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Implemented by:



Black Sea Energy Alliance – Georgia

Clean energy for the South Caucasus

The Georgian energy sector plays a key role in the country's economic development. Within the project Black Sea Transmission Network (BSTN) KfW is supporting Georgia in expanding its power network and modernizing its infrastructure. This project facilitates the exchange of electricity between neighboring states in the southern Caucasus and also connects the Georgian power network to its European counterpart. In doing so, the preconditions are created for tapping into Georgia's enormous potential for hydropower.

Context

During the Soviet era, Georgia's electricity system was part of the Caucasus energy network. As the Soviet Union collapsed, so too did the Caucasus network, and synergy effects gained from the coordinated usage of a power generation structure were lost: for example load balancing over the course of a day or season, or a more efficient utilization of the power plant park. Georgia's energy supply crumbled: electricity frequently had to be rationed or turned off. Comprehensive reforms, coupled with assistance from Germany, enabled Georgia to stabilize its power supply.

However, the demand for energy has increased significantly with economic growth rates of more than 6 % per annum since 2003. For this reason, the energy sector is still confronted with major challenges. By expanding renewable energies, particularly hydropower, the country's entire domestic demand can be met in the medium term. In the summer months electricity could even be exported. The prerequisite for this is extending the capacity of the electricity transmission infrastructure and

connecting the Georgian power network to its neighboring countries and Europe.

This was the main reason for establishing the BSTN starting in April 2010 and primarily financed by German Financial Cooperation. The project supports Georgia in modernizing its national power network and connecting it to Europe. In doing so, Georgia plays a vital role in linking up the countries of the southern Caucasus, as well as Russia and Western Europe.

Project approach

Within the framework of the Black Sea Transmission Network, the Georgian power transmission system was expanded by around 260 kilometers of new high-

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Country/Region	Georgia
Lead executing agency	Energy Ministry Georgia





Energy alliance: Substation in Georgia. Source: KfW photo archive / Rendel Freude

voltage power lines (500 kV) from Gardabani and Zestaponi and to a new substation in Akhaltsikhe, near the Turkish border. The system officially began operations in December 2013, following completion of this final component of BSTN

The Akhaltsikhe substation functions as an "energy bridge" between Europe and the other Caucasus states. The electrical grids of Georgia, Azerbaijan, Russia and Turkey are now directly linked, allowing electricity to be exported to Europe via Turkey. The connection to the Turkish network was made possible by means of a high-voltage DC transmission bridge, which combines the electro technically incompatible mains systems of the two countries.

The total costs of the project amounted to close to EUR 290 million, of which more than a third (EUR 100 million) was from KfW Development Bank. These funds include a non-repayable financial contribution from the German Federal Ministry for Economic Cooperation and Development (BMZ) totaling EUR 25 million and a KfW development loan amounting to EUR 75 million, as well as risk sub-participation from the Austrian Development Bank, OeEB, of EUR 20 million.

Alongside KfW, the following banks were involved in the project's financing: the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD) with loans of EUR 80 million each, and a European Union Neighborhoods Investment Facility (grant of EUR 8 million, administered by KfW). The remaining funds are from the Georgian government budget.

Impact

Georgia's energy infrastructure has been decisively improved by the project. The Georgian economy has been given a vital boost by the improved stability of its transmission network and additional power transmission capacities to Turkey.

Furthermore, estimates show that the use of Georgian hydropower in Turkey helps to avoid approximately 1 million tons of CO2 emissions per annum.



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