Climate Change and Extreme Weather Vulnerability Assessment of the US Energy Sector: Building a Secure and Sustainable Energy Future

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Day 2

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Objectives of Workshop

- **DAY 1:** Identify extreme weather and climate change vulnerabilities and challenges to the US energy system .

- **DAY 2:** Identify knowledge gaps, adaptation strategies, and recommendations to inform policy planning and innovative energy technology RDD&D investments.

- Use workshop input to develop a report that identifies key vulnerabilities, gaps and potential response strategies to ensure energy security and system resiliency.

Key Questions to Help Focus Our Discussion Day 2

6. **What is the general state of awareness on vulnerabilities and the available adaptation options in the energy sector?**
7. **What are the implications and economic costs of a "business as usual" approach or of adopting available adaptation/response strategies?**
8. **What changes or adaptation/response strategies have been undertaken to reduce impacts and enhance resilience?**
9. **What energy technology innovations could help reduce extreme weather/climate risk?**
10. **Are there legislative/policy barriers that impede developing a more climate resilient energy future?**

Identified Needs from Day 1

- **Better tools to assess economic impacts of extreme weather/climate change.**
- **Improved understanding of who pays? Who should pay? We are lacking real price signals and ability to quantify who covers these risks in the long term.**
- **Improved approaches for addressing the gaps in understanding probability of extreme events**
- **Improved spatial and temporal resolution of climate/extreme weather. Move from global to local projections. Address relevant planning horizons for different communities. 1 year for finance, 3-5 for political cycle, 40-50 for energy capital stock.**
- **Better data/data collection and identification of primary adaptation related key data sets and mechanisms for collection.**

Identified Needs from Day 1 (cont.)

- Enhanced approaches for assessing true costs of impacts and effectively conveying this to the public.
- Approaches and tools to prioritize risks and response strategies.
- Understanding of how engineering and operational integrity standards should evolve as future risks are better understood in order to inform the continuous improvement loop?
- Understanding how current regulations and policy (or lack of) hinder or advance system response to vulnerabilities and flexibility.
- Effectively engaging a broader set of stakeholders using existing organized stakeholder mechanisms.