

Innovation

Policy Pathways, Post-Paris

EPRI Looks at Market Mechanisms, Emissions Trading Partnerships

By Garrett Hering

Representatives of 195 countries achieved an environmental policy milestone last December in Paris at the 21st session of the Conference of Parties to the United Nations Framework Convention on Climate Change, or COP21. The Paris Agreement seeks to decarbonize the world's energy systems and limit greenhouse gas emissions.

Now comes the hard part: doing that.

In conjunction with the Paris conference, EPRI hosted two events to examine policies to meet or go beyond COP21 emissions reduction pledges.

The first session, co-hosted with Duke University's Nicholas Institute for Environmental Policy Solutions and the International Emissions Trading Association (IETA), considered the value and challenges of bilateral and multilateral market mechanisms. (The United Nations Framework Convention on Climate Change designated this as an official side event.) The second EPRI session focused on country pledges and potential opportunities for international emissions trading partnerships. EPRI also hosted a third event exploring the state of science for estimating aggregate global damages to society from climate change.

Events Address Global Collaboration

"Global challenges demand global solutions," said IETA President Dirk Forrister, who moderated two of the events.

With standing room only, the session on market mechanisms featured panelists from the U.S. State Department, the European Parliament, and Norwegian energy company Statoil. Policy researchers, government representatives, energy market participants, and environmental advocates explored how signatory countries might collaborate in bilateral or multilateral emissions trading markets to achieve their pledges cost-effectively. Discussion included trading experiences in Europe, California, Quebec, and China, which plans to launch a market this year.

The session drew significant attention, said Forrister, because market mechanisms are anticipated to be an important part of the solution. The final Paris climate agreement includes a section that paves the way for widespread consideration of emissions trading among jurisdictions.

"It includes a solid package of market-based solutions that will allow for the creation of an international emissions trading system, informed by what has and hasn't worked," he said. "We have some examples that we can draw upon to combine the best elements that will achieve more bang for the buck."

Post-Paris Action

In 2015, EPRI launched research on the impacts of international climate policy on domestic emissions reductions. It focuses in part on the value of emissions trading partnerships in the context of the Paris agreement's national pledges. EPRI is examining carbon-market scenarios for meeting targets cost-effectively, using its MERGE model for estimating regional and global economic and energy system effects of greenhouse gas reductions.

Scenarios include bilateral markets, such as between the United States and China, and multilateral markets. Country-to-country partnerships are appealing because they are more manageable.

“The Paris agreement demonstrates credibility and commitment to international efforts that has not existed in the past, but uncertainty remains about how to achieve national targets,” said Steve Rose, an EPRI senior research economist. “International cooperation is an important alternative to going it alone. Emissions trading is one of several potential forms of international cooperation and can benefit participating countries by reducing the societal cost of achieving emissions reduction goals.”

Three insights from EPRI’s research:

- Emissions trading partnerships can improve the economic welfare of citizens in participating countries regardless of whether the countries are buyers or sellers of emissions permits.
- A country can participate as a buyer in one partnership and as a seller in another.
- More participation increases the total value of collaboration but affects the distribution of benefits among partners. The specific outcome depends on whether net permit buyers or sellers join.

“There are economic benefits to linking emissions trading efforts, but different partners produce different outcomes,” said Rose.

For example, one comparison of scenarios that Rose presented in Paris indicated that the United States could receive more economic benefit from bilateral emissions trading with China, while China could benefit more from a multilateral partnership that includes the European Union.

As signatory countries seek to ratify the Paris agreement, EPRI will continue to examine impacts of international climate policy options on various economic sectors, technology deployment, domestic emissions compliance costs, and potential long-term climate.

Key EPRI Technical Experts

Steven Rose