The Power of Industry-Government Partnerships

An Interview with outgoing DOE Deputy Secretary Elizabeth Sherwood-Randall

Enhancing the resilience of the energy grid is a responsibility shared by industry and government. Can you describe this partnership?

The Department of Energy (DOE) works closely with industry through the Electricity Subsector Coordinating Council (ESCC). This partnership is a model for how government and industry can work together for the benefit of the American people. As the sector-specific agency, DOE is focused on the research, development, and deployment of solutions to grid security challenges. We also focus on exercising, preparing for, and responding to the full spectrum of potential grid events. As you know, industry operates 90 percent of the energy infrastructure in our nation, so undertaking these activities jointly is necessary for our success. We have built strong and multi-layered channels of communication that enable us to share information and deploy tools and technologies to safeguard critical infrastructure. Working with the industry and government leaders who are members of the ESCC has been one of the most rewarding experiences I have had in public service.

What does DOE bring to the table in terms of deterring, preventing, detecting, and responding to threats to the energy grid?

As the energy sector-specific agency, DOE serves as the day-to-day federal interface for the prioritization and coordination of activities to strengthen the security and resilience of critical energy infrastructure. This involves building, maintaining, and advancing collaborative efforts with the electric power industry to bridge federal programs for sharing situational awareness information, modeling impacts, assessing vulnerabilities, conducting exercises, and promoting innovation and research. DOE is the single largest supporter of civilian physical science research and development (R&D) in the country, and our network of 17 National Laboratories is an energy innovation powerhouse.

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Last year under the Grid Modernization Initiative, we announced up to $220 million in funding over three years for DOE's National Labs and partners. The Grid Modernization Laboratory Consortium funding will support critical R&D in advanced storage systems, clean energy integration, standards and test procedures, and a number of other key grid modernization areas. DOE also is directly investing hundreds of millions of dollars in collaborative cybersecurity R&D projects with industry, universities, and our labs to support energy systems cybersecurity. In so doing, DOE has created a vast network of expertise and capabilities, including deep and specialized expertise of control systems, strategic computing, and extensive test-bed capabilities for conducting experiments at scale.

How are we managing evolving cyber threats?

The cyber domain represents both an enormous challenge and a great opportunity. We're seeing increasingly interconnected systems yield vast advances, including using energy more efficiently and integrating renewable sources into the energy grid. But these interconnections mean we are more vulnerable to hackers who know that critical infrastructure enables our way of life. Together with our industry colleagues, we have developed and deployed new technologies to strengthen grid cybersecurity. Our research has led to products that impede unauthorized users from accessing industrial systems without reducing workers' ability to get their jobs done, technology that detects tampering with field devices that are employed by energy companies, a web tool that provides real-time information about the

state of the energy grid, and technologies that make it harder for adversaries to map our networks. We continue to increase our cyber incident response capabilities and coordination, and we are working to increase the speed of information sharing between industry and government to enhance our collective security.

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What should our top priorities be going forward?

I think it's critically important that the industry and government leadership work collaboratively to set shared priorities for R&D that will raise our game in grid security and resilience—and use that list of priorities to focus investments in specific areas of R&D so that we are jointly funding projects. This would lower the cost of buying down risk, effectively use our resources to rapidly develop and deploy new technologies, and make it possible to conduct cost-benefit analyses to inform decision making. Increasing cross-sector exercises, improving physical and cyber incident response capabilities, and strengthening state and local engagement will continue to be important priorities.

What surprised you the most about working with the electric power industry?

I was immediately impressed by this industry's deep sense of responsibility to the American people and acute recognition that the nation depends on the electricity sector to keep the entire country functioning. I have appreciated the dynamic dialogue with CEOs and other industry leaders who commit their time and their teams to our joint endeavor. Such high-level engagement drives improved performance.

What do you see as your legacy from your time at DOE?

Reflecting on our work together, I believe that shaping the ESCC into a dynamic and responsive partnership—as EEI President Tom Kuhn has described it—that tackles challenges that neither government nor industry can meet alone is a significant legacy of this Administration at DOE. The ESCC is not only about our meetings three times a year; it's about the day-to-day work that we undertake together to strengthen our grid, make it more resilient, and prepare to respond for a wide range of scenarios. I'm very proud that our relationship is delivering tangible results—and that we can pass on these vitally important ongoing initiatives to our successors.

What advice do you have for the next DOE Deputy Secretary?

The incoming team inherits a vast DOE enterprise that performs many no-fail missions on behalf of the American people, so my advice is threefold: get to know your workforce by visiting our labs and sites and talking with our nearly 115,000 people; don't be afraid to ask tough questions because questions drive progress; and make investing in this government-industry partnership a priority because it will help keep our beloved country strong and safe. EP

ELIZABETH SHERWOOD-RANDALL
is outgoing deputy secretary at the Department of Energy. She has served in this role since October 2014.

The Electricity Subsector Coordinating Council (ESCC) serves as the principal liaison between the federal government and the electric power sector, with the mission of coordinating efforts to prepare for, and respond to, national-level disasters or threats to critical infrastructure. The ESCC includes electric company CEOs and trade association leaders representing all segments of the industry.

ESCC
Electricity Sub-Sector Coordinating Council