
Political Limits of the Market for “BAT Medallions”

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Economists have long advocated trade in organized markets for externalities like pollution. Both government and academic experts have investigated emission fees and marketable pollutant permits and have found that they enhance economic efficiency. More important, trade in pollutant permits would create incentives to shift away from heavily polluting fuels and to shut down old, dirty facilities. Since these older facilities and more noxious fuels are responsible for the bulk of emissions, the potential for ambient improvement is obvious. Markets are simply better able than bureaucrats to meet specific environmental goals. In recognition of these facts, the 1989 amendments to the Clean Air Act proposed by the Bush administration envision an expanded role for market-based environmental quality management.

In reality, however, there is little hope for the system advocated by many economists in which pollutant permits are auctioned (with public prices), freely traded, and protected as property. Efforts by special-interest groups to garner advantages through government regulation (sometimes referred to as “rent-seeking”) explain both the status quo and the reason a more efficient system is unlikely to evolve

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any time soon. The current regulatory structure, based on “best available technology” permits (what we call “BAT medallions”), is likely to be with us for some time. The licensing procedures of the Federal Communications Commission (described later in this article) provide a model for the future of BAT medallions if the Clean Air Act’s institutional framework remains unchanged.

After describing the current regulatory structure, we shall examine political barriers to adopting a pollutant permit market that satisfies economic efficiency criteria. Then we shall explain how a coalition of self-interested rent-seekers may represent the best hope for achieving environmentally and economically worthwhile reforms.

Where We Are

Congress passed the Clean Air Act in 1970 and last amended it in 1977. The act establishes a technology-based, politicized environmental control system in which the environmental benefits and the cost-savings of alternative approaches (whether technological or institutional) are largely ignored. Congress is now considering proposed amendments to the Clean Air Act that would achieve a 10 million ton reduction in sulfur dioxide from 1980 levels by the year 2000. This would be accomplished by establishing a system of marketable permits. In addi-

tion, interpollutant trades of nitrogen oxides for sulfur oxides would be allowed. While the proposed legislation would enlarge the areas of market orientation within the Clean Air Act, it would not alter the basic course of "command-and-control" guided by "public-interest" concerns.

The 1970 Clean Air Act ushered in the National Ambient Air Quality Standards that set maximum allowable ambient concentrations for seven pollutants: sulfur dioxide (SO₂), nitrogen oxides (NO_x), hydrocarbons (HC), carbon monoxide (CO), ozone, lead, and particulates. A region may be in compliance with one, all, or none of the seven ambient standards. The timeframe for achieving compliance and the severity of control measures are determined by the extent to which a region fails to meet the standards for any particular pollutant. For stationary sources (for example, power plants and industrial facilities), the Clean Air Act imposes federally mandated technology-based emission limitations, called best available technology standards. An example of the BAT approach is the requirement that all new coal-fired power plants achieve a 90

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percent reduction in sulfur dioxide emissions exclusively by installing costly and inefficient flue gas desulfurization equipment, popularly known as scrubbers.

BAT Medallions, Bubbles, Netting, Offsets, and Banking

The framework for a market in pollutant permits was established in 1974. Limited trade in BAT medallions was defined by four administrative procedures: bubbles, offsets, netting, and banking. One or more of these procedures applies to all trades.

The conceptual core of the BAT medallion is the "bubble." First, the regional air quality management agency, in compliance with control technology guidelines issued by the Environmental Protection Agency, assigns an emission limit to each discharge point—valves, flanges, and smokestacks—within a firm. Then these discharge points are

grouped within an imaginary bubble. The regional agency establishes maximum total emissions for the bubble, rather than requiring BAT medallions for each emission point. Since a single facility may have thousands of emission points, the bubble procedures provide obvious administrative benefits while allowing greater flexibility so that polluters can efficiently meet EPA requirements.

Trades in BAT medallions may be undertaken within the same plant (netting) or between different firms (offsets). Netting, which was initiated in 1980, allows expansion of an existing plant without review as a new source if the plant does not increase its total emissions. It is a newer and potentially more useful procedure than offsets because it allows existing plants to become new plants over time. Netting was contested in the courts but upheld.

Offset procedures, developed in 1976, allow new firms to operate in a region not in compliance with the national air quality standards as long as overall pollution does not increase. Thus, a new firm must obtain a counterbalancing reduction in emissions from an existing polluter in the region.

Banking is the fourth component of the permits program. Banking allows dischargers to store emission reductions, but not BAT medallions.

The existing trading system only superficially resembles the transferable pollution permit market envisioned by economists. First, firms do not trade BAT medallions. Instead, they trade emission reduction credits (ERCs), an administratively prescribed "excess" reduction from allowable emission levels. Another critical difference between a true market and the existing system is the EPA's role in regulating the creation and trade of ERCs: the EPA determines how much of a reduction will be classified as an ERC and establishes the exchange rate for intrafirm or interfirm trades of emission rights. More accurately, the EPA acts as the agent for several special-interest groups, including the environmental lobby, firms that manufacture pollution control equipment, firms that currently meet BAT emission limitations with control equipment in place, and the procontrol forces in the local air quality management region.

Under the ERC trading system, the de facto pollution rights held by firms frequently are worth more than the returns they can capture through the limited trades allowed by existing regulations. Special interests have exploited this regulatory process to restrict competition and to solidify their market shares at the expense of new, more innovative competition.

The ERC system retards innovation in two ways:

through the retirement delay effect and the BAT effect. The retirement delay effect occurs because of the prohibition on trading between existing firms and new sources and the limitations on the trading of BAT medallions by firms that close for any reason. The ERC trading rules effectively encourage firms to extend the lives of older, more heavily polluting facilities rather than to replace them with

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new, more cleanly operating plants. In another study Michael Maloney and Gordon Brady found that states subject to the most stringent environmental regulations (because they had not attained the national standards) experience a regulation-induced 25 percent increase in the average age of industrial capital. Maloney and Brady estimated that in 1980 this "retirement delay" effect yielded emission rates in strictly regulated areas that were 27 percent higher than rates in the less stringently controlled states. Thus, in the absence of trading, tighter controls seem to generate more pollution.

While the retirement delay effect retards innovation directly by keeping existing equipment in operation, the BAT effect discourages innovation by preventing firms from introducing lower cost, innovative pollution control equipment or processes. For example, BAT regulations prohibit firms from controlling pollution by using more cost-effective methods including converting to naturally low-sulfur fuels such as natural gas or low-sulfur oil, to processed fuels (obtained by such techniques as "coal washing" in which high-sulfur coal is pulverized and the sulfur removed), or to equipment that has not received official EPA recognition as the best available technology. Thus, EPA regulations, implemented through BAT medallions, can be more accurately described as specifying the means than the end of pollution control.

The unfettered trading of BAT medallions (rather than ERCs) would effectively repeal the BAT equipment monopoly created by the BAT medallion and would expand the options available for addressing environmental quality management concerns. The

response of firms to liberalized trade in BAT medallions would vary. Some firms would avoid uncertainty by adhering to the BAT medallion; others would experiment internally to find ways to reduce production or pollution control costs; still others would purchase innovations from the market. Whatever the short-term response of individual firms, the long-term effect of trading would be to lower the aggregate cost of meeting the pollutant reduction requirements in any given region. Over time, as transfers occurred, emission permits allowed by the national air quality standards would tend to flow to firms with lower control costs. Meanwhile,



liberalized trading would produce a transparent system that would help reveal the cost of pollution control and reduction.

Policy Implications: Prospects for Change

If unfettered pollutant trading is so socially desirable, why has it not been adopted? Regulation often allows existing firms to limit entry and thereby to prevent new competition. Hence, inefficient regulatory limits on innovation typically are instituted to advance the interests of coalitions that benefit from restrictions on competition.

The public choice school of analysis thus suggests that we cannot directly move from the BAT medallion system to a "socially more efficient" system because beneficiaries of the status quo recognize what they stand to lose and will object strenuously to any changes. Bureaucrats want to retain the current complex system because they are needed to manage it. Environmentalists want to retain the current system so that they can pursue desired outcomes through litigation, lobbying, and public education. Firms that have political capital in the BAT medallion system want to retain the existing sys-

tem because it enables them to disadvantage potential competitors and to limit new entrants. These firms, joined by organized labor, will have more political influence than the groups that are most harmed by the BAT medallion regime—the operators of potential facilities and the workers that might someday be employed in these as yet unbuilt plants. Consequently, the BAT medallion system does not directly preclude entry, but it rewards the politically powerful by imposing an implicit tax on the less politically powerful, and thereby retards additional competition and potential innovations that unbuilt facilities could provide.

Other concerns may also limit change. Environmentalists, regulatory bureaucrats, and some firms may be unwilling to accept the risk and uncer-

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tainty associated with possible environmental improvements that might develop from innovations in the technology and the processes of managing environmental quality. Moreover, opponents of market approaches may claim that lower pollutant control costs are an “unfair payoff” to polluters.

But without change, ERC trading could take on more of the negative attributes of “public-interest” licensing procedures. One need only look at the licensing procedures of the Federal Communications Commission to discover what ERC trading could become. Administrative law judges at the FCC rule on complex applications requiring full legal documentation that costs hundreds of dollars per hour because of numerous motions, counter-motions, filings, and counterfilings. In theory, the intended recipient of licenses is the applicant who will best serve the local community. In practice, judges are often required to favor applicants that do not own stations and those applicants that participate in civic activities unrelated to broadcasting. The proceedings become a field of high-dollar combat as some applicants attempt to encourage competing applicants to opt out of the potentially cumbersome and expensive transactions. Some 80 percent of the proceedings end in settlements with direct payments ranging from a few thousand dollars to over \$1 million. The same potential exists for burdensome and expensive procedures in the much larger number of pollutant permits involved

in ERC trading. One would expect procontrol groups to try to make ERCs both expensive and scarce. If this is the model, are we prepared to accept the result?

Is there any way to avoid this socially undesirable outcome and to reform the existing system? Possibly. While entrenched coalitions might preclude directly adopting full-scale trading reforms, a transitional regime that facilitates the “easing in” of change might be possible. The amendments proposed by the Bush administration provide for phasing in pollutant permits for fossil-fuel power plants, but this alone is not enough to bring about change. To achieve real changes in the status quo, it would be necessary to identify and organize a coalition of firms that would benefit from liberalized trade in pollution permits. Potential beneficiaries would include firms with lower production costs, those with firm-specific locational or market advantages, and purveyors of more cost-effective pollution control innovations that might develop a new market for their products. The organization of interest groups that would profit from change would, of course, be dependent upon the existence of institutions that facilitate the appropriation of resulting gains, for example, patents, trade secrets, joint R&D, and various cost-sharing arrangements.

Conclusion

Political reform of the Clean Air Act will not occur overnight. It will only come about through rent-seeking by those who will benefit from increased flexibility in environmental quality management. An implicit pact among entrenched interest groups has brought us to the current impasse. Significant improvement will require a new social compact among current “outside” interests that stand to gain from changing the rules of the game.

Selected Readings

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