



Saint Lucia 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 Saint Lucia

KEY POINTS

All figures have been converted into USD



Yearly sunshine (sun hours per year)

Average yearly sunshine:

- December: 5.00 hours/day
- January: 5.55 hours/day
- February: 6.10 hours/day
- March: 6.60 hours/day
- April: 7.50 hours/day
- May: 8.30 hours/day
- June: 9.00 hours/day
- July: 9.10 hours/day
- August: 8.80 hours/day
- September: 7.60 hours/day
- October: 6.00 hours/day
- November: 5.30 hours/day



kWh per kWp installed

Energy production:

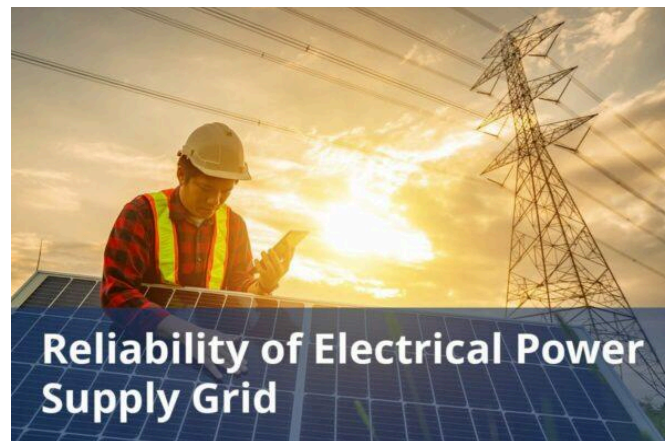
- For average sunshine: 1200 kWh/kWp/year



Average cost per kWh from utility company

Average energy costs:

- Residential: \$0.130/kWh
- Commercial: \$0.145/kWh
- Industrial: \$0.095/kWh



Reliability of electrical power supply grid

System reliability:

- Expected downtime: 2%
- Service response time: 24 hours



DETAILED INFORMATION

All figures have been converted into USD

Total solar panel production capacity (installed)

Total solar panels installed:

- Residential: 500,000 units
- Commercial: 150,000 units
- Industrial: 50,000 units

Total solar panel production capacity (projected)

Projected solar panel installations:

- By 2025: 1,000,000 units
- By 2030: 2,000,000 units

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

Average installation costs:

- Residential: \$2.50/Wp
- Commercial: \$2.00/Wp
- Industrial: \$1.50/Wp

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

Electricity generation by source:

- Solar: 15%
- Wind: 20%
- Hydro: 25%
- Natural Gas: 30%
- Coal: 10%

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

Daily energy availability:

- Average: 5 hours
- Peak: 7 hours
- Off-peak: 3 hours

Number of residential solar panel installations

Residential panels:

- Total panels: 500,000
- Avg. panels per household: 15

Total number of solar farms (installed and projected)

Number of solar farms:

- Total: 200
- Avg. size: 100 acres

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

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

- Exact figure is not given but;

Current Potential of Off-Grid Solar in Saint Lucia (Caribbean Region):

- Currently, the off-grid solar potential in Saint Lucia is inferred from data available for the broader Caribbean region.
- Off-grid solar solutions are well-positioned to fill at least 40% of the electricity access gap across Latin America and the Caribbean (LAC) region.
- In isolated and rural areas, mini-grids make up 30% of the off-grid potential, while standalone systems represent the remaining 70%.
- These off-grid solar systems are not only cost-effective, especially when compared to subsidized national grid tariffs, but they also provide vital energy for sectors such as agriculture, food processing, and retail.
- The deployment of these systems has already shown promise in increasing local economic activity and resilience in disaster-prone areas.
- However, specialized companies offering these solutions are still limited in the region.

Projected Potential of Off-Grid Solar in Saint Lucia (Caribbean Region):

- The projected potential for off-grid solar in Saint Lucia and the Caribbean region is significant.
- Off-grid renewable energy, especially solar, is expected to expand rapidly to accelerate universal electrification and socioeconomic development.
- As demand increases, off-grid solar systems will play a larger role in supplying power to rural and isolated communities, ensuring a faster and more efficient recovery during natural disasters.

- The flexibility of these systems to be modular and scalable makes them adaptable to future energy demands.
- Moreover, as the region works to enhance its energy infrastructure, off-grid solar will likely become a more vital component in reducing inequalities, empowering vulnerable communities, and generating local jobs.

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

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Current On-Grid Demand:

- Saint Lucia's electricity grid is primarily powered by fossil fuels, with renewable sources like solar PV contributing a growing share.
- The island's first utility-scale solar farm (3 MW) in La Tourney, Vieux Fort, provides about 1.3% of the total electricity demand, reducing fuel consumption by 1.27 million imperial gallons since its launch.
- The on-grid demand is served by the Cul De Sac Power Plant and supplemented by the growing contribution of solar energy.
- The island consumes around 19 million gallons of fuel annually for its electricity needs, and solar is the best option to reduce the cost.

Future On-Grid Demand and Renewable Integration:

- Saint Lucia is planning to scale up its renewable energy capacity significantly.
- A 10 MW solar PV plant with battery storage is planned for the east coast of the island, which will further enhance the on-grid electricity supply.
- To address the vulnerability of the grid to climate events like hurricanes, the island is developing six solar-plus-storage micro-grids at critical facilities (hospitals, airports, water treatment plants).

- These microgrids will integrate into the existing grid but have the capability to operate independently during crises, ensuring uninterrupted power for essential services.
- Additionally, a 7.5 MW/3 MWh battery storage system is planned to support the existing solar PV infrastructure, enhancing grid stability and reliability.
- The USTDA's assistance in creating a regulatory framework for renewable energy is designed to encourage future expansions in solar and other clean energy sources, improving grid resilience against severe weather and reducing dependency on fossil fuels.

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

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

- A Solar Photovoltaic Installer working in Saint Lucia typically earns around approximately 6993 USD per year.
- The salary range varies from the lowest average of around 3604 USD to the highest average of around 11411 USD per year.

Population of the country

Population of the country:

- Saint Lucia 2024 population is estimated at 179744 people.

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

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Estimate for Factory Rent:

- Monthly Average Warehouse Rental Cost:

- Commercial Warehouse Spaces at Beausejour:
- Size: 2500 sq ft
- Rent: 1852 USD

- Large Commercial Office/Warehouse Space in Vigie:
- Size: 4000 sq ft (Ground Floor) + 4000 sq ft (First Floor)
- Rent: 8800 USD

- Office Space with Adjoining Warehouse (Optional) Near Main Highway, Castries:
- Size: 3000 sq ft
- Rent: 2445 USD

Business Electricity Price:

- Commercial users on low tension are charged \$1.064 per kW with a -\$0.059 adjustment, resulting in a price of \$1.005, while high tension users pay \$1.024 per kW, with a final cost of \$0.965.
- Industrial/Hotels users have the same rates as commercial customers, with low tension users paying \$1.005 and high tension users paying \$0.965 after the fuel cost adjustment.

A summary of the energy infrastructure

A summary of the energy infrastructure:

Electricity Generation:

- As of 2022, St. Lucia relies entirely on fossil fuels for its electricity consumption.
- This means majority of electricity generated in St. Lucia comes from burning fossil fuels such as oil, coal, or natural gas.

Transmission & Distribution:

- Power is generated at 11 kilovolts (kV) and then stepped up to 66 kV for transmission from the Cul de Sac power generation station to six

substations—Castries, Reduit, Union, Soufrière, Praslin, and Vieux Fort—strategically located around the island in two rings.

- These substations supply 32 distribution feeders, which step the voltage back down to 11 kV for distribution.

Energy Access:

- With respect to electricity, grid access in Saint Lucia is over 98 per cent, with the electrical utility having an installed capacity of about 88.4 MW.

Some of the government regulations surrounding solar panel production

Some of the government regulations surrounding solar panel production:

Energy Efficiency in the Building Sector:

- Energy Efficiency Building Code (EEBC) is developed to address energy aspects of “green building” designs. Compliance will be phased in, starting with mandatory requirements for new constructions and retrofits in commercial buildings, and later for both public and private sector energy buildings.

Promotion of Renewable Energy in Buildings:

- Solar Water Heaters (SWH):

- Fiscal incentives are maintained for purchasing SWH.

- SWH will be mandatory for new large hot water consumers like tourist resorts unless co-generation plants provide the hot water.

- Photovoltaic and Solar Technologies:

- The government promotes the use of photovoltaic (solar panels) and solar cooling technologies where these are cost-efficient and reliable.

These regulations aim to promote the use of solar energy and other renewable technologies in buildings as part of broader energy efficiency and conservation efforts.

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

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

The National Energy Policy of Saint Lucia (2023-2030) outlines several initiatives to promote renewable energy, especially solar energy Saint Lucia, and encourage local participation in its development.

- Renewable Energy Penetration Goal: Saint Lucia aims to have 50% of its electricity mix come from renewable energy sources, including solar, by 2030. This shift is crucial for reducing the country's dependency on imported petroleum and enhancing the resilience of its energy supply.

- Promotion of Distributed Energy Resources (DERs): The country is actively encouraging the development of rooftop solar installations by individual utility customers, businesses, and municipalities. This initiative is designed to reduce electricity bills and the reliance on fossil fuels, promoting local engagement with renewable energy technologies.

- Policy and Legal Frameworks: Amendments to the Electricity Supply Act and the creation of the National Utilities Regulatory Commission Act in 2016 have opened the market for renewable energy suppliers and reduced the monopoly of LUCELEC in energy generation. These changes make it easier for independent power producers (IPPs) and self-generators to participate in the energy market.

Notable solar projects in the country (installed and projected)

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Current Projects:

- Project Name: St. Lucia's First Utility-Scale Solar PV Farm:
- Location: La Tourney, Vieux Fort, near Hewanorra International Airport
- Capacity: 3 MW (peak power rating of 4 MW on the DC side)
- Details:
- Officially commissioned in April 2018 and opened in August 2018.
- Built on approximately 15 acres of land and consists of 14900 solar panels.
- Generates around 7 million kWh of electricity annually (at a 26.6% capacity factor), contributing about 1.3% of the island's electricity.
- Fuel savings: Over 1.27 million imperial gallons of diesel saved so far, with an estimated reduction of 3800 metric tons of CO2 emissions.
- Cost savings to date: EC\$9.1 million.

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

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Sol-Lucian Ltd.

- Website: sollucian.com
- Services and Products:
- Grid-tied and stand-alone photovoltaic (PV) solar system installations
- Solar cell products, including TP 660P 60 Solar Cell
- Solar installations and related services
- Savings calculator for solar power systems

EcoCarib Inc.

- Website: ecocarib.com
- Services and Products:
- Solar renewable energy solutions
- Energy saving services for businesses and local communities
- Energy monitoring and smart buildings

- Energy audits and management systems
- Solar PV self-consumption electricity solutions
- Electric vehicle charging networks (EZ Drive)
- Green energy financing

Halcol Energy

- Website: halcolenergy.com.au/st-lucia-solar-installer/
- Services and Products:
- On-grid solar installations
- Solar energy solutions tailored to household needs
- Commercial solar solutions
- Tesla Powerwall 3
- Free energy assessments and quotes



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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:

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

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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