



Technical Assistance to Connectivity in the Western Balkans - 2

NEAR/2022/EA-RP/0081

REGIONAL

Gap Analysis for the Power Transmission Infrastructure in the Western Balkans

Partners:

- Energy Community Secretariat
- Ministry of Infrastructure and Energy, Albania
- Ministry of Foreign Trade and Economic Relations, Bosnia & Herzegovina
- Federal Ministry of Energy, Mining and Industry, Bosnia & Herzegovina
- Ministry of Energy and Mining of the Republic of Srpska, Bosnia & Herzegovina
- Ministry of Economy, Kosovo*
- Ministry of Mining and Energy, Montenegro
- Ministry of Economy, North Macedonia
- Ministry of Mining and Energy, Serbia
- Western Balkan Regional Participants' Transmission System Operators

Budget of Technical Assistance:

- Euro 300,000

EU contribution¹:

- As above (100%)

Technical Assistance provided by:

- CONNECTA 2
(Technical Assistance to Connectivity in the Western Balkans - 2)

Energy

Energy security has emerged as a top priority for the Western Balkan partners. The region is making significant policy progress in the energy sector. It is, however, facing numerous challenges to accommodate renewable energy sources in the existing infrastructure on its way to the green transition.

Through the Economic and Investment Plan and its Green Agenda for the Western Balkans, the EU has been supporting energy efficiency and renewable energy generation. It is also reinforcing energy connectivity infrastructure in the region.

Renewable energy integration has been recognized as a promising solution in the quest for sustainable energy, provided the sources can integrate into the existing grid infrastructure. Significant factors hindering this integration across the Western Balkans are the limitations within transmission systems, particularly in system balancing, as often cited by the Transmission System Operators (TSOs).

Also, the electricity markets in the Western Balkans remain fragmented, preventing them from fully benefiting from the larger regional electricity market, particularly in terms of competition. Net Transfer Capacities (NTCs) at the borders are still insufficient and cross-border capacity calculations conducted by Transmission System Operators require coordination. Furthermore, the legal obligation under Article 16(8) of the Internal Electricity Market Regulation 943, which mandates ensuring 70% of cross-border capacities are available to market participants, has yet to be fulfilled by TSOs or regulatory authorities.

The objective of CONNECTA 2's technical assistance was to:

- Identify gaps in the Western Balkan power transmission systems that hinder large-scale integration of renewable energy sources (RES);



- Analyse the connectivity of electricity transmission systems in the Western Balkans with neighbouring countries within the TEN-E networks;
- Evaluate the status and capacity of the high-voltage transmission networks in the Western Balkans and propose necessary upgrades or new infrastructure to support planned renewable generation capacity as part of their power system decarbonization strategies.

Results achieved by the TA:

- Capacity analysis;
- Electricity market and balancing assessment;
- Regulatory and policy analysis;
- Risk analysis;
- Gap analysis.

The time horizon for this in-depth analysis carried out by CONNECTA 2 is up to 2040 and considers both short-term and long-term development needs. The findings and recommendations of the analysis underscore the importance of coordinated investments and a forward-looking approach to energy system planning.

¹EU contribution concerns only Technical Assistance services for project development

* This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo Declaration of Independence.

Start date: November, 2024

End date: January, 2026

Key recommendations – further actions:

- Further elimination of bottlenecks in the power transmission infrastructure including deployment of energy storage facilities;
- Full and reliable transposition of relevant EIP provisions into the primary legislation (laws);
- Complete transposition of the relevant EIP documents into the secondary legislation;
- Enforcing implementation of full market coupling of the Western Balkans region with the single European market and particularly functionalization of intraday markets in addition to day-ahead markets;
- National frameworks should be further completed and harmonised;
- Develop and complete specific regulatory frameworks for storage;
- Enhance the national regulatory authorities' capacity and coordination; and
- Promote policy incentives (e.g. support schemes for storage, RES grid and market integration) to attract private investment.

Energy

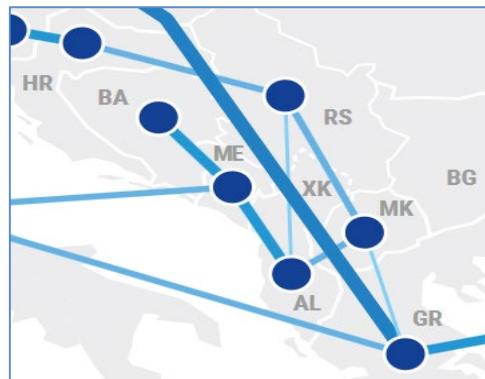


Figure 1 – Identified needs for cross-border capacity increases for 2030

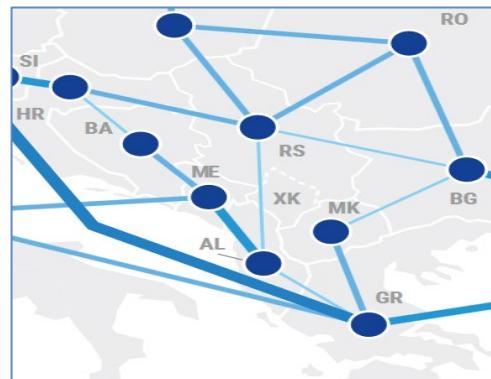


Figure 2 – Identified needs for cross-border capacity increases for 2040

Benefits expected due to Technical Assistance:

- **Assessment of Bottlenecks:** The areas where existing capacity is insufficient to meet current demand, projected demand and anticipated increases due to new renewable energy generation have been identified.
- **Transmission Infrastructure Planning:** The transmission corridors requiring upgrades or expansions to enhance the power grid's capacity and reliability have been determined.
- **Energy Storage Deployment:** Potential sites for energy storage facilities, including battery systems and pumped storage solutions, to support grid stability and resource balancing have been identified.
- **Policy / Regulatory Recommendations:** The reforms and policies to encourage investments in transmission infrastructure, balancing resources, and energy storage solutions have been proposed.

Impacts anticipated:

- **Assessment of Bottlenecks:**
 - Enhanced Grid Efficiency;
 - Cost Savings;
 - Increased Reliability;
 - Support for Renewable Integration;
 - Economic Growth.
- **Transmission Infrastructure Planning:**
 - Improved Power Distribution;
 - Enhanced Grid Resilience;
 - Facilitation of Renewable Energy Growth;
 - Job Creation;
 - Reduced Energy Loss.
- **Energy Storage Deployment:**
 - Grid Stability and Reliability;
 - Support for Renewables;
 - Reduction in Peak Demand;
 - Lower Carbon Emissions;
 - Economic Benefits.
- **Policy / Regulatory Recommendations:**
 - Increased Investment;
 - Faster Deployment;
 - Equity and Access;
 - Innovation Encouragement;
 - Sustainability Goals;
 - Consumer Protection.

