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Abstract

Legal and Policy Considerations for Valuing Externalities

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The advent of stationary source emission trading programs provides a workable *de facto* method for the monetization of sulfur and nitrogen oxide emissions. Emission trading is consistent with the marginal cost of control approach of received environmental externality theory, and avoids regulatory guesswork required to implement externality "adders."

Emission trading programs, such as those applied on national or regional bases through the Title IV acid rain program, the Northeast OTC Memorandum of Understanding for Stationary Source NOx Control, and EPA's 1997 Ozone Transport Rulemaking, allow market forces to determine the monetized value of emissions.

Economic theory instructs that allowance prices are determined by the marginal cost of control. The underlying emission "caps" applied in such programs represent regulatory and legislative judgments about desired residual levels of national or regional environmental effects associated with emissions below the level of each respective cap. As such, emission trading achieves in practice what environmental externality theory has largely failed to deliver in real-world application.

By the same token, the operational flexibility provided by emissions cap-and-trade programs, allowing plant operators to purchase or sell allowances at prevailing market prices, subject to other constraints such as ambient air quality attainment, creates insurmountable hurdles to the application of alternative externality valuations based on the marginal environmental costs (or benefits) of avoided emissions. Regardless of the precision of atmospheric and environmental modeling, the likelihood of substantial temporal and geographic variations in plant emissions, determined in part by allowance markets, precludes reliable microeconomic estimation of the marginal environmental costs (or benefits) of actual emissions.

The decision in the last fully-litigated case on externality valuation theory (Illinois Commerce Commission, Docket No. 92-0274, Rulemaking to Implement Recommendation 5 of the Order in 91-0050 Adopting a Comprehensive Electric Energy Plan for the State of Illinois, Order, November 23, 1994), is instructive to the issues considered in this workshop.

In this case, the ICC heard evidence on proposals to implement monetized externality values offered by the City of Chicago ("Chicago") and by the Commission Staff. Chicago offered evidence supporting a marginal cost of control approach to externality valuation for criteria air pollutants and CO2. Commission Staff urged incorporation of expected costs of compliance with anticipated future environmental regulations, based on enacted or proposed environmental legislation. The Commission's decision rejected both proposals and dismissed the proceeding.

The Commission rejected the marginal cost of control approach advocated by Chicago on three grounds:

> "First, it does not treat externalities symmetrically. The cost of control mechanism does not account for verifiable benefits of the externalities considered. In any rational economic evaluation process, costs are offset with attendant or consequential benefits.
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> Second, the City presented no credible evidence that the costs of controlling any pollutant is either a reasonable proxy for the environmental damage caused by the pollutant or for the value that society as a whole has placed on eliminating the pollutant. …
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> Third. No evidence was presented concerning the extent to which societal economic costs related to the level of specific pollutants under current regulation have been internalized. If the value that society places on avoiding a certain amount of a specific pollutant is in fact one of the bases on which current environmental regulations are set, then the City's methodology "double counts" the benefit of reduction to regulated emission levels.
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> For these reasons, the City's proposal conflicts with sound economic theory." Order at 22-23.

The Commission also rejected Staff's hybrid proposal requiring utilities to account for the anticipated costs of compliance with enacted and proposed environmental legislation:

> "The Commission accordingly finds and concludes that the tentative requirements of prospective legislation still in intermediate stages of the legislative process, and of non-final agency rulemaking, are too speculative and uncertain to serve as a basis for mandatory forecasting of environmental compliance costs…" Id., at 45.

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