

4-1-1994

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Recommended Citation

Daniel P. Selmi, *Experimentation and the New Environmental Law*, 27 Loy. L.A. L. Rev. 1061 (1994).
Available at: <https://digitalcommons.lmu.edu/llr/vol27/iss3/18>

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EXPERIMENTATION AND THE "NEW" ENVIRONMENTAL LAW

*Daniel P. Selmi**

I. INTRODUCTION

After almost a quarter century of federally centered environmental regulation, the existing regulatory system satisfies almost no one. Indeed, if the goals at stake were not so important, the criticism directed at federal environmental law has become so regular that it seems almost wearisome. But all is not lost. Important, if somewhat sporadic, efforts are underway to implement new innovations in environmental law, and there are indications of a rough consensus about the road that environmental regulation should take from here. Most significantly, almost everyone seems to agree that economic incentives must be tested to determine their feasibility in the everyday world of regulation,¹ although the faith in and enthusiasm for this form of regulation varies widely.

This Essay offers some thoughts about how that experimentation with this "new" environmental law² should occur in the area of air pollution. One important implication concerns the relationship between states and the federal government in environmental law. The regime of environmental regulation, as it has existed since the early 1970s, is administered through institutional frameworks originating in the Clean Air Act Amendments of 1977,³ with subsequent iterative, relatively minor adjustments. Broadly speaking, this framework envisions that states generally will establish pollution-control programs using traditional command and

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1. See, e.g., William Funk, *Free Market Environmentalism: Wonder Drug or Snake Oil?*, 15 HARV. J.L. & PUB. POL'Y 511, 512 (1992) ("Today the task is not to decry traditional regulation generally, but to identify which environmental problems can be best tackled by market system approaches and to develop the particular market systems appropriate for those problems."); Craig N. Oren, *The Clean Air Act Amendments of 1990: A Bridge to the Future?*, 21 ENVTL. L. 1817, 1838 (1991) ("There appears to be growing agreement that market mechanisms ought to be utilized as a means of giving sources the incentive to reduce harmful activities . . .").

2. The idea of using economic incentives as an environmental protection tool, of course, is not new at all. What is new is the willingness to actually implement such measures. Richard D. Morgenstern, *The Market-Based Approach at EPA*, EPA J., May-June 1992, at 27.

3. 42 U.S.C. §§ 7401-7671q (1988).

control regulation, and that in doing so states will act within narrowly prescribed boundaries established at the federal level. National uniformity among the states is a principal objective of the system.⁴

That framework, however, is likely to hinder the testing of alternative environmental control mechanisms. The system was not designed with economic incentives in mind, and the weight of the federal mandates that it imposes on states operates as a disincentive for states to undertake the expensive task of adopting a wholly different type of regulation. States may well avoid such a step entirely, reasoning that there is little benefit in it for them, or they may make only half-hearted attempts to implement economic incentives.

That course would be unfortunate. To ensure that these new methods are fairly tested and their effectiveness measured, we must consider carefully the conditions under which such tests should be conducted. This testing should be done in an affirmative, coordinated manner, and much of it should occur at the state rather than federal level. Furthermore, if economic incentives are to be fairly tried, it is essential that states be given some reason to use them in a variety of situations.

Thus, the perspective of this Essay is from the "bottom" up—what role should states, the implementers of most environmental policy, play in formulating the new regulatory landscape? It is also practical, focusing on the means by which alternative regulatory systems can be nurtured most effectively from the theoretical stage to the point where they are adaptable to the various circumstances under which states administer environmental controls.

II. THE ERA OF ECONOMIC INCENTIVE SYSTEMS

A. The Benefits of Change

The debate over economic incentives versus command-and-control regulation may have raged throughout the 1980s, but actual change is now occurring. The first shoe dropped with the acid rain trading provisions of the Clean Air Act Amendments of 1990,⁵ which are now being implemented. A second, more recent milestone was the adoption in November 1993 of a marketable permit system for emissions of nitrogen oxides and sulfur oxides in southern California.⁶ At the same time the

4. *Id.* § 7402(a).

5. 42 U.S.C. §§ 7651-7651o (Supp. III 1991).

6. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT Rules 2000-2015 (Oct. 1993) (on file with Author). The Author acted as a consultant to the District on parts of the adopted program.

Environmental Protection Agency (EPA) and the states are engaged in a variety of experiments with other alternative systems ranging from pollution prevention to information-based regulation.⁷

The southern California marketable permit program is particularly significant, coming less than five years after the South Coast Air Quality Management District (District) completed comprehensive revisions to its state implementation plan. That plan relied principally on an extensive network of traditional command and control rules that would have regulated increasingly smaller sources of pollution, as well as on fundamental changes to local land use and transportation patterns. The District's choice to forego this route, and instead utilize an untested pollution control system for a large segment of the emissions that it regulates, speaks volumes about the difficulties of implementing effective command and control rules in heavily polluted areas with multiple emission sources. Laws of bureaucratic behavior lead to the conclusion that the District would not make such a choice unless the obstacles to implementing its previously chosen course were quite significant.⁸ In fact, as the District proceeded to carry out the plan it had adopted in 1988, the political opposition to the plan's implementation had grown to immense proportions, particularly as the economic recession deepened.⁹

Both businesses and environmental groups have important reasons, albeit quite different ones, for supporting the development of systems like marketable permits. Businesses, of course, focus on the increased operational flexibility and potential cost savings that such systems offer—savings that the economic literature repeatedly emphasizes.¹⁰ But such systems also offer the promise of enhanced efficiency in implementation, and thus the increased likelihood of environmental improvement—a feature that should attract environmentalist support.

7. See DANIEL P. SELMI & KENNETH A. MANASTER, *STATE ENVIRONMENTAL LAW* ch. 19, §§ 19.01-.05 (Supp. 1993) (discussing recent state initiatives in these areas); Morgenstern, *supra* note 2 (discussing economic incentive approaches being implemented by EPA).

8. JAMES Q. WILSON, *BUREAUCRACY: WHAT GOVERNMENT AGENCIES DO AND WHY THEY DO IT* 221 (1989) (noting resistance of bureaucratic institutions to innovation).

9. See, e.g., Peter H. King, *The Siege Begins at Smog Palace*, *L.A. TIMES*, Aug. 22, 1993, at A3.

The AQMD, the war cries go, has become a drain on the economy, poisoning the California business climate. If something is not done [it is alleged], firms will flee en masse to less regulated environs. . . .

The campaign started quietly about a year ago, but now appears to be reaching full pitch. Dozens of proposals to diminish district powers are pending in Sacramento.

Id.

10. See, e.g., J.H. DALES, *POLLUTION, PROPERTY & PRICES* (1968).

The currently prevalent command and control system emphasizes the setting of federal standards and their systematic implementation by states through the adoption and execution of plans and permits. Each of these steps, however, affords those resisting regulatory controls with means to block effective implementation at the state level: lobbying to delay state implementation decisions, complaining to state legislators and consequent legislative oversight of state implementation, weakening changes to state law, initiating judicial challenges to state plans and rule makings, applying for variances, et cetera. In contrast, once permits are issued and an emissions cap is put in place under a marketable permit system, then avenues of resistance such as variances, changes in the standards, and amendments to state implementation plans are less likely to be available. Rather, the emphasis shifts to enforcement of the permit's terms and of the market mechanism itself. Because fewer means of blocking implementation are available, environmental groups¹¹ can focus their resources on the avenues that remain and thus should be able to increase the effectiveness of their efforts under the system.¹²

B. The Perils of Change

Nonetheless, the changes needed to implement economic incentive systems and the uncertainties attending their implementation are quite significant and cannot be taken lightly. The difficulties are both bureaucratic and structural. Administrative agencies, for example, must acquire a new type of expertise that they most likely do not currently possess. Agencies administering command and control systems today must put a premium on their ability to understand the technologies of both pollution control equipment and the industry under regulation. Under an incentive system the agency will still need this type of expertise

11. The debate over the District's marketable permit system reflected environmentalist recognition of the merits of such programs. Many environmental groups stated their approval of marketable permits in principle, focusing their opposition on particular features of the regulations implementing such a system. Only one group took the adamant position, formerly common in debates over such economic incentive systems, that they should be opposed because no company should be given a "right to pollute." See JAMES P. JENAL, CITIZENS FOR A BETTER ENV'T, STOPPING THE RECLAIM EXPRESS—WHY CBE OPPOSES THE MARKETING OF POLLUTION "RIGHTS" IN THE LOS ANGELES BASIN 5-6 (1993) ("CBE [Citizens for a Better Environment] believes that no one has a marketable right to pump poison into the air and impose the associated health burdens upon their neighbors.").

12. Of course in some instances environmental groups themselves may want to use these types of "entry points" into the system but will not be able to do so. Under the Clean Air Act and its subsequent amendments, however, it has been sources who have used these procedural avenues to resist implementation, rather than environmentalists seeking to strengthen regulation through them. Lack of resources precludes environmental group involvement in all but the most controversial or important of emission sources.

to estimate the costs that industry will incur by complying with the emission caps set by a marketable permit system. However, the agency now will have to develop sophisticated techniques for predicting the market behavior of industry and the effect of pricing strategies on various industries.

The practical difficulties in crafting a workable regulatory system that relies on economic incentives are large, as the following three examples illustrate.¹³ First, monitoring of emissions becomes absolutely critical. The District's marketable permit program covers nitrogen oxide and sulfur dioxide emitted from relatively large sources. These sources are easily monitored, and many can afford the investment in sophisticated "central station" monitoring equipment that will allow the District to constantly measure emissions, thus ensuring the enforceability of permits and the efficacy of trades.¹⁴ But other pollutants that might be placed in a marketable permit system are emitted from a much larger universe of sources. For example, reactive organic gases often occur when products such as paints are used. Devising a system to effectively monitor these emissions, at a reasonable cost to the many small business sources, is a difficult undertaking.

A second problem area of marketable permits inheres in the idea of a "mixed" regulatory system. An increasingly common, seemingly logical suggestion is that the regulatory system that ultimately emerges from the experiments with economic incentives will be a mixed system with

13. The South Coast Air Quality Management District is a very large public agency with a sophisticated staff. See Howard Latin, *Regulatory Failure, Administrative Incentives, and the New Clean Air Act*, 21 ENVTL. L. 1647, 1716 n.191 (1991) ("Moreover, the SCAQMD is probably the most technically sophisticated and best funded regional pollution control authority in the country. One EPA official told me that SCAQMD has more professional air quality and air pollution control personnel in Southern California than EPA does in the nation."). Yet it took the District staff almost three full years to put together a marketable permit program for nitrogen oxide and sulfur dioxide. During this time the District devoted almost all of its regulatory resources to this effort; the adoption of command-and-control measures was, for the most part, put on hold.

This effort was, of course, the first major attempt to install a marketable permit system in a major air pollution area. Later uses of marketable permits will benefit from the District's experience, and economies of regulatory scale will emerge. Nonetheless, the change in institutional expertise needed to support sophisticated economic incentive systems is considerable.

14. Because the sources that may trade under the acid rain trading provisions of the Clean Air Act are also large, see 42 U.S.C. § 7651c (Supp. 1993), monitoring is relatively easy here as well, see *id.* § 7651k (requiring sources to install continuous emissions monitoring systems (CEMS), and requiring EPA Administrator to adopt regulations specifying requirements for CEMS or for any alternative monitoring system that is demonstrated as providing same information with same precision).

elements of both command-and-control as well as economic incentives.¹⁵ After all, economic incentives will not be feasible in every instance, and a substantial portion of the pollution universe will almost certainly continue to be regulated through some form of traditional command and control.¹⁶ But what is meant by mixed? It may mean a system in which individual sources are subject to both incentive-based regulation and command-and-control in an individual regulatory structure.¹⁷

Indeed, several forces coalesce to make this result a likely outcome. Political opposition to a total switch to incentive systems for air pollution control may well result in a compromise that adopts features of both the existing command and control system and a new economic incentive system. Bureaucracies tend to resist discarding the existing system in toto and to lean toward retention of existing procedures and standards. Finally, because of the untested nature of market systems and the possibility of significant adverse effects if the system fails, there is a strong appeal to "backstopping" the new economic incentive system with command-and-control mechanisms, should the new system for some reason prove faulty.

Such compromising, however, may well imperil the effectiveness of the new incentive system. Perhaps the most fundamental precondition for a properly functioning market to flourish is assurance that the regulatory system now and in the future will recognize the property rights that are created within the market.¹⁸ If a system is adopted that has both command and control as well as incentive features, market participants may view the very choice of this mixed system as proof that regulators are less than fully committed to the use of market principles. They will factor that conclusion into their regulatory calculations. They may decide that sale of excess emission reductions is not a wise move, as the company might need those reductions itself should the regulatory system

15. Michael C. Blumm, *The Fallacies of Free Market Environmentalism*, 15 HARV. J.L. & PUB. POL'Y 371, 381 (1992) (noting that "[n]on-regulatory mechanisms are increasingly married to regulatory techniques in modern environmental legislation").

16. See Arnold W. Reitze, Jr., *A Century of Air Pollution Control Law: What's Worked; What's Failed; What Might Work*, 21 ENVTL. L. 1549, 1633 (1991) (suggesting that emissions trading as method for controlling all pollution as complex as that regulated by Clean Air Act Amendments of 1990 "seems unwise").

17. The offset provisions of the Clean Air Act provide such an example. They contain both incentives (sources may obtain the cheapest package of offsets available) and command and control (sources must use the lowest achievable emission rate). 42 U.S.C.A. § 7502(a)(1), (2) (West Supp. 1993).

18. Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go? An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109, 144 (1989) (citing "uncertainties associated with property rights" as one of two features affecting performance of emissions trading markets).

later revert back to a single command and control apparatus. Under those circumstances, the market cannot flourish.¹⁹

A third problem with marketable permit systems arises from the fact that any market incentive system will remain subject to the regulatory politics now practiced under command and control. As such, the new system will inevitably be subject to political intervention during the implementation process, for throughout that process actors will continue to pursue their own interests on a political level.²⁰ Whether their interests are commercial or environmental in nature, if they perceive that the market is placing them at a disadvantage, they will forcefully seek legislative, judicial, or executive intervention to change the features of the market that they find objectionable.

For example, if a regulated company concludes that the price of trading units in a marketable permit system has risen too steeply and is affecting the company's profitability or continued existence, it will not treat that price as the inexorable outcome of a market that it cannot manipulate. Rather, the company will lobby for legislative and regulatory relief, seeking either changes in the market directly or a "variance" applicable only to a single firm in an industry. If granted, however, each change will diminish the certainty required for market mechanisms to operate effectively, because parties will take into account the fact that the value of permits authorizing emissions may change due to political whim.

Consistent with the existence of these types of uncertainties about the implementation of economic incentives, the current empirical evidence is quite inconclusive about whether such systems actually can be implemented in an effective manner for the wide variety of air pollution sources now regulated under command and control. Some of the past experiments have worked; others have not. And surprisingly, most of the experiments have not been extensively analyzed to identify the reasons

19. Significantly, this type of thinking may explain the lack of trading under the Clean Air Act's "offset" program. See John P. Dwyer, *The Use of Market Incentives in Controlling Air Pollution: California's Marketable Permits Program*, 20 *ECOLOGY L.Q.* 103, 109 (1993) (noting that plant managers operating under so-called offset program tend to hoard credits, in part because of fear that air pollution control district will demand new emission reductions in future).

20. See John T. Scholz, *Cooperative Regulatory Enforcement and the Politics of Administrative Effectiveness*, 85 *AM. POL. SCI. REV.* 115, 115 (1991) ("In the last two decades, political science has emphasized the role of interests in causing administrative ineffectiveness. Administrative choices are portrayed as the continuation of legislative politics by other means, with opposition groups sabotaging effective administration at every turn . . .").

for their performance and thus to determine the conditions under which incentive systems can operate effectively.²¹

This is not to argue that such systems should not be tried. Instead, it suggests the critical importance of the circumstances under which incentive systems such as marketable permits are tested. The principal goals of this testing period should be to evolve a set of conditions under which certain types of economic incentives are likely to work well, and to identify the bureaucratic resources that are necessary to administer them.²² From this body of accumulated information, judgments can be made about the types of circumstances for which different approaches are best suited.

In short, rather than engaging in a series of ad hoc efforts, we should affirmatively embark on a course of managed innovation in environmental regulation by encouraging experiments and closely monitoring them. Unless an orderly approach is used, it is likely that none of the controversy over the appropriate future course of environmental law will be settled. Either insufficient experimentation will occur upon which to base any judgments, or experiments will occur under circumstances that are inadequate to determine whether such mechanisms can work on a broad scale. In either case, the debate over whether economic incentives are truly workable will simply shift to arguments over the reasons for the tested system's lack of performance, with some suggesting that it proves the failure of such systems, and others insisting that the system was never properly tried.

III. THE ROLE OF THE STATES

A. *Principled Experimentation*

The question, then, is how to test the new environmental law. Below I suggest four core guidelines that should be used to structure this effort.

A threshold issue is what roles the federal and state governments should respectively play in this effort. Important work on incentive systems is occurring at the federal level, and the federal government should establish the framework within which experimentation can take place. The actual testing of economic incentives, however, should be carried out largely by the states. In the past decade the larger states have shown the

21. Hahn & Hester, *supra* note 18, at 113 (reviewing literature and noting that "only an incomplete picture of the actual performance of the emissions trading policy exists").

22. Ideally, this effort should include a wider variety of mechanisms, ranging the gamut from fees to taxes to marketable permits to pure information disclosure systems.

capacity to innovate in the environmental law field by undertaking important experiments in risk management,²³ pollution prevention,²⁴ hazardous waste clean up,²⁵ information-based disclosure,²⁶ and marketable permit systems. Moreover, federal environmental law has borrowed heavily from state innovations, at least in recent years.²⁷

Most importantly, a couple of practical reasons require that the effort be state-led. First, states are best suited to provide the variety of regulatory settings needed to determine whether economic incentives can viably replace command and control. Furthermore, if economic incentives prove to be a success, states ultimately will be charged with implementing them (unless the current federal-state structure of environmental law is totally discarded). Therefore, gaining experience at the state level seems sensible. Finally, using states as the focus is prudent in light of the health risks involved: There is a possibility that a market-based system will not work properly and a significant pollution problem will occur. Having states, or subsets of states, experiment with the program limits the public health risk to a smaller geographic area.²⁸

The second principle concerns timing. It is critical to recognize that effective testing and determination of the usefulness of alternative mechanisms such as marketable permits are not tasks that can be carried out quickly. Policy experimentation with market mechanisms requires allowing markets to operate through short-term fluctuations in order to analyze their long-term workability. Accordingly, there must be a commitment to longer-term experimentation with marketable permits.

This commitment to a deliberateness in approach contradicts environmental law's long-declared purpose to ameliorate health risks on an expedited basis.²⁹ It conflicts with the short attention span of environ-

23. See Toxic Catastrophe Prevention Act, ch. 403, § 1, N.J. STAT. ANN. tit. 13, ch. 1K-19 to -32 (West 1991); Extremely Hazardous Substances Risk Management Act, ch. 417, § 1, DEL. CODE ANN. tit. 7, §§ 7701-7718 (1991).

24. See Massachusetts Toxics Use Reduction Act, ch. 265, § 3, MASS. GEN. LAWS ANN. ch. 21I, §§ 1-23 (West Supp. 1993).

25. Environmental Cleanup Responsibility Act, ch. 330, § 1, N.J. STAT. ANN. tit. 13, ch. 1K-6 to -13 (West 1991).

26. Safe Drinking Water and Toxic Enforcement Act of 1986, CAL. HEALTH & SAFETY CODE §§ 25249.5-13 (West 1992).

27. See Sheldon Kamieniecki & Michael R. Ferrall, *Intergovernmental Relations and Clean-Air Policy in Southern California*, PUBLIUS, Summer 1991, at 143, 153 ("[I]t is fair to say that California's approach to controlling air pollution strongly shaped the contents of the federal law rather than the other way around.").

28. States may be unwilling to run that risk absent incentives to do so. See *infra* notes 30-32 and accompanying text.

29. See, for example, the Clean Water Act's initial, unrealistic goal of "zero discharge" by 1985. 33 U.S.C. § 1251(a) (1988).

mental politics in which legislators often respond to election cycles rather than to a program's long-term institutional needs. And it contradicts the volatility of environmental law over the past fifteen years, especially at the federal level, which saw wide swings in administrative approaches and commitment to environmental regulation.³⁰ However, unless a longer experimentation period is ensured, the experiments will raise more questions than they answer.

The third guiding principle, closely related to the second, is the need to provide stability in the experiments over the long term and to resist interim "quick fixes." The experience with implementation of environmental law over the last twenty-five years has been that parties to the regulatory system constantly attempt to adjust the system so as to promote their own views of what the system should be achieving. The same is likely to occur with a marketable permit system. At the beginning of the cycle, there should be relatively little controversy over the cost of pollution control, with the possible exception of disputes over the initial baseline allocation of emission rights. As allowable pollution levels decrease, however, permits to emit may well become quite expensive. Pressure to modify the system to lessen compliance costs will increase correspondingly. At the same time, others viewing the marketable permit system from a different perspective may conclude that "real" pollution reductions are not occurring and propose modifications to ensure that they take place.

Deciding when interim changes in the program are warranted will be a very difficult task. Certainly a principal purpose of experimentation is to accumulate first-hand experience with the system's operation that can provide the basis for needed modifications. But the tendency in the unfamiliar situation of marketable permits, encouraged by the political pressure from interest groups, will be to move too quickly. Further, premature changes in the system may cause market participants to doubt its long-term stability, or even its viability. This doubt may lead them to behave in a manner inconsistent with actions that would be taken in a true market.

Given the need for long-term stability in market mechanisms, the burden of proof to justify early changes in the system ought to be high. The experiments should be carried out over the long term and mid-course adjustments should be avoided unless absolutely necessary.

Fourth, the experimentation process must implement two important components: monitoring and evaluating the market's distributional im-

30. See JONATHAN LASH ET AL., *A SEASON OF SPOILS* (1984).

pacts. These factors are key to forming any long-term consensus about the efficacy of using economic incentives as a means of environmental protection in a wide variety of circumstances.

The literature emphasizes the importance of enforcement in economic incentive systems.³¹ It is obvious that an environmental protection system featuring marketable permits will break down if the external discipline that enforces market rules—and thus protects economic investments in pollution control—is lacking. Enforcement, in turn, depends on careful monitoring of emission sources. The agency must be able to track developments as permittees rapidly change their positions, and it must be able to determine precisely how much pollution sources are emitting.

Here lies a dilemma: Monitoring must ensure that emissions do not exceed those allowed by the permits in the source's possession, but must not be so intrusive as to unduly interfere with the incentives and freedom from regulatory intrusiveness that the market approach offers and that is so attractive to industry. Achieving the proper balance will be difficult. At the beginning any errors must be made on the side of vigorous monitoring, for unless the actual amount of emissions is known, the entire system breaks down.

The distribution of environmental risks also must be affirmatively evaluated, for allowing the market to allocate risks may well result in localized accumulations of particular pollutants. Some recent literature has argued that current environmental law has permitted the imposition of an undue amount of risks on specific communities,³² and pollution choices based upon economic incentives have the potential of exacerbating an already inequitable distribution of risks. This factor thus must be closely watched, keeping in mind the goal of establishing general guidelines to determine when the accumulation of risk has become so unfair as to warrant corrective intervention in the market.

B. Fostering Effective Experimentation

Under what conditions would states be willing to carry out the type of program outlined above? It might be suggested that they will do so voluntarily, but there are two reasons why reliance on voluntary efforts

31. See, e.g., Marshall J. Breger et al., *Providing Economic Incentives in Environmental Regulation*, 8 YALE J. ON REG. 463, 469 (1991) ("Monitoring and enforcement is a key element in both regulatory and economic incentive systems . . .").

32. See, e.g., Richard J. Lazarus, *Pursuing "Environmental Justice": The Distributional Effects of Environmental Protection*, 87 NW. U. L. REV. 787, 806-25 (1993) (discussing how low-income and ethnic minority groups suffer disproportionately from environmental pollution under present regulatory regime).

without further attempts to encourage innovation is insufficient. First, voluntary state efforts are not likely to encompass the variety of situations in which alternative systems should be tested. Because states will voluntarily implement alternative environmental control efforts in response to political forces operating in specific jurisdictions, there will be a randomness to state experimentation that is not consistent with the need for testing economic incentive mechanisms systematically in a well-considered variety of circumstances.

Equally important, any states voluntarily trying such systems will have to comply concurrently with existing federal command and control mandates. Because the resources needed to simultaneously implement both a command and control system and an alternative economic incentive program are extensive, the tendency will either be to take the easiest course—use only of command and control—or to cut corners and preserve resources by adopting a system that grafts some economic incentives onto the existing command and control system. As discussed above, however, creating a hybrid program by combining elements of both systems can jeopardize the proper functioning of the incentive system.³³

Accordingly, for experimentation with alternative systems properly to take place, a more structured approach is required, with states receiving sufficient incentives so that the necessary level of participation by states in innovative pollution control programs takes place. Encouraging innovation at the state level is not easy; the literature studying the question does not agree on when innovation is likely to occur or on the conditions that might foster it.³⁴ The obvious method of encouraging state innovation is providing money, but increased funding of state efforts is unlikely.

The most reasonable step is to encourage state use of economic incentive systems by freeing states from some of the existing requirements of federal legislation when they adopt such a system. States could be relieved of specific requirements in the Clean Air Act that are parts of the existing command and control system if they agree to adopt an economic incentive system. For example, section 173 of the Clean Air Act now contains a blizzard of regulatory requirements designed to place specific procedural and substantive constraints on the siting of new sources

33. See *supra* notes 15-19 and accompanying text.

34. Thad L. Beyle, *The Governor as Innovator in the Federal System*, PUBLIUS, Summer 1988, at 131, 143 ("No state is consistently innovative in every area, in the same direction, or at all times.").

in nonattainment areas.³⁵ These include the basic offset requirement, a mandate for "reasonable further progress" if the source is constructed, use of "lowest achievable emission rate" technology, a demonstration by the source that all sources owned or under its control are in compliance, and a cost-benefit analysis of alternative sites, sizes, production processes, and environmental control techniques for the proposed source. These could be waived if a marketable permit system were in place, as the new source could simply purchase the permits needed to operate legally.

Similarly, section 182 of the Act contains detailed requirements for ozone plans that become more complex as the level of pollution in the jurisdiction increases.³⁶ These requirements include traffic controls, clean fuels mandates, use of "reasonably available control technology" on major sources, preparation of specific plans for VOC reductions within a specified number of years, and the mandatory use of other specific technologies.³⁷ Once again, many of these requirements could be waived if a state adopts a marketable permit system designed to attain the national ambient air quality standards within the same time as required by existing law. The EPA would approve the marketable permit plan only after finding that it is enforceable and that, if implemented, it is likely to attain the air quality standards.

Such a quid pro quo would allow states to concentrate on implementing the new system without the distraction of simultaneously complying with statutory requirements that are inconsistent with or not directly relevant to it. By treating economic incentives separately from command and control, such legislation would also help alleviate any tendency to adopt systems that unwisely combine economic incentives with features of a command and control system, for such a combination could send the wrong signal to those participating in the market.

Furthermore, these suggested changes would have to occur through federal legislation, an action that in itself would have a significant side benefit. To the extent that states enacting economic incentive mechanisms for controlling pollution must continue to comply with federal statutes designed with command and control regulation in mind, they run the risk of legal challenges to the new system. Parties resisting implementation of a marketable permit system, for example, might claim that the system violates mandates in the Clean Air Act, such as new

35. 42 U.S.C. § 7503 (Supp. 1991).

36. *Id.* § 7511a.

37. *Id.*

source review³⁸ or state implementation plan requirements.³⁹ Legislation exempting alternative systems from certain otherwise applicable requirements would prevent such challenges.

It may be argued that authorizing states to use alternative regulatory systems in this manner would contradict perhaps the most fundamental tenet of environmental law as it has developed over the last quarter century: the concept of a uniform federal "floor" of procedural and substantive standards that binds all states and actors within those states equally. States have generally been free to enact substantive environmental protection standards that are more stringent than those established at the federal level, but they must comply with the federal substantive minimums. Further, a state must follow procedures established at the federal level or run the risk that the EPA will rescind its delegation of control over a pollution control program to the state, or perhaps file a federal enforcement action against a specific source.

The uniformity principle would not be unduly compromised because a blanket waiver of federal standards is unnecessary. The principal substantive minimum standard—attainment of the national ambient air quality standards—would remain intact. What would change is the means by which those standards are attained. States would be given two options to meet those standards: they could use the traditional command and control system, or they could receive a waiver of some federal requirements if they adopt an economic incentive system and meet minimum standards that the EPA would establish by regulation for such systems. While state uniformity would be compromised to a certain extent, that relaxation is a reasonable step to encourage state experimentation.

Furthermore, slightly relaxing the rigid procedural uniformity that has been a bulwark of environmental law might be less risky than it seems. The premise of uniform federal regulation has always been that it is needed to prevent states from competing and thus lowering environmental standards to the level of the "lowest common denominator."⁴⁰ That premise may not be totally accurate, however, as there is some evidence that states that have enacted programs exceeding federal mini-

38. *Id.* § 7503 (containing new source review requirements).

39. *Id.* § 7410 (containing state implementation plan requirements).

40. Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of Federal Environmental Policy*, 86 *YALE L.J.* 1196, 1212 (1977) (arguing that states may fear that resulting environmental gains will be offset by capital movement to states with lower standards).

mums also have strong economies,⁴¹ thus contradicting the idea that states will necessarily use environmental protection as a means of competing over industry. Additionally, if states were always primarily concerned with attracting industry, they would never have voluntarily adopted standards that exceed those of the federal government.⁴² It seems more likely that a complex interaction of various factors would determine the level of environmental control that states would adopt in the absence of federal standards.

Moreover, as a practical matter, it is likely that federally mandated state uniformity cannot continue in the same form in the future. If the experiments with economic incentives are successful, the end result will be a system in which command and control is applied to some situations, while a variety of economic incentives or other alternatives are used in others. In such a regulatory world, the procedural and substantive uniformity imposed upon states over the past twenty-five years would change.

Finally, the process of establishing a framework for experimenting at the state level would serve as a first step in re-examining the roles that states play generally in the environmental regulatory system. The current system exhibits a number of features that certainly warrant another look. For example, the Clean Air Act relies extensively upon state planning efforts that the federal government then certifies as compliant with federal law—a system that has brought inordinate delays, much federal-state negotiations, less-than-realistic planning, and unwarranted assumptions about states' willingness to change their land use and transportation systems to accommodate federal environmental goals.⁴³ A step in the direction of re-examining these requirements to see if other forms of federal oversight might be better is a worthy one.

41. See Stephen M. Meyer, *Environmentalism and Economic Prosperity: Testing the Environmental Impact Hypothesis*, Massachusetts Inst. of Technology (Oct. 5, 1992) (arguing that strong state environmental policies do not necessarily hinder economic growth in states by comparing index of state environmental performance and economic performance data).

42. For example, several northeastern states voluntarily sought to adopt the so-called California standards for emissions from automobiles that were more stringent than those used in most of the United States. See *Air Pollution: Panel Plans Recommendation by End of Year on "California Cars" for Northeast States*, 24 *Env't Rep. (BNA)* No. 18, at 814 (Sept. 3, 1993).

43. On the subject of missed deadlines, see John H. Cushman, Jr., *States and Government Lag in Meeting Clean Air Law*, N.Y. TIMES, Nov. 16, 1993, at A1 ("Today, as in every year since the law was passed in 1990, many states failed to meet a deadline for producing plans detailing how they would cut various forms of air pollution."). The agency stated that it expected fewer than half the states to meet the filing deadline. *Id.* at A7.

IV. CONCLUSION

The issue is how environmental law will enter the era of economic incentives. Will it do so in a considered manner that takes into account prior experience over the past quarter century and allows for structured experimentation, or in an ad hoc manner ensuring only that the debate over the efficacy of economic incentives continues in altered form? At this point in the development of environmental law, experimentation managed in a thoughtful manner will go a long way toward providing the concrete answers that are needed.