

## SolarTech Power Solutions

# Annual power generation of 1W solar panel in Turkmenistan



## Overview

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### Can Turkmenistan harness solar energy?

Turkmenistan has tremendous potential for harnessing solar energy. With more than 300 sunny days annually and with average annual intensity of solar radiation ranging between 700–800 watts per square meter (W/m<sup>2</sup>), the total technical potential of solar energy amounts to 655 GW (Seitgeldiev 2018; UNDP 2014).

### What is the potential of wind power in Turkmenistan?

The technical potential of wind power in Turkmenistan is estimated at 10 GW of capacity. This potential remains unexploited as the country has no large-scale wind power projects to date. Together with solar PV, wind power can help the government to achieve its aim of diversifying the power mix and partly transition to renewable energy sources.

### Will solar power help Turkmenistan decarbonize?

Because the introduction of solar PV would mitigate the country's reliance on natural gas-powered generation, it would also have a large impact on decarbonization efforts. The technical potential of wind power in Turkmenistan is estimated at 10 GW of capacity.

### Does Turkmenistan have a potential for energy savings?

Turkmenistan has considerable potential for energy savings through the implementation of energy efficiency measures on the consumption side. Based on existing inefficiencies and baseline consumption figures, the residential and services sectors were identified as high priority.

### What is Turkmenistan's electricity mix?

Turkmenistan's electricity generation mix is made up only of natural gas-fired power plants.

How to reduce energy consumption in Turkmenistan?

Moreover, modernization efforts that may be considered include basic construction elements, such as roofs, unheated cellars, and frame fillings. Implementing building energy management systems and shifting toward smart metering are other known technologies that could significantly reduce energy consumption in Turkmenistan.

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