



Rescuing the Clean Air Act from Obsolescence

By David Schoenbrod and Melissa Witte

The efforts of the Environmental Protection Agency (EPA) to control greenhouse gases through the Clean Air Act have pitted the EPA and some environmental groups against other environmental groups. It is worth understanding this conflict because it reveals a critical development that both the agency and the environmental groups would prefer to conceal: the forty-year-old Clean Air Act is no longer a sensible way to regulate large-volume conventional air pollutants such as ozone and particulate matter. Congress should replace the core of this venerable statute and its “state implementation plans” with an updated, market-based approach such as that proposed by the Breaking the Logjam project. Doing so would require legislators to take responsibility for choosing how fast to cut pollution and how to allocate costs. Congressional accountability would mean less power for the EPA and environmental groups—but better air quality and more economic growth.

Once the 111th Congress proved incapable of passing climate change legislation, the EPA began using its authority under the Clean Air Act to restrict greenhouse gas emissions from cars, power plants, and a variety of other mobile and stationary sources. In issuing regulations, however, the EPA opted to employ a regulatory track that limits it to cutting emissions to the extent economically and technologically feasible. That means, in practice, at a pace that sits well politically.

Some environmental groups, however, want faster, more stringent regulation. Two such groups, the Center for Biological Diversity (CBD) and 350.org, have petitioned the EPA to invoke another regulatory track that would commit the agency to reducing greenhouse gases to the extent sufficient to protect public health and the environment, regardless of the cost or blowback from industry or voters. These provisions would require the EPA to set a National Ambient Air Quality Standard (NAAQS) for greenhouse gases based

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solely on considerations of health and environmental protection and to meet the NAAQS on a statutory timetable. The timetable comes in provisions that require states to adopt “implementation plans” to cut emissions to the extent necessary to achieve each NAAQS. Invoking these provisions would limit the EPA’s ability to bob and weave to accommodate competing political pressures on greenhouse gases.

Key points in this Outlook:

- The Clean Air Act created a strict regulatory track for dealing with the most important pollutants, but the EPA has decided not to apply it to greenhouse gases.
- In defending its decision, the EPA has unwittingly revealed that this regulatory track is an obsolete way to regulate conventional pollutants.
- The Clean Air Act should be restructured to replace this obsolete approach with a federal market-based system that would better achieve environmental objectives with far less burden on the economy.

EPA administrator Lisa Jackson quickly voiced disagreement with the CBD petition: “this agency has never believed that setting a [NAAQS] for greenhouse gases was advisable.”¹ Other environmental groups agree with her, even though such organizations generally favor forcing environmental agencies to set protective goals that must be achieved by a deadline. Jackson has said little in public about her reasons for opposing a NAAQS for greenhouse gases. But the most important reason is that state implementation plans are rigid, procedurally complicated, inefficient, and often ineffectual. This is an embarrassing reason, however, because state implementation plans are at the center of the EPA’s current program to control the high-volume conventional pollutants now subject to NAAQS.

Congress should restructure the Clean Air Act to replace state implementation plans with a more effective and efficient way to control big-volume conventional pollutants (discussed below). This would produce better results for the environment and the economy. That is not only good in itself, but might also make it easier to break the political impasse on greenhouse gases. However unlikely in the near term, breaking that impasse is much preferable to regulating greenhouse gases under the Clean Air Act because any regulatory route the EPA chooses will produce limited results at an unnecessarily high cost.

This *Outlook* first explains the NAAQS–state implementation plan approach and the two other regulatory tracks that the Clean Air Act provides for dealing with harmful pollutants. It then discusses whether the EPA should exercise its power to set a NAAQS for greenhouse gases and shows how the arguments against doing so amount to a strong case for restructuring the Clean Air Act. Finally, this *Outlook* describes how to restructure the Clean Air Act to make it a more effective and efficient instrument to control conventional pollutants, concluding that such a restructuring could help Congress break the impasse on greenhouse gas regulation.

The Clean Air Act’s Three Tracks

Congress designed the Clean Air Act in 1970 so that each harmful pollutant would be assigned to one of three regulatory tracks.

1. The *NAAQS track* was reserved for harmful pollutants that come from “multiple or diverse sources.” Examples named in 1970 included sulfur oxides and particulates. This track establishes an elaborate approach to

these pollutants because achieving a safe level everywhere requires taking account of the combined effect of emissions from a variety of factories, other facilities, and vehicles. This track requires setting NAAQS sufficient to protect health and welfare (§109). To achieve the NAAQS, the EPA must ensure each state has an implementation plan that regulates emissions from the various sources sufficiently to bring pollution levels below the NAAQS everywhere (§110). The states get some help from the EPA, which must impose national emission limits on new vehicles (§202) and new stationary sources (§111).² These national regulations, however, can cut emissions only to the extent technologically and economically feasible and generally do not apply to existing sources. The EPA may also regulate fuels (§211). The state implementation plans must complete the job of achieving the health-based NAAQS regardless of feasibility within a statutorily set time period.

2. The *specially hazardous pollutant track* was reserved for pollutants that are not NAAQS pollutants but are specially hazardous. Examples included asbestos and cadmium. Because these pollutants, by definition, do not generally involve many sources contributing to pollution concentrations in any one place, the regulatory track skipped the elaborate state implementation plans and cut to the chase by ordering the EPA to set emission limits for these pollutants to prevent harm (§112).
3. The “*other*” *pollutant track* is for whatever harmful pollutants are not NAAQS pollutants or specially hazardous pollutants. Examples included nickel and selenium. These leftover pollutants can be regulated under the EPA’s authority to set national emission limits on new vehicles (§202), fuels (§211), or new stationary sources (§111). Should the EPA regulate emissions of one of these “other” pollutants from new stationary sources, it is supposed to require states to limit emissions from existing stationary sources to the extent technologically and economically feasible (§111(d)).

The first two tracks require markedly more stringent action than the third track. It made sense for Congress to put less pressure on the EPA on the third track because it was initially designed for pollutants that come from relatively few sources and are not especially hazardous, and so are by definition relatively unimportant. Unlike

NAAQS pollutants, these “other” pollutants are not the target of the elaborate planning apparatus centered on achieving NAAQS. Nor are these “other” pollutants regulated to the extent necessary to prevent harm, as with NAAQS or specially hazardous pollutants.

The EPA has reacted to the congressional mandate to take stringent action on the pollutants on the first two tracks by trying to keep pollutants off them. The chief example is airborne lead. Lead in gasoline was the air-pollution issue most on the public’s mind in 1970 when Congress established the three tracks for air pollution regulation. Bumper stickers read “TAKE THE LEAD OUT.” However, once the act was passed, the EPA felt competing pressures to cut lead in gasoline to reduce the public’s exposure to lead and to keep lead in gasoline to avoid increasing its cost or hurting the lead-additive or refining industries. Lead clearly came from “multiple or diverse sources”: a hundred million cars plus trucks, smelters, factories, and mines. After initially starting the process to set a NAAQS for lead, the EPA decided in 1971 to put lead on the third track so that it would be free to walk a tightrope between these competing pressures. A court decision in 1976, however, forced the EPA to put lead on the NAAQS pollutant track. In *Natural Resources Defense Council (NRDC) v. Train*,³ the Second Circuit held that the EPA had a mandatory duty to set a NAAQS for airborne lead and ordered it to do so. One of us, Schoenbrod, was the chief litigator for the environmental coalition that won the case.⁴

The EPA also resisted putting pollutants on the second track, and in many cases simply ignored them. Environmental groups brought litigation to force the EPA to treat pollutants under the second track, but progress was slow during both Republican and Democratic administrations. Finally, in 1990, twenty years after the passage of the 1970 air-pollution legislation, Congress itself listed 189 pollutants for treatment on the second track. It also expected the EPA to add additional pollutants to the second track if they were not regulated under the first track and either were harmful to health or had “adverse environmental effects.”⁵

As of 2008, the pollutants placed on the three tracks were as follows:

1. The NAAQS track: ozone, particulate matter, carbon monoxide, nitrogen oxides, sulfur dioxide, and lead
2. The specially hazardous pollutant track: asbestos, chlordane, mercury, toluene, and 184 other pollutants

3. The “other” pollutant track: fluorides emitted by aluminum plants and phosphate fertilizer plants, and a few other relatively minor pollutants, each emitted by a few source categories

In 2011, greenhouse gas emissions are the most prominent pollution problem. With the Supreme Court having required the EPA to regulate them under the Clean Air Act, the question becomes: on which track should the EPA put them? In 2008, the EPA under President George W. Bush argued strenuously and in detail in an Advanced Notice of Proposed Rulemaking (ANPR) that greenhouse gases should be treated under the “other” pollutant track rather than the NAAQS track. In 2009, CBD filed its petition to regulate greenhouse gases under the NAAQS track. Jackson rebuffed the idea, referring to the position taken by the Bush EPA. Now, the EPA is controlling greenhouse gases under the “other” pollutant track, the track designed for the least important pollutants. Thus, Bush-era reasons for rejecting the NAAQS track still reign. This *Outlook* shows that those reasons demonstrate the need for a better way to control conventional NAAQS pollutants to rescue the Clean Air Act from obsolescence.

Should the EPA Set a NAAQS for Greenhouse Gases?

The EPA *could* undoubtedly set a NAAQS for greenhouse gases. (Whether it *must* is discussed in the appendix, available at www.aei.org/outlook/101029, which details the issue for the masochistic.) The ANPR issued by the Bush EPA presented many arguments for not setting a NAAQS for greenhouse gases. All the reasons suggest the need to restructure the Clean Air Act for more efficient regulation of conventional NAAQS pollutants.

The Impossibility of Achieving a Meaningful NAAQS.

The ANPR argued that “if worldwide (non-US) emissions were to continue increasing, global concentrations of GHGs [greenhouse gases] would continue to increase despite US emission control efforts, and the NAAQS would be unachievable (depending on the level of the standards) even if US emissions were reduced to zero.”⁶ This difficulty could be circumvented by setting the NAAQS as a percentage reduction in US emissions rather than a concentration in the atmosphere. Such an approach for greenhouse gases was suggested by former EPA general counsel E. Donald Elliott, as well as in the CBD’s petition.⁷

Of course, all NAAQS have been set in terms of ambient concentrations, and the statute refers to “ambient” standards, but Elliott’s innovation finds strong support in the Supreme Court’s decision in *Chevron v. NRDC*.⁸ In *Chevron*, the Court famously held that courts must deal with challenges to an agency’s interpretation of statutes in a two-step process. The first step is to ask “whether Congress has directly spoken to the precise question at issue.” If so, the court must enforce the statute. If not, the court proceeds to the second step, in which it gives the agency’s “legislative regulations . . . controlling weight unless they are arbitrary, capricious, or manifestly contrary to the statute.” The Clean Air Act did not address the precise question raised by Elliott’s suggestion: how to set a target for domestic regulation when the problem is global concentrations caused by emissions from countries worldwide. Elliott’s answer provides a reasonable way to honor the statute’s objective—to have a numeric goal—yet also take account of the multicountry source of the ambient-concentration problem.

Elliott’s innovation nullifies the argument that a NAAQS for greenhouse gases makes no sense because of emissions from other countries. However, emissions from other countries are an increasing problem with regard to existing NAAQS set in terms of ambient concentrations. Emissions from outside the United States are more and more likely to interfere with achieving some of these NAAQS as the domestic standard decreases and international emissions increase.⁹

In sum, the EPA argued that emissions from outside the United States are a reason against setting a NAAQS for greenhouse gases. What was left unsaid is that they are also a reason for restructuring the Clean Air Act’s treatment of existing NAAQS pollutants.

The Bar on Considering Cost in Setting a NAAQS.

The Bush ANPR also argued that setting a NAAQS is unworkable because “NAAQS are based purely on preventing adverse health and environmental impacts, rather than on considerations of cost, feasibility, or availability of technology,” yet costs inevitably figure in deciding how much to cut greenhouse gas emissions.¹⁰ The EPA is correct that the statute forbids it to consider costs in setting NAAQS, a position the EPA initially took when pressed by Schoenbrod in the proceedings to establish a NAAQS for lead. This position was upheld in judicial review of that standard and has since been upheld by the Supreme Court.¹¹ However, setting the standards without regard to costs would subject the EPA to such a

backlash from Congress that it has taken cost into account in setting NAAQS under every administration. Yet the statute requires the agency to deny that it is doing so.¹² So the Clean Air Act effectively requires the EPA to be dishonest in setting NAAQS for conventional pollutants.

In sum, the EPA argued that the prohibition on considering costs in setting NAAQS is a reason against setting a NAAQS for greenhouse gases. What was left unsaid is that it is also a reason for restructuring the Clean Air Act’s treatment of conventional NAAQS pollutants.

The Rigidity, Inefficiency, and Inefficacy of State

Implementation Plans. The EPA, in the ANPR, argues that “a NAAQS would trigger a relatively rigid implementation apparatus, limiting the Agency’s flexibility to target cost-effective emissions reductions and to shift the burden of control requirements among different industries based on the availability of new technological approaches.”¹³ EPA administrator Russell E. Train made essentially the same argument against a NAAQS for lead, claiming that regulating principally through a national regulation on lead in gasoline would be more efficient and administratively simpler. He made the argument in an exchange of five lengthy letters with Schoenbrod.¹⁴

Schoenbrod responded that setting a NAAQS would not prevent the EPA from controlling lead in gasoline through a single national regulation; the EPA could obviate the need for fuel regulations in state implementation plans by setting a national regulation sufficient to achieve the NAAQS. In the end, the EPA did as the NRDC suggested, relying exclusively on national regulation to control lead in gasoline. The EPA also incorporated into the lead-in-gasoline regulation the first national market-based regime for trading pollution control credits.¹⁵

The NRDC’s counterargument was valid when the Second Circuit interpreted the Clean Air Act in 1976, but it is not valid now. Congress in its 1977 and 1990 amendments to the Clean Air Act expanded the statutory requirements for state implementation plans from three pages to seventy-nine pages. The new requirements, including “reasonably available control measures” for existing sources, make state implementation plans more rigid, complex, inefficient, and ineffectual.

A 2004 National Research Council study concludes that the rigidity and procedural complexity of the state implementation plan process hobbles pollution-control efforts. The process

now mandates extensive amounts of . . . time and resources in a legalistic, and often frustrating proposal and review process, which focuses primarily on compliance with intermediate process steps. This process probably discourages innovation and experimentation at the state and local levels; overtaxes the limited financial and human resources available to the nation's [Air Quality Management] system at the state, local, and federal levels; and draws attention and resources away from the more germane issue of ensuring progress towards the goal of meeting the [NAAQS].¹⁶

The state implementation plan process also precludes market-based regulation,¹⁷ thus resulting in great economic waste. A 2006 National Research Council study found that one aspect of state implementation plans, "New Source Review," makes it three times more expensive to cut emissions from power plants compared to a market-based approach.¹⁸ Such waste undercuts competitiveness, adds to unemployment, and reduces the standard of living without improving environmental quality.

As Barack Obama pointed out during his presidential campaign, "a cap-and-trade system [one type of market-based approach] is a smarter way of controlling pollution" than "top-down" regulation in which agencies specify "every single rule that a company has to abide by." Market-based approaches are more cost-effective because they give businesses flexibility to decide how and where to cut emissions.

Finally, state implementation plans are becoming less effective. In the past, they made some contributions to air quality, despite their emphasis on top-down regulation rather than market-based regulation. Making progress through top-down regulation was easier when many large plants had yet to adopt inexpensive, end-of-the-pipe pollution-control technologies, which regulators could readily identify and require these large plants to use. Now, however, the low-hanging fruit has largely been picked; further significant progress requires more expensive control technologies, changes within production processes, and the regulation of smaller sources. So it is harder for regulators to identify sensible control strategies, and top-down regulation has become less efficient and effective.

The four most dramatic successes in improving air quality have come not from state implementation plans, but from four national regulations, all of which incorporated elements of market-based trading: (1) the regulation

of new vehicles, which cut emissions 99 percent; (2) the regulation of lead in gasoline, which eventually cut emissions 100 percent; (3) the regulation of acid-rain-causing emissions from power plants, which cut emissions approximately 50 percent; and (4) the regulation of stratospheric-ozone-destroying chemicals, which is in the process of cutting emissions 100 percent.

These four successes are due to three characteristics shared by these programs: (1) they used direct federal regulation; (2) the decisions about who cuts emissions, and by how much, were made by Congress rather than fobbed off on a bureaucratic process; and (3) flexibility on how to cut emissions was achieved through market-based processes. The first two characteristics are lacking in state implementation plans and the third is not easy to reconcile with the current version of the Clean Air Act.

In sum, the EPA argued that the rigidity, inefficiency, and inefficacy of the state implementation plan process are reasons against setting a NAAQS for greenhouse gases. What was left unsaid is that they are also reasons for restructuring the Clean Air Act's treatment of the existing NAAQS pollutants.

How to Restructure the Clean Air Act

Breaking the Logjam, a joint project of New York Law School and New York University School of Law, has proposed how to restructure the Clean Air Act. The leaders of the project—David Schoenbrod, Richard B. Stewart, and Katrina M. Wyman—brought together fifty diverse environmental-law experts to propose and reflect upon ways to modernize a wide spectrum of federal environmental statutes. The undertaking was built on four principles: to adopt market-based tools wherever they can reliably achieve environmental goals; to realign the responsibilities of the federal government and the states so that each level has more effective power over the environmental problems it is best placed to address; to face trade-offs openly and based on reliable information; and to use cross-cutting regulatory approaches that address closely related problems together rather than separately.

At the end of a four-year process, the leaders of the project published a book that includes a proposal to restructure the Clean Air Act.¹⁹ The proposal is based on the most successful programs for regulating air pollution—those dealing with new vehicles, lead in gasoline, acid rain, and ozone-destroying chemicals. To emulate the key characteristics of those programs, the proposal recommends that Congress (1) regulate sources rather

than the states, (2) decide how much to cut pollution and how to allocate the cleanup burden, and (3) use market-based mechanisms to give sources flexibility in making the cuts. This implements the project's first principle. To keep the new program to manageable proportions, it should not attempt to regulate all sources. Rather, as the second principle suggests, it should cover only the biggest sources—new vehicles, fuels, and several thousand of the largest stationary sources. Together these account for the lion's share of controllable emissions. The remaining stationary sources, which are large in number but small in emissions relative to those that would be federally controlled, would be left to the states, which would be largely freed from the state implementation plan requirement.

The book summarizes its proposal as follows:

Simultaneously with enacting the program to deal with climate change, Congress should also reform the Clean Air Act's framework for regulating conventional air pollutants to:

1. Adopt direct federal controls on all important sources of [NAAQS] pollutants, including large stationary sources, fuels, and new vehicles.
 - A. These direct federal controls should take the form of cap and trade.
 - B. Congress should set the caps to decline over time, determine the method of distributing the allowances, and expressly link these federal controls to the cap-and-trade or tax program on greenhouse gases.
2. Set the emission reduction schedule of these direct federal controls to achieve national air-quality goals at the pace set by Congress rather than through state implementation plans and related programs, including New Source Review, New Source Performance Standards, vehicle inspection and maintenance, and transportation conformity requirements.
3. Establish backstops to remedy any failure of the federal cap-and-trade system to perform as expected; any backsliding by states or harmful interstate spillovers; hot spots; or shortfalls in achieving [NAAQS].

4. Require EPA to provide the states and localities with guidelines for regulating the small sources of predominantly intrastate pollution left to their control and to provide the public with candid rankings of states' and localities' performance in reducing emissions and improving air quality.

Chapter 5 of the book elaborates on the proposal. A still more detailed version can be found in the project's report on climate change and air pollution.²⁰ But even the most complete version of Breaking the Logjam's proposal to save the Clean Air Act from obsolescence falls far short of the detail required for drafting a bill. The project, however, dealt explicitly with how to bridge the gap between a conceptual outline of reform and actual reform legislation. Specifically, it proposed that Congress establish an expert panel to flesh out the reforms,²¹ which might be housed in the National Academy of Sciences. In any event, it should be modeled on the academy's panels, whose members strive to promote open-minded deliberation rather than represent particular interests. The proposal from such a panel could then be presented to Congress for consideration and approval.

The Obama administration is now calling for an approach to greenhouse gases that involves (1) federal regulation of sources rather than states, (2) focusing on the most important sources at the federal level, and eventually (3) market-based mechanisms. These elements make sense, whatever might be said of the program as a whole. What is left unsaid is that the same elements make sense for conventional NAAQS pollutants, which would require reforming the Clean Air Act. On that, the Obama administration has yet to lead.

Easing Congressional Action on Greenhouse Gases

The Breaking the Logjam project urged the 111th Congress to restructure the Clean Air Act as part of the legislation to restrict greenhouse gases. Diverse individuals in Congress responded that, while the arguments for such restructuring made sense, Congress needed to focus on regulating greenhouse gases alone. But Congress fell short on that.

Actually, it would be easier for a future Congress to resolve the greenhouse gas issue if conventional pollutants were part of the mix. In July 2010, the utility industry proposed to support legislation that would subject its greenhouse gas emissions to a cap-and-trade program if

environmental groups agreed to a bill freezing new regulations of the industry's conventional pollutants²² (the environmental groups, viewing these new regulations as necessary to protect health, understandably refused). Nonetheless, the industry's proposal shows that the savings in the cost of controlling conventional pollutants would ease the passage of controls on greenhouse gases. The problem with the industry's proposal is that it would have bought greenhouse gas controls at the expense of harm to health from conventional pollutants. Instead, the country could have obtained the cost savings that would ease the passage of greenhouse gas controls along with better protection of health from conventional pollutants by restructuring the Clean Air Act's treatment of these pollutants.

Eliminating the waste inherent in the present Clean Air Act would not only ease a legislative deal on climate, but also help protect the environment from the harm that comes from this waste of energy and material. In greening our economy, a good place to start is with pollution control itself.

Combining reform of the Clean Air Act with greenhouse gas control would facilitate legislative action in another way. Failing to reform the Clean Air Act's control of NAAQS pollutants would increase the cost of controlling greenhouse gases. The most efficient way to control greenhouse gases is through a market-based system, such as cap-and-trade or an emissions tax, but much of the cost savings from a market-based approach to greenhouse gases would be lost if the Clean Air Act still took its top-down approach to NAAQS pollutants. Because the same sources emit both kinds of pollutants, they would lose much of the flexibility that brings the cost savings in controlling greenhouse gases if they are still subject to top-down regulation for NAAQS pollutants. To make matters worse, regulatory requirements for conventional NAAQS pollutants change frequently, often on a pollutant-by-pollutant basis. The detailed, changing, top-down Clean Air Act regulation of NAAQS would limit a business's ability to shape long-term investments or research plans to take advantage of a market system to control greenhouse gases. Thus, the cost savings from market-based control of greenhouse gases would be significantly reduced.

There is additional money (and resources and greenhouse gas emissions) to be saved if Congress deals with greenhouse gases and conventional pollutants together rather than separately. One reason is that steps to cut greenhouse gases often reduce conventional pollutants. The *Breaking the Logjam* book details the synergies, as

does the project's report on climate change and air pollution, which is available online.²³ The potential savings are huge. The United Kingdom has determined that Britain's tackling of greenhouse gases and conventional pollutants together rather than separately would produce co-benefits of £24 billion by 2050.²⁴ The *Breaking the Logjam* book and report show how to combine conventional and greenhouse gas programs to realize the much larger co-benefits achievable in the United States. Reforming the Clean Air Act's treatment of conventional pollutants would both ease political resolution of the greenhouse gas issue and improve control of conventional pollutants.

Notes

1. Robin Bravender, "EPA Chief Signals Opposition to CAA Curbs on GHGs," *Greenwire*, December 8, 2009.

2. Requirements for new sources generally also apply to modified sources.

3. *Natural Resources Defense Council Inc. v. Train*, 545 F.2d 320 (2nd Cir. 1976).

4. The campaign also involved Richard Ayres, Roger Beers, Marcia Cleveland, and Ross Sandler, among NRDC's other principal attorneys as well as other attorneys and scientists.

5. In addition, while the 1970 version of the statute required the EPA to issue health-based emission limits on specially hazardous pollutants, the 1990 version required it to issue feasibility-based regulations of these pollutants in a first phase and then health-based regulations in a second phase.

6. Regulating Greenhouse Gas Emissions under the Clean Air Act; Advance Notice of Proposed Rulemaking, 73 Fed. Reg. 44354, 44485 (July 30, 2008).

7. Steven D. Cook, "Emissions Trading: EPA Can Use Clean Air Act Authority to Establish Carbon Dioxide Program," *Environment Reporter* (2008); *Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act, Before the Administrator of the Environmental Protection Agency*, 111th Cong. (December 2, 2009) (Petitioners Center for Biological Diversity and 350.org), 29–30, www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf (accessed February 10, 2011).

8. *Chevron U.S.A. Inc. v. Natural Resources Defense Council Inc.*, 467 US 837 (1984).

9. Emily Barrett and Wendy Hessler, "Wind Whisks Lead across the Pacific Ocean to California," *Environmental Health News*, November 18, 2010; Task Force on Hemispheric Transport of Air Pollution, *Hemispheric Transport of Air Pollution*

2010 *Executive Summary*, Informal Document No. 10 (Helsinki, Finland: Convention on Long-Range Transboundary Air Pollution, 2010), <http://htap.icg.fz-juelich.de/data/EBMeeting2010?action=AttachFile&do=view&target=EBExecSum.pdf> (accessed February 10, 2011) (more in-depth reports available at <http://htap.icg.fz-juelich.de/data/EBMeeting2010>); Cooper et al., “Increasing Springtime Ozone Mixing Ratios in the Free Troposphere over Western North America,” *Nature* 463 (January 21, 2010): 344–48 (“Our result agrees with previous modeling studies, which indicate that global ozone concentrations should be increasing during the early part of the twenty-first century as a result of increasing precursor emissions, especially at northern mid-latitudes, with western North America being particularly sensitive to rising Asian emissions. We suggest that the observed increase in springtime background ozone mixing ratio may hinder the USA’s compliance with its ozone air quality standard”); Gabriel Nelson, “Air Pollution: EPA Threatened with Lawsuits over Tardy Haze Plans,” *E&E News PM*, January 19, 2011; and UN Economic Commission for Europe, “Hemispheric Transport of Air Pollution Part A: Ozone and Particulate Matter,” *Air Pollution Studies* No. 17, 2010, 208, 266, www.htap.org (“The finding that O₃ precursor reductions in NA [North America] and EU cause more avoided mortalities outside of the source regions than within is supported by Duncan et al. [2008] and West et al. [2009]”) (“The HTAP multi-model experiments suggest that, in the four regions studied . . . [of] the ground-level PM concentration originating from anthropogenic and open biomass burning sources, intercontinental transport of anthropogenic emissions accounts for between 5% and 35% on a region-wide annual average basis”); and Economic Commission for Europe: Executive Body for the Convention on Long-range Transboundary Air Pollution, *Report of the Executive Body on its Twenty-Eighth Session: Addendum Decisions Adopted at the Twenty-Eighth Session* (UN Economic and Social Council, February 2011), 22 (“There is now a growing recognition of the importance of the transport of air pollutants over much longer distances than hitherto had been recognized”).

10. Regulating Greenhouse Gas Emissions under the Clean Air Act; Advance Notice of Proposed Rulemaking.

11. *Lead Industries Association v. EPA*, 647 F.2d 1130 (DC Cir. 1980); and *Whitman v. American Trucking Associations Inc.*, 531 US 457 (2001).

12. Among the diverse observers who make this point are Gary E. Marchant and Cary Coglianese in “Shifting Sands,” *University of Pennsylvania Law Review* 152 (2004): 1255, 1340–42.

13. Regulating Greenhouse Gas Emissions under the Clean Air Act; Advance Notice of Proposed Rulemaking.

14. The five letters are posted at www.nyls.edu/faculty/faculty_profiles/david_schoenbrod/train-schoenbrod_correspondence.

15. US Environmental Protection Agency Regulation of Fuel and Fuel Additives, 47 Fed. Reg. 49322 (1982).

16. National Research Council and the Committee on Air Quality Management in the United States, *Air Quality Management in the United States* (Washington, DC: National Academies Press, 2004), 128.

17. For example, *North Carolina v. EPA*, 531 F.3d 896 (DC Cir. 2008), modified on rehearing in part, 550 F.3d 1176 (DC Cir. 2008).

18. Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants and the National Research Council, *New Source Review for Stationary Sources of Air Pollution* (Washington, DC: National Academies Press, 2006), 257.

19. David Schoenbrod, Richard B. Stewart, and Katrina M. Wyman, *Breaking the Logjam: Environmental Protection That Will Work* (New Haven, CT: Yale University Press, 2010), chapters 4, 5.

20. David Schoenbrod, Richard B. Stewart, and Katrina M. Wyman, *Climate Change and Air Pollution: An Integrated Proposal* (New York: New York University School of Law, February 2009), www.breakingthelogjam.org/CMS/files/ClimateReportv1r4.pdf (accessed February 11, 2011); and David Schoenbrod, Richard B. Stewart, and Katrina M. Wyman, *Breaking the Logjam: Environmental Protection That Will Work*, chapters 4, 5.

21. *Ibid.*, 119–24.

22. Felicity Barringer, “Utilities and Environmentalists Haggles over Climate Bill,” *New York Times*, July 19, 2010.

23. “Breaking the Logjam,” www.breakingthelogjam.org (accessed February 11, 2011).

24. Department for Environment, Food, and Rural Affairs, *Air Pollution: Action in a Changing Climate* (London: Defra Publications, 2010), 4, 14.