APRIL 2025

CAPABILITIES AND SELECTED PROJECTS

Eastern Europe & Southern Caucasus

BACKGROUND

The United States Energy Association (USEA), a nonprofit, apolitical, and non-lobbying organization founded in 1924, provides a neutral platform for discussing ideas, concerns, and solutions across the energy landscape. USEA's mission stands on two equal pillars: first, USEA convenes energy stakeholders to share insights on policy, regulation, science, and technology, and finance. Second, USEA promotes global energy development, working alongside its international partners to expand access to safe, affordable, sustainable, and environmentally responsible energy.

USEA possesses 30 years of experience supporting energy security in the Europe and Eurasia region by improving network and market integration with the European Union and accelerating renewable energy integration, improving the region's resilience to cybersecurity threats. It strengthens electric power and natural gas transmission links with Europe to boost cross-border energy trade, streamlines wholesale power market integration to lower costs and complexity, and fortifies the region's energy sector against cyber threats. USEA has played a pivotal role in supporting Southeast Europe's energy transition toward self-reliance, reducing malign influence, fostering stronger regional energy cooperation, and establishing transparent, stable energy markets that drive economic growth.

WHY WE ARE UNIQUE

For over 30 years, USEA has successfully implemented energy-focused multi-stakeholder engineering, regulatory, and analytical projects in complex geopolitical, economic, and sociocultural environments for donors and international financial institutions (IFIs). Our clients include international development and trade-related donor agencies, international IFIs, ministries, regulatory agencies, and transmission and distribution system operators. With over a century of combined project experience in developing countries, our team excels at aligning donor and beneficiary interests to achieve project goals.

Our project design process identifies opportunities, project champions, and quick wins to build confidence and momentum. We anticipate challenges, engage potential detractors, and craft communication and implementation strategies to minimize resistance and ensure smooth execution. Through frequent, transparent stakeholder communication, we foster understanding, alignment, and commitment to project objectives and timelines. Beneficiaries take an active role, contributing time, expertise, data, and thought leadership, fostering a sense of ownership.

USEA develops technical solutions unique to the political, economic, organizational, regulatory, budget, commercial, and human resource environment of each beneficiary. Every intervention is

paired with comprehensive capacity-building efforts to ensure long-term sustainability. We train and closely monitor our technical contractors in a stakeholder-centered approach and proactively identify and address challenges. This approach guarantees that results are delivered on time, within budget, and with a lasting impact.

CORE COMPETENCIES

USEA has assembled a top-tier, diverse team with a proven track record in delivering complex energy and security programs in the European and Eurasian region. This team is uniquely equipped to develop competitive energy markets and implement policies that attract private investment and American technologies. With decades of expertise in technical, regulatory, policy, legal, and communications, we are well-positioned to drive the transformation of national and regional energy markets.

- **Extensive Energy Sector Expertise**: USEA brings deep knowledge of critical energy issues, best practices, and emerging trends, with a strong focus on capacity building to strengthen the global energy industry.
  - ***Transmission Network Planning, Interconnections and Optimization***: USEA has extensive expertise in transmission network planning and optimization, supporting grid modernization, renewable energy integration, and cross-border electricity trade across Europe and Eurasia. Through strategic initiatives with Transmission System Operators (TSOs) in Moldova, Ukraine, Southeast Europe, and the broader Black Sea region, USEA has enhanced grid reliability, improved congestion management, and strengthened compliance with ENTSO-E standards.
  - ***Electricity Market Development and Market Coupling***: USEA's expertise in electricity market development, EU regulatory alignment, and cross-border integration supports TSOs in Albania, Kosovo, Moldova, Montenegro, North Macedonia, Serbia, and Ukraine to integrate their markets with Europe's single electricity market. By conducting market coupling gap analyses, implementing Pan-EU Terms, Conditions, and Methodologies (TCMs), and driving changes to technology, organizational structure, budgets, and human resources, USEA enhances technical readiness and regulatory compliance. By aligning local market design and operations with EU regulations, USEA promotes interoperability, transparency, competitiveness, efficiency, and energy security in the region.
  - ***Queue Management:*** USEA brings extensive expertise and global experience in applying best practices to prioritize power projects for grid connection. In many countries, growing backlogs and inefficient evaluation methods prevent the timely advancement of qualified projects. USEA helps address these challenges by developing clear criteria for project selection, streamlining internal review processes, establishing effective incentives, updating relevant policies, and improving permitting procedures. Through these efforts, USEA empowers countries and grid operators to better plan their systems, attract investment, and accelerate the deployment of high-quality projects – delivering faster results with greater certainty.
  - ***Renewable Energy Integration***: USEA offers a unique combination of policy expertise, generation planning, scenario assessment, and advanced modeling to identify potential grid imbalances, optimize transmission expansion, and determine the best locations for renewable energy integration. By leveraging global best practices, USEA develops cost-

effective solutions to rationalize grid connection procedures and evaluate storage capacity, generator self-supply, new transmission lines, and cross-border collaboration (e.g., markets and imbalance netting) to ensure grid stability and efficiency while minimizing costs.

- ***Natural Gas Planning***: Through initiatives like the 12-nation Eastern European Natural Gas Partnership, USEA supports investment in LNG terminals, underground storage, and cross-border interconnections to establish a resilient North-South/South-North corridor. By leveraging advanced market analysis, scenario modeling, and regulatory expertise, USEA helps countries diversify supply sources, optimize gas flows, ensuring a stable and competitive energy landscape.
- ***Resource Adequacy:*** USEA offers unmatched expertise in helping stakeholders access and anticipate the impact of significant changes in the generation mix, ensuring reliability and reducing dependence on imports. As countries retire aging infrastructure and integrate increasing amounts of intermittent resources, maintaining grid stability becomes critical. With advanced forecasting tools, deep regulatory insight, an extensive network of industry contacts, and proven solutions, USEA equips stakeholders to navigate this transition smoothly. Our approach helps prevent system reliability risks, avoid costly load losses, and safeguard against severe economic impacts caused by an unstable power supply.
- ***Energy Sector Cybersecurity***: USEA has a strong history of implementing successful programs that enhance the reliability and security of the region's energy sector. By proactively strengthening resilience against cyberattacks, USEA helped safeguard critical infrastructure, ensuring a stable and uninterrupted energy supply in an increasingly digital and interconnected world.

- **Comprehensive Program Management**: USEA delivers end-to-end program management, including planning, design, budgeting, implementation, evaluation, stakeholder engagement, donor coordination, communications, and project close-out.
- **Unrivaled Access to Industry Experts**: USEA's vast network of global energy professionals—including leaders from utilities, engineering firms, manufacturers, consulting groups, trade associations, and research institutions – provides a unique strategic advantage.
- **In-Depth Regional Expertise in Eastern and Southeastern Europe and the Black Sea**: With over three decades of engagement, USEA possesses unmatched regional insight, enhancing energy connectivity, market integration, and security while supporting economic growth and reducing reliance on Russian energy.
- **Global Partnerships for Sustainable Energy Solutions**: USEA has cultivated strong relationships with key energy stakeholders worldwide, including ministries of energy, regulatory bodies, transmission and distribution utilities, and electricity market operators, enabling it to drive impactful, long-term energy initiatives on a global scale.

RECENT PAST PERFORMANCE

Synchronizing Ukraine and Moldova with ENTSO-E: USEA's technical support to Ukrenergo and Moldelectrica, Ukraine and Moldova's transmission operators (TSOs) accelerated their synchronization with the European grid by developing a transient stability model for European Network of Transmission System Operators for Electricity (ENTSO-E), conducting critical stability analyses, training Ukrenergo and Moldelectrica engineers, and developing key technical procedures. This integration with ENTSO-E enhances regional energy security by reducing

reliance on non-European grids, enabling greater renewable energy adoption, and facilitating cross-border electricity trade.

Conducting a Market Coupling Gap Analysis for Southeast and Eastern Europe: USEA identified key regulatory, technical, IT, legal, and resource gaps that TSOs must address to integrate with the European Day-Ahead and Intraday Electricity Markets. The project delivered tailored recommendations and roadmaps to TSOs in Albania, Kosovo, and North Macedonia, with additional work in Montenegro, Moldova, and Ukraine. By assessing market readiness and aligning national frameworks with EU standards, the initiative laid the groundwork for market coupling and enhanced cross-border electricity trading.

Implementing Day-Ahead Congestion Forecast (DACF) and Intraday Congestion Forecast (IDCF) Capabilities: USEA helped Moldelectrica align with ENTSO-E standards to enhance grid reliability, congestion management, and cross-border trade readiness. By adapting Moldova's grid model, improving Common Information Model (CIM) compatibility, and automating forecasting with DIgSILENT PowerFactory, the project enabled real-time load-flow and contingency analysis, a key step toward ENTSO-E synchronization. USEA also provided technical training, workshops, and a General Test Procedure Manual to ensure long-term sustainability. These efforts have strengthened Moldova's energy security, transmission planning, and integration into the European electricity market, supporting regional market participation and renewable energy adoption.

Strengthening Regional Energy Planning and Market Integration – the Black Sea Regional Transmission System Planning Project (BTSP) enhanced regional cooperation in grid planning, renewable integration, and cross-border electricity trade across Georgia, Moldova, Ukraine, Bulgaria, Romania, Turkey, and Armenia. Using PSS/E and Antares, BSTP developed transmission and market models that improved network optimization, stability analysis, and market forecasting. A key outcome was the creation of a regional market simulation model, enabling TSOs to assess wholesale electricity prices, trade flows, and investment priorities. The project also delivered capacity-building workshops on Cost-Benefit Analysis (CBA 3.0) and advanced power system modeling, ensuring TSOs could navigate evolving market and operational challenges. By strengthening planning capabilities and cooperation, BSTP has laid the groundwork for grid reliability, efficient renewable integration, and expanded cross-border electricity trade, fostering a secure and sustainable energy future.

Rationalizing the Queue of Applications for Grid Connections: USEA conducted an extensive review of global best practices for managing project backlogs seeking connection to the transmission networks, analyzing experience across seven countries and regions. This comprehensive study identified the most effective strategies for streamlining queues and prioritizing the most qualified projects. By engaging directly with the practitioners of these successful approaches, USEA facilitated the transfer of critical knowledge and insights to countries across Southeast Europe, supporting their efforts to improve queue management. In Serbia, USEA worked closely with the transmission operator (EMS) and the national regulator to tailor global lessons to local conditions Through this collaboration, USEA and EMS co-developed a practical, proven set of recommendations that empower Serbian authorities to efficiently review applications, quickly identify the most viable projects, reform laws and regulations, improve grid planning, and attract new investment. These efforts are helping to accelerate the integration of qualified projects, strengthen the power system, and foster greater investor confidence.

Developing a Compensation Mechanism for Unintended Hourly Deviations on the Georgia-Türkiye DC Interconnector Project enhanced regional energy integration by optimizing interconnector operations. The initiative included a detailed analysis of past deviations, EU benchmark comparisons, and future deviation forecasts following Georgia's market liberalization. USEA has developed a comprehensive business model for inter-TSO compensation, IT specifications and testing programs to integrate GSE's and TEIAS's market platforms. Phase I, now complete, addressed deviation analysis, compensation modeling, and IT system requirements, while Phase II will focus on additional business processes, amendments to interconnection agreements, operational optimization, and IT module testing. The project established a robust framework for efficient interconnector usage, aligning regional practices with European standards and improving market efficiency.

Advancing Renewable Energy Integration into Moldova's Transmission Grid: To support Moldova's goal of reaching 34% renewable electricity by 2025, USEA provided technical and strategic assistance to Moldelectrica. The project assessed grid capacity for variable renewables, identifying necessary reinforcements, balancing requirements, and investment priorities. Using DIgSILENT PowerFactory, USEA analyzed load flow scenarios, demand forecasts, and system balancing strategies for wind and solar integration. Additionally, economic models were developed to evaluate the impact of renewable penetration on electricity prices, generation adequacy, and grid congestion. To ensure sustainability, USEA delivered capacity-building workshops on grid planning, renewable forecasting, and ENTSO-E compliance. These efforts have strengthened Moldova's energy security, grid reliability, and cross-border trade readiness, positioning the country for successful renewable integration into European markets.

Implementing Pan-EU TCMs: USEA supported TSOs in North Macedonia, Kosovo, and Albania in adopting five pan-European Terms, Conditions, and Methodologies (TCMs) to ensure the harmonized operation of electricity markets. Through peer-to-peer tutoring, in-depth discussions, and study tours, the project facilitated the implementation of key methodologies, including the Day-Ahead Firmness Deadline and Congestion Income Distribution. Conducted in three phases, the initiative assessed current TSO readiness, provided technical training, and supervised implementation, ensuring alignment with EU market standards. By establishing the necessary technical framework, the project further enabled TSOs to achieve market coupling readiness, enhancing cross-border electricity trade and regional market integration.

Projecting Natural Gas Annual and Peak Demand in Georgia through 2050 project strengthened Georgian energy stakeholders' forecasting capabilities. USEA conducted a full-scale study, modeled gas consumption, and provided LEAP model training to key authorities and utilities. In October 2023, energy leaders adopted the report as Georgia's official gas demand forecast. An advanced LEAP training incorporated updated 2022–2023 data, leading to a report addendum. This project provided a data-driven forecast to support energy planning, infrastructure investments, and supply security, while LEAP training empowered local experts to continuously refine projections, ensuring adaptability and policy alignment across stakeholders.

Enhancing Cybersecurity and Digital Resilience in Albania's Energy Sector: USEA has led multiple initiatives to strengthen cybersecurity across Albania's energy sector, supporting key entities including OSHEE (distribution), OST (transmission), and KESH (generation). Through Cyber Incident Response training, USEA equipped energy operators and government stakeholders

with the tools and playbooks needed to respond to cyberattacks and restore systems securely. A Digital Asset Inventory was established to improve asset visibility and risk management, while at KESH, USEA implemented the initial phases of a Security Incident and Event Management (SIEM) system and deployed a Secure Remote Access Solution (SRAC) to bolster network security. For OST, USEA provided hardware, conducted a risk assessment of the operational technology (OT) network, and helped develop a digital asset inventory, network mapping, and SOPs, all supported by personnel training. These coordinated efforts have significantly improved Albania's energy sector resilience, aligning with national goals for secure, modern energy infrastructure.

KEY EXPERTS

USEA has brought together a highly skilled and diverse team with a strong history of successfully executing intricate energy and security initiatives across the world. This group is exceptionally prepared to foster competitive energy markets and advance policies that encourage private investment and the adoption of American technologies, supporting a fair and secure transition. With extensive experience spanning technical, regulatory, policy, legal, and communications sectors, the coalition is strategically positioned to lead the transformation of national and regional energy markets.

Hon. Mark W. Menezes, President & Chief Executive Officer, a nationally recognized energy attorney, is the former Deputy Secretary of the U.S. Department of Energy, former senior executive with two major energy companies, and former Congressional Committee Chief Counsel, as well as a strategic advisor to businesses and policymakers. As Deputy Secretary, he served as the Chief Operating Officer over an agency with 120,000 employees and contractors, a $34 billion budget, and management responsibilities of the 17 national labs, the nation's nuclear weapons programs, and its environmental cleanup obligations from the Manhattan Project. He encouraged and supported the development of energy infrastructure to diversify Europe's natural gas supply, including the Swinoujscie LNG terminal in Poland, the Interconnector Greece-Bulgaria (ICGB) pipeline, and the Alexandroupolis LNG Terminal in Greece.

Will Polen, Senior Director, has 30 years of experience in the domestic and international energy sectors, where he has excelled in project design, technical delivery, human and institutional capacity development, field operations oversight, partnership management, and business development efforts. He has directed international programs spanning 10 countries in the Europe and Eurasia region by integrating energy network infrastructure and markets to stimulate investment in energy; reforming network management business practices to fast-track energy project development; supporting the transfer of cutting-edge technology to increase the capacity of the regional power grid; and improving energy security by hardening network infrastructure.

Miha Pregl, Deputy Program Director and Director of European Electricity Markets, has extensive expertise in power market development. He previously served as Strategy and Market Development Manager at BSP Energy Exchange in Slovenia and chaired the European Market Coupling Steering Committee, where he played a key role in advancing single pan-European cross-zonal day-ahead and intraday electricity markets. A recognized expert in power exchange establishment and market integration, Mr. Pregl has led complex market coupling projects across Europe and the Western Balkans. He is credited with successfully integrating the Slovenian

electricity market into Europe's unified electricity market, strengthening regional energy security and market efficiency.

Albert Doub, Program Director, has over thirty years of experience developing and administering international energy programs with U.S. government agencies in Europe and Eurasia. Programs have focused on electric and natural gas transmission and distribution network optimization, market transformation, technology transfer and investment.

Elliot Roseman, Program Director, is a global energy expert with decades of experience in queue management, resource planning, energy policy and investment. He has played a key role in shaping energy policies, advising governments, investors and institutions in over 60 countries, and leading resource adequacy and market integration efforts in Southeast Europe. A former energy regulator and adjunct professor, he has designed energy auctions, developed investment strategies, and authored over 50 articles on energy and environmental issues.

Natalia Fominykh, Program Director, has over 15 years of experience implementing international energy and utility projects. She specializes in transmission system planning, market transformation, regulatory reform, clean energy integration, and investment promotion, and oversees project planning, stakeholder engagement, and network development to drive impactful implementation. From 2019 to 2022, she supported ENTSO-E's evaluation of synchronizing Ukrainian and Moldovan grids and contributed to Moldova's energy security efforts.

Gergana Stoitcheva, Gas Expert, has 25 years' experience in the natural gas and nuclear sectors as an energy advisor and transaction structuring specialist. In particular, she facilitated and led the diversification of Moldova's gas supply with non-Russian gas of origin including LNG from Alexandroupolis FSRU/Greece; supported the first private US LNG - Bulgaria deal structuring and negotiations; and assisted the Jordanian Government in executing a gas deal using the Leviathan field source (Jordan-Israel-US gas deal structuring and negotiations).

Zurab Ezugbaia, Director of the South Caucasus Region, has nearly 30 years of experience in energy market integration, regulatory reform, and infrastructure projects. He has played a key role in shaping Georgia's energy sector through leadership at Georgian State Electrosystem, advisory roles in legal and market development, and contributions to EU energy compliance. A founding member of Georgia's CIGRE National Committee, he holds a law degree from Tbilisi State University and has held high-level government positions, including Deputy Minister of Justice.

Oleksii Magda, a consultant with decades of experience in nuclear and thermal power, has held key roles in Ukrinterenergo, Centrenergo, and private energy firms. As Deputy Director at Ukrenergo, he played a key role in integrating Ukraine's power system with ENTSO-E. Appointed to the National Energy and Utilities Regulatory Commission in 2019, he most recently advised Ingrid Capacity on integrating Battery Energy Storage Systems (BESS) into Ukraine's ancillary services market for TSOs.

Marina Barnett is a Program Manager overseeing global energy sector programs spanning 15 countries across Sub-Saharan Africa, Central and Southeast Asia, Latin America, and Eastern Europe. Before joining USEA, she held key roles at the Institute for Global Engagement and the

Carnegie Endowment for International Peace, where she organized international conferences, developed pilot projects on renewable energy, and built networks of Central and South Asian experts to promote knowledge sharing and infrastructure development.

Beata Bialy, Consultant, has twelve years of experience at USEA developing and administering international energy programs in Europe, Eurasia and East Africa. She launched the Eastern Europe Natural Gas Partnership, a project aimed to help create a regional gas market with potential for US gas supplies, concluded in 2022. She currently works on the Vertical Gas Corridor Initiative, supporting LNG distribution through the North-South gas corridor. Other key focus areas include electric power and natural gas transmission system planning and operations, energy market development, energy security, and promoting U.S. trade, investment, and technology transfer.

Anthony (Tony) Bitonti, Program Manager, has over 30 years of experience supporting programs in global energy security. He led regional cybersecurity initiatives, advancing cyber maturity and resilience for critical energy infrastructure across Eastern Europe. He also has extensive experience supporting utility twinning programs in Armenia focused on improving daily operations and regulatory frameworks across gas, water, electricity, and communications sectors.

Nicole Buckley, Communications, works to achieve greater awareness and understanding of USEA's longstanding success in helping the countries of Europe and Eurasia achieve renewable energy readiness while maintaining reliability and security. Nicole is a senior communication and institutional advancement professional with more than 20 years of experience in health and medicine, higher education, non-profits, small business, and association management. She has particular expertise in content and message strategy, professional development and special event programming, volunteer and board management, and partnership/coalition management.

Irene Suarez, Senior Program Coordinator, promotes regional cooperation in energy transmission planning and supports USEA's Regional Market Coupling initiatives in Europe and Eurasia by organizing high-level events, managing contractors, and ensuring timely project execution. She maintains international stakeholder relationships, oversees program reporting, and handles communications such as the *Southeast Europe Energy News* newsletter and website updates.