USEA Strengthens Grid Resilience in Moldova Through Strategic Cross-Border Planning

The United States Energy Association is helping Moldova build a more resilient, future-ready power grid by advancing a 400 kV interconnection with Romania that will boost cross-border capacity by 1,191 MW and enable greater renewable integration. Through advanced grid modeling and regional cooperation, this initiative strengthens Moldova's energy security and operational flexibility while aligning with EU market standards.

Since 2018, the United States Energy Association (USEA) has been a steadfast partner in Moldova's efforts to modernize its power system and align it with the continental European grid. The 2022 synchronization of Moldova and Ukraine with the European Network of Transmission System Operators for Electricity (ENTSO-E) was a significant milestone that improved regional coordination and paved the way for deeper technical and operational integration.

From 2023 to 2024, USEA collaborated with the Moldovan and Romanian transmission system operators to assess three potential 400 kV transmission corridors connecting Moldova's Străşeni substation to Romanian nodes in Iaşi, Roman Nord, and Gutinaş. Through advanced grid modeling and 2030 system planning scenarios, the study identified the Străşeni–Gutinaş corridor as the most robust and cost-effective option.

The proposed 400 kV interconnection would increase Moldova's cross-border transfer capacity by up to 1,191 MW, enabling more dynamic power flows and enhancing operational flexibility. By connecting to Gutinaş, a central node in Romania's high-voltage network, the line would enable Moldova to better absorb shocks, manage system imbalances, and integrate variable renewable energy sources across borders.

This project strengthens Moldova's grid resilience by reducing technical bottlenecks, improving redundancy, and increasing the system's capacity to respond to disruptions. With a clear, data-driven development plan and strong regional cooperation, the study establishes a foundation for a more adaptable and reliable power network.