

## SolarTech Power Solutions

# Turkmenistan Distributed Energy Storage Project



## Overview

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The project, revealed by Energy Minister Annageldi Saparov on November 3, 2025, marks the nation's strategic pivot beyond traditional natural gas exports toward processed electricity generation along its Caspian coastline. Does Turkmenistan have a power grid?

The project will cover four of the five regions of Turkmenistan, and will help establish an interconnected national transmission grid to improve reliability and energy efficiency of the network. Hydrocarbon-rich Turkmenistan has been an exporter of baseload power to its neighbors, notably Afghanistan.

Why is interconnectivity important in Turkmenistan?

Enhanced interconnectivity will diversify export routes, improve energy system flexibility, and support decarbonization, ultimately integrating Turkmenistan into global energy markets. Ensure access to affordable, reliable, sustainable, and modern energy for all.

What is the solar potential of Turkmenistan?

Average Theoretical Solar Potential: 4.4 kWh/m<sup>2</sup>, roughly 655 GW of additional capacity. Potential: Turkmenistan, with the world's fourth-largest natural gas reserves, is strategically positioned for hydrogen energy development, as 68% of global hydrogen production is derived from natural gas, making it the most cost-effective method.

Is Turkmenistan a good place to develop hydrogen energy?

Potential: Turkmenistan, with the world's fourth-largest natural gas reserves, is strategically positioned for hydrogen energy development, as 68% of global hydrogen production is derived from natural gas, making it the most cost-effective method. Estimated Production: 1.82-5.76 Mt per annum by 2040.

Why should Turkmenistan upgrade the United energy system of Central Asia?

Upgrading the United Energy System of Central Asia is essential to reduce

transmission losses and increase efficiency. Enhanced interconnectivity will diversify export routes, improve energy system flexibility, and support decarbonization, ultimately integrating Turkmenistan into global energy markets.

Why is the low-carbon energy transition stalled in Turkmenistan?

The low-carbon energy transition in Turkmenistan is stalled due to the dominance of fossil fuels, which crowd out low-carbon alternatives. Key factors include: Abundant fossil fuel reserves lead to low-cost energy production that meets domestic demand, limiting the market for low-carbon options.

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