

## **SolarInnovate Energy Solutions**

# **Armenia s 5wg annual production high-efficiency photovoltaic module project**



## Overview

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Does Armenia have solar energy?

Armenia has significant solar energy potential: average annual solar energy flow per square metre of horizontal surface is 1 720 kWh (the European average is 1 000 kWh), and one-quarter of the country's territory is endowed with solar energy resources of 1 850 kWh/m<sup>2</sup> per year. Solar thermal energy is therefore developing rapidly in Armenia.

What percentage of Armenia's Energy is renewable?

Renewable energy resources, including hydro, represented 7.1% of Armenia's energy mix in 2020. Almost one-third of the country's electricity generation (30% in 2021) came from renewable sources. Forming the foundation of Armenia's renewable energy system as of 6 January 2022 were 189 small, private HPPs (under 30 MW), mostly constructed since 2007.

How big is Armenia's solar power?

In 2017, Tamara Babayan, a sustainable energy expert, estimated the potential of Armenia's distributed solar power at 1,280 MW and almost 1,800 GWh in annual generation.

How much electricity does Armenia produce a year?

Last year Armenia produced 8,907.9 GWh of electricity, up 16% from 2021. The vast majority came from thermal power plants in Yerevan and Hrazdan (43.5%) and the Metsamor Nuclear Power Plant (32%). Hydropower accounted for 21.8%, while solar stood at 2.7% and wind power at just 0.02%.

How many solar farms are there in Armenia?

The installed capacities of Armenia's 60 solar farms range from 64.91 kW to 5,000 kW (5 MW). The majority (32 of 60) are at the upper range (5 MW), which seems to be the preferred size. The first license for a solar farm in Armenia was granted in November 2017, but only 12 were built in the first

three years.

Is geothermal energy viable in Armenia?

The geothermal energy potential of Armenia is significant, but is not considered economically viable, at least for now. The World Bank has estimated the total potential at around 150 MW. The Karkar site in Syunik, for instance, has an estimated capacity of 28 MW with a construction cost of nearly \$100 million, far pricier than solar.

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