



# Myanmar (Burma) 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 Myanmar (Burma)

## KEY POINTS

All figures have been converted into USD



## Yearly sunshine (sun hours per year)

Yearly Sunshine:

- Average yearly sunshine: 2500 hours
- Peak sunshine hours: 5-6 hours/day



**kWh per kWp installed**

kWh per kWp:

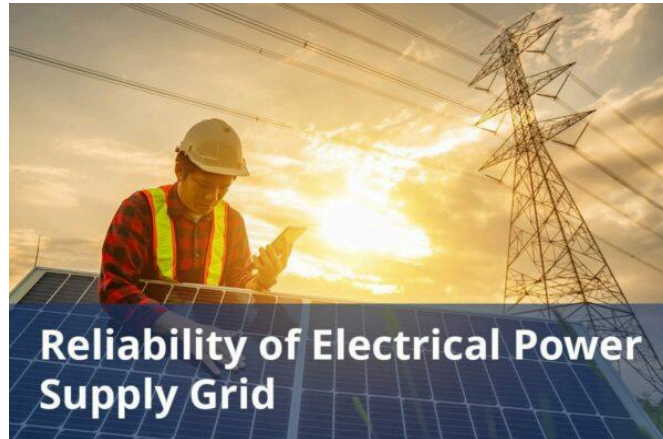
- Expected generation per kWp: 1200 kWh/year
- Efficiency: 15-20%



**Average cost per kWh from utility company**

Average Cost per kWh:

- Residential: \$0.125/kWh
- Commercial: \$0.10/kWh
- Industrial: \$0.08/kWh



## Reliability of electrical power supply grid

Reliability:

- Estimated uptime: 98%
- Maintenance frequency: once every two years



# DETAILED INFORMATION

All figures have been converted into USD

## **Total solar panel production capacity (installed)**

Total Solar Panels Installed:

- Total number of panels: 200000
- Total systems installed: 15000

## **Total solar panel production capacity (projected)**

Total Solar Panels Projected:

- Expected installations by 2030: 500000
- Growth rate: 10% annually

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

Average Costs:

- Install cost per panel: \$1000
- Average total system cost: \$15000

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

Percentages of Electricity:

- Residential usage: 30%
- Commercial usage: 40%
- Industrial usage: 30%

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

Daily Availability:

- Average daily generation: 4 kWh
- Estimated usage per household: 30 kWh/day

## **Number of residential solar panel installations**

Number of Residential Panels:

- Average number of panels per home: 20
- Total residential systems: 12000

## **Total number of solar farms (installed and projected)**

Number of Farms:

- Total solar farms: 50
- Average size per farm: 10 MW

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

Current Situation:

- Myanmar's off-grid electrification sector is facing significant challenges due to political instability, economic hardships, and crises that began following the 2021 military takeover.
- Fuel prices have skyrocketed, tripling in cost, which has severely impacted mini-grid operators and led to service disruptions in off-grid communities.

- Additional issues such as a shortage of skilled labor, electricity theft, inflation, and depreciation of the national currency have further undermined the sustainability of existing mini-grids.
- Despite these struggles, the National Electrification Plan has provided a foundation for off-grid electrification by establishing 73 mini-grids, installing solar home systems for over 421,000 households, and supplying solar power to rural clinics, schools, and public streetlights.
- However, security concerns and armed conflicts in regions such as Sagaing, Rakhine, Shan, and Kayah States have made many mini-grids inaccessible, limiting their operational capacity and ability to monitor progress.

#### Future Prospects:

- Myanmar's off-grid solar potential remains significant, with great opportunities for expansion, particularly in underserved and conflict-affected regions. To strengthen the resilience of mini-grids, efforts should focus on improving financial models, expanding solar photovoltaic (PV) and battery storage capacities, and ensuring reliable monitoring systems.
- The government aims to electrify the country by 2030, and one key priority should be connecting the 9,434 unserved households within existing mini-grid areas.
- Scaling up renewable energy solutions is essential to reduce dependency on diesel generators and mitigate associated costs.
- Efforts to update electricity tariffs and provide financial support to mini-grid operators will be crucial for ensuring their long-term sustainability and meeting Myanmar's ambitious goal of universal electricity access by 2030.
- Additionally, projects like those from Sunlabob, installing solar mini-grids in remote villages in Shan and Chin provinces, are part of a government-backed scheme to electrify the country, where only 16% of rural homes had power in 2014.

- Sunlabob's systems allow households to power low-voltage electrical items like lights, mobile phones, and small televisions, providing much-needed energy to rural Myanmar.

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

### Current On-Grid Solar Market Demand in Myanmar:

- Myanmar's on-grid solar market is in the early stages of development, with the majority of electricity generation traditionally reliant on hydropower and fossil fuels. However, recent years have seen a growing interest in solar energy as a means to diversify the energy mix and address electricity shortages.
- In 2020, Myanmar initiated a tender for 29 ground-mounted solar projects, totaling 1.06 GW of solar power capacity. However, following political changes in 2021, many of these projects were canceled by 2022, with only three projects progressing in development.
- Despite these challenges, the solar industry in Myanmar has experienced significant expansion. By some estimates, the off-grid solar business sector for private residences and industry has grown tenfold over a nine-month period, driven by frequent power outages and rising diesel costs.
- Additionally, the government has set a plan to electrify the whole country by 2030, with renewable energy, including solar, playing a significant role.

### Future On-Grid Solar Market Demand in Myanmar:

- Looking ahead, Myanmar's energy consumption is projected to grow at an average rate of 11% annually until 2030. The World Bank forecasts that peak electricity demand will rise to 8.6 GW by 2025 and 12.6 GW by 2030.
- To meet this increasing demand and enhance energy security, the government aims to integrate more renewable energy sources into the

national grid. The Solar Energy market in Myanmar is projected to grow by 2.33% between 2025 and 2029, resulting in a market volume of 137.30 million kWh by 2029.

- However, challenges such as regulatory barriers, political instability, and the need for infrastructure improvements persist. Addressing these issues will be crucial for scaling up solar energy deployment and achieving the country's electrification and renewable energy targets.

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

Lowest average salary:

- ~\$1297.48 USD per year

Average salary:

- ~\$2822.19 USD per year

Highest average salary:

- ~\$4486.29 USD per year

### **Population of the country**

2025 population is estimated at 54850648 people.

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

Estimate for Factory Rent

- Monthly Average Warehouse Rental Cost: The cost of renting a warehouse in the Tharketa Industrial Zone, Yangon, Myanmar, is approximately \$739.00 per month for a space of 5000 ft<sup>2</sup> (464.5 m<sup>2</sup>).

Key Components of Administrative Costs

- Salaries and Wages:

- Lowest average salary: ~\$1297.48 USD per year
- Average salary: ~\$2822.19 USD per year
- Highest average salary: ~\$4486.29 USD per year

#### Commercial electricity rates

- The electricity price for businesses is \$0.051 per kWh.

#### Monthly Rents for Office Space

- Lowest Rent: \$1500 per month (Commercial Unit in Golden Valley, Bahan Township)
- Highest Rent: \$6788 per month (UFC Office Tower, Downtown)

## **A summary of the energy infrastructure**

#### Electricity Generation:

- In Myanmar, natural gas is the dominant source of electricity generation, contributing about while hydropower is on second number. This indicates that the majority of the country's electricity is generated from a combination of natural gas and hydropower, with limited input from other sources such as solar or coal.

#### Transmission & Distribution:

- Myanmar's electricity transmission and distribution (T&D) network is managed by the Electricity Supply Enterprise (ESE), a state-owned entity under the Ministry of Electric Power. The country has developed high-voltage transmission lines to transport electricity from power plants to substations. These lines are essential for delivering electricity over long distances.

## **Some of the government regulations surrounding solar panel production**

Myanmar's solar energy sector is supported by several key regulatory frameworks aimed at promoting renewable energy development, including:

### Regulatory and Investment Framework

- Investment Framework: Foreign investors must obtain a permit from the Myanmar Investment Commission (MIC) to develop power plants. This includes protection against nationalization and potential tax incentives.
- Regulatory Framework: While specific regulations for rooftop solar installations and net metering are still developing, the National Energy Policy emphasizes the need for renewable energy expansion, including solar power.
- Building Codes: Solar panel installations must adhere to local building codes ensuring structural integrity, electrical safety, and fire safety, which may vary by region.

### Environmental Regulations:

- Environmental Conservation Law (2012): Provides the foundation for Environmental Impact Assessments (EIA), Initial Environmental Examinations (IEE), and Environmental Management Plans (EMP). The procedures for EIAs were issued in December 2015, along with the National Environmental Quality (Emission) Guidelines.
- Ministry of Natural Resources and Environmental Conservation: Oversees the environmental matters related to solar energy, including compliance with EIA procedures and ensuring projects do not negatively impact the environment.

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

### Government Initiatives in Solar Energy in Myanmar

- Myanmar's government has initiated several key measures to promote solar energy, including investments and subsidies, particularly in the agricultural sector.

#### Smart Power Myanmar's Solar Initiatives:

- Smart Power Myanmar (SPM), in partnership with USAID and other private sector partners, is deploying solar systems to rural enterprises to enhance agricultural productivity.
- By 2030, SPM aims to deploy 300 solar systems with a combined generation capacity of about 109 MW of electricity, directly impacting 13000 jobs and benefiting 160000 livelihoods.

#### Pioneer Facility's Investment in Solar Microgrids:

- Additionally, initiatives like the Pioneer Facility, an impact investment fund, support solar microgrid projects in Myanmar. For example, Techno Hill received a loan from the Pioneer Facility to expand solar mini-grids in Southern Myanmar, which will provide electricity to 700 households and 23 businesses.

## **Notable solar projects in the country (installed and projected)**

#### Current Projects:

- Minbu-GEP Solar Park (220 MW) – Myanmar
- Location: Magway, Myanmar
- Capacity: 220 MW
- Project Status: Partially Active, under development in multiple phases
- Project Description: The Minbu-GEP Solar Park is a large-scale, ground-mounted solar PV project located in Magway, Myanmar, covering an area of 344 hectares.

#### Nabuaing Solar Power Project (150 MW)

- Location: Nabuaing Township, Myingyan District, Mandalay Region

- Capacity: 150 MW (Phase 1: 25 MW, Other Phases: 125 MW)
- Project Description: The Nabuaing Solar PV Power Plant aims to establish a solar photovoltaic (PV) power plant with an installed capacity of 150 MW and an average annual generation of 305 GWh.

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

### Edycom Solutions

- Website: <https://edycom-solutions.com/>
- Locations: Myanmar: Office No. 104, 1st Floor, Royal Yaw Min Gyi Condo, Yaw Min Gyi Road, Yangon, Myanmar
- Products and Services:
  - Electricity & Power Connection: AC/DC power equipment, batteries, and grounding services.
  - In-Building Solutions: End-to-end solutions for global clients, providing tailor-made packages.

### Indigo Energy

- Website: <https://www.indigoenergy.net/>
- Location: No. 37-A, Room No. 301, 2nd Floor, Thiri Mingalar Road, Kamayut Township, Yangon, Myanmar
- Services:
  - EPC Services (Engineering, Procurement, and Construction)
  - Engineering Services
  - Solar EPC Projects



# 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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# 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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