

**Agenda Technical Conference regarding Carbon Pricing in Organized Wholesale Electricity Markets  
September 30, 2020**

[FERC Live Video & Audio Webcasts and Archives](#) Approximate audio file times are listed

**00:01:40 Opening Remarks from Sen. Sheldon Whitehouse, the Chairman and Commissioners**

**00:09:15 Introductory Remarks from FERC Commissioners**

**00:24:10 Panel 1: Legal Considerations for State-Adopted Carbon Pricing and RTO/ISO Markets**

This panel will explore general legal issues that may arise under the Federal Power Act when the Commission is presented with a proposal to integrate a carbon price set by a state (or group of states) into an RTO/ISO market design. Panelists will discuss threshold issues related to the Commission's jurisdiction. Panelists will also discuss potentially relevant precedent (i.e., prior Commission acceptance of tariff revisions proposed by RTOs/ISOs to incorporate costs associated with participation in state or regional cap-and-trade programs). Panelists will conceptually discuss future filings, including filings that may differ from the programs the Commission addressed in prior precedent, and any different or additional legal considerations such filings may raise under the just and reasonable and not unduly discriminatory or preferential standard. This panel also will address legal issues that stem from the possible implementation of carbon pricing in multi-state RTO/ISO markets with differing state policies. This panel may include a discussion of the following topics:

- Threshold questions concerning the Commission's statutory authority and other jurisdictional considerations under the Federal Power Act (FPA) associated with implementation of carbon pricing in the RTO/ISO markets.
- The legal analysis of a filing under the FPA proposing to integrate a state-set carbon price into an RTO/ISO market, including the application of the Commission's just, reasonable and not unduly discriminatory or preferential standard set forth under FPA sections 205 and 206.
- Previous Commission precedent regarding tariff revisions proposed by RTOs/ISOs to incorporate costs associated with participation in state or regional cap-and-trade programs, and whether and how such precedents may inform future consideration of proposals to implement carbon pricing in the RTO/ISO markets.
- Whether potential rate impacts stemming from the integration of carbon pricing into RTO/ISO markets are just, reasonable, and not unduly discriminatory or preferential.
- Legal implications under the FPA associated with any implementation of a carbon price set by a single state (or group of states) in a multi-state RTO/ISO market.

**Panelists:**

00:24:10 David R. Hill (Columbia University Center on Global Energy Policy)

00:27:30 Kate Konschnik, Director of Climate & Energy (Duke University Nicholas Institute for Environmental Policy Solutions)

00:30:30 Ari Peskoe, Director (Harvard Electricity Law Initiative)

00:34:35 Matthew E. Price, Partner (Jenner & Block LLP)

00:38:40 Prof. Jim Rossi, Judge D.L. Lansden Chair in Law (Vanderbilt University School of Law)

00:41:57 Dr. Roy Shanker (Independent Consultant)

**01:53:45 Panel 2: Overview of Carbon Pricing Mechanisms and Interactions with RTO/ISO Markets**

The objective of this panel is to provide a common understanding of (1) how RTO/ISO markets currently incorporate carbon pricing set by state and regional initiatives (i.e., state-administered carbon pricing), and (2) carbon pricing mechanisms that are under development that contemplate a greater role for RTOs/ISOs in administering a carbon price set through a state or regional initiative, and how such mechanisms intersect with RTO/ISO markets. This discussion will also highlight the goals and objectives that stakeholders considered when formulating current and proposed carbon pricing mechanisms. This will include an introduction to the issue of leakage—wherein carbon pricing causes internal resources to become less competitive compared to external resources, thus shifting production to emitting resources that are outside the carbon pricing region (e.g., such as the Regional Greenhouse Gas Initiative [RGGI])—and the technical and policy challenges that leakage may create. This panel may include a discussion of the following topics:

- How RTO/ISO markets currently incorporate carbon pricing set by state and regional initiatives—such as RGGI in the Northeast and Mid-Atlantic and the California cap-and-trade program—and lessons learned from these experiences.
- An overview of current RTO/ISO initiatives to consider integration of state carbon pricing actions, without making any assumptions concerning the legality of future proposals.
- Whether and how different approaches to incorporating carbon pricing in the RTO/ISO markets might produce different incentives and, potentially, lead to varying degrees of economic efficiency and transparency in price signals.
- Potential approaches and mechanisms for the allocation of revenues where an RTO/ISO is designated to assess a carbon charge.
- High-level perspectives on whether and the extent to which leakage may reduce market efficiency as well as the efficacy of state carbon pricing policies, and on approaches to mitigate leakage.
- Other challenges for carbon pricing in multi-state RTO/ISO markets where carbon reduction objectives vary among states (e.g., governance arrangements, key market design choices depending on whether there is a single carbon pricing region or multiple carbon pricing regions within the market, etc.), and a framing of possible solutions.

**Panelists:**

01:54:50 Dr. Joseph Bowring, Independent Market Monitor for PJM (Monitoring Analytics)  
01:57:40 Richard J. Dewey, President and CEO (New York Independent System Operator)  
02:02:05 Arne Olson, Senior Partner (Energy and Environmental Economics, E3)  
02:07:28 Devin Hartman, Director of Energy and Environmental Policy (R Street Institute)  
02:10:05 Gordon van Welie, President and CEO (ISO New England)  
02:13:00 Prof. Frank A. Wolak, Professor of Economics (Stanford University)

### **03:13:40 Panel 3: Considerations for Market Design**

This panel will explore the operational and market design issues that arise as RTOs/ISOs seek to integrate carbon pricing into their energy and ancillary services markets and hear perspectives from both market design experts (about ways to integrate carbon pricing into RTO/ISO markets) and market participants (about how carbon pricing might affect their participation in the RTO/ISO markets). Panelists will discuss what impacts carbon pricing may have on co-optimization of energy and ancillary services and reliability. The discussion will cover short-term issues, such as technical considerations related to market optimization and dispatch, market rule designs, and the allocation of revenues where an RTO/ISO is designated to assess a carbon charge (based on a state-set carbon price), among other considerations. The panel will also discuss ways to minimize distortion resulting from leakage, including unique challenges associated with sub-regional carbon pricing within a multi-state RTO/ISO, and how different carbon prices imposed by different states might interact in such a market. This panel may include a discussion of the following topics:

- Key market design features necessary to integrate carbon pricing into RTO/ISO markets, including differences in market design that emerge depending on (1) how the carbon pricing mechanism is administered (i.e., state-administered versus RTO/ISO-administered), and (2) how the boundaries of one or more carbon pricing regions align with the boundaries of the RTO/ISO market.
- Interactions between carbon pricing and RTO/ISO dispatch of resources, including (1) the nature of changes in dispatch arising from carbon pricing; (2) whether any such changes might affect the ability of system operators to balance the system; and (3) whether and how any such changes are unique to carbon pricing.
- Methods to reduce leakage, including (1) identification of those methods that an RTO/ISO can implement versus those that depend on state implementation; (2) discussion of how leakage reduction methods may differ depending on the boundaries of one or more carbon pricing regions relative to an RTO/ISO footprint; (3) discussion of leakage reduction methods between neighboring markets; and (4) how leakage and various leakage reduction methods affect states and market participants outside of a carbon pricing region.
- Where an RTO/ISO administers a carbon pricing mechanism and thus assesses carbon charges to market participants, possible approaches to the allocation of those carbon revenues, and technical considerations that may arise from various allocation approaches, including how various methods could affect price signals to both supply resources and load.
- Features of carbon pricing in RTO/ISO markets that could promote or otherwise affect economic efficiency, including (1) the degree to which the impact of carbon pricing is or could be transparent in LMPs, and (2) how carbon pricing impacts or could impact investment decisions related to entry and exit of resources.
- Considerations related to reliability and resource adequacy.

#### **Group 1 Panelists:**

03:14:20 Dr. Anthony Giacomoni, Senior Market Strategist, Advanced Analytics (PJM Interconnection)

03:15:50 Prof. William Hogan, Raymond Plank Professor of Global Energy Policy, John F. Kennedy School of Government (Harvard University)

- 03:19:20 Rana Mukerji, Senior Vice President, Market Structures (New York Independent System Operator)
- 03:23:05 Mark Rothleder, Vice President, Market Policy and Performance (California Independent System Operator)
- 03:25:55 Dr. Matthew White, Chief Economist (ISO New England)

**Group 2 Panelists:**

- 04:43:20 Clare Breidenich, Carbon and Clean Energy Committee Director (Western Power Trading Forum)
- 04:46:33 Travis Kavulla, Vice President of Regulatory Affairs (NRG)
- 04:52:38 Michael B. Mager, Esq., Partner (Couch White, LLP as Counsel for Multiple Intervenors)
- 04:59:10 J. Arnold Quinn, Senior Director, FERC-Jurisdictional Markets (Vistra)
- 05:02:56 Harry Singh, Vice President (J. Aron & Company LLC)
- 05:05:10 Sherman Knight, President and Chief Commercial Officer (Competitive Power Ventures, CPV)
- 05:07:50 Joseph Wadsworth, Head of Energy Market Affairs (Vitol on behalf of Energy Trading Institute)

**06:14:36 Closing Roundtable Discussion**

The conference will conclude with a roundtable discussion. Panelists will share high-level reflections and key insights on issues explored during the conference.

Panelists:

- 06:15:13 Laura Beane, Chief Renewables Officer (ENGIE North America)
- 06:18:10 Christopher Crane, President and CEO (Exelon Corporation) consumers want it
- 06:23:45 Thad Hill, President and CEO (Calpine Corporation)
- 06:27:44 Brett Mattison, President and Chief Operating Officer (Kentucky Power)
- 06:31:30 Chris Parker, Executive Director (Utah Department of Commerce)
- 06:34:08 Paul Segal, CEO (LS Power)
- 06:37:22 Dr. Susan Tierney, Senior Advisor (Analysis Group)
- 06:41:36 Dena Wiggins, President and CEO (Natural Gas Supply Association, NGSA)