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Albania 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 Albania

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

Average Yearly Sunshine:
- Locations in the South: 2500 hours/year
- Locations in the North: 1500 hours/year
- Average across the country: 2000 hours/year

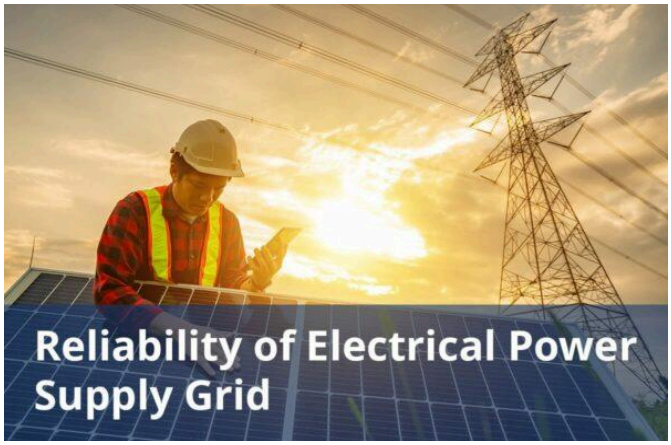
kWh per kWp installed

Electricity Generation:
- 1 kWp produces approximately 1000 kWh per year
- This varies based on geographical location and panel efficiency

Average cost per kWh from utility company

Average Cost of Electricity:

- Residential average: $0.150/kWh
- Commercial average: $0.130/kWh
- Industrial average: $0.120/kWh



Reliability of electrical power supply grid

Reliability of Solar Energy:
- Cloudy days can reduce performance by 30%
- Systems are designed to handle varying weather conditions




DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total Installed Solar Panels:

- Residential installations: 1 million panels
- Commercial installations: 250 thousand panels
- Utility-scale installations: 50 thousand panels

Total solar panel production capacity (projected)

Projected Growth of Solar Panels:
- Estimated increase of 20% in the next 5 years
- Government incentives expected to boost installations

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

Average Costs for Solar Installations:
- Residential systems: $2.50/watt
- Commercial systems: $2.00/watt
- Utility-scale systems: $1.50/watt

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

Percentages of Electricity from Solar:
- Current contribution: 10%
- Projected to reach 25% by 2030
- Varied by region: up to 40% in some states

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

Daily Availability of Solar Power:
- Peak production hours: 10 AM - 4 PM

- Nighttime production: None

Number of residential solar panel installations

Number of Residential Solar Panels:
- Average household: 20 panels
- Range from 10 to 40 panels based on energy needs

Total number of solar farms (installed and projected)

Number of Solar Farms:
- Total active solar farms: 400
- Average size: 100 acres per farm

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

Recently, Albania provided subsidies for 2000 families to install solar water heating systems.

Solar systems have significantly improved the lives of people in rural Albania, benefiting approximately 125 families, guesthouses, and farmers.

These solar solutions have provided reliable electricity in off-grid areas, enhanced agricultural productivity, and supported eco-tourism initiatives.

However, there is still significant potential for off-grid solar in remote mountainous regions, where over 5000 people remain disconnected from the national grid.

Many rely on costly and polluting alternatives like candles, kerosene lamps, and diesel generators, highlighting the need for expanded solar energy to improve living conditions and reduce environmental impact.

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

The on-grid market demand for solar panels in Albania is currently experiencing growth, driven by government initiatives and increasing interest from both residential and commercial sectors.

The government has implemented several incentives to promote solar energy, including:
- Net Metering: For PV systems up to 500 kW.
- Feed-in Tariffs (FiTs): For projects up to 2 MW.
- Auction Schemes: For larger-scale solar facilities.

As of March 2023, there are approximately 1025 prosumers in Albania who have installed solar power panels for their own consumption.

This reflects a substantial increase, with 627 new installations added in the previous year.

Notably, 59% of these prosumers are located in urban areas, particularly in Tirana and Durrës.

As of 2024, there are several significant large-scale solar projects under development with total capacity of over 300 MW, ranging from 10 MW to 100 MW each.

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

The average monthly salary in Albania is approximately $600.

Solar Energy Systems Engineer: the average monthly salary is approximately $1040.

Solar Photovoltaic Installer: the average monthly salary is approximately $658.

Population of the country

The current population of Albania is 2786128.

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

Estimate for Factory Rent
In Tirana, Albania, the monthly rent prices for industrial and logistics spaces vary based on location, size and amenities, ranging approximately $1.40 – $6.25 per m2.

Industrial Electricity Rates
As of March 2024, the average electricity price for businesses in Albania is approximately $0.143/kWh.

Water Costs
As of 2020, the water tariff in Albania is approximately $0.84/m³, including drinking and used water (sewage).

Salaries and Wages
Monthly salaries of workers in solar industry in Albania ranges from $658 to $1040, depending on the position.

Rent for Office Space
The monthly rent for office space in Tirana, Albania, varies significantly based on location, size and amenities, ranging approximately $7 – $12.5 per m2.

Insurance
The average spending per capita on non-life insurance in Albania is projected to be approximately 3274 in 2024.

A summary of the energy infrastructure

Albania's energy infrastructure is characterized by a strong reliance on hydropower, ongoing development in renewable energy, and evolving regulatory frameworks.

Energy Mix
Albania's energy supply is predominantly derived from hydropower, accounting for approximately 95% of its electricity generation.

Albania has over 25 operational hydropower plants, with ongoing plans for new developments like the Skavica plant.

This reliance makes the country vulnerable to climate variability.

Key Institutions
- Ministry of Infrastructure and Energy: Oversees the energy sector and formulates policies.

- National Agency of Natural Resources (AKBN): Implements energy policy and regulates hydrocarbon sectors.
- Energy Regulatory Entity (ERE): Established in 1995, responsible for regulating the energy market and electricity prices.

Infrastructure and Interconnections
Limited gas production exists, primarily for industrial use.

The country is not currently connected to international gas networks but has the Trans-Adriatic Pipeline (TAP) running through its territory.

Export / Import
Albania is a net importer of electricity, especially during years of low hydropower output.

In 2022, the country imported approximately 922 GWh to meet domestic demand while exporting around 2123 GWh during rainy seasons.

This highlights the country's vulnerability to climate change impacts on hydropower generation.

Policy Goal
The National Energy and Climate Plan (NECP) aims for a 52% share of renewables by 2030, alongside targets for improving energy efficiency and reducing greenhouse gas emissions.

Some of the government regulations surrounding solar panel production

Albania has established a comprehensive regulatory framework to promote solar energy production, primarily through the Law no.

24/2023 on the Promotion of the Use of Energy from Renewable Sources.

This law, which came into effect on April 29, 2023, aims to enhance renewable energy production and aligns with the European Union's directives.

Key Provisions of Law no. 24/2023:
- National Objectives: The law sets a target for renewable energy sources to account for 54.4% of gross final energy consumption by 2030.
- Support Mechanisms: Various support schemes are introduced, including:
- Energy Purchase Agreements
- Contracts for Difference (CfD)
- Premium Contracts, which can be either fixed or sliding premiums based on market prices.
- Self-Production and Net Metering: The law introduces provisions for self-producers:
- Small and medium enterprises (SMEs) and households can install up to 500 kW for self consumption and sell excess energy back to the grid.
- A two-way meter is required to measure energy production and consumption.

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

Major Investments

Karavasta Solar Park – 140 MW, making it the largest solar park in the Western Balkans.

Investment Amount was approximately $164.15 million.

The project was co-financed by the European Bank for Reconstruction and Development (EBRD), which allocated over $32.83 million for its construction.

Solar Park in Spitallë – Voltalia plans to construct another solar park in Spitallë, near Durrës, with a capacity of 100 MW, expected to begin construction in 2024/25.

Belshi Solar Park – This project received a grant of approximately $10.5 million from the Western Balkans Investment Framework (WBIF) to support its development.

Unused Military Properties – The Albanian Investment Corporation is exploring partnerships to develop solar projects on abandoned military sites, including potential photovoltaic plants with capacities of 27 MW and 7 MW at locations in Shkodër and Saranda, respectively.

Notable solar projects in the country (installed and projected)

Current Solar Projects

Karavasta Solar Park
- Capacity: 140 MW
- Developer: Voltalia (French renewable energy company)
- Location: Near Fier, in the Karavasta lagoon area
- Investment: Over $164 million, co-financed by the European Bank for Reconstruction and Development (EBRD).

- Details: It aims to provide energy for approximately 220000 households and is significant as the largest foreign investment in Albania's renewable sector.

Project Blue
- Capacity: 67.5 MW
- Developers: Blessed Investment and Matrix Konstruksion (Albanian companies)
- Location: Sheq – Marinas Fier
- Details: This project is notable for being implemented without government subsidies, marking a significant milestone in solar energy development in the Balkan.

Projected Solar Initiatives

Spitallë Solar Park
- Capacity: Not specified yet.
- Developer: Voltalia
- Location: Near Durrës
- Details: Construction start is planned for 2024, with energy delivery anticipated by the end of 2025.

AGA-SOLAR Project
- Capacity: 150 MW
- Developer: AGA-SOLAR
- Location: Darzezë e Re village, near Fier
- Details: This ambitious project aims to enhance Albania's energy independence and bolster the national grid's capacity.

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

Vega Solar
- Headquarters: Tirana, Albania
- Website: https://vegagroup.al/
- Details: Vega Solar is a leading manufacturer of solar panels in Albania, providing a wide range of solar solutions from residential to large-scale projects.

Trina Solar
- Headquarters: Changzhou, China
- Website: https://static.trinasolar.com/eu-en
- Details: Trina Solar has played a pivotal role in Albania's solar sector, particularly through its involvement in the 140 MW Karavasta Solar project.

Voltalia
- Headquarters: Paris, France
- Website: https://www.voltalia.com/
- Details: Voltalia is instrumental in developing large-scale solar projects in Albania, including the Karavasta Solar Park.

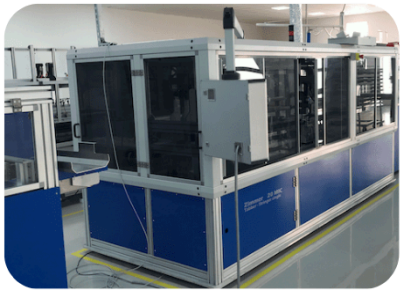
Blessed Investment
- Headquarters: Tirana, Albania
- Website: https://www.blessedinvestment.com/
- Details: This local company is collaborating on the ambitious Project Blue, which has an installed capacity of 67.5 MW and is set to be the first large-scale solar project implemented without government subsidies in the Balkans.

Matrix Konstruksion
- Headquarters: Tirana, Albania
- Website: https://matrixkonstruksion.com/
- Details: Matrix Konstruksion is involved in the development of Project Blue alongside Blessed Investment.

Ecosun Albania
- Headquarters: Tirana, Albania
- Website: https://ecosun.al/
- Details: Ecosun specializes in solar panel installation and renewable energy solutions across Albania and Kosovo.

Enercom
- Headquarters: Tirana, Albania
- Website: https://www.enercom.al/
- Details: Enercom offers comprehensive solar energy solutions including design, installation, and maintenance services for both residential and commercial applications.

Nova Solar
- Headquarters: Tirana, Albania
- Website: https://novasolar.al/
- Details: Nova Solar focuses on providing high-quality solar installations and services tailored to meet local needs.



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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