

## Clean electricity armenia

The World Bank's Board of Executive Directors approved \$40 million in support of the Enabling the Energy Transition project for Armenia, which will assist the implementation of the Energy Sector Development Strategy to 2040 of the Republic of Armenia. The investments will focus on the rehabilitation of power transmission substations, the adoption of reforms to allow the transmission company to access private financing, and the promotion of energy sector modernization as well as regional energy cooperation among emerging and developing economies in the Europe and Central Asia region.

Armenia's power sector is heavily dependent on imported fuels, especially natural gas, which creates significant energy security risks, compounded by the global energy crisis. Attracting private investment is essential to fund the large-scale projects needed in the sector. In 2021, 62 percent of Armenia's total energy supply came from natural gas, followed by oil (16 percent), nuclear (14 percent), and hydro (5 percent), whereas the share of nontraditional renewable energy sources (wind and solar) was only about 1 percent.

"To ensure affordable, reliable, and clean electricity supply for consumers, Armenia needs continued investments in modernizing the power transmission network and improving the commercial viability of the High-voltage Electric Networks of Armenia JSC, the transmission company. Moreover, we expect this project to help reduce greenhouse gas emissions - crucial for mitigating climate change," said Carolin Geginat, World Bank Country Manager for Armenia.

The project aims to facilitate the integration of an estimated 1.1 GW of renewable energy generation capacity into the transmission grid by 2032, which is enough to power over 690,000 households. This will reduce the annual emissions of net greenhouse gas (GHG) by 540,000 tons. Additionally, it seeks to attract private investment totaling \$550 million, upgrade all transmission substations with automated control and digital protection systems, and increase the total capacity of transmission substations from 2,711 megavolt-amperes (MVA) to 3,109 MVA. These efforts are part of a comprehensive strategy to enhance renewable energy adoption, minimize environmental impact, and modernize the grid for increased efficiency and reliability.

The project is part of the Europe and Central Asia Renewable Energy Scale-Up Multiphase Programmatic Approach (ECARES MPA) Program, with an overall financing envelope of \$2 billion equivalent, which was approved by the World Bank's Board of Executive Directors on March 28, 2024. The ECARES MPA is designed to increase renewable energy capacity in participating countries of the Europe and Central Asia region, support the acceleration of their renewable energy transition, and achieve scale and impact through private investment, while also fostering regional knowledge sharing.

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Over the past three decades, Armenia has made great strides in providing electricity to its almost 3 million inhabitants. The landlocked, Caucasus country is now 100% electrified, a huge feat considering how unstable its energy sector was in the 1990s.

However, most of its Soviet-era power infrastructure is in poor condition, leading to blackouts and technical and financial losses for its energy sector. The country also remains heavily reliant on imports of oil and gas to meet its energy demands.

The Asian Development Bank (ADB) has been playing a key role in strengthening Armenia's power sector -- from generation to transmission and distribution -- since the country joined the bank in 2005. In line with their current country partnership strategy, ADB has been helping foster diversified growth and inclusiveness in the country through both sovereign and private sector financing.

"ADB is proud to be part of Armenia's journey to sustainable energy," says Paolo Spantigati, ADB Country Director for Armenia. "Under ADB's country partnership strategy (CPS) for Armenia, 2019-2023, our sovereign and nonsovereign operations focus on investments in priority energy projects that will diversify the country's energy mix and improve energy security."

Through a \$25 million private sector loan, ADB helped to rehabilitate and modernize four hydropower plants of the Sevan-Hrazdan Cascade Hydropower System - one of Armenia's most important energy sources. This improved the safety and reliability of the system which was built in the 1930s-1960s. It helped restore 45 megawatts of generation capacity, increasing the share of renewable energy in Armenia's energy mix.

"ADB provided long-term financing that was a must for the successful implementation and was unavailable in the local market at that time," says Sergey Mokrousov, Senior Investment Specialist with ADB's Private Sector Operations Department. "ADB's involvement in the project fostered confidence among potential investors and lenders as Armenia's hydropower sector attracted additional investments in the subsequent years."

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