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# Innovations in Pollution Control

ollution control and practical economics don't always go hand-in-hand. In fact, they have often been at odds with each other. For instance, in the past, the EPA would essentially tell companies how to reduce their emissions — familiarly known as the "command-and-control" approach. Although, the EPA may have had the best of intentions to protect the environment, its strategies may not have always made economical sense. Today, the EPA is no longer dictating what needs to be done, but instead, is devising flexible plans that offer economic incentives to reduce pollution.

Perhaps the most well-known market-based program is the EPA's 1990 Acid Rain Cap and Trade program. Designed to reduce sulfur dioxide and nitrogen oxides emissions from power plants, the program has been extremely successful. According to the EPA, this program has achieved reductions at 2/3 the cost compared with the traditional command-and-control approach. Furthermore, the program has reduced more pollution in the last decade than all other Clean Air Act command-and-control programs combined during the same period.

Using the Acid Rain Cap and Trade program as a model, the EPA recently unveiled the Water Quality Trade Policy (WQTP), which is designed to reduce industrial, municipal and agricultural discharges into the nation's waterways. The EPA is giving the policy a kick-start by providing more than \$800,000 in funding support for technical and other support for 11 trading projects.

Will this policy be as successful as its role model? Our senior editor, Rita D'Aquino did some investigating as reported in the article "Treating Water by Trading Nutrients" (pp. 10–12), and the results look promising. Nutrient trading is already taking place in certain areas, such as Michigan, North Carolina and Connecticut, and its positive impact is being eagerly awaited. The EPA anticipates that nutrient trading can save as much as \$900 million annually, compared with less flexible methods.

Furthermore, the economics look promising. Paul Faeth, managing director of the World Resources Institute (WRI) notes that "data show pollution trading, coupled with performance-based conservation subsidies, is estimated to cost \$2.90/lb of phosphorous removed, compared to almost \$24/lb using conventional point-source treatment."

In a related topic, AIChE's next Critical Issues Series, to be held on Tuesday, April 1 from 1:15 – 3:15 p.m. at the Spring National Meeting in New Orleans (Mar. 30–Apr. 3), will feature the topic "Toward a Sustainable Water Supply." Speakers come from the U.S. Geological Survey, Dow, Ondeo Nalco and the Pacific Institute for Studies in Development, Environment and Security. For more information, visit www.aiche.org/criticalissues.

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