

Reforming Environmental Regulation: Three Modest Proposals

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If memory serves me, I began work at Resources for the Future (RFF) fifteen years ago today. One of my earliest recollections of RFF was a remark by my colleague Allen Kneese concerning the sense of *deja vu* he had just experienced while attending a conference on reforming environmental policy using economic incentives. Well, as Yogi Berra once said, "It's *deja vu* all over again," but now I'm the one sensing it. I have been at this subject long enough now myself to remember more than a few conferences like today's.

Nevertheless, there are at least two reasons for optimism about this colloquium. First, unlike the case fifteen (or even ten) years ago, we now have some real-world experience with the use of economic incentives in environmental policy. True, they have largely taken the form of marketable discharge permits rather than effluent charges, even though Kneese and other pioneers in environmental economics seemed to prefer the latter to the former. But the offset, bubble, and banking policies of the EPA are all applications of economic incentive-based policies nonetheless.

Furthermore, the concept of marketable discharge permits enjoys broad and growing acceptance; indeed, proposals to extend their use to control the sulfurous precursors of acid rain or even worldwide emissions of ozone-depleting CFCs hardly raise a stir. And, marketable permits have even insinuated themselves into state environmental policies.¹ Wisconsin's control of water pollutant emissions along the Fox River is just one example. In this sense, then, real progress has been and continues to be made.

Second, the invitation list for this conference suggests that further progress may come more easily than before. I say this be-

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1. See O'Neil, *Transferable Discharge Permit Trading Under Varying Stream Conditions: A Simulation of Multiperiod Permit Market Performances on the Fox River, Wisconsin*. 19 *Water Resources Research* 608 (1983).

cause we are now well beyond the point where economists talked only among themselves about the virtues of incentive-based environmental policies. Today, they meet regularly with lawyers, politicians and political scientists, reporters, engineers, government regulators and even philosophers to discuss the pros and cons of alternative environmental policies. This bodes well for the development of more informed and realistic policy alternatives.

Toward this end, I here suggest three possible reforms of federal environmental regulation. It would be naive—nay, foolhardy—to think that all three will be embraced with open arms. Nevertheless, I believe that each proposal has much to recommend it to a variety of interested parties.

PROPOSAL I: *A quasi-independent Bureau of Environmental Statistics should be created within the Environmental Protection Agency to oversee the collection, analysis, and publication of important measures related to the quality of the environment.*

For nearly a half-century now, the Bureau of Labor Statistics within the Department of Labor has collected and published data about current rates of unemployment, labor force participation, layoffs and related matters. The Bureau of Economic Analysis has performed a similar function for data on foreign trade, GNP growth, and other economic measures from within the Department of Commerce. Both bureaus were created in part to ensure the independent and nonpartisan treatment of politically sensitive data and measures.

By most accounts, these have been successful undertakings. While there are occasional cries that the unemployment, inflation or GNP growth statistics have been “cooked” to suit political purposes, they are the rare exception. Furthermore, when proposals surface to change the way we measure these “vital signs,” they are scrutinized carefully and openly. No one would ever argue that our measures of economic activity are exact, but it is impossible to imagine modern government operating in their absence. Indeed, these measures drive important federal grant and entitlement programs, and also help trigger (and then measure the success of) major countercyclical fiscal and monetary measures.

It is long past time to establish a Bureau of Environmental Statistics to give the U.S. a similar measurement capability in the environmental area. Simply put, we have not a single federally-collected data series in the environmental area that goes back as

far as any of the economic series alluded to above, or that is subject to the same quality control, careful measurement protocols, or subsequent thorough analyses. To put the matter more bluntly, we currently do a disgraceful job of collecting, analyzing, and disseminating information about environmental conditions and trends.

Space does not permit a reading here of the full bill of indictment. But to illustrate my point, consider our national program to collect and analyze air pollution data, by far the beacon light of federal environmental monitoring. To begin with, even for the six common air pollutants for which national standards have been established,² the nationwide monitoring program is inadequate. For instance, such data as exist on national trends in airborne concentrations of lead—a potentially quite serious threat to health—come from a “network” of 53 monitors.³ Fifty-three monitors to reflect lead concentrations in several hundred metropolitan areas, not to mention thousands of rural communities! Similarly, despite cries that we reduce ambient concentrations of ozone (another of the six common pollutants) in part to alleviate agricultural crop losses, we do virtually no systematic monitoring of ozone in rural areas. Instead, we interpolate (read “guess at”) rural levels by taking weighted averages of urban readings often hundreds of miles away. Finally, despite widespread concern about (not to mention proposed legislation regarding) less common toxic air pollutants such as arsenic, benzene, and vinyl chloride, there is no national monitoring program for all these pollutants. None.

The situation is very much bleaker for water quality monitoring (where the EPA has all but abandoned its national network); measurements of pesticide residues in soil, on foodstuffs, and in fish, bird and other animal populations; data on toxic substance levels in human body tissues (where a small monitoring program was proposed to be eliminated by EPA);⁴ and measurements related to wetlands and a host of other sensitive ecosystems.

2. These six are sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone, lead, and particulate matter less than 10 microns in diameter. They are the pollutants regulated under 42 U.S.C. § 7409 (1982).

3. OFFICE OF AIR QUALITY PLANNING AND STANDARDS, U.S.E.P.A., No. EPA-450/4-87-001, NATIONAL AIR QUALITY AND EMISSIONS TRENDS REPORT 1985, at 3-38 (Apr. 1987).

4. Shabecoff, *EPA Dropping Key Program on Toxic Exposure*, N.Y. Times, Nov. 24, 1987, at A17, col. 2.

In short, we are woefully ignorant of the current state of our environment, how it compares to the past, and what role current policies may have played in explaining the differences. Worse yet, the data that do exist are not all accessible to interested parties.

There are several reasons for this sad state of affairs, each of which a Bureau of Environmental Statistics (BES) could address. First, environmental data are currently collected by a welter of federal agencies including EPA, the U.S. Geological Survey (USGS), the Forest Service, the National Oceanic and Atmospheric Administration, the Departments of Defense, Energy, and Health and Human Services, and even the National Aeronautics and Space Administration (NASA). Yet there is no one place in the federal government where these data are pulled together and made accessible.

Contrast this situation to that in the economic field, where each year, in the Economic Report of the President (prepared by the Council of Economic Advisors), data from many federal agencies are pulled together and presented in roughly 100 tables, many of which go back to 1929.

Before its evisceration, the President's Council on Environmental Quality (CEQ)—which prepares its own annual report—was the logical source for a similar compilation and dissemination of important environmental data. In fact, CEQ is directed to perform this function by the National Environment Policy Act of 1969.⁵ Even in its halcyon days, however, CEQ was never able to muster the resources to present truly comprehensive and consistent environmental data on an annual basis.

The BES would be the perfect focal point for these activities. Obviously, it would draw on much of the data already collected by the EPA for its annual report. But it would reach well beyond that for data from the other agencies mentioned above. For example, until and unless EPA's national water quality monitoring network can be resuscitated, data from the USGS network would be reported. Similarly, NASA data on stratospheric ozone measurements would be included in the BES annual report. So, too, might data from the Forest Service on the quantity, and perhaps even the health, of forest acreage. The idea should be clear—and I hope appealing.

5. 42 U.S.C. §§ 4321-70a (1982).

Creating a focal point for the collection and reporting of environmental data will be inadequate unless we are also willing to spend more to collect data. Unfortunately, it is hard to know how little we are currently spending since it has been ten years since anyone has bothered to conduct such a tally. My guess—and it is only that—is that the total amount is less than \$200 million annually. That's not chicken feed, I know. But it is very small in comparison to the \$70 billion or more that we spend each year to comply with EPA regulations. If we'll spend that much in pursuit of environmental quality, we can and should spend more to know what we're getting for our investment.

The BES would, I believe, facilitate increased spending for environmental quality monitoring and analysis. First, it would give harried senators and congressmen a single rallying point for their concerns about measurement of environmental trends. Currently, they must fight their budgetary battles in a dozen separate programs at a score of federal agencies. Marshalling political support for a comprehensive environmental quality assessment will be much easier than generating enthusiasm for a battle to increase the number of rural ozone monitors.

Second, if the BES were a separate line in EPA's annual budget, appropriations for data collection and analysis could not easily be siphoned off. This currently happens routinely when the responsible program offices are given additional regulatory duties for which no funds are available.

Another reason to create a strong BES is that, hard as it may be to believe, billion-dollar regulatory decisions can now hang on readings at a few pollution monitors. Consider, for instance, the difference it makes to a metropolitan area to be considered an "attainment" rather than a "nonattainment" area under the Clean Air Act.⁶ (The former are those regions where national air quality standards are being met, while the latter are those in violation of the standards.) The government officials in nonattainment areas face having to tell local air pollution sources that they must install costly equipment, and far more important, face the threat of an EPA-ordered ban on all new construction. Since this ban is viewed as an environmental "death penalty" for an area, its importance cannot be overstated.

6. 42 U.S.C. § 7502 (1982).

Together, these sanctions could cost a metropolitan area hundreds of millions of dollars each year. If they were triggered by readings at only one or two monitors and for only a few hours per year, the temptation to shut monitors down at strategic times for maintenance or to relocate them to more "convenient" sites would be considerable. Yet these air quality data are collected under minimal EPA supervision by the same local governments upon whom nonattainment sanctions would fall. While there is no evidence to suggest that our national air quality data have been compromised in this way, invocation of the sanctions has only recently become a serious possibility. A credible, independent, federal presence is needed to guard against foul play. The BES would be such a force.

Controversy about environmental data collection and analysis is hardly confined to the local level. Witness the recent contretemps over the 1986 annual report of the federal government's National Acid Precipitation Assessment Program (NAPAP).⁷ When the report was released critics charged that the underlying scientific data and analysis were, at best, not adequately reflected in the executive summary or, worse yet, were irrelevant to the problem at hand.⁸ An independent or quasi-independent BES would be much better insulated from political pressure than is the interagency NAPAP task force for the job of collecting and presenting information on environmental trends.

The final reason for creating a BES, while perhaps more symbolic than substantive, is important nonetheless. Environmental trends matter to the public. In a public opinion survey recently conducted by Cambridge Reports, Inc., 58 percent of those polled agreed with the statement: "We must sacrifice economic growth in order to preserve and protect the environment" (while only 19 percent supported the converse).⁹ True such surveys do not require that people put their money where their mouths are. Thus they may make it easier to support environmental positions. Regardless, support for the above assertion has grown steadily since 1976 when 38 percent favored the primacy of environmen-

7. NATIONAL ACID PRECIPITATION ASSESSMENT PROGRAM, INTERIM ASSESSMENT: THE CAUSES AND EFFECTS OF ACIDIC DEPOSITION (Sept. 17, 1987).

8. See *NAPAP Conclusions on Acid Rain Damage Draw Sharp Criticism from Many Quarters*, 18 *Env't Rep. (BNA) (Env't Rep. Cas.)* No. 22, at 1382, 1382-83 (Sept. 25, 1987).

9. CAMBRIDGE REPORTS, INC., *PAYING FOR ENVIRONMENTAL QUALITY*, No. 112, BULLETIN ON CONSUMER OPINION (1986).

tal protection over environmental growth.¹⁰ In view of citizens' concerns, we owe them better answers about the condition of our environment.

PROPOSAL II: *The EPA's so-called "bubble" and "offset" policies should be reoriented from emissions to risk. That is, regulated entities, public or private, should be allowed to relax pollution controls at one point and install new protective measures elsewhere, subject to a demonstration that an overall improvement in health or environmental quality will take place as a result of the change.*

While the two concepts are quite clearly related, we should remember that the "EP" in EPA stands not for "emissions prevention" but rather for "environmental protection." Until the recent refocusing on risk at EPA, effected by William Ruckelshaus and Lee Thomas, I believe the agency and the Congress had lost sight of this important fact. This was manifested in a series of laws and regulations that focused on emissions reductions, generally through technology-based controls, as the *goal* of environmental policy, rather than as a means of improving health and the environment.

While the EPA's bubble and offset policies are commendable in many respects—after all, they were the first real applications of incentive-based environmental policies in the United States—they are creatures of this preoccupation with emissions. The former allows multiple-source air polluters to increase emissions at one source—a smokestack, perhaps—so long as it reduces emissions at another source by more than that amount. The latter allows a new source of air pollution in an already polluted area to commence operation if it installs certain control equipment and "offsets" any residual pollution it would create by paying for even greater pollution reductions at already-existing sources in that area. These two policies are attractive because they make it possible to reduce total pollution control costs while at the same time maintaining, or even improving, environmental quality.

Currently, permissible "trades" under these policies are based solely on the net effect on emissions. But what if emissions are reduced in a sparsely populated area and increased in a more heavily populated area, as could happen under the offset policy? Even if the net effect of the trade is to reduce total *emissions*, it could result in increased damage to health and the environment.

10. *Id.*

The official rebuttal to this observation is that trades resulting in violations of the ambient air quality standards would not be permitted by the EPA, and that these standards are set so as to provide a "margin of safety" against adverse health effects. But even if thresholds exist for each exposed individual, these individual thresholds will not coincide. Therefore, the population dose-response curve, as we might call it, will be positive even at very low pollution levels. Thus, some additional health risk would inevitably result from increased emissions, even in areas where air pollution concentrations are well below the national ambient air quality standards. The same point is likely to hold for environmental damages.

Quibbling about thresholds aside, let me re-emphasize my basic point: focusing the so-called trading policies of the EPA on risks rather than emissions (or even ambient concentrations) would concentrate attention on what surely ought to be the goal of the agency: protection of health and the environment.

Other advantages would accompany this proposed change. For instance, suppose through the relaxation of air pollution controls at one source in a plant, a company could tighten up water pollution emissions elsewhere at the plant or at another plant in the same area. How would the reduced risks to the receiving waters, say, be compared to the possible increases in risk that would accompany increased air pollution? With great difficulty, no doubt. But the burden of demonstrating that the former are worth the latter would be placed squarely on the petitioner. If the stakes are high enough—that is, if the cost savings from the proposed reallocation of pollution control effort are significant—it will be worth the petitioner's time to make a sound and compelling case for the proposed change.

It may now be clear where the argument is heading. "Risk bubbling," as I will refer to it, would have the advantage of encouraging the regulated community to improve methods of risk assessment and valuation. And it could result in a great increase in the resources devoted to risk assessment and valuation without having to fight for congressional appropriations for federal agencies to do this job. In a sense, then, the risk bubble would ape the current emissions-oriented trading policies of the EPA and harness the profit motive for socially useful purposes. But it would improve upon the current approach by casting it in terms of the

measures that really matter—the health of our fellow citizens and the quality of our environment.

Think about such a program in operation. Regulatees would be eager to identify opportunities for significant but low-cost risk reductions—radon mitigation in citizens' homes, perhaps, or reductions in drinking water contamination—because pursuing these opportunities would allow them to relax controls elsewhere. Moreover, pollution control costs would fall or else the petitioner would not propose a trade. Thus, to the extent that feasible proposals were forthcoming, society would be securing improved health and environmental conditions at the same time regulatory burdens were being reduced somewhat. It would, in short, introduce competition into the search for economical health and environmental protection.

I know what you're thinking. How in the world would this ever work? Well, bear in mind that the balancing acts required for "risk bubbling" are exactly the kinds of choices the EPA must make every day. Thus, while it is difficult to weigh wetlands against asthma, forests against visibility, or sorghum against sore eyes, these are the kinds of tradeoffs that are inherent in managing the modern EPA. They arise in preparing a budget request for the agency, in allocating that budget between program offices, and—at the "micro" level—assigning staff to particular regulatory initiatives within individual program offices. Because EPA officials are currently entrusted with making these tradeoffs, they should be able to recognize a good deal for health or the environment when they are presented with it.

I believe I know what you're thinking. All this talk about net reductions in risk is fine, but what about those for whom risks would increase as a result of a risk bubble? How much solace could they take from knowing that risk reductions to others would more than offset the increases they would experience?

These are very serious questions for which no facile answer exists. Several observations are worth making, however. First, note that these same difficult tradeoffs must be made whenever regulatory agencies are forced to choose between prospective new programs. These seem less ethically troubling than the risk bubble, though, because the latter would involve the "withdrawal" of existing protection. Recent studies clearly show that people feel more aggrieved when they lose something already in their possession than when they are denied something they had hoped to ob-

tain.¹¹ One unwritten rule of government is: "Do no direct harm," and the risk bubble may be viewed as violating that rule.

Risk bubbles can be made more palatable, though. For instance, approval of a proposed bubble could be made contingent on what we might call "distributional neutrality." That is, EPA could withhold approval where risk reductions due to tighter controls at one point do not yield some benefit to the people at potentially increased risk because of relaxed controls elsewhere. Thus, if a company (or municipality) were permitted to increase air pollution, say, in exchange for tighter controls on water pollution emissions, it would have to show that at least some of the benefits associated with the latter would accrue to those at greater risk from the former. While such restrictions would limit the savings that could be realized from risk-bubbling, they might be worth it if they increase political support for the concept. The proposal could be made more attractive still if another modification were introduced: risk bubbling could be limited to one "medium" alone. In other words, bubbles could be used only to trade increased water pollution control at one point for decreased water pollution control elsewhere—no air-for-water or water-for-hazardous-waste bubbles would be allowed. The drawback, of course, is that this would further limit the cost savings relative to a fully unconstrained network of possible swaps.

PROPOSAL III: *Superfund monies should be available for any environmental purpose, whether related to the improper disposal of hazardous wastes or not.*

In 1980 Congress created the Superfund¹²—a trust fund to provide for the cleanup of abandoned hazardous waste disposal sites. In 1986, Congress expanded the size of the fund to \$8.5 billion by increasing the federal government's contribution and by expanding the "base" against which are levied the excise-like taxes used to supplement federal monies.¹³ This was done in the belief that the hazardous waste problem was larger than could be accommodated by the fund at its previous level of \$1.6 billion. Indeed, it will cost even more than \$8.5 billion to clean up all of the abandoned hazardous waste disposal sites that have already been

11. See, e.g., Tversky and Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 *Science* 1453 (1981).

12. 42 U.S.C. §§ 9601-57 (1982).

13. 42 U.S.C.A. § 9611 (West Supp. 1987).

identified, not to mention those that will eventually come to our attention.

But this is a myopic view of the problem, indeed. It presumes that it makes sense to clean up each and every one of the sites for which the liable parties cannot be found. On this issue the Superfund logic founders. I have found no one—not a single person—at EPA, in the business community, in environmental groups, in universities, or elsewhere, who has answered the following question affirmatively: If given \$8.5 billion to spend on protection of health and the environment, should all of it be devoted to the cleanup of hazardous waste disposal sites?

In fact, in a recent—and quite rare—effort by the EPA to rank the importance of a wide variety of environmental problems with which it must deal, the agency concluded that the Superfund sites represented “an area of high EPA effort but relatively medium or low risk.”¹⁴ This conclusion applied, incidentally, to the risks associated with currently operating hazardous waste disposal sites.¹⁵

So be it, then. My proposal is that the EPA administrator be permitted to spend Superfund monies for the reduction of *any* risk to health or the environment, regardless of its source. So, for example, if the administrator wished to spend \$25 million to reduce dangerously high radon concentrations in homes, rather than on a hazardous waste site, he would be free to do so. But he would first be required to spell out carefully the reasons for the reallocation. These would be based, presumably, on quantitative *or* qualitative risk assessments, exposure analyses, and other such considerations.

For illustrative purposes, let me continue with this example. At a cost of \$1,000 per home (which would make for non-trivial changes), our \$25 million could be used to reduce radon levels in 25,000 homes. Assume 4 persons per home, or a total of 100,000 exposed individuals. Next, assume that radon levels in these homes measured 20 picocuries per liter (pCi/l) before remediation, and that the ventilation or other measures taken reduced concentrations to 4 pCi/l. This would be sufficient to reduce each exposed individual's lifetime cancer risk from approximately thirteen in one hundred to three in one hundred. Thus, the \$25

14. OFFICE OF POLICY ANALYSIS, U.S.E.P.A., UNFINISHED BUSINESS: A COMPARATIVE ASSESSMENT OF ENVIRONMENTAL PROBLEMS (Feb. 1987).

15. *Id.* at xv.

million spent on radon mitigation would result in about 10,000 fewer lifetime cases of lung cancer, given the assumptions here.

What would \$25 million buy us if spent on the cleanup of hazardous waste disposal sites? (There were 8 sites identified by EPA in 1986 where capital costs at each site will be equal to or exceed \$25 million, including one in Texas that will cost more than \$100 million to clean up.) To be sure, cleanups of this magnitude would produce some benefits, but I assert that there is no site or combination of sites in the U.S. where \$25 million cleanup work would come close to reducing lifetime cancer incidence by 10,000.

In fact, what little risk assessment has been done for specific cleanup sites suggests that even at "messy" ones, reduced lifetime cancer incidence is often very small. For instance, EPA recently announced its intention to spend \$25-31 million to incinerate and dispose of dioxin-contaminated creek and sewer sediments at Love Canal, New York.¹⁶ No formal risk assessment was conducted (one wonders why), but it makes no difference because there is no way it could reasonably demonstrate health-risk reductions comparable to those for radon mitigation. Consider also the \$25 million cleanup of the Sylvester site in Nashua, New Hampshire. John Evans, Catherine Petito and David Gravellese of the Harvard School of Public Health recently estimated that this cleanup will reduce lifetime cancer incidence by one case every 25 years!¹⁷ In other words, the hypothetical radon mitigation action described above would save 250,000 times more lives than cleanup of one of our messier hazardous waste disposal sites.

A number of caveats are warranted. First, I am aware how fragile such risk estimates can be. There is a real danger of "quantification for its own sake" that must be resisted and one must be very careful to keep in mind the great error bounds that surround estimates like those above. However, the same techniques were used to project the health benefits of radon mitigation and hazardous waste cleanup. It would be difficult to rig the case for haz-

16. See *EPA Proposes On-Site Thermal Destruction, Landfilling for Love Canal Superfund Cleanup*, 18 *Envir't Rep. (BNA) (Env't Rep. Cas.)* No. 16, 1022 (Aug. 14, 1987).

17. See J. Evans, C. Petito, and D. Gravellese, *Cleaning up the Gilson Road Hazardous Waste Site* (Feb. 1986) (discussion paper No. E-86-03) (available at Energy and Environmental Policy Center, Harvard University, John F. Kennedy School of Government).

ardous waste cleanup in a plausible way such that its relative attractiveness could much improve.

Another caveat concerning this proposal, as well as the numerical example used to illustrate it, has to do with the noncancer benefits associated with environmental programs. To wit, reducing household exposures to radon may greatly reduce lung cancer risks, but would have few other benefits. By contrast, cleanup of hazardous waste disposal sites could be expected to provide some health benefits unrelated to cancer, as well as additional gains in the form of ecosystem protection and enhanced aesthetic appeal. These must be factored into any fair comparison of alternative uses of Superfund monies.

There are two more serious problems with my proposal to increase the fungibility of the Superfund. The first mirrors an objection to the risk bubble discussed above: what about those living near a Superfund site that goes untouched because the money could do more good elsewhere? One possibility would be to restrict the alternative uses of the Superfund to assisting the same individuals that would have benefitted from the cleanups. This would allow the administrator to say, in effect, "We're not cleaning up that site near you because by taking these alternative measures, we can provide even more protection for you and your children." In this way, we avoid robbing Peter to pay Paul.

A second, and more formidable, problem concerns the use of a fund created from federal revenues and excise taxes levied primarily on chemical and energy companies to address certain environmental problems—like radon contamination—for which they bear no responsibility. After all, radon occurs naturally in certain soils. Why should private industry, or the taxpayers, for that matter, foot the bill to clean it up? The answer is that for a variety of reasons, primarily concern about individuals' health and well-being, Congress created a Superfund to clean up hazardous waste sites. Given that decision, should we continue spending it for its intended purpose even if we are convinced that much more would be accomplished were it distributed otherwise?

I believe not. Because we lack a bottomless reserve of funds for environmental protection that we can easily replenish if the fund should become exhausted, and because we face a much greater variety of risks to health and the environment than we will ever be able to address, should we not spend those precious dollars

where they will enable us to derive the most benefit? The answer to this question would seem to be a straightforward "yes."

While all of these proposed reforms would require new legislation, I believe the creation of the Bureau of Environmental Statistics has the best chance of enactment. As indicated above, there is widespread dissatisfaction with our current "system" of environmental data collection, analysis and dissemination. In fact, on several occasions in the past, Rep. James Scheuer (D-NY) has introduced legislation calling for the creation of a temporary commission to study and report on the status of environmental monitoring in the United States.¹⁸ The often-disappointing results of temporary commissions may have soured Congress on this idea, but the prospect of a permanent and independent BES might fire its imagination.

Several important issues must be resolved if the BES is to see the light of day: its location in the federal bureaucracy; the exact scope of its activities; its annual budget; and the mechanisms to protect its independence. These must be carefully worked out in advance. Nevertheless, the creation of the BES is certainly feasible politically.

The risk bubble and the increased fungibility of Superfund face much tougher sledding if they are to become a reality. The EPA has flirted with administrative versions of the risk bubble in the past, but none has advanced beyond the drawing board. As envisioned here, the proposal would probably require Congress to pass a new statute empowering the EPA to take a more holistic view of its mission before risk bubbles could be implemented.

Interestingly, researchers at the Conservation Foundation (Washington, D.C.) are currently drafting a hypothetical "organic statute" which consolidates all the regulatory activities the EPA now performs under a half-dozen or so major statutes. Because the existing statutes originate in different congressional committees and differ in many critical respects, it would be difficult in the extreme to repeal them and replace them with a single statute that would make risk-bubbling a regular feature of environmental policy. Nevertheless, there was at one time great skepticism that an emissions-based trading system could ever be established, and that is now the law of the land.

18. H.R. 5958, 98th Cong., 2d Sess. (1984).

Rerouting the Superfund for a variety of environmental uses would also require congressional affirmation. This would be hard to come by. In addition to the problems described above, the Superfund program is politically popular—and not just with those citizens concerned about abandoned hazardous waste dumps. Its fans include the contractors that reap millions incinerating or carting away to other locations leaky drums and contaminated soils. These entrenched economic interests will make it difficult to reorient the program, even if most citizens favored the change.

