

Lessons From Implementing the 1990 CAA Amendments

by E. Donald Elliott

E. Donald Elliott is Adjunct Professor of Law, Yale Law School and Georgetown University Law Center and Partner, Willkie Farr & Gallagher LLP, Washington, D.C. Professor Elliott was Assistant Administrator and General Counsel of EPA, 1989-1991, when the 1990 Amendments to the Clean Air Act were enacted, and during the first year of their implementation by EPA.

Attempting to regulate the temperature of the planet by readjusting the mixture of gases in the atmosphere would be the most ambitious project undertaken by human beings.¹ Nothing that the U.S. Environmental Protection Agency (EPA) has done previously matches this task, but perhaps the closest analogy in EPA's history is implementing the 1990 Amendments to the Clean Air Act (CAA).² The lessons learned from EPA's implementation of the 1990 Amendments can provide valuable insight for the implementation of future climate change legislation.

Prof. Michael Gerrard mentioned that the Waxman-Markey Bill,³ as passed by the U.S. House of Representatives, would require EPA and the U.S. Department of Energy (DOE) to conduct 145 rulemakings.⁴ The 1990 Amendments to the CAA imposed a roughly comparable burden. The 1990 Amendments required EPA to do 120 rulemakings, prepare 90 studies and reports for presentation to the U.S. Congress, and complete 55 of those rulemakings in the first two years.⁵ To put that in perspective, in the years just prior to the 1990 Amendments, the air program at EPA had been doing, on average, only about five to eight new rules a year.⁶ The EPA air program thus had to increase its pace of rulemaking by about 400%. We recognized early on that it was not going to be possible to implement the CAA of 1990 without changing the way that the Agency did business. Increased resources alone were not going to be sufficient to get the job done if

old techniques were used. We did receive some additional resources and hired an additional 200 people for the air program, but, as I will describe, we also changed forever the way that the Agency did business.

As I look back, five main principles stand out in my mind as having guided our implementation of the 1990 Amendments:

1. Establish and communicate clear priorities;
2. Develop a specific plan, with clear responsibilities and deadlines;
3. Early collaboration and cost-effective implementation;
4. Let others take the credit and win over the opposition;
5. Learn the lessons of history and keep it simple, stupid.

All were important, but the third principle—early collaboration and cost-effective implementation—was the key to our success.

I. Establish and Communicate Clear Priorities

No one who worked at EPA in the early 1990s could doubt that implementing the CAA Amendments of 1990 was the highest priority for the Agency and a very high priority for the Administration. President George H.W. Bush had pledged in the 1988 elections to be the “environmental President,”⁷ and he broke a decade-long regional deadlock over acid rain by proposing the innovative Acid Rain Trading Program, the first major pollution control program based on tradable allowances. We had very strong support from the President, who considered the CAA one of his signature achievements. He publicly stated that the right to breathe clean air is too

1. See E. Donald Elliott, *Get on With It ASAP: Regulating CO₂ Under the Clean Air Act*, 26:2 ENVTL. F. 53 (2009). For a provocative argument by a U.S. Environmental Protection Agency (EPA) economist that methods other than adjusting the mixture of gases in the atmosphere are more certain techniques for regulating global temperatures, see Alan Carlin, *The Inadequacy of Warming Policy: Risky Gamble*, 24:5 ENVTL. F. 42 (2007).

2. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399.

3. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (2009).

4. Michael Gerrard, Introductory Remarks, Implementing Climate Change Policy: Looking Forward to the Hard Part, Washington, D.C. (Feb. 5-6, 2010).

5. OFFICE OF AIR & RADIATION, U.S. EPA, IMPLEMENTATION STRATEGY FOR THE CLEAN AIR ACT AMENDMENTS OF 1990 (1992) [hereinafter IMPLEMENTATION STRATEGY (1992 UPDATE)], available at <http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=20011JPT.txt>.

6. William K. Reilly, *The New Clean Air Act: An Environmental Milestone*, 7 EPA J. 2, 3 (1991), available at <http://www.epa.gov/history/topics/caa90/03.htm>.

7. Richard L. Berke, *Oratory of Environmentalism Becomes the Sound of Politics*, N.Y. TIMES, Apr. 17, 1990, at A1, available at <http://www.nytimes.com/1990/04/17/us/oratory-of-environmentalism-becomes-the-sound-of-politics.html?pagewanted=1>.

important to be subject to partisan bickering,⁸ and that clear signal from the top helped EPA significantly. The President and his staff worked hard to win bipartisan support and get the bill through Congress.

Shortly after the bill was passed and signed in December 1990, then-EPA Administrator William K. Reilly wrote the lead article in the *EPA Journal*, which was sent to all EPA staff, to make clear the high priority that he personally placed on implementing the CAA Amendments and to set out a guiding philosophy for how we were going to achieve it.⁹ Among other things, he stated that he was directing 70% of EPA's budget increase for fiscal year 1992 to CAA implementation—enough to hire 200 additional people.¹⁰ But he also identified a key change in philosophy:

In the face of this monumental task, EPA also has committed itself to *making some fundamental changes in the way we do business*. Instead of relying on traditional rulemaking—and risking the time-consuming litigation it often provokes—we are working hard to build consensus at the outset of the process. Collegiality and cooperation will be the hallmark of the Agency's implementation strategy. Every step of the way, we intend to involve state and local governments, and to consult with industry, labor and environmental groups through advisory committees, regular informal consultations and a formal regulatory negotiation process. *Such consensus-building efforts are essential if we are to achieve the multiple objectives of the new law within the tight deadlines set by Congress.*¹¹

One of the great strengths of that era at EPA was that the Agency leadership recognized the importance of setting a few clear priorities to organize and motivate the rest of us. Administrator Reilly and Deputy Administrator Hank Habicht clearly identified four or five priorities and communicated them repeatedly so that Agency staff had no doubt about the key objectives that we were trying to achieve.

II. Develop a Specific Plan, With Clear Responsibilities and Deadlines

We also had a plan: the Implementation Strategy for the CAA Amendments of 1990.¹² The Agency developed a com-

prehensive and detailed written strategy for exactly how it was going to implement the CAA Amendments of 1990. It identified all of the things that needed to be done: the requirements and deadlines, the internal timelines and milestones required in order for each rule to be completed on time, and who was responsible for each step. The strategy was similar to the detailed task schedules that are used for a complex construction project. We reviewed and updated that strategy periodically; that process continues today.

Every rule had a project manager who was personally responsible for shepherding that particular rule through the Agency. Each project manager wanted to make sure that “his” or “her” rule got done properly and on time. This sense of personal ownership and commitment can be rare in a bureaucracy, which, by its nature, divides responsibility, but it really worked in this instance.

EPA also made the implementation strategy available for comments and suggestions by others. The state agencies responsible for much of the Act's implementation, and other interested parties, had very helpful feedback that helped the Agency foresee and avoid “train wrecks.”

III. Early Collaboration and Cost-Effective Implementation

Collaboration and working cooperatively in advance with all interested groups were instrumental in implementing the 1990 Amendments. Administrator Reilly brought to the Agency a more consultative approach from his work internationally, and Assistant Administrator for Air and Radiation (OAR) William G. Rosenberg had the same instincts from his success as a negotiator in business. As an academic, I had been influenced by the work of Phil Harter on negotiated rulemaking.¹³ We all believed in reducing litigation and changing business as usual by getting people together around a table to figure out a sensible policy that everyone could agree upon. In fact, the CAA Advisory Committee that we still have today dates from our efforts.¹⁴ The notion was to get people together informally to solve problems in a practical way, rather than merely state their predetermined positions,¹⁵

8. For example, in a Rose Garden speech announcing the proposals that became the Clean Air Act Amendments of 1990, President Bush stated:

Clean air is too important to be a partisan issue. Anyone who allows political bickering to weaken our progress against pollution does a tragic disservice to every city in America and to every American in this country who wants and deserves clean air. And we've worked very hard on both sides of the aisle to craft a proposal that, for the first time in two decades, makes new progress for clean air.

President George H.W. Bush, Remarks on Transmitting to the Congress Proposed Legislation to Amend the Clean Air Act (July 21, 1989), available at http://bushlibrary.tamu.edu/research/public_papers.php?id=718&year=1989&month=7.

9. See Reilly, *supra* note 6.

10. *Id.*

11. *Id.* at 2 (emphasis added).

12. IMPLEMENTATION STRATEGY (1992 UPDATE), *supra* note 5.

13. See Phillip J. Harter, *Negotiating Regulations: A Cure for Malaise*, 71 GEO. L.J. 1 (1982); see also DAVID M. PRITZKER & DEBORAH S. DALTON, ADMIN. CONF. OF U.S., NEGOTIATED RULEMAKING SOURCEBOOK (1990).

14. U.S. EPA, CAAAC—Clean Air Act Advisory Committee, <http://www.epa.gov/air/caaac/> (last visited Apr. 23, 2010) (“The Clean Air Act Advisory Committee (CAAAC) is a senior-level policy committee established in 1990 to advise the U.S. EPA on issues related to implementing the Clean Air Act Amendments of 1990.”).

15. For an example of Bill Rosenberg's success in using these techniques to develop a better approach that EPA probably never would have thought of on its own, see E. Donald Elliott, *The Last Great Clean Air Act Book?*, 5 ENVTL. L. 321 (1998) (describing the use of informal negotiations to resolve the issue of air pollution controls for power plants affecting visibility in the Grand Canyon); see also ROGER FISHER ET AL., GETTING TO YES: NEGOTIATING AGREEMENT WITHOUT GIVING IN (2d ed. 1991) (emphasizing the importance of discussing interests, rather than positions).

as is often done in written comments in rulemaking.¹⁶ We tried to stimulate a true problem-solving dialogue with all interested groups, outside and within the Agency, by reminding them that we were going to do something to implement the new law, but we would do it better if we had their help and input.

Some of the subsequent academic literature has questioned the benefits of formal “reg negs,”¹⁷ but we had a positive experience with negotiated rulemaking. By working hard at the front end to incorporate good ideas from the outside and to build consensus around reasonable rules, there was greater “buy in” and much less bitter litigation and political resistance. Many of the major rules implementing the CAA were not even challenged in court, and when they were, they were almost always upheld. That is in sharp contrast with EPA’s recent record in the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit, in which EPA took more aggressive positions to try to reduce costs—and lost two-thirds of its reported cases over the last two years.¹⁸ That dismal record also contrasts markedly with the fact that in the long term, most agencies win over 60% of their rulemaking cases.¹⁹

Of course, the early 1990s was a different time, marked by bipartisan consensus in support of sensible, cost-effective environmental protection. The CAA Amendments of 1990, the most ambitious and expensive environmental legislation in our history, passed the House by a vote of 401-21 and the U.S. Senate by 89-11, with the few naysayers almost equally divided between the Republican and Democratic parties.²⁰ The position of the Republican party at the time was also in favor of strong environmental protection. At the time, cap and trade was endorsed by the Republican party, and was generally opposed by Democrats and most environmental groups! I also had the benefit of working with some extraordinary people, particularly Administrator Reilly, a career environmentalist and far-sighted strategic leader, and Assistant Administrator Rosenberg,²¹ a brilliant tactician and negotiator, who deserves the primary credit for passing and implementing the 1990 Amendments.

We worked very hard on collaboration, internally as well as externally. EPA’s Office of General Counsel (OGC) and the OAR have not always worked together seamlessly. Bill

Rosenberg, however, realized that he was not going to be able to accomplish what he needed to unless he had a collaborative relationship with the OGC. So, in an unprecedented gesture, with my enthusiastic support and approval, Bill invited the OGC’s senior career air lawyers to come to Rosenberg’s personal staff meeting every morning. Bill made Associate General Counsel Alan Eckert, Assistant General Counsel Rich Osias, and other top career staff in the OGC part of his team and sought their advice early and often. He also drove me to work every morning. If he had issues regarding anything, he would raise them in an informal, one-on-one setting. He usually convinced me to see things his way before my staff even had a chance to brief me.

EPA did the same thing in terms of frequent, informal consultations with the U.S. Department of Justice (DOJ), the White House, and the Office of Management and Budget (OMB). I even reached out and spoke frequently to the staffers for Reps. John Dingell (D-Mich.) and Henry Waxman (D-Cal.), who had actually written much of the 1990 legislation. I had a weekly one-on-one lunch with Dick Stewart, a long-time friend and then-Harvard environmental law professor, who was the top environmental lawyer at the DOJ. In addition, I also had regular meetings with the General Counsels of DOE, the U.S. Department of State, and the U.S. Department of the Interior, as well as White House staff. The type of internecine warfare that sometimes occurs in government was reduced, if not eliminated, due to the friendly consultation and respect among the political appointees at various agencies.

The typical EPA approach in that era was to try to jam the White House and the OMB by developing something for a couple of years, taking it over for review in the last 30 days, and saying: “Gee, we would like to change it, but we can’t; we are under a court ordered deadline.”²² Realizing that this was not going to work, Bill Rosenberg and I met with the White House early on, discussing their concerns and our strategy to address them. They were particularly concerned about Title III, which addressed the technology-based maximum achievable control technology (MACT) Standards for toxic air pollutants. The White House believed that this provision was going to be enormously expensive for relatively little benefit. In response, EPA proactively developed an internal project to identify all of the ways that costs could legally be reduced. Several changes that the White House wanted us to make, we told them we could not legally do. I was able to make that stick, because the White House staffers knew and trusted us, and because we did everything we could to provide greater flexibility and reduce costs to the extent permitted by the statute. EPA has recently promulgated rules containing some of the same risk-based approaches that we considered and rejected, and the D.C. Circuit has invalidated them.²³

16. See E. Donald Elliott, *Re-Inventing Rulemaking*, 41 DUKE L.J. 1490 (1992) (arguing that the actual function of written comments is making a record for judicial review and that genuine dialogue takes place in other fora).

17. See, e.g., Cary Coglianese, *Assessing Consensus: The Promise and Performance of Negotiated Rulemaking*, 46 DUKE L.J. 1255 (1997).

18. E. Donald Elliott, EPA and the DC Circuit: A Loss of Credibility?, Clean Air Act Developments Panel, ALI-ABA Environmental Law Conference, Washington, D.C. (Feb. 4, 2010).

19. Peter H. Schuck & E. Donald Elliott, *To the Chevron Station: An Empirical Study of Federal Administrative Law*, 1990 DUKE L.J. 984 (1991).

20. U.S. EPA, Overview—The Clean Air Act Amendments of 1990, http://www.epa.gov/air/caa/caaa_overview.html (last visited Apr. 19, 2010).

21. Press Release, U.S. EPA, William G. Rosenberg: Biography (May 5, 1989), available at <http://www.epa.gov/history/admin/oar/rosenberg.htm>. Bill Rosenberg, who headed the Air Program at EPA, was a graduate of Columbia Law School and an experienced government official, but he was also a self-made millionaire in the real estate business. Bill was a very skilled negotiator, who really knew how to cut a deal. He was, and still is, an extraordinarily talented individual, and he did a great job leading the program and inspiring all of us to rise above pettiness, because we felt that we were doing something important for the country.

22. For examples of EPA’s strategy of “jamming” the OMB at the last minute, see E. Donald Elliott, *TQM-ing OMB: Or Why Regulatory Review Under Executive Order 12291 Works Poorly and What President Clinton Should Do About It*, 57 LAW & CONTEMP. PROBS., at 167 (1994).

23. See, e.g., NRDC v. EPA, 489 F.3d 1364, 37 ELR 20146 (D.C. Cir., 2007) (invalidating EPA’s “risk-based off ramp” in the MACT standards for plywood and composite wood products).

One of the central lessons from implementing the 1990 Amendments is the importance of collaboration and cooperation, as well as early identification of issues. But there is more to it: EPA was able to achieve a high degree of consensus and collaboration by creating a program in which both strong environmental protection and cost-effectiveness co-existed. Sometimes those of us in the environmental area have measured our commitment to protecting the environment by the painful sacrifices we made.²⁴ Reilly, Rosenberg, and I all saw it the other way around: strong *and* cost-effective environmental protection was the key to cooperation and acceptance of the program. By reducing costs, we were able to reduce political resistance. (This is a classic “Nash Equilibrium” in political economy: other things being equal, the more onerous and costly a proposed rule, the greater the political opposition that it will engender.) We were able to get the Acid Rain Trading Program implemented after 10 years of stalemate in Congress by coming up with a way of getting it done for one-half the cost.

Reilly taught us that in the United States you can sometimes achieve 50 to 90% pollution reductions, but you generally cannot achieve 98% or 99%.²⁵ Accordingly, we reduced pollution to levels we judged were feasible, rather than let the perfect become the enemy of the good. That was also the message I drew from my study of the career of Sen. Edmund Muskie (D-Me.), the father of numerous environmental statutes.²⁶ As a legislator, Senator Muskie was famous for “compromising” for 80-90% of his ideal in one year and then coming back the next year for the rest!²⁷

IV. Let Others Take Credit and Win Over the Opposition

Bill Rosenberg did two of the most brilliant things that I ever witnessed anyone do in government. An old adage states that “there is no limit to what you can get done in government if you are willing to let somebody else take the credit.” Although President Bush originally proposed the Acid Rain Trading Program, it has become folk wisdom that it was designed by the Environmental Defense Fund (EDF).²⁸ We made a conscious political decision to give EDF the credit. The EDF certainly did play a crucial role, and we would not have been able to get it done without their support. At a

crucial moment, when industry wanted to weaken the program with a “soft cap,” the EDF threatened to withdraw its support. EDF Executive Director Fred Krupp insisted that there had to be a hard cap, and without the EDF’s insistence, the cap might have been weakened. But the fact remains that although the EDF did not invent the idea, it generally receives the credit for having done so.

The second brilliant thing that I observed in government was the way that Rosenberg converted former opponents into allies. After Dave Hawkins and the Natural Resources Defense Council (NRDC) had opposed the Acid Rain Trading Program throughout the legislative process, Rosenberg made Hawkins the Chair of the Acid Rain Advisory Subcommittee for Monitoring. As President Barack Obama iterated recently, “keep your friends close but keep your enemies closer.” Bill understood that trading “pollution rights” was dead unless it was a thoroughly honest game that would satisfy Hawkins (who had served as the head of the Air Program at EPA under the Administration of President Jimmy Carter). Hawkins and the NRDC gradually became converts, and both he and another prominent NRDC attorney, David Doniger, who later served in the Air Program at EPA under the Clinton Administration, have subsequently become great advocates of cap-and-trade programs.

At Bill’s request, I also arranged for a wily old utility executive by the name of Bob McWhorter to join the monitoring subcommittee. McWhorter had been vice president of operations for one of my former clients, and he knew all of the tricks that utilities could use to try to game the system. Working together, Hawkins and McWhorter made sure that there were no loopholes in the Acid Rain Trading Program that would undermine its credibility. By bringing Hawkins into that position, Rosenberg sent a strong signal to everyone that to get credit under the Acid Rain Trading Program, pollution reductions had to be real and verifiable. To the best of my knowledge, in 20 years, there never has been a scandal or controversy involving the Acid Rain Trading Program, unlike other cap-and-trade programs.²⁹

V. Learn the Lessons of History and Keep It Simple, Stupid

According to Harvard University philosopher George Santayana, those who do not learn from history are condemned to repeat it.³⁰ One of my most important contributions at EPA was ensuring that we knew what the academic literature had to say about the problems we were confronting. When I first began working at EPA, Don Clay, a career EPA official who later became the head of our Office of Solid Waste and Emergency Response, said that I “speak in footnotes.” That was not a compliment. I had been an academic teaching environmental law and policy at Yale Law School for almost

24. See Richard B. Stewart, *Pyramids of Sacrifice? Problems of Federalism in Mandating State Implementation of National Environmental Policy*, 86 YALE L.J. 1196 (1977).

25. A subsequent EPA Administrator, former Utah Gov. Michael O. Leavitt, also made the same point. “There is no progress to be made at the extremes,” Gov. Leavitt explained in an interview. “Progress can only be made in the productive center.” Michael Janofsky, *Nominee for E.P.A. Defends His Job as Utah Governor*, N.Y. TIMES, Aug. 14, 2003, at A1.

26. E. Donald Elliott et al., *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313, 331 (1985) (discussing Senator Muskie’s 1965 deal with the auto industry that enabled the first then-modest federal regulation of air pollution from motor vehicles).

27. For a review of Senator Muskie’s career that emphasizes his willingness to compromise when necessary to get legislation passed, see THEO LIPPMAN & DONALD HANSEN, MUSKIE (1971).

28. John M. Broder, *From a Theory to a Consensus on Emissions*, N.Y. TIMES (May 17, 2009).

29. See, e.g., *Europe’s Cap-and Trade Lesson; Market-Based Environmentalism, or a Boondoggle?*, WALL ST. J., Mar. 24, 2010, <http://online.wsj.com/article/SB10001424052748704896104575139673240771564.html>.

30. “Those who cannot remember the past are condemned to repeat it.” George Santayana, *Reason in Common Sense*, in THE LIFE OF REASON 284 (1905), Project Gutenberg online edition, <http://www.gutenberg.org/etext/15000>.

a decade. I had worked with leading academic experts such as Bruce Ackerman, Susan Rose-Ackerman, Bill Rodgers, and Dick Stewart, and I knew the academic literature. One of my graduate students, Jiunn-rong Yeh, now a distinguished environmental law professor and former government minister in Taiwan, had just completed his dissertation with me studying all prior environmental trading and tax systems worldwide. Part of my job was to make sure that we got the benefit of what the academic literature had to teach us, so that EPA did not make avoidable mistakes

The academic literature showed that previous trading programs had failed because they had high transaction costs and too much review.³¹ Thus, we tried to clearly define rights early on, so that people could plan accordingly, and then get out of the way as much as possible, without requiring a lot of governmental review of each individual trade. This was a conscious attempt to lower transaction costs by having clearly-defined rights. And we designed a simplified system for tracking allowances based on an analogy to an automobile title registry, which, as a property law professor, I believed worked well and with very low transaction costs.

We used the same approach more generally, not just with tradable rights, but in terms of relationships with the states. Building on Karl Llewellyn's academic work on the advantages of standard form contracts,³² I suggested to Rosenberg that we should issue model permit rules, including a sample permit that states could use as a model. In essence, we said to the states:

Look, under the statute, you have to come up with a complex set of rules for a permitting program; here's a model. If you want to use our model, that's fine; if you want to deviate from it, that's fine as well. But if you do it this way, there won't be any issues of EPA approval.

By offering them what amounted to a standard form contract, about 80% of the states opted for the standard rules, which saved a great deal of time and trouble for all parties involved.

We came out with a general preamble in which we addressed numerous interpretation issues in advance so states and other interested parties would know well in advance what position EPA was taking on various interpretative issues. Again, all this was part of the same strategy of trying to reduce the transaction costs and keep it simple.

VI. Where We Went Wrong

Although we were successful in many ways, we also made mistakes. For instance, we became too concerned with meeting statutory deadlines. As a result, some of the really

31. See 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 (1989).

32. See Karl N. Llewellyn, *The Standardization of Commercial Contracts in English and Continental Law*, 52 HARV. L. REV. 700 (1939) (book review).

important rules from a policy standpoint dropped off the radar screen. A salient example was a statutory provision that would have allowed other sources to opt-in to the Acid Rain Trading Program.³³ This provision would have been terrific, not only because it would have further reduced the costs of meeting our pollution goals, but even more importantly, it would have created dynamic positive economic incentives for the development of new pollution control technologies and methods in other sectors not covered by the program.³⁴ Because there was no deadline on that rule, it was never actually implemented. We never got it done, and it died a quiet death in the Clinton Administration, which did not view it as important. But I think that it could have been a very important transformative rule. The problem was that we were so obsessed with meeting the statutory deadlines that we did not always prioritize in terms of what was most important from the standpoint of policy.

VII. Conclusion

As I look back, I am very proud of my involvement in the rulemaking process related to the CAA Amendments of 1990. The world has been made a better place by the 1990 Amendments, and EPA has done a terrific job of implementing them. The latest version of the updated implementation strategy for the 1990 CAA Amendments is dated May 2008. EPA continues to update the process that we set in motion and to measure its progress against the goals set out by the 1990 Act. As well as having continuing importance for the CAA, the lessons taught by implementing the 1990 Amendments will prove quite useful in implementing future climate change legislation.

33. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, §410(a), 104 Stat. 2399, 2621 (codified as amended at 42 U.S.C. §7651i):

The owner or operator of any unit that is not, nor will become, an affected unit under section 403(e), 404, or 405, or that is a process source under subsection (d), that emits sulfur dioxide, may elect to designate that unit or source to become an affected unit and to receive allowances under this title.

34. See E. Donald Elliott, *Toward Ecological Law and Policy*, in THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 170 (Marian R. Chertow & Daniel C. Esty eds., 1997); E. Donald Elliott & Gail Charnley, *Toward Bigger Bubbles: Why Interpollutant and Interrisk Trading Are Good Ideas and How We Get There From Here*, 13 F. APPLIED RES. & PUB. POL'Y 48, 48-54 (1998).