Energy storage for renewable energy turkmenistan

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UNECE is supporting Turkmenistan to strengthen efforts on its sustainable energy transition and to deliver methane emissions reductions from the energy sector, in alignment with global climate objectives.

This was the focus of discussions this week between Mr. Dario Liguti, Director of the Sustainable Energy Division of UNECE, and senior officials from the Ministry of Foreign Affairs of Turkmenistan.

UNECE"s technical assistance can help Turkmenistan to modernize its energy infrastructure, improve energy efficiency, and reduce its environmental impact, harnessing innovation and technology transfer in accelerating the deployment of clean energy technologies, together with capacity building support.

Turkmenistan is a landlocked developing member country (DMC) with abundant gas and oil deposits. Most of the country is desert, with the population concentrated in a few urban areas.

Despite the country"s reliance upon hydrocarbons, the government recognizes the importance of climate action and is exploring renewable energy sources, including solar. This shift could open up new export markets for the country, such as through Green Energy corridors to transport renewable energy from Central Asia to Europe,which would support regional and cross border cooperation.

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The Arkadag Smart City Project is an innovative initiative by the Government of Turkmenistan to advance sustainable development through an environmentally friendly, digitally advanced, resource-conscious, and socially inclusive urban ecosystem. The key objectives of the city are: (1) Environmental Sustainability, (2) Inclusive Growth, (3) Technological Advancement, (4) Economic Diversification, (5) Community Participation, (6) Resilience and Disaster Management, and (7) Data Privacy and Security.

The proposed TA will complement ADB"s existing grid strengthening investments in Turkmenistan"s energy sector while setting the foundations for future engagement in renewable energy generation, including in urban settings. The majority of the technology promoted under the TA would be new for the country.

"Turkmenistan is highly dependent upon hydrocarbons and has an undiversified export basket dominated by a single productnatural gas. In 2021, hydrocarbons comprised about 85% of total exports.

"Despite the country"s reliance upon hydrocarbons, the government recognizes the importance of climate action. Turkmenistan"s Nationally Determined Contribution (NDC) commitment to mitigation focuses on

improving energy efficiency and conservation, promoting the sustainable use of hydrocarbons, and increasing alternative energy sources.

"In the country"s transition to alternative energy sources, Turkmenistan recently completed a 10MW (solar 7MW, and wind 3MW) power plant last January, of which 7MW of solar power has been connected to the grid. Solar is thus a new technology for the country despite its desert features and high potential for generation and offers significant export opportunities with new initiatives in energy generation and transmission from Central Asia to Europe.

"Under the recently approved Turkmenistan CPS (2024-2028), ADB will support Turkmenistan in its efforts to become a more sustainable, climate-resilient, and competitive economy. Urban development is identified as a key potential area for engagement under the CPS with support planned for sustainable cities that incorporate innovations, new technologies, and international best practices.