



Parallel Roundtable Two

Building Resilient Energy Systems: Lessons from National and Regional Approaches

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Overview

In recent years policymakers and experts have increasingly used the word "resilience" to describe the capacity of national energy systems to bear unexpected shocks, and to subsequently adapt to challenging circumstances. Much analysis has been done to better understand the types of shocks, their probabilities, and the scale of their potential impacts, but the precise nature and gravity of any given threat are nearly impossible to know ex-ante. In light of this inherent uncertainty, market actors have embraced a number of preventive approaches--some national and others regional in scope--designed to enhance energy resilience, and in turn to strengthen energy security.

Contemporary risks to energy security on a national, regional and global scale range from the traditional to the modern, from the strategic to the exogenous. Natural disasters pose threats to both producers and consumers alike, and some experts argue that climate change may factor into the equation. History has shown that supply disruptions may stem from conflicts in producing regions or from terrorist attacks targeting energy infrastructure or trade routes. Dangers of a more modern nature include those related to cyber-security and to system- or technology-related failures, the latter of which is just one of several that fall under the health, safety and environmental grouping.

Given the breadth of potential risks to energy security, policymakers and thought-leaders have set their sights on "strategic resilience enablers" that mitigate multiple threats. A diversified energy matrix and a robust energy supply chain are two such enablers most commonly targeted. Others include the promotion of decentralised supply systems, the identification of good practices in disaster control, and the upkeep of open and properly functioning communication channels--which facilitate the exchange of important energy data. National capacities to embrace one or more of these options vary widely, and much can be learned from a frank and open exchange of policymakers and thought leaders on which approaches have yielded results and what more must be done to improve national and collective resilience.

The enhancement of energy interdependence is one overarching policy approach that holds great promise in mitigating multiple risks. This would appear to be the case for at least two reasons: in recent years virtually all business sectors have

become increasingly dependent on energy, and national energy systems--and their energy supply chains--have become increasingly interlinked with those of other nations. This growing energy interdependence calls for greater dialogue on both the intranational scale (among the key actors within a nation's energy sub-systems) and on the international level (among producers, consumers and transit States).

A sustained energy dialogue can itself serve as a valuable resilience enabler. In addition to facilitating the exchange and subsequent promotion of good practices and ideas among interrelated actors, the dialogue can also serve to ensure that when a crisis hits, calls for assistance and support are made between familiar and trusted contacts, rather than to anonymous switchboards.

Objective of Parallel Roundtable Two

Ministers are invited to share their experiences, insights and lessons learned from efforts to build resilient energy systems, and to explore ways in which they might deepen cooperation to enhance resilience on national, regional or international levels.

Suggested questions

- Have national and regional initiatives that were designed to enhance energy system resiliency met expectations? If not, what are some key obstacles and related countermeasures?
- For nations that rely on a limited set of energy resources, what approaches have worked best beyond diversification in enhancing the resilience of their energy systems?
- In selecting between the status quo and the promotion of resiliency-enhancing policies that come at a price, such as infrastructure investment, what risks to energy security do governments find acceptable and what costs are end consumers willing to bear?
- How has regional energy market integration contributed towards building resilient energy systems at the national and regional levels?
- What lessons regarding energy sector resiliency have policymakers drawn from the impacts of power outages and extreme weather, and how have

experiences with these challenges impacted forward-looking policy decisions?

- What elements must factor into the decision-making process when trying to strike the right balance between embracing technological advancements aimed at enhancing energy resilience and addressing environmental concerns?
- In tackling cyber-security risks, how are policymakers, industry executives and experts currently engaging with each other to search for collective solutions, and what more can be done?
- How can the global producer-consumer dialogue contribute more towards building overall system resiliency at national or regional levels?

The IEF Reference Shelf: Recommended Reading

- World Economic Forum (2014) Global Risks Insight Report, Ninth Edition
- World Bank (2014) How to Battle Climate Change and Poverty Together | Scientific American, April
- Stapersma, Pier (2014) Sunset or Sunrise; electricity business in North West Europe Clingendael International Energy Programme, April
- Krithika, P.R. and Mahajan, S. (2014) Background paper on Governance of renewable energy in India: Issues and challenges The Energy Resource Institute of India in collaboration with the Ministry of Foreign Affairs, March
- Background paper of the Social Economic Council of the Netherlands (2013) Summary of: Energy Agreement for Sustainable Growth, September
- World Economic Forum (2012) New Models for Addressing Supply Chain and Transport Risk