Burundi 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 Burundi

KEY POINTS

All figures have been converted into USD

Yearly sunshine (sun hours per year)

Average yearly sunshine: 300 days

Solar radiation: 5.5 kWh/m²/day

Peak sun hours: 5-6 hours/day

This results in a significant potential for solar energy generation.

kWh per kWp installed

The average yield of solar panels is approximately 1,200-1,500 kWh/kWp per year.

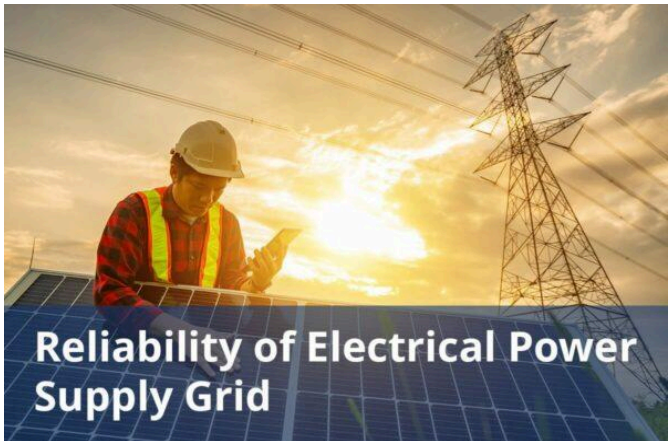
This can vary based on location, orientation, and system efficiency.

Average cost per kWh from utility company

Cost of electricity: $0.12/kWh

Average cost of solar energy produced: $0.10/kWh

Projected savings with solar installation: up to 20% on electricity bills.



Reliability of electrical power supply grid

Solar energy systems have a reliability rate of over 95%.

They require minimal maintenance, contributing to long-term durability.

DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total installed solar panels: 150,000 MW

This covers approximately 2% of total energy consumption in the region.

Total solar panel production capacity (projected)

Projected installations by 2030: 350,000 MW

This would achieve 10% of energy generation.

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

Average installation cost: $2.50/W

Financing options available with monthly payment plans.

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

Current electricity sourced from renewables: 18%

Goal for 2030: 50% of total electricity from renewable sources.

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

Average daily availability: 5-7 hours of peak sunlight

This allows for significant solar energy capture.

Number of residential solar panel installations

Residential solar systems average 5 kW per home.

Total homes with solar: 500,000.

Total number of solar farms (installed and projected)

Total solar farms: 200

Each farm averages about 50 MW of capacity.

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

Burundi has seen minimal adoption of quality-verified off-grid solar products, with only 50000 to 100000 units sold—just 5% of the potential market.

Furthermore, this limited adoption is heavily skewed toward basic pico lanterns, with very few larger Solar Home Systems (SHS) being purchased.

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

Burundi's on-grid solar market is in its nascent stages, with around 9 MW of installed solar PV capacity as of 2023.

The government is actively promoting solar energy through initiatives like the National Electrification Strategy, aiming to increase access to electricity, particularly in rural areas.

The market is expected to expand as regulatory frameworks improve and financing options become more accessible.

However, challenges like high upfront costs, lack of technical expertise, supply chain issues and security concerns hinder faster adoption.

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

The average monthly salary in the Burundi is $411.

Solar Photovoltaic Installer: the average monthly salary is approximately $274.

Solar Energy Systems Engineer: the average monthly salary is approximately $425.

Population of the country

The current population of Burundi is 14106998.

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

Estimate for Factory Rent
- Indicative price range for warehouse rentals in Burundi is from $4 to $7 per square meter.

Industrial Electricity Rates
- For commercial consumers, electricity tariffs in Burundi are:
- $11.10/kWh for those consuming less than 100 kWh/month
- $17.90/kWh for those consuming between 101 and 250 kWh/month
- $22.70/kWh for those consuming above 250 kWh/month.

Water Costs
- Getting factual data for this is very challenging due to various factors; however, based on the sole available data as far back as 2006, the average water tariff in Burundi was said to be approximately $0.35/m³.

Salaries and Wages
- Worker of solar industry in Burundi earn between $260+ and $650+ monthly, depending on the position.

Insurance
- The average spending per capita in the Insurances market is estimated to be $17.94 in 2024.

A summary of the energy infrastructure

Burundi's energy consumption is heavily reliant on biomass, which accounts for approximately 94% of total energy consumption.

- Firewood: About 70% of biomass consumption.
- Agricultural Residues: Approximately 18%.
- Charcoal: Around 6%.
- Electricity: Constitutes only 0.3% of total energy consumption.

The electricity generation capacity is primarily from hydropower, which represents about 95% of the total national generation capacity.

The country has significant potential for hydropower, with an estimated 1700 MW of resources, of which 300 MW is economically exploitable.

Diesel and thermal power are used as temporary measures to bridge gaps in supply.

Less than 1% of the population has access to clean cooking solutions.

Burundi's electricity infrastructure faces significant challenges, including:
- Low Electrification Rate: Only about 11% of the population has access to electricity, with only 3% in rural areas.
- Interconnections: Burundi imports electricity from the Democratic Republic of the Congo (DRC) through the Ruzizi hydropower plants.

Some of the government regulations surrounding solar panel production

Electricity Law of 2015: This law established a framework for private sector participation in the energy sector.

It includes simplified authorization procedures for mini-grids, facilitating the development of solar energy projects by private entities.

This regulation aims to encourage investment in off-grid solar solutions, particularly in rural areas.

National Electrification Strategy: The government has launched this strategy to increase access to electricity, especially in rural regions, through renewable energy sources, including solar.

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

The government is actively promoting investment in the solar industry by simplifying regulations and providing incentives for both local and foreign investors.

This includes efforts to reward investors and foster public-private partnerships (PPPs) to develop solar projects.

Solar Energy Project in Rural Communities (Soleil Nyakiriza): Launched by the Ministry of Hydraulics, Energy and Mines (MINHEM), this project aims to increase access to electricity through solar energy.

It is financed by the World Bank and includes a $17 million fund specifically designed to provide affordable access to off-grid solar products for 65000 households.

Notable solar projects in the country (installed and projected)

Current projects:

Gigawatt Global Solar Plant in Mubuga
- Capacity: 7.5 MW
- Operational Since: October 2021
- Provides over 10% of the nation's electricity, supplying clean power to thousands of homes and businesses.

Projected projects:

Doubling Capacity of the Mubuga Plant
- Future Plans: The Burundian government has announced plans to double the generating capacity of the Mubuga solar plant.

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

Gigawatt Global
- Headquarters: New York, USA
- Details: An international renewable energy company, Gigawatt Global pioneered Burundi's first utility-scale solar power plant.

ITCO Solar Energy
- Headquarters: Bujumbura, Burundi
- Details: A local company specializing in solar energy solutions and installations throughout Burundi.

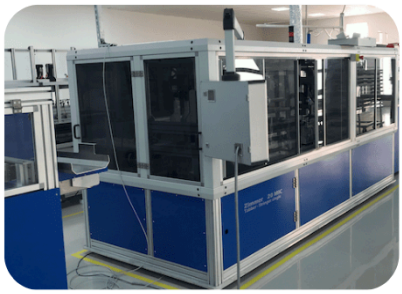
KLK
- Headquarters: Bujumbura, Burundi

- Details: KLK is a Burundian company dedicated to solar panel installation and related services.

MARS Solar
- Headquarters: Marsberg, Germany
- Details: MARS Solar is a manufacturer of solar power systems, known for their off-grid solutions.

Voltalia
- Headquarters: Paris, France
- Details: Voltalia is an EPC contractor engaged in community solar initiatives in Burundi.

Inspired Evolution
- Headquarters: Johannesburg, South Africa
- Details: A pan-African private equity investor supporting renewable energy projects across Africa.



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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