

**HARVARD ELECTRICITY POLICY GROUP  
NINETY-SECOND PLENARY SESSION**

The Watergate Hotel  
Washington, DC  
THURSDAY AND FRIDAY, OCTOBER 4-5, 2018

**AGENDA**

**Thursday, October 4**

8:30 am      **Breakfast and Informal Discussion**

9:00 am      **Session One.**  
**Cyber Security and Electricity Market Policy: Allies or Antagonists?**

Cyber security is in the news, and it is important. The transformational benefits of digital innovation create a valuable target for cyber threats. In the electricity sector, the obvious importance of the interconnected grid, power plants, and the growing internet of things is self-evident. Greater reliance on digital communication is all but inevitable. Other things being equal, everyone wants a more secure system. We are willing to pay a great deal to implement, monitor, and improve cyber protections. Evolving electricity systems and markets will continue to place great demands on the protection of the command and control systems. Work is proceeding apace to address cyber standards, equipment, and procedures to stay ahead in the cyber security arms race. In principle, the cyber threat could be reduced through greater balkanization of the grid, a return to manual analog controls, and foregoing the benefits of the digital revolution. However, the trends are strongly in the other direction. In this context, what are the implications of the cyber threats for electricity policy, markets, and regulation? Is the directional influence all one-way: electricity systems and markets evolve and cyber protections adapt? Or do the demands of cyber security have implications for electricity system design and markets? Are the two problems -- efficient markets and cyber protection -- separable? Or are there important dimensions where they interact? Other than seeing that we pay the bills for cyber security, how should electricity policy design adapt to the risks of the cyber threats?

Moderator: Phil Moeller, Edison Electric Institute

Rob Knake, Council on Foreign Relations  
Cheryl LaFleur, Federal Energy Regulatory Commission  
Todd Ramey, Midcontinent ISO  
Paul Stockton, Sonecon

**Thursday, October 4 (cont'd)**10:30 am **Coffee Break**10:45 am **Discussion**12:00 pm **Lunch**

1:00 pm **Session Two.**  
**Can Electricity Markets Meet the Challenge of Meeting Non-Market Objectives?**

Restructured electricity markets arose as an alternative approach to meeting the societal objectives for economically efficient operation, innovation, and investment. Reliability mandates constrained market design. Adapting the abstract theory of markets to recognize the special requirements of electric power was important and difficult. Now growing and conflicting pressures for change to address environmental and other social objectives, interacting with changing technology, could undermine successful electricity markets and recreate the very problems that precipitated the restructuring reforms. Furthermore, fundamental differences in national, state, and regional policies do not map well into natural market configurations. The decarbonized-clean-renewable energy nexus is a case in point. Can market design adapt to address the conflicting requirements, or will non-market mandates and subsidies return us to government direction of most procurement and operating decisions? Is the death of markets imminent, or can markets adapt to address the broader objectives? How much economic efficiency is lost in trying to accommodate diverse policy preferences? How much do such conflicts impact the roles and comparative importance of capacity and energy markets? How does the existence of carbon trading or some form of carbon pricing, in some states and not others, affect the apparent conflict? How should market operators respond to these challenges? Resistance, surrender, or adaptation? What is the proper mix of policies? Most important, what would adaptation mean for electricity market design?

Moderator: Jay Morrison, NRECA

Kathleen Barron, Exelon  
 William Hogan, Harvard Kennedy School  
 Rana Mukerji, New York ISO  
 Kathleen Spees, Brattle Group

2:30 pm **Coffee Break**2:45 pm **Discussion**4:00 pm **Adjourn**6:30 pm **Reception and Dinner, Marcel's Restaurant**

2401 Pennsylvania Avenue NW

*Transportation will be provided from the Watergate Hotel, departing 6:15*

**Friday, October 5**

8:30 am        **Breakfast and Informal Discussion**

9:00 am        **Session Three.**  
**Are Traditional Customer Classifications Still Relevant?**

Electricity markets, driven by technological developments, economic circumstances, and, to a significant degree by social demands, are evolving rapidly. On the technology side, we have increasing use of distributed resources, smart controls, electric vehicles, storage, and other applications. Market changes have enabled demand response, real time price signals, non-tariff offerings, and alternative suppliers. As a result, customers have become far more varied in their requirements for electricity service. In theory, costs should be allocated to the cost causer. Doing that on a customer-by-customer basis is virtually impossible. Simplified allocation decisions -- according to customer classes defined on an end-use basis, such as residential, commercial and industrial -- assume consumers with similar, if not identical, load characteristics. Given the changes in technology and market design, are class-based cost allocations even meaningful anymore? Does intra-class diversity require re-defining the classes, or finding an altogether different methodology for allocating costs? If classes were re-defined, what would new classes look like? Given advances in data management, should we now be looking at cost allocations on a more granular, more individualized basis?

Moderator: Sandra Byrd, Arkansas Electric Cooperatives

Bruce Chapman, Christensen Associates  
Phil Hanser, Brattle Group  
Pasi Miettinen, Sagewell  
Bob Nelson, Montana Consumer Advocate

10:30 am        **Coffee Break**

10:45 am        **Discussion**

12:00 pm        **Adjourn**