

Commentary on... Marketable Pollution Permits

Market Solutions Good Way to Solve Problems

Frederick Tank

As an environmental economist, I am always happy to see public administrators apply market principles. Old fashioned command and control is clumsy and inefficient. In passing the 1990 Clean Air Act Amendments, Congress and EPA re-organized the benefits of pollution permits which companies and investors could trade.

The advantage of this market is that an electric generating company can buy or sell according to its individual costs of abating the pollution. If a company has a high cost to abate, it buys, and if a company has a low cost, it sells. This means the companies that can abate most efficiently do so. For example, a seller might simply close an old stinkpot of a plant.

Under command and control each firm has to reduce its pollution emissions by the same percentage. With an emission market, the companies can choose the method that saves them money. In turn this saves everyone money. Moreover the companies are not subject to EPA demands which (rightly or wrongly) they consider arbitrary. Finally government raises revenue.

As a further benefit to the air, the buyer cannot pollute quite as much as the former owner. The sulfur dioxide allowances evolved from the bubble concept EPA began experimenting with about 1975. When the courts decided the EPA bureaucrats lacked authority,

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Congress put it in the 1977 amendments.

The law set up this system for sulfur dioxide pollution. The Chicago Board of Trade runs the auction under the contract with EPA. At the first one in 1993, EPA sold 150,000 "allowances" giving the right to pollute one ton of sulfur dioxide at prices as high as \$450 each. Since then the prices have fallen sharply, to the surprise of both EPA and the industry. Last year it was \$132 and this March 26 it was only \$68.

Furthermore, the Chicago Board of Trade dropped its plan to establish a futures market of its own, not just run the EPA auction. The market turned out to be too thin for this.

The chief reason for the low price and failure for a commercial market appears to be that transaction costs eat up much of the benefits. The biggest cost is brokerage. An individual electric company does not have enough information about what is available, its price, bargaining strategies and cost assessment. Therefore they hire brokers, whose expense depletes the margin. On the other hand, the companies certainly should not try to buy or sell without the brokers. They would risk too much.

A study of the Fox River water pollution permit trading system concludes the transaction costs were both high and unanticipated. In this case the culprit was administrative requirements. An analysis of the EPA emissions trading for criteria air pollutants concludes that buyers and sellers lacked a convenient means to identify one another, and as a result, buyers frequently paid substantial fees to brokers and consultants.

Additional bad news for market advocates came in January when the South Coast Air Quality board in Southern California voted unannouncedly not to move forward with its innovative pollution trading market. Many of us have seen great promise in the District's programs and can only hope this is a temporary setback.

Let us become too pessimistic, a number of economic studies point to successful programs. One was trading lead rights among oil refiners during the phaseout of leaded gasoline. A factor contributing to its success was that, prior to the phase out, the refiners were accustomed to striking deals with each other for gasoline and crude oil.

The New Jersey Pinelands transferable development rights program succeeded!

because the government acted in the role of a broker without charging a fee. This was obviously a subsidy, but an apparently cheap one since the agency already had the information.

Let me point out one further problem with the sulfur dioxide allowance auction under the Clean Air Amendments. The actual form of the auction appears to be defective. The law requires sealed bids and offers. The Act states that "allowances shall be sold on the basis of bid price." This appears to be a bit illogical and not the method used by stock specialists on the New York Stock Exchange, which would be an ideal model to copy.

The sealed bid method gives an electric company or an investor an incentive to misrepresent. This in turn raises the transaction costs, without increasing benefits. I am not alone in recommending Congress change this.

From my perspective, it seems that EPA should provide services such as information, prices bid and asked, the identity of buyers and sellers, and so forth. After all, we recognize that pollution is not a normal market like corn or wheat or gasoline. A citizen does not have an individual choice about air pollution. We already recognize the government has a special role. Let's be efficient by using the market.

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Why Haven't Economic Solutions Worked?

David Howard Davis

When I worked at EPA headquarters in 1973 economic solutions were the wave of the future, and in 1996 they are still the wave of the future.

We have had many experiments in the past 23 years. The sulfur dioxide allowances in the Clean Air Act Amendments seemed a well thought out plan. The legal authority was explicit and EPA prepared carefully. But the price nose dived and the Chicago Board of Trade realized it could not start a futures market.

California's South Coast Air Quality District brags that it runs "the world's largest market based program," but has just turned away from more use of the market. The Fox River program has faced excessive transaction costs.

If economic solutions are so good, why haven't they worked? Let me suggest five possible administrative and political reasons for your consideration.

1. Just as Frederick Tank argues, the laws and programs really may be flawed. The Clean Air Amendments require the wrong type of auction. Obtaining prices and financial advice is too costly. The benefit of slightly reduced emissions tonnage is too small.

Unfortunately we are short of successful market programs to emulate. The European democracies do not do much of this, although they do use economic incentives such as pollution taxes and fees. The backbone of their pollution control is the familiar command and control.

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Internationally, the United Nations Conference on Trade and Development proposes permits to reduce the carbon dioxide emissions that contribute to global warming. Perhaps it will save us from the greenhouse effect, but it too is the wave of the future.

2. The entire concept of economic methods appears to be repugnant to a bureaucracy. Government employees simply can not think like businesspeople. They cannot get over the reformer's habit of changing, improving and tinkering. On their side, industry decision makers want certainly, especially since some allowances are for seven years in the future. They fear environmental regulations will change, because in the past they have changed continually.

EPA made a wise choice to contract the sulfur dioxide allowance auction to the Chicago Board of Trade instead of conducting it internally. But EPA does not appear to have taken full advantage of the Board's expertise. An expert on commodities or stocks would not recommend the EPA procedures. Even with the alleged deficiencies of the 1990 law, a better system is possible.

3. Attitudes in the governmental and corporate culture may work against market innovations. Environmentally interested groups fundamentally dislike and

seems presumptuous to ask electric and heavy manufacturing companies to jump into an emissions market without laying the groundwork.

To date government agencies have asked the polluters to jump in the water to see if they can swim. If they cannot swim, the agencies mumble that they might change their regulations to help them. The Clean Air Act provisions ensure industry will have minimal information. Tank proposes EPA should be the broker and not charge for the service, which is a good idea.

Besides educating the industry, government should educate the general public about how markets will reduce pollution and reduce the cost of electricity. Furthermore it should educate environmentalists. Once they understand the market programs, virtually all environmentalists appreciate the benefits of reduced pollution. Perhaps "the market" needs a public relations campaign. While it is true that government now sells the right to pollute, in the past it gave it away free.

Part of bad image markets have come from their abuse during the Reagan Administration. James Watt proposed to sell the natural patrimony and Anne Gorsuch didn't care about the Clean Air Act. Environmentalists, asthmatics and physicians grew to fear market solutions. Today gaining their benefits promises to be difficult.

David Howard Davis is writing a book on environmental policy.

distrust market solutions. Allowances seem to be selling the right to pollute (which is true). Furthermore employees in federal and state agencies share this distrust. The result is a market with too many strings attached.

The big polluters—electric utilities and heavy industry—are staffed by old fashioned businessmen who are uncomfortable with innovation. For an electric company, its rate of return comes from a public utility commission. The PUC may ink out profits from skillful purchase or sale of pollution allowances.

4. The various plans for markets isolate a single pollutant, for example sulfur dioxide. In managing their firm, the industrial engineer and financial officer have to combine the effects of all pollutants, as well as the cost of the coal, wages, customer demand and so forth.

It may be asking too much of a market for a single pollutant to offset the combined influence of all other factors. Perhaps some-day, a fully functioning market for emissions allowances will simplify this engineering and fiscal decision making, but one depends on the other. None of the economic evaluations I have read address this interdependency.

5. The problem may lie in preparation, education and public relations. It