

USEA De-Risks Energy Investment in Uzbekistan through Grid Modernization and Planning Support



The United States Energy Association (USEA) played an important role in improving the investment climate in Uzbekistan's power sector by delivering advanced technical tools, forward-looking planning models, and targeted capacity building to strengthen grid reliability and resilience amid the country's ambitious energy transition.

As Uzbekistan works to meet its national target of generating 25% of electricity from solar and wind by 2030, it faces growing pressure to modernize its aging grid and manage the technical complexities of integrating variable renewable energy. Frequent power outages, limited forecasting capabilities, and underdeveloped infrastructure have historically created

uncertainty for investors – both domestic and international.

To address these challenges, USEA partnered with Uzbekistan's Transmission System Operator (TSO) and the National Electricity Transmission Company (NETC) to deliver a comprehensive support program focused on modern grid planning and stability. This included the development of dynamic and static models of the current grid and long-term planning scenarios for 5- and 10-year horizons, incorporating the impacts of large-scale renewable energy deployment. These tools allow Uzbek energy planners to identify grid vulnerabilities in advance, simulate future system conditions, and make evidence-based infrastructure investment decisions.

USEA also conducted a national System Stability and Reliability Study to assess the technical risks posed by growing renewable penetration and provided actionable engineering solutions to mitigate those risks. To embed these capabilities locally, USEA trained grid operators and engineers in the use of DIgSILENT PowerFactory – one of the industry's leading power system simulation platforms – ensuring the tools and methodologies could be applied well beyond the life of the program.

By improving the accuracy of planning, reducing technical uncertainty, and building institutional capacity, USEA's support has helped de-risk grid modernization and renewable energy investment in Uzbekistan. These efforts contribute directly to creating a more transparent, predictable, and bankable power sector – conditions that are essential to attracting long-term private capital and achieving the country's clean energy goals.

Through this initiative, USEA has laid the groundwork for a more stable and investment-ready energy landscape in Uzbekistan – empowering the country to transition to a low-carbon future with greater confidence and credibility.