



# USAID and USEA on Front Lines of Energy Diplomacy in Europe

Why Are We There?

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**T**oday's energy markets in Europe and the Eurasia region do not adequately stimulate competition or the investment in production, transmission and distribution necessary for secure, reliable, low-cost energy. Further, they fail to provide transportation services that will improve resilience and accelerate cross-border trade.

Since the fall of the Soviet Union, the United States Energy Association, USEA, in cooperation with the United States Agency for International Development, USAID, has worked in this region – including Albania, Armenia, Bosnia-Herzegovina, Bulgaria, Croatia, Georgia, Kosovo, Macedonia, Moldova, Montenegro, Romania, Serbia, Slovenia, and Ukraine – to catalyze positive energy sector reform through the Energy Technology and Governance Program.

This is the first in a series of articles that will describe the Program, ETAG, its work in the region, and its tangible benefits to the United States.

The Program supports the following objectives in the region. It strengthens

energy security by supporting deep and liquid, cross-border wholesale electricity and natural gas trade. It promotes competition and encourages diversity of energy resources, while ensuring network reliability. And it encourages

**USAID and USEA seek volunteers to share best practices by participating in the working group seminars, network studies, market modeling analyses.**

market and regulatory reforms to incentivize private sector investment and the introduction of new technologies.

It also supports economic development by lowering overall energy costs, secures utility networks against cyber-attacks and makes them more resilient, introduces American technologies and investment to the region, and expands the Euro-Atlantic Alliance and American influence.

The Program furthers these objectives through sustainable working

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**FIG. 1****ENERGY MARKETS IN THE EURASIA REGION**

groups focused in the following areas:

#### Optimizing Interconnections.

Though some countries in the region hold the potential to develop energy surpluses, their gas and electricity transmission networks are only loosely connected, and thus unable to trade effectively, leading to supply deficits in parts of the region. This in turn leads to bottlenecks in trade, and delays in the formation of energy sector capital.

**Market Formation.** The emerging wholesale electricity and natural gas markets in the region are balkanized and lack the critical mass of load to support competition and attract the private capital needed to build out and replace outdated infrastructure.

Further, these nations wish to rapidly expand their use of clean energy, and form cross-border regional day-ahead and real-time markets. To do so, they will need to harmonize market platforms, agree on how to allocate cross-border transmission capacity, and establish common trading rules.

**Fortifying Cyber Defense.** The utilities in the region are challenged

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by increasingly virulent cyberattacks threatening the security of natural gas and electric power supplies. The region requires new cybersecurity utility governance structures, an information-sharing clearinghouse and rapid-response mechanisms to share intelligence, assess threats, respond to attacks and restore service.

**Improving Distribution Services.** Characterized by ageing and outdated system architecture, the distribution networks in the region suffer from frequent outages caused by weather and equipment failures. As such, the last mile of distribution network services is a principal challenge to energy security.

So why are we there?

It is in our strong interest to do so, since supporting energy sector reform in the region benefits

the United States in three ways:

We create opportunities for American energy project development and investment, equipment and construction sales, the use of our engineering, financing and consulting services, and the sale of liquefied natural gas.

Through improved energy security, reliability and diversification of regional energy supplies, we lower their energy costs, which supports growth and advances their economic ties with the United States.

We extend American influence – in energy and beyond – in a region that has been subject to its own instability and the malign influence of its neighbors.

USAID and USEA administer several sustainable working groups

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## Business Model Innovation

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between them and asset owners or service providers to leverage their integration and technology capabilities.

**Subscription:** for certain services, like energy management, utilities can offer recurring services or access to information that continually add value to customer operations or ownership.

**Solutions:** products and services offerings are enhanced by conversion into integrated solutions that require specific knowledge and experience of utilities to match customer needs.

**B-O-O-T:** traditional asset ownership is not the only model option; others, like build-own-operate-transfer, are tailored to match customer life-cycle preferences and financial constraints.

**Aggregation:** assets will be more distributed within the grid and customers may seek to have utilities align, manage and monetize these assets on their behalf.

**Platforms:** utilities have the capabilities to leverage multiple technologies and infrastructure for the benefit of customers through integrated solutions for buildings, facilities and equipment.

**Affinity:** other providers recognize the brand and reach of utilities and may seek to monetarily value this presence to gain access to an expanded customer base.

A typical utility's consideration is where future business models can flourish – as part of an integrated regulated business or as separate non-regulated businesses. Either may fit, but the principal parameter should be how the business model best aligns with market dynamics.

Business model diversity translates into new and tailored approaches to the market, which then lead to expanded ways to generate economic value. How creatively utilities can fashion value propositions, pricing formats and bundled offerings will determine their commercial success. [PDF](#)

## EPRI Innovating Cyber Security Metrics

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It's hard to say with only a single value at one point in time. Maybe it was nine last month and now it's seven. So it sounds like it's moving in the wrong direction. Or it could be that you're at seven and the average of all your peers is five. What does that mean? Does that mean you're maybe over-investing in an area?

Perhaps you could move resources around. Or if you're at a five and everybody else is at a nine, well, that's good information. Looking two to three years out, having that type of capability will be a huge step forward for the industry.

Just talking about the progress that Candace has made in the last two years, she's done several pilots with our utilities and that has helped move us forward. Because when you talk about metrics it's important to understand it's not just a data point.

A single metric may have five data

points that feed into it. To develop these formulas, it's difficult because you must look at how are you weighing each of those data points, how do you normalize them, what is the range that metric should cover? I mention zero to ten, but it could be a different range. A lot of statistics work and data analysis goes into getting the formulas right.

The pilots that Candace has done helped to move the ball forward, getting real data. Where we made a lot of progress in the last two years is through doing these pilots. And it shows the level of interest from the utilities that they were willing to participate in that with us and work with us on that data collection.

Moving forward, if we continue to standardize the formulas and build up these other capabilities, it will have potential for significant impact on how we understand our security posture as an industry. [PDF](#)

## Energy Diplomacy in Europe

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in Europe and Eurasia to encourage regional approaches to electric and natural gas transmission planning, developing wholesale electricity and natural gas markets, strengthening electricity distribution reliability, and securing utility networks from cyberattacks.

The map in Figure 1 shows a number of key energy facilities and the diverse area in which the Program has been working for nearly three decades.

USAID and USEA seek volunteers from the U.S. energy industry to share

their best practices by participating in the Program's working group seminars and in network studies and market modeling analyses.

Since volunteers provide invaluable contribution of their time and insights, we fund the costs of travel, lodging, insurance, meals and other expenses associated with their participation. Please contact us if helping to improve energy systems overseas appeals to your firm and watch for our upcoming articles in *Public Utilities Fortnightly* on specific ETAG programs. [PDF](#)