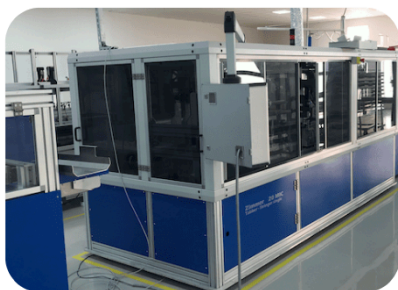
Here's a summary of notable solar projects in Belgium:

- Kristal Solar Park: A 100 MW solar park located in Limburg.
- Moha Solar Park, Wallonia: Wallonia's first large ground-mounted solar farm, inaugurated in May 2018, spanning 5 hectares, it houses over 18,000 solar panels, producing over 6,500 MWh annually.
- Pairi Daiza Solar Carport: This project is expected to generate 20,000 MWh per year, significantly exceeding the zoo's existing electricity consumption, with a total output of 20 MWp.
- Floating Solar Farm of Sibelco in Flanders: Comprising 17,250 solar panels, this facility can produce 7 GWh annually.
- Solar Tunnel in Antwerp: A 3.6 MW solar installation located in Antwerp.
- Belgium's Largest Solar Roof: Located at an industrial site, ArcelorMittal in Ghent, featuring a 7.5 million euro solar roof installed by Eneco.
- Höganäs' Solar Panel Plant in Ath: A 2.8 MW installation with an east-west orientation, designed to optimize sunlight capture.
- GILBERT DE CLERCQ Logistics Complex in Puurs: A 1.9 MW solar project located in Puurs.

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

Here are the notable solar companies in Belgium:

- ENGIE Electrabel: Its headquarters is in Brussels, Brussels Capital, and it provides sustainable energy solutions, including solar panels and home automation, helping customers reduce their carbon footprint.
- Eneco Belgium: Its headquarters is in Mechelen, Antwerpen, and it focuses on the production and supply of renewable energy, aiming to provide 100% sustainable energy through wind turbines and solar panels.
- EnergyVision: Its headquarters is in Ghent, Flemish Region, and it offers integrated energy-saving solutions, including solar panel installations, ensuring guaranteed savings for customers.
- Go-Solar: Its headquarters is in Waasmunster, Oost-Vlaanderen, and it specializes in solar panel solutions for residential and commercial clients, emphasizing high-quality products and services.
- Enersol: Its headquarters is in Battice, Liège, and it offers customized photovoltaic and green energy solutions, using the latest technologies to assist in energy transitions.
- Balti Solar: Its headquarters is in Marke, Flemish Region, and it installs high-quality solar panels and home battery systems, providing expert services with over 20 years of experience.
- Brusol: Its headquarters is in Jette, Brussel, and it provides solar energy solutions, including installation and maintenance, for residential and commercial customers.
- Linea Trovata: Its headquarters is in Lokeren, Oost-Vlaanderen, and it specializes in efficient and reliable solar panel installation and maintenance, focusing on customer satisfaction.



ABOUT THIS REPORT

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For a detailed list of references and additional information, please visit our website with the current report at:

<https://www.pvknowhow.com/solar-report/belgium/>

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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