



# Oman 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 Oman

## KEY POINTS

All figures have been converted into USD



## Yearly sunshine (sun hours per year)

Yearly Sunshine:

- Average yearly sunshine per location: 5.5 hours/day
- Total sunshine in a year: 2000 hours
- Best locations for solar energy: Southwest regions



**kWh per kWp installed**

kWh Produced Per kW of Solar Panels:

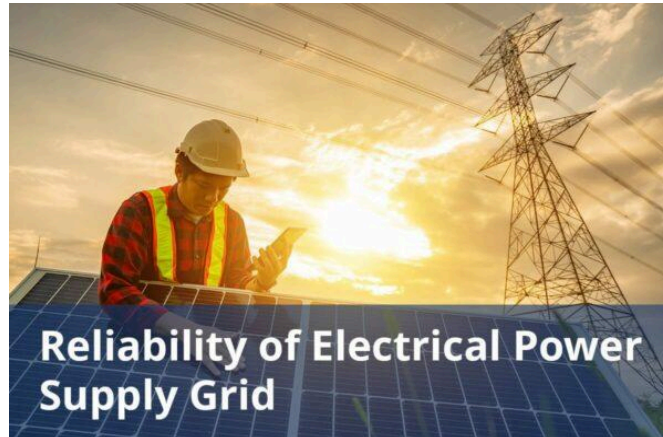
- Standard production: 1200 kWh/kW/year
- Highly efficient areas: 1500 kWh/kW/year
- Typical production range: 1000-1300 kWh/kW/year



## Average cost per kWh from utility company

Average Cost Per kWh:

- National average electricity price: \$0.130/kWh
- Solar energy cost per kWh: \$0.089/kWh
- Potential future prices: \$0.075/kWh



## Reliability of electrical power supply grid

Reliability of Solar Energy:

- Energy produced reliably during daylight hours
- Backup systems recommended for cloudy days
- Overall reliability: 90% during peak sunlight hours



# DETAILED INFORMATION

All figures have been converted into USD

## Total solar panel production capacity (installed)

Total Solar Panels Installed:

- Panels installed in 2022: 1500000
- Cumulative panels installed until 2023: 10000000
- Future projections for 2024: 12000000

## Total solar panel production capacity (projected)

Total Solar Panels Projected:

- By 2025: 15000000
- By 2030: 25000000
- By 2040: 40000000

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

Average Costs of Solar Installation:

- Cost per watt: \$2.50/W
- Total system cost (5 kW): \$12500
- Incentives may reduce costs by 30%

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

Percentages of Electricity Production:

- Solar's share of total electricity: 20%
- Wind's share: 25%
- Other renewables: 15%

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

Daily Availability of Solar Energy:

- Peak sunlight hours: 5 hours
- Availability during cloudy days: Reduced by 50%
- Comparison with non-renewable sources: More consistent

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

Number of Residential Solar Panels:

- Average panels per home: 20
- Estimated homes with solar: 1000000
- Total residential solar panels: 20000000

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

Number of Solar Farms:

- Total solar farms in the country: 150
- New farms expected by 2025: 50
- Growth rate of solar farms: 15% annually

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

The off-grid solar market in Oman is limited but growing, with current capacity around 10 MW and projections to reach 30 MW by 2030.

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

The on-grid solar market in Oman is set to expand significantly, with current installed capacity expected to rise from 500 MW to 4 GW by 2030.

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

The average salary of workers in the solar industry in Oman is as follows:

- Electrical Engineer: \$1200 – \$1800
- Electrician: \$800 – \$1200
- Design Engineering Manager: \$1500 – \$2200
- Solar Energy System Installer: \$600 – \$1000
- Solar Energy / Solar Power Engineer: \$1200 – \$1800
- Solar Installation Electrician: \$700 – \$1200

## **Population of the country**

The population of Oman is approximately 4500000 as of 2024.

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

The average overhead cost of solar panel production in Oman encompasses several key components:

- **Raw Material Costs:** The primary materials required for solar panel production include silicon, aluminum, and copper.
- **Utilities Charges:** Energy costs are substantial due to the high electricity consumption needed for various manufacturing stages.
- **Electricity Charges:** The cost of electricity in Oman is relatively high, which impacts the overall production cost.
- **Water Charges:** Here are the permitted tariffs for water in Oman, US Dollars (USD) per cubic meter:
  - Residential: approximately \$1.71 USD / Cubic Meter
- **Labor Costs:** The average labor cost in Oman for skilled workers in the solar panel manufacturing sector ranges from \$3 to \$10 per hour,
- **Facility Maintenance:** Maintenance costs for manufacturing facilities, including rent, equipment maintenance, and repairs, typically range from \$2500 to \$7500 per month.
- **Administrative Expenses:** These include salaries for administrative staff, office supplies, and other general expenses, which are a substantial part of the overhead costs.
- **Quality Control:** Ensuring that solar panels meet safety and performance standards involves testing and inspections, adding to the overhead costs.

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

Oman is continuously improving its energy infrastructure here are some significant measures:

- Oman's energy landscape is currently undergoing a transformation, with a strong emphasis on sustainability.
- Oman has committed to net-zero emissions by 2050, State-owned Petroleum Development Oman (PDO) aims to slash its emissions to 50% of 2019 levels by 2030.
- A significant milestone in this transformation is the establishment of the Ibri II solar plant, which has a capacity of 500 MW.
- Looking towards the future, Oman has set an ambitious goal to source 30% of its energy from renewable sources by 2030.

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

Oman has regulations in place to support solar energy adoption, including:

- The Authority for Public Services Regulation is responsible for regulating the electricity sector, including the use of solar photovoltaic (PV) systems.
- The Renewable Energy Initiative, also known as the Sahim Initiative, promotes the use of clean solar energy.
- The Authority for Electricity Regulation has completed the final draft of the Standards for small scale Grid-Connected Solar PV Systems.

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

Here's a concise summary of Oman's Solar Initiatives:

- Oman has committed to achieving net-zero emissions by 2050.

- The government is expanding its electricity-generation capacities through renewable independent power projects (IPP), with plans to derive at least 30% of electricity from renewables by 2030.
- Oman's integrated oil and gas company OQ is seeking international partners to replace 40% of its three-gigawatt power consumption with renewable energy projects.
- Oman has also set up a new government entity, the Oman Sustainability Centre, to oversee its carbon neutrality plans.

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

Notable solar projects in the country include:

- Ibri II Solar Power Plant
  - Location: Ibri, Ad Dhahirah Governorate
  - Capacity: 500 MW
- Amin Solar PV Project
  - Location: Near Nimr, Dhofar region
  - Capacity: 100 MW
- Sohar Solar Power Plant
  - Location: Sohar, Al Batinah North Governorate
  - Capacity: 1 GW (planned)

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

Several key players in Oman's solar market include:

- Wadi Noor Solar Power Company (WNSPC): A joint venture between EDF Renewables Middle East and Korea Western Power Co Ltd (KOWEPO), WNSPC is dedicated to advancing solar innovation.

- Bahwan Solar: Part of the Bahwan Engineering Company, Bahwan Solar has been a pioneer in solar energy initiatives in Oman.
- Oryx Solar Power: Oryx Power specializes in the development of renewable energy projects.
- Nafath Renewable Energy: Established in 2013, Nafath Renewable Energy is one of Oman's oldest players in the small-scale solar PV sector.
- Majan Electricity Company: Majan Electricity Company distributes and supplies electricity in Oman.



## 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:

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

# 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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