

The Winter 2013 issue of the always-invaluable [\*Journal of Economic Perspectives\*](#) is just out, and it is a treasure for environmental policy people. It features a symposium on tradeable pollution permits, with contributions from among others William Pizer and Robert Stavins. It not only reviews the history of tradeable permits in air pollution, but also considers the feasibility of moving the technique to water pollution. Here are the pieces and the abstracts. Enjoy.

#### Markets for Pollution Allowances: What Are the (New) Lessons?

Lawrence H. Goulder

About 45 years ago a few economists offered the novel idea of trading pollution rights as a way of meeting environmental goals. Such trading was touted as a more cost-effective alternative to traditional forms of regulation, such as specific technology requirements or performance standards. The principal form of trading in pollution rights is a cap-and-trade system, whose essential elements are few and simple: first, the regulatory authority specifies the cap—the total pollution allowed by all of the facilities covered by the regulatory program; second, the regulatory authority distributes the allowances, either by auction or through free provision; third, the system provides for trading of allowances. Since the 1980s the use of cap and trade has grown substantially. In this overview article, I consider some key lessons about when cap-and-trade programs work well, when they perform less effectively, how they work compared with other policy options, and how they might need to be modified to address issues that had not been anticipated.

#### The SO<sub>2</sub> Allowance Trading System: The Ironic History of a Grand Policy Experiment

Richard Schmalensee and Robert N. Stavins

Two decades have passed since the Clean Air Act Amendments of 1990 launched a grand experiment in market-based environmental policy: the SO<sub>2</sub> cap-and-trade system. That system performed well but created four striking ironies: First, by creating this system to reduce SO<sub>2</sub> emissions to curb acid rain, the government did the right thing for the wrong reason. Second, a substantial source of this system's cost-effectiveness was an unanticipated consequence of earlier railroad deregulation. Third, it is ironic that cap-and-trade has come to be demonized by conservative politicians in recent years, as this market-based, cost-effective policy innovation was initially championed and implemented by Republican administrations. Fourth, court decisions and subsequent regulatory responses have led to the collapse of the SO<sub>2</sub> market, demonstrating that what the government gives, the government can take away.

#### (Carbon Markets 15 Years after Kyoto: Lessons Learned, New Challenges

Richard G. Newell, William A. Pizer and Daniel Raimi

Carbon markets are substantial and they are expanding. There are many lessons from market experiences over the past eight years: there should be fewer free allowances, better management of market-sensitive information, and a recognition that trading systems require adjustments that have consequences for market participants and market confidence. Moreover, the emerging market architecture features separate emissions trading systems serving distinct jurisdictions and a variety of other types of policies exist alongside the carbon markets. This situation is in sharp contrast to the top-down, integrated global trading architecture envisioned 15 years ago by the designers of the Kyoto Protocol and raises a suite of new questions. In this new architecture, jurisdictions with emissions trading have to decide how, whether, and when to link with one another. Stakeholders and policymakers must confront how to measure the comparability of efforts among markets as well as relative to a variety of other policy approaches. International negotiators must in turn work out a global agreement that can accommodate and support increasingly bottom-up approaches to carbon markets and climate change mitigation.

#### Moving Pollution Trading from Air to Water: Potential, Problems, and Prognosis Karen Fisher-Vanden and Sheila Olmstead

This paper seeks to assess the current status of water quality trading and to identify possible problems and solutions. Water pollution permit trading programs have rarely been comprehensively described and analyzed in the peer-reviewed literature. Including active programs and completed or otherwise inactive programs, we identify approximately three dozen initiatives. We describe six criteria for successful pollution trading programs and consider how these apply to standard water quality problems, as compared to air quality. We then highlight some important issues to be resolved if current water quality trading programs are to function as the “leading edge” of a new frontier in cost-effective pollution permit trading in the United States.