

EPA’S ENDANGERMENT FINDING FOR GREENHOUSE GASES AND THE POTENTIAL DUTY TO ADOPT NATIONAL AMBIENT AIR QUALITY STANDARDS TO ADDRESS GLOBAL CLIMATE CHANGE

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I. INTRODUCTION

Over the coming decades, global climate change will threaten public health in the United States and abroad with respiratory illnesses, the spread of infectious diseases, more intense heat waves and floods, and other adverse effects.¹ Agricultural lands will be lost to drought, sea levels will rise, and water resources will be strained.² These changes, significant in their own right, have the potential to impose enormous adaptive and regulatory costs on the world's economy.³ Consequently, the regulatory schemes chosen to reduce the greenhouse gases⁴ that are causing these harms must be both environmentally effective and economically efficient.

The U.S. Environmental Protection Agency (EPA or the Agency) took its first step toward meeting these goals with the announcement in April 2009 of its intention to make a finding under the Clean Air Act that greenhouse gases from new cars and light trucks endanger the public health and welfare by contributing to global climate change.⁵ Once that endangerment finding is finalized, EPA plans to establish limits on greenhouse gases from new

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1. See United States Global Change Research Project, *Global Climate Change Impacts in United States*, at 12 (June 2009), available at <http://www.globalchange.gov/publications/reports/scientific-assessments/us-impacts> (a report of 13 federal agencies, overseen by the Executive Office of the President, making key findings about risks to human health). See also Lisa Heinzerling, *Climate Change, Human Health, and the Post-Cautionary Principle*, 96 GEO. L.J. 445 (2008) (reframing discussions about climate change to emphasize impacts on human health).
 2. *Id.* See generally International Panel on Climate Change, *Climate Change 2007: Synthesis Report, Fourth Assessment Report*, November 2007, available at http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_synthesis_report.htm (last visited July 19, 2009).
 3. The Stern Report, released in October 2006 under the auspices of the British Chancellor of the Exchequer, estimated that the future adverse consequences of climate change could drain as much as 5% of the global gross domestic product (GDP) in the coming years, and aggressive steps to reduce greenhouse gas, if taken immediately, would cost at least 1% of global GDP and potentially much more. HM Treasury, *Stern Review on the Economics of Climate Change*, ix, xi, xiii (2006), available at http://www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/sternreview_index.cfm. (last visited June 28, 2009).
 4. This article uses the common phrase "greenhouse gases" even though one substance contributing to global climate change, black carbon, is not a gas. See Andrew C. Revkin, *Ending "Carbon Emissions" (the Jargon)*, N.Y. TIMES, April 23, 2009, <http://dotearth.blogs.nytimes.com/2009/04/23/ending-carbon-emissions-the-jargon> (last visited June 28, 2009).
 5. Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Proposed Rule, 74 Fed. Reg. 18,886 (April 24, 2009) [hereinafter Proposed Endangerment Finding].

vehicles,⁶ and separately it may limit those pollutants from a few select industries, such as power plants, petroleum refineries and cement kilns.⁷

The proposed endangerment finding is highly controversial, with industry representatives vigorously challenging the scientific conclusions that will trigger the new vehicle emission standards.⁸ Of even greater controversy, however, is the cascade of other regulatory actions that may be triggered once that finding is finalized—actions that even EPA does not support, but that may be forced on the Agency by certain provisions of the Clean Air Act written nearly 40 years ago, well before climate change received much attention.

In particular, debate rages on whether issuance of the final endangerment finding will obligate EPA and the states to regulate greenhouse gases from nearly every sector of the economy with “national ambient air quality standards,” the central program of the Clean Air Act that addresses air pollution all across the country.⁹ Such standards, designed to protect the public by limiting the overall concentration of greenhouse gases in the air, could force all 50 states to consider regulating everything from home furnaces, lawn mowers and outboard motors, to hospitals, apartment buildings, and other commercial and industrial enterprises.

EPA views such broad, national standards as fundamentally inappropriate for greenhouse gases. For one thing, the Agency believes that even aggressive state regulations—with their significant costs—will never lower atmospheric concentrations if other nations continue their uncontrolled emissions.¹⁰ In addition, the regulatory process could result in 50 conflicting, inefficient state plans, rather than a federally-coordinated cap and trade program targeted on key facilities, the approach favored by the Agency.¹¹ Moreover, simply trying to set a protective standard would be difficult because the adverse effects from

6. See Steven D. Cook & Carolyn Whetzel, *Declaring Status Quo “Not Acceptable,” Obama Announces Rules for Fuel, Emissions*, 40 Env’t Rep. (BNA) 1159 (May 22, 2009).

7. Roger Martella, et al., *EPA’s Greenhouse Gas Proposal: A Blueprint for Federal Regulation*, 39 Env’t Rep. (BNA) 2145 (Oct. 24, 2008) (referring to EPA’s “technical support documents” for various industrial sectors, including “utility boilers, petroleum refineries, Portland cement manufacturing, iron and steel” and others). See also *infra* text accompanying notes 169–173.

8. The U.S. Chamber of Commerce, for example, accuses EPA of “willfully ignoring relevant, credible scientific information.” See Steven D. Cook, *Chamber Of Commerce Petitions EPA for Formal Hearing on Engagement*, 40 Env’t Rep. (BNA) 1495 (June 26, 2009).

9. See 42 U.S.C. § 7410 (2006) and *infra* text accompanying notes 38–46 and 83–92. A separate, equally contentious issue is whether the endangerment finding will trigger the new source review programs of the Clean Air Act. See Martella, *supra* note 7 (describing concerns about the Prevention of Significant Deterioration (PSD) Program and its counterpart in nonattainment areas). See also *infra* text accompanying notes 150–151 (discussing the relationship between the endangerment finding and the PSD program).

10. See *infra* text accompanying notes 62–64.

11. See *infra* text accompanying notes 65–67.

global climate change are uncertain, with no “safe” level of greenhouse gases.¹²

EPA’s concerns are shared by manufacturers and commercial enterprises who fear the Agency will have no choice but to adopt the unworkable national standards.¹³ Several states and environmental organizations also do not support those standards for greenhouse gases, but insist the Agency has discretion not to adopt them.¹⁴ A few environmental organizations, however, see benefits in using this scheme to force widespread greenhouse gas emissions reductions, and have urged the Agency to adopt the national standards.¹⁵ In all the discussions about the interplay between those standards and EPA’s endangerment finding, advocates often give little more than a nod to the complexities of the Clean Air Act.

This article analyzes that interplay, providing the detailed analysis currently absent from much of the debate on this momentous issue. The article begins by explaining the endangerment finding and EPA’s concerns about the Clean Air Act’s reach. It then analyzes the statute, legislative history and case law to assess EPA’s obligations. While the statutory language might appear to give the Agency discretion *not* to regulate, this article identifies a possible scrivener’s error—not previously discussed by EPA, the courts or others—that would require the Agency to issue national standards once it finds that greenhouse gases endanger public health and welfare.

12. See *infra* text accompanying notes 49–61.

13. See, e.g., Peter Glaser, *Avoiding a Regulatory Nightmare*, *The Environmental Forum* 52–53 (March/April 2009) (industry attorney referring to “the truly frightening prospect” that the endangerment finding will trigger the national standards). See also *Regulation of Greenhouse Gases under the Clean Air Act: Hearing Before the Senate Committee on Environment and Public Works*, 110th Cong., 2nd Sess. (Sep. 23, 2008) (testimony of Marlo Lewis, Senior Fellow, Competitive Enterprise Institute), available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=38ed7b76-2817-4f03-9e51-537515c9ffd2 (last visited June 28, 2009) [hereinafter Lewis Testimony]. See also *id.* (testimony of William L. Kovacs, Vice President, Environment, Technology and Regulatory Affairs, U.S. Chamber of Commerce), available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9cc4d7e4-f066-4534-9337-9bf53154b0e1 (last visited June 28, 2009) [hereinafter Kovacs Testimony].

14. See *Regulation of Greenhouse Gases under the Clean Air Act: Hearing Before the Senate Committee on Environment and Public Works*, 110th Cong., 2nd Sess. (Sep. 23, 2008) (testimony of Honorable Mary D. Nichols, Chairman, California Air Resources Board), available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=e2d29d01-2714-49b0-a5be-e351c270705a (last visited June 28, 2009) [hereinafter Nichols Testimony]. See also *id.* (testimony of David Bookbinder, Chief Climate Counsel, Sierra Club), available at http://epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=bf5c538e-7fe8-498c-9d31-0396a465b673 (last visited June 28, 2009) [hereinafter Bookbinder Testimony].

15. See Glaser, *supra* note 13, at 53 (describing “at least three environmental organizations [who take] the position that EPA should establish” national standards for greenhouse gases). See also Martella, *supra* note 7 (referring to “environmental groups [that] petitioned EPA to set a [national standard] for greenhouse gases”).

Whether a court will accept that new interpretation or, instead, find flexibility for EPA depends ultimately on whether the Agency persuasively demonstrates that those standards are unworkable for greenhouse gases and unnecessary in light of the other steps it is taking under the Clean Air Act. The article concludes with an analysis of EPA's claims on both scores, demonstrating that the Agency's success in fending off protective standards is far from certain, especially given the Supreme Court's skepticism of EPA's climate change record.¹⁶

II. EPA'S PROPOSED ENDANGERMENT FINDING FOR GREENHOUSE GASES FROM VEHICLES

EPA issued the proposed endangerment finding under section 202(a) of the Clean Air Act, which authorizes the Agency to set emission standards for new vehicles.¹⁷ Before doing so, EPA must find that the vehicles' emissions "cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."¹⁸ In 1999, a group of environmental and renewable energy organizations petitioned EPA to make such an endangerment finding for certain greenhouse gases, and thereby begin the process of restricting emissions of those pollutants from cars, trucks and other vehicles.¹⁹ Four years later EPA, under President Bush's leadership, denied the petition.²⁰

In the seminal opinion of *Massachusetts v. EPA*, the United States Supreme Court reversed the Agency's decision, rejecting EPA's argument that it lacked authority under the Clean Air Act to address global climate change.²¹ Instead, the Court held that the Act's "sweeping definition" of an "air pollutant" included greenhouse gases, and that nothing on Capitol Hill since

16. Congress is currently considering comprehensive legislation to establish a cap and trade program for greenhouse gases that would supersede many Clean Air Act provisions. See, e.g., Steven D. Cook, *Climate Bill Imposes Emissions Trading, Energy-Efficiency, Renewables Requirements*, 40 Env't Rep. (BNA) 1546 (July 3, 2009) (discussing the American Clean Energy and Security Act, commonly referred to as the Waxman-Markey bill, which passed the House on June 26, 2009); American Clean Energy and Security Act, H.R. 2454, 111th Cong., 1st Sess. § 831 (2009) (banning EPA from regulating greenhouse gases with national standards). The implications of any proposed legislation are beyond the scope of this article.

17. 42 U.S.C. § 7521 (2006).

18. *Id.* § 7521(a)(1). The Clean Air Act does not define the term "public health," and the term "welfare" is defined very broadly to include everything from "effects on soils, water [and] crops" to "effects on economic values and on personal comfort and well-being." 42 U.S.C. § 7602(h).

19. See Control of Emissions from New Highway Vehicles and Engines; Notice of Denial of Petition for Rulemaking, 68 Fed. Reg. 52,922, 52,922 (Sept. 8, 2003) [hereinafter Petition Denial].

20. *Id.*

21. *Massachusetts v. EPA*, 549 U.S. 497, 528 (2007).

passage of the Act in 1970 “remotely suggests that Congress meant to curtail [EPA’s] power to treat greenhouse gases as air pollutants.”²²

The Agency also argued that even if it were authorized to regulate greenhouse gases, it would not be “effective or appropriate” to do so.²³ EPA highlighted, for example, the “important uncertainties in our understanding of the factors that may affect future climate change.”²⁴ It also noted that setting vehicle emission standards would result “in an inefficient, piecemeal approach to addressing the climate change issue.”²⁵ In addition, EPA expressed concern that unilateral action by the United States would interfere with President Bush’s efforts to negotiate emissions reductions from China and other nations.²⁶

The *Massachusetts* Court disagreed, holding that most of EPA’s reasons for not acting, such as the foreign policy goals, were improper because they had “nothing to do with whether greenhouse gas emissions contribute to climate change.”²⁷ Although the Court did not direct EPA to find that greenhouse gases *do* endanger the public health or welfare, it directed the Agency to make a decision one way or another unless “the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming.”²⁸

EPA then spent more than a year studying the very complex scientific, legal and policy issues involved in potentially restricting greenhouse gases under section 202(a) and, more generally, under the Clean Air Act. In July 2008, it issued an Advance Notice of Proposed Rulemaking (the “Advance Notice”) that presented extensive information to solicit public comment on the complex regulatory questions it was facing.²⁹ In the preface, the Administrator of EPA emphasized the Bush Administration’s view that greenhouse gases should not be controlled under the Clean Air Act, writing that such “an outdated law . . . is ill-suited for the task of regulating global greenhouse gases” and will lead to “potentially damaging effect[s] on jobs and the U.S. economy.”³⁰

22. *Id.*

23. Petition Denial, 68 Fed. Reg. at 52,930.

24. *Id.*

25. *Id.* at 52, 931.

26. *Id.*

27. *Massachusetts*, 549 U.S. at 533.

28. *Id.* at 534.

29. Regulating Greenhouse Gas Emissions under the Clean Air Act; Advance Notice of Proposed Rulemaking, 73 Fed. Reg. 44,354 (July 30, 2008) [hereinafter Advance Notice].

30. *Id.* at 44,355.

In April 2009, as one of its first major actions on climate change, the new Obama Administration reversed that stance and issued a proposed finding that six prominent greenhouse gases may reasonably be anticipated to endanger the public health or welfare.³¹ In particular, EPA concluded that man-made emissions of those greenhouse gases “are at unprecedented levels” in the atmosphere and “are very likely the cause of the observed increase in average temperatures and other climatic changes.”³² It went on to explain that global climate change causes serious adverse effects to public health and welfare in United States and abroad, including “the increased likelihood of more frequent and intense heat waves, more wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea level rise, more intense storms, harm to water resources, harm to agriculture, and harm to wildlife and ecosystems.”³³

The process of finalizing the endangerment finding and bringing it into force will take many months, if not years. For one thing, the U.S. Chamber of Commerce recently petitioned EPA for a rare formal hearing, overseen by an Administrative Law Judge, to take testimony from EPA staff on their scientific conclusions.³⁴ If such a hearing were granted, the Chamber’s representative predicted (with great hope) that it “could take five or six years.”³⁵ More likely, the Agency will deny the formal hearing request, and the Chamber will ask a court to stay the endangerment rulemaking while it challenges that denial. Even though the Chamber will probably not prevail on the merits, it will have succeeded in delaying the process. Then, when EPA does finally issue the endangerment finding, challengers no doubt will file administrative petitions for reconsideration and then lawsuits seeking to overturn it, with the hopes of staying its effectiveness even longer.

All parties agree that, once the endangerment finding is in force, it will require EPA to regulate greenhouse gases from new vehicles. As such, in May

31. Proposed Endangerment Finding, 74 Fed. Reg. at 18,886. EPA explains that section 202(a)(1) requires the Agency to make two distinct findings. First, it must determine whether “the air pollution under consideration may reasonably be anticipated to endanger public health or welfare.” *Id.* at 18,888. EPA refers to that as the “endangerment finding.” *Id.* The Agency proposed an endangerment finding for *six* specific greenhouse gases: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. *Id.* at 18,895. For purposes here, that is the most important finding.

Second, EPA must determine whether “emissions of [the] air pollutant from new motor vehicles or engines cause or contribute to this air pollution.” *Id.* at 18,888. The Agency proposed that “cause or contribute” finding for *four* greenhouse gases, because the other two are not emitted from cars, trucks or other vehicles. *Id.*

32. *Id.* at 18,886.

33. *Id.* See also *id.* at 18,901–18,903 (providing more detailed discussion of harms).

34. See Cook, *supra* note 8.

35. *Id.*

2009, President Obama announced a federal program, to be implemented jointly by EPA and the Department of Transportation, to increase fuel efficiency for cars and light trucks and to impose the first emission limit for carbon dioxide, the main greenhouse gas.³⁶ The White House estimated that the program would eliminate 900 million metric tons of greenhouse gases and save, in the President's words, "more oil than we imported last year from Saudi Arabia, Venezuela, Libya, and Nigeria combined."³⁷

III. EPA'S OBJECTIONS TO SETTING NATIONAL STANDARDS FOR OTHER SOURCES OF GREENHOUSE GASES

Apart from regulating vehicles, the Clean Air Act also regulates power plants, chemical facilities and other stationary sources through a number of different programs, including operating permits³⁸ and emission standards for "hazardous" air pollutants.³⁹ The heart of the Clean Air Act's efforts to regulate stationary sources, however, are the national ambient air quality standards⁴⁰ and the state plans to implement them.⁴¹ To establish a national standard, EPA studies the adverse health effects of a pollutant and identifies the concentration in the air that would, in the words of the statute, "protect the public health" with "an adequate margin of safety."⁴² Each state must then develop a "state implementation plan" to control sources so that its air quality eventually meets that allowable level.⁴³

EPA has adopted national standards for six conventional pollutants,⁴⁴ and the states have for the most part implemented them successfully.⁴⁵

36. See Cook & Whetzel, *supra* note 6.

37. *Id.*

38. 42 U.S.C. § 7661a (2006).

39. *Id.* § 7412.

40. 42 U.S.C. § 7409 (2006). "Primary" standards are designed to "protect the public health" with "an adequate margin of safety." *Id.* § 7409(b)(1). "Secondary" standards are designed to "protect the public welfare." *Id.* § 7409(b)(2). Secondary standards are less demanding, with, for example, states only having to achieve them "as expeditiously as practicable," rather than within 10 years as required for the primary standards. Advance Notice, 73 Fed. Reg. at 44,481. Because EPA proposed to find that greenhouse gases endanger the public health (as well as the public welfare), the more stringent primary standards will be the focus of this analysis.

41. 42 U.S.C. § 7410 (2006). Technically state plans can address both stationary sources and mobile sources, see Advance Notice, 73 Fed. Reg. at 44,476 n.228, but this discussion will focus primarily on stationary sources.

42. *Id.* § 7409(b)(1).

43. *Id.* § 7410.

44. Those six pollutants are particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, ozone and lead. See 40 C.F.R. §§ 50.4–50.12 (2009).

45. The success has not been complete. States continue to struggle to achieve the standards, especially for pollutants that transport from upwind states to downwind states.

Unfortunately, the process can easily take more than a decade, from the time the Agency conducts its studies to the time sources within an individual state actually install pollution control devices.⁴⁶

That lengthy process could be all the more true for greenhouse gases.⁴⁷

But delay is not the only challenge in trying to address global climate change with the existing statutory scheme. More significantly, the Agency—under both President Bush and President Obama—believes broadly-applicable national standards, implemented by the states, are fundamentally inappropriate for greenhouse gases.⁴⁸

For one thing, EPA believes it will face “special challenges”⁴⁹ in identifying a level of greenhouse gases that would, as the statute requires, “protect the public health” with “an adequate margin of safety.”⁵⁰ Typically to set a national standard for a conventional pollutant, the Agency reviews reams of existing data from animal and epidemiological studies. With greenhouse gases EPA will have little information on actual effects, and instead will have to try to predict impacts in the coming decades, struggling with the uncertainties arising from the “complex feedback loops” of climate change.⁵¹ The experts themselves cannot entirely agree on those future effects. Many scientists believe that an increase in the global average temperature of more than 2° Celsius above pre-industrial levels would pose substantial risks to human health and the ecosystem.⁵² They suggest limiting the concentration of carbon dioxide (or its equivalent) in the atmosphere to no more than 450 parts per million (ppm),⁵³ in order to avoid “dangerous anthropogenic interference with the climate system,” as called for by the United Nations

46. See Advance Notice, 73 Fed. Reg. at 44,483–84 (describing all the various steps required to adopt and implement a national standard, each of which can take a year or two).

47. *Id.* at 44,483 (the challenges of greenhouse gases “could result in a significant delay”).

48. Under President Bush, EPA laid out its concerns about national standards in the Advance Notice. See Advance Notice, 73 Fed. Reg. at 44,477–85. The Obama Administration has not disavowed any of those earlier arguments, and seems equally hesitant to invoke the national standards for greenhouse gases. Instead, it is interested in regulating through other means. See *infra* text accompanying notes 167–173.

49. Advance Notice, 73 Fed. Reg. at 44,478.

50. 42 U.S.C. § 7409(b)(1).

51. Advance Notice, 73 Fed. Reg. at 44,479.

52. See Fred Pearce, *Saving the World, Plan B*, NEW SCIENTIST, Dec. 13, 2003, at 6 (“The scientific community has concluded that warming more than 2 degrees Celsius above pre-industrial levels will be dangerous.”). See generally International Panel on Climate Change, *Working Group I, Climate Change 2001: The Scientific Basis, Third Assessment Report* (J. T. Houghton et al. eds., 2001), available at <http://www.ipcc.ch/ipccreports/tar/wg1/index.php?idp=0> (last visited July 19, 2009).

53. Pearce, *supra* note 52, at 6. See also Union of Concerned Scientists, *How to Avoid Dangerous Climate Change: A Target for U.S. Emissions Reductions*, September 2007, at 5–8, available at http://www.ucsusa.org/global_warming/science/emissionstarget.html?print=t (last visited June 28, 2009).

Framework Convention on Climate Change.⁵⁴ One of the most preeminent climate scientists, Dr. James Hansen from the National Aeronautics and Space Administration, and others, however, believe even at that level very serious harms will occur.⁵⁵ Dr. Hansen and his colleagues recommend an atmospheric concentration of no more than 350 ppm,⁵⁶ which poses a great challenge because current concentrations are estimated to be 380 to 400 ppm.⁵⁷

Even if the scientists completely agreed that a concentration of, say, 450 ppm would avoid “dangerous” conditions, that notion does not easily translate to national standards under the Clean Air Act, which must provide an adequate margin of safety. As EPA notes, the Agency may need to protect “against risks and effects that are less egregious than ‘dangerous interference.’”⁵⁸ Moreover, that issue is complicated by the fact that the “severity of impacts in the U.S. might differ from the severity of impacts in the rest of the world.”⁵⁹ In addition, determining which impacts are “dangerous,” EPA observes, “is not a purely scientific question,” but “involves important value judgments regarding what level of climate change may or may not be acceptable.”⁶⁰ No “safe” level of greenhouse gases exists; instead, at all concentrations adverse consequences flow from the warming of the planet, with greater harms—and greater costs to avoid or adapt to those consequences—occurring at higher concentrations. Yet the Clean Air Act bars EPA, when establishing a national standard, from considering the costs that would be incurred to reduce emissions.⁶¹ For all these reasons, the Agency believes setting such a standard for greenhouse gases will be very difficult.

Second, in EPA’s view, the nature of greenhouse gases as a *global* pollutant conflicts with the Clean Air Act’s assumption that generally each state will be able to meet the national standards by regulating sources within its borders. Unlike the conventional pollutants governed by the Act, greenhouse gases arise from sources all around the world and flow throughout the atmosphere to create a relatively uniform global concentration that lasts for

54. United Nations Framework Convention on Climate Change, U.N. Doc. A/AC.237/18 (May 9, 1992), reprinted in 31 I.L.M. 849 (1992) [hereinafter Framework Convention]. For background, see United Nations Framework Convention on Climate Change, *Essential Background*, available at http://unfccc.int/essential_background/feeling_the_heat/items/2913.php (last visited June 14, 2009).

55. Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* (2008), available at http://pubs.giss.nasa.gov/docs/2008/2008_Hansen_etal.pdf (last visited July 19, 2009).

56. *Id.*

57. Pearce, *supra* note 52, at 6 (“By some measures we are at 380–400 ppm already and rising rapidly.”).

58. Advance Notice, 73 Fed. Reg. at 44,479.

59. *Id.*

60. *Id.* at 44,401.

61. *Am. Trucking Ass’n v. Whitman*, 531 U.S. 457, 462 (2001).

decades.⁶² As a result, the atmospheric concentration of greenhouse gases will lower only with “substantial cuts in worldwide emissions,”⁶³ and even aggressive actions by individual American states might not achieve the national standard.⁶⁴

Finally, while many policymakers at EPA and elsewhere prefer a federal cap and trade program for greenhouse gases targeted at coal-fired power plants and other key industries,⁶⁵ state implementation of national standards will not easily facilitate that regulatory tool. Instead, the Clean Air Act provides states with considerable flexibility to choose the sources to address and the restrictions to apply, as long as the mix of measures sufficiently improves the state’s air quality.⁶⁶ EPA believes the result could be a conflicting “patchwork of regulations” at the state level.⁶⁷

Some of the Agency’s arguments deserve closer scrutiny. For example, whether EPA should or could avoid a patchwork of state regulations is debatable. Similarly, its concern that the standards could never be met assumes certain facts that are not necessarily true in all circumstances. These and other subtleties will be explored more fully in Section V. For now, however, assuming such standards are, in fact, inappropriate for greenhouse gases, then the important question becomes whether EPA’s issuance of the final endangerment finding for vehicles will somehow also trigger a requirement for the Agency to adopt the broad, national standards it seeks to avoid.

62. Advance Notice, 73 Fed. Reg. at 44,401.

63. *Id.* at 44,481.

64. *Id.* at 44,485 (The standards “would be unachievable (depending on the level of the standards) even if U.S. emissions were reduced to zero.”).

65. *Id.* (noting that “legislative proposals have focused on establishing federally administered national cap-and-trade strategies to address the global climate problem”); *id.* at 44,410–11 (discussing advantages of market-oriented approaches).

66. *Train v. Natural Res. Def. Council*, 421 U.S. 60, 87 (1975) (the Clean Air Act “left to the States considerable latitude in determining specifically how the standards would be met”); *Virginia v. EPA*, 108 F.3d 1397, 1406–10 (D.C. Cir.), *modified on other grounds*, 116 F3d 499 (D.C. Cir. 1999) (striking down EPA rule that did not give states sufficient flexibility in meeting national standards).

67. Advance Notice, 73 Fed. Reg. at 44,483.

IV. ANALYSIS OF THE CLEAN AIR ACT'S LANGUAGE, LEGISLATIVE HISTORY AND CASE LAW

A. Literal Application of the Statutory Language: EPA Discretion Not to Regulate Greenhouse Gases

Section 109(a)(2) of the Clean Air Act requires EPA to issue a national standard for a pollutant at the same time the Agency establishes “air quality criteria” for that pollutant⁶⁸—essentially a summary of the scientific data that will help EPA identify a safe level of the pollutant.⁶⁹ Section 108(a)(2), in turn, requires air quality criteria to be issued “within 12 months” of listing the pollutant for regulation.⁷⁰ EPA must list a pollutant, according to section 108(a)(1), if:

(A) the pollutant will, “in [EPA’s] judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;”

(B) the pollutant “results from numerous or diverse mobile or stationary sources”; and

(C) “air quality criteria had not been issued [for the pollutant] before December 31, 1970 [the date of enactment],” but EPA “plans to issue air quality criteria under this section.”⁷¹

These three factors for listing a pollutant, then, are the linchpin to the issuance and implementation of national standards.

68. 42 U.S.C. § 7409(a)(2) (2006).

69. The air quality criteria represent a compilation of “the latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities.” 42 U.S.C. § 7408(a)(2) (2006).

70. *Id.*

71. *Id.* § 7408(a)(1). As originally adopted in 1970, subparagraph A referred to a pollutant that in the Administrator’s judgment “has an adverse effect on public health or welfare.” Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 108(a)(1)(A), 84 Stat. 1676, 1678 (1970) (emphasis added). In 1977, that provision was modified to the current language, in order to better reflect the precautionary goals of the Clean Air Act. See Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685 (1977). With the 1977 amendments, Congress significantly expanded the Act, adding the “Prevention of Significant Deterioration” program and other requirements. See Arnold W. Reitze, Jr., *The Legislative History of U.S. Air Pollution Control*, 36 HOUS. L. REV. 679, 709–10 (1999). However, the basic elements from sections 108, 109 and 110—the listing of pollutants, the criteria documents, the national standards, and the state implementation plans—were not altered.

Greenhouse gases plainly meet two of those three factors. In particular, in the proposed endangerment finding, EPA concludes that six greenhouse gases are collectively an “air pollutant” that cause or contribute to “air pollution” that “may reasonably be anticipated to endanger public health and welfare,”⁷² reflecting the nearly-identical language of both section 202(a)(1) for vehicles and subparagraph A of section 108(a)(1) for the national standards.⁷³ As to subparagraph B, the proposed endangerment finding makes clear that greenhouse gases arise from numerous, diverse mobile or stationary sources, including from millions of cars and other vehicles, as well as from power plants and other industrial sources.⁷⁴ Even if the endangerment finding under section 202(a)(1) will not *automatically* satisfy the first two factors of section 108(a)(1), it certainly will provide the Agency’s own compelling evidence that cannot be ignored.

The dispute centers on subparagraph C’s reference to pollutants for which “air quality criteria had not been issued before December 31, 1970,” but for which EPA “plans to issue air quality criteria under this section.”⁷⁵ On its face, that provision appears to give the Agency discretion to decide whether to initiate the national standards regulatory process, which depends first on the issuance of air quality criteria, for any particular pollutant. That interpretation would be particularly appealing today if, as EPA and many others believe, national standards for greenhouse gases are fundamentally inappropriate. Given the apparent impracticality of those standards, the Agency could explain that it does not plan to issue air quality criteria to begin that standard-setting process, which, under this interpretation of subparagraph C, would end EPA’s obligation to do so. That result, however, appears to conflict with Congress’s intent when it adopted section 108 in 1970—a different context than today, to be sure, but still relevant.

72. Proposed Endangerment Finding, 74 Fed. Reg. at 18,898. The distinction between “air pollutant” and “air pollution” is subtle. In EPA’s words:

The air pollution . . . can be thought of as the total, cumulative stock . . . of greenhouse gases in the atmosphere. The air pollutants, on the other hand, are the emissions of greenhouse gases and can be thought of as the flow that changes the size of the total stock.

Id. at 18,888 n.3.

73. Compare 42 U.S.C. § 7521(a)(1) with *id.* § 7408(a)(1)(A).

74. In particular, EPA concludes that four greenhouse gases are emitted from millions of cars, light duty trucks, motorcycles, buses, and medium-size heavy duty trucks. Proposed Endangerment Finding, 74 Fed. Reg. at 18,905. Those four, along with two other greenhouse gases, are emitted from widespread sources, including electricity generation and other industrial activity. *Id.*

75. 42 U.S.C. § 7408(a)(1)(2006).

B. Legislative History and Case Law: A Mandatory Duty to Regulate

With the statutory amendments of 1970,⁷⁶ Congress fundamentally altered the air pollution policy of this nation, shifting responsibility to the newly created federal Environmental Protection Agency and away from the states for establishing air quality standards that would protect the public health.⁷⁷ Congress was frustrated with the lack of progress under the Air Quality Act of 1967, which the federal government and the states failed almost entirely to implement.⁷⁸ Under the 1967 law, an arm of the Department of Health, Education and Welfare was required to study air pollutants and issue summaries of the scientific data in the form of air quality criteria.⁷⁹ Based on that information, the states were required to establish ambient air quality standards and to develop plans to implement those standards throughout the country.⁸⁰ By late 1970, the federal government had only managed to issue air quality criteria for five pollutants,⁸¹ and only 21 states had submitted standards and implementation plans, none of which had yet received federal approval.⁸²

Thus, in 1970, Congress imposed new, comprehensive mandates on EPA and the states to be met on very tight deadlines. For pollutants for which EPA had already issued air quality criteria, the Agency would have to issue its own *national* air quality standards, which, according to the statute, “shall” be issued “within 30 days” after the enactment of the amendments.⁸³ For other pollutants, the Act provided that EPA “shall issue air quality criteria. . . within 12 months” of listing the pollutant under section 108(a)(1),⁸⁴ and “shall publish” national standards “simultaneously with the issuance of such criteria.”⁸⁵ States were required to submit implementation plans to EPA “within nine months. . . after the promulgation” of a national standard,⁸⁶ and, four months after that, the Agency was required to review and approve the

76. Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (1970).

77. See *Train*, 421 U.S. at 64; Reitze, *supra* note 71, at 701-04.

78. *Id.* at 700-01.

79. *Id.* at 700.

80. *Id.*

81. See Issuance of Air Quality Criteria and Information on Recommended Control Techniques, 34 Fed. Reg. 1988 (1969) (sulfur oxides and particulate matter); Issuance of Air Quality Criteria and Information on Recommended Control Techniques, 35 Fed. Reg. 4768 (1970) (carbon monoxide, photochemical oxidants, and hydrocarbons).

82. Reitze, *supra* note 71, at 701.

83. Clean Air Act Amendments of 1970, Pub. L. No. 91-604, § 109(a)(1)(A), 84 Stat. 1679 (1970).

84. *Id.* § 108(a)(2), 84 Stat. 1678.

85. *Id.* § 109(a)(2), 84 Stat. 1679.

86. *Id.* § 110(a)(1), 84 Stat. 1680.

state plans.⁸⁷ Congress authorized EPA to impose its own regulations for a state under certain circumstances,⁸⁸ and provided for citizen suits to enforce the Agency's mandatory duties.⁸⁹ Finally, states were required to meet the national standards "as expeditiously as practicable but . . . in no case later than three years from the date of approval" of their implementation plans.⁹⁰ The Supreme Court has described that three-year deadline as "central to the Amendments' regulatory scheme,"⁹¹ which was designed to be "a drastic remedy to what was perceived as a serious and otherwise uncheckable problem of air pollution."⁹²

Reading the factors for listing pollutants under section 108(a)(1) literally would defeat this congressional intent to force agency action and protect the public health. If subparagraph C allows EPA to *choose* whether to proceed with the air quality criteria for a particular pollutant, then the whole series of apparently mandatory obligations becomes unhinged. Indeed, the statutory obligations would be circular. Under section 108(a)(2) air quality criteria "shall" be issued once the Agency lists a pollutant, but according to subparagraph C of section 108(a)(1), listing the pollutant would not be required unless EPA decides to issue air quality criteria for that pollutant. With that circularity, the Agency would never have to initiate the regulatory process.

Perhaps the argument would be that Congress wanted to let EPA decide whether this broad, national program would be appropriate for any individual pollutant. After all, there are hundreds, if not thousands, of pollutants in the air, and trying to regulate all of them with national standards would be overwhelming and inappropriate. But the Agency can exercise discretion under subparagraphs A and B, which direct EPA to focus only on those pollutants that are dangerous and widespread, not the less detrimental or less common pollutants. If, however, a pollutant is harmful and widely distributed, then Congress probably did not intend to let EPA bypass the national standards—the entirely new scheme the legislature built into the heart of the

87. *Id.* § 110(a)(2), 84 Stat. 1680.

88. *Id.* § 110(c), 84 Stat. 1681. *See also Train*, 421 U.S. at 64 (after Congress's frustration with the 1967 law, it "reacted by taking a stick to the States in the form of the Clean Air Act Amendments of 1970").

89. *Id.* § 304 (a)(2), 84 Stat. 1706.

90. *Id.* § 110(a)(2)(A), 84 Stat. 1680. As Professor Craig Oren has observed, however, "[t]he 1970 Amendments did not . . . specify what would happen if the standards were not actually met on schedule." Craig N. Oren, *Overview and Critique: The Clean Air Act Amendment of 1990: A Bridge to the Future?*, 21 ENVTL. L. 1817, 1833 (1991) [hereinafter Oren CAA Overview]. Technically, the 1990 Amendments addressed that issue, but Professor Oren pointed out "cracks" in the sanctions system. *Id.*

91. *Union Elec. Co. v. EPA*, 427 U.S. 246, 258 (1976).

92. *Id.* at 256.

Clean Air Act to protect the public from harmful pollution—although that possibility cannot be ruled out entirely.

Similar claims of EPA discretion were rejected more than 30 years ago by the U.S. Court of Appeals for the Second Circuit in *Natural Resources Defense Council (NRDC) v. EPA*, the only decision that has interpreted section 108(a)(1).⁹³ EPA had tried to avoid writing national standards for lead, even though it conceded the pollutant posed a hazard to public health and was emitted from many widespread sources.⁹⁴ Reminiscent of today, the Agency argued that it would be better to address lead pollution through control of vehicle emissions, rather than through state implementation of national standards.⁹⁵ It therefore did not intend to issue any air quality criteria for lead, and thus claimed that the third factor for listing—subparagraph C’s reference to EPA’s “plans” for air quality criteria—was not satisfied.⁹⁶

The Second Circuit dismissed subparagraph C, and held, in light of Congress’s intent in 1970 to impose mandatory obligations, that once EPA finds that a pollutant endangers public health and comes from numerous or diverse sources, satisfying subparagraphs A and B, then the Agency has a nondiscretionary duty to list the pollutant.⁹⁷ Regulating emissions from vehicles did not conflict with regulating the same pollutants through state-implemented national standards; if anything, the two programs were complementary.⁹⁸ Since the Second Circuit’s decision, Congress has not adopted any statutory amendments to overrule it.

Today, many legal analysts rely on *NRDC* to conclude that EPA must list greenhouse gases for the national standards once it finalizes the endangerment finding for vehicle emissions.⁹⁹ Particularly insistent are industry spokespersons. In other circumstances, they usually argue that EPA has discretion *not* to address their facilities, but on greenhouse gases they suggest the Agency cannot avoid the parade of horrors they contend will follow from

93. 545 F.2d 320 (2d Cir. 1976).

94. *Id.* at 324.

95. *Id.*

96. *Id.*

97. *Id.* at 328.

98. *Id.* at 327 (describing the vehicle emission limits as “a supplement to air quality standards, not an alternative to them”).

99. See, e.g., Janine Maney, *Carbon Dioxide Emissions, Climate Change, and the Clean Air Act: An Analysis of Whether Carbon Dioxide Should Be Listed As a Criteria Pollutant*, 13 NYU ENVTL. L.J. 298, 324–25 (2005) (describing *NRDC* and the two factors that trigger the listing obligation); Holly Doremus & W. Michael Hanemann, *Of Babies and Bathwater: Why the Clean Air Act’s Cooperative Federalism Framework Is Useful for Addressing Global Warming*, 50 ARIZ. L. REV. 799, 830 & n.167 (2008) (similar discussion of two factors for listing); Eric Schwartz, Note, *Carbon Dioxide and the Clean Air Act*, 4 CARDOZO PUB. L., POL’Y, & ETHICS J. 779, 813 (2006) (similar discussion of *NRDC*).

the endangerment finding.¹⁰⁰ At first the industry representatives probably hoped to put political pressure on EPA not to make the finding at all. More recently, they may be trying to persuade Congress to protect regulated entities with amendments to the Clean Air Act. With an equally atypical response, state and environmental advocates try to dampen concerns about an aggressive EPA by suggesting that subparagraph C provides the Agency with discretion to avoid national standards, barely acknowledging the *NRDC* decision.¹⁰¹

For both sides, an important lingering question deserves further consideration. If the *NRDC* court correctly held that pollutants must be listed if they satisfy the first two factors of section 108(a)(1), without regard to subparagraph C's reference to EPA's "plans," then why is that third factor in the statute at all? The Second Circuit did not provide a persuasive answer, instead simply dismissing the provision with a convoluted argument about ambiguity in the statute.¹⁰² A more careful analysis of the legislative history reveals a clue.

C. More Persuasive Evidence of a Mandatory Duty: A Possible Scrivener's Error

In 1970, when Congress shifted responsibility for standard-setting from the states to EPA, it also for the first time focused the federal government's efforts on pollutants of *national* significance, rather than those of merely local concern.¹⁰³ Prior to that time, EPA's predecessor agency had assisted the states by studying a whole variety of pollutants.¹⁰⁴ With Congress now

100. See, e.g., Glaser, *supra* note 13, at 52–53; Lewis Testimony, *supra* note 13; Kovacs Testimony, *supra* note 13. See also Juliet Eilperin, *EPA to Propose Regulating Greenhouse Gas Emissions*, WASH. POST, April 17, 2009 (quoting former EPA general counsel, Roger Martella, who suggested the endangerment finding “effectively will assign EPA broad authority over the use and control of energy, in turn authorizing it to regulate virtually every sector of the economy”).

101. See Nichols Testimony, *supra* note 14; Bookbinder Testimony, *supra* note 14. See also Eilperin, *supra* note 100 (quoting statements from David Doniger, the policy director for the Natural Resources Defense Council, that tried to allay concerns about the scope of regulatory action triggered by the endangerment finding).

102. See *infra* text accompanying notes 115–16.

103. Thomas R. Hendershot, Comment, *Federal Pollution Control: Participation by States and Individuals Enhances the National Pollution Control Effort*, 16 VILL. L. REV. 827, 831 (1971) (describing the fundamental shift to nationally uniform standards, away from standards of “regional” interest).

104. For example, in its Second Progress Report to Congress on implementation of the Air Quality Act of 1967, the federal agency responsible at that time, the National Air Pollution Control Administration (part of the Department of Health, Education, and Welfare), indicated that it had issued air quality criteria for “particulate matter[] and the oxides of sulfur,” and was in the process of studying: photochemical oxidants, carbon monoxide, atmospheric fluorides, hydrocarbons, . . . oxides of nitrogen, . . . aldehydes, asbestos, beryllium, certain heavy metals, ethylene,

requiring the Agency not only to conduct the studies but also set the standards, the legislators also expected EPA to focus its efforts on pollutants that, in the words of a key Senate report, “are emitted from widely distributed air pollution sources and [are] generally present in the ambient air *in all areas of the Nation*.”¹⁰⁵ Elsewhere, that same Senate report reiterated that the national standards should be set for pollutants that “are emitted from diverse stationary and moving sources into the ambient air.”¹⁰⁶ This focus, generally reflected in subparagraph B’s reference to “numerous or diverse” sources,¹⁰⁷ would help speed the process of issuing standards—a process that had been far too slow in the past.¹⁰⁸

Subparagraph C, however, appears to reflect Congress’s decision to allow EPA to list some pollutants for regulation with national standards even if they did not satisfy the other two subparagraphs. In particular, the Senate Report explains that EPA would list and regulate “all those pollution agents or combinations of agents which have, or can be expected to have, an adverse effect on health and welfare and which are emitted from widely distributed mobile and stationary sources [reflected in subparagraphs A and B], *and all those for which air quality criteria are planned* [subparagraph C].”¹⁰⁹ At that time, working under the 1967 statute, EPA’s predecessor planned air quality criteria for two dozen pollutants,¹¹⁰ and Congress apparently permitted the

hydrogen sulfide, lead, odors, organic carcinogens, pesticides, and rocket fuel components and their combustion products.

Progress in the Prevention and Control of Air Pollution: Second Report of the Secretary of Health, Education, and Welfare to the Congress of the United States in Compliance with Public Law 90-148 The Air Quality Act of 1967, S. Doc. No. 22, at 28 (1969) [hereinafter Second Progress Report]. That report provided information about the federal government’s efforts under the Air Quality Act of 1967 for the period from May 1968 to January 1969. *Id.* at v (preface).

105. S. Rep. No. 91-1196, National Air Quality Standards Act of 1970: Report of the Committee on Public Works United States Senate Together with Individual Views to Accompany S. 4358, 91st Cong., 2d Sess. at 9 (Sept. 17, 1970) (emphasis added).

106. *Id.* at 18.

107. 42 U.S.C. § 7408(a)(1)(B). *See also* Lisa Heinzerling, The Clean Air Act and the Constitution, 20 ST. LOUIS U. PUB. L. REV. 121, 134–36 (2001) (emphasis added):

[F]or the first time, Congress *limited* the category of air pollutants to which the air quality standards would apply. The 1970 Amendments provided that the standards would be set only for pollutants listed by EPA, and that EPA would list a pollutant only if it “has an adverse effect on public health or welfare” and comes from “numerous or diverse” sources.

108. S. Rep. No. 91-1196, *supra* note 105, at 9 (“This proposed legislation would require *acceleration* of the issuance of air quality criteria and information on control techniques as an integral part of the system for adoption of ambient air quality standards and implementation plans.”) (emphasis added).

109. *Id.* at 54 (emphasis added).

110. Just as debate was beginning on the 1970 amendments, the National Air Pollution Control Administration (NAPCA) sent a report to Congress setting out its year-by-year plans for air quality criteria from 1970 through 1975:

Agency to regulate them under the 1970 Act's broad scheme even if they were not so harmful or widely-disbursed as to be of truly national significance. To be sure, it is not entirely clear why Congress would do so, especially when it envisioned that some of the more localized pollutants would be regulated under a different, narrower program, but the legislature may very well have been deferring to EPA's expertise, authorizing it to decide that pollutants already under review warranted national standards.¹¹¹ This interpretation would *extend* the national standards program to cover more pollutants, whereas the only other possible interpretation, offered by EPA, would *shrink* the coverage by allowing EPA to bypass national standards even for pollutants that are endangering public health and welfare and are distributed widely throughout the United States. In light of Congress's strong interest in strengthening the protections for public health and welfare after the failures of the 1967 law, the new expansive interpretation offered here seems more plausible.

In early 1970, NAPCA plans to publish air quality criteria for carbon monoxide, photochemical oxidants, and hydrocarbons. Air quality criteria for nitrogen oxide, lead, fluorides, and polynuclear organic compounds are scheduled for publication early in 1971. . . . NAPCA currently intends to publish criteria for odors (including toxicological and corrosion aspects of hydrogen sulfide), asbestos, hydrogen chlorides, beryllium, and chlorine gas in 1972. Scheduled for publication in 1973 are criteria documents on arsenic, nickel, and vanadium and their compounds. Criteria scheduled for issuance in 1974 will cover barium, boron, chromium (including chromic acid), mercury, and selenium and their compounds. Air quality criteria for pesticides and radioactive substances are scheduled for publication in 1975.

Progress in the Prevention and Control of Air Pollution: Third Report of the Secretary of Health, Education, and Welfare to the Congress of the United States in Compliance with Public Law 90-148 The Air Quality Act of 1967, S. Doc. No. 91-64, at 2 (1970) [hereinafter Third Progress Report].

111. In the Senate report, Congress identified some localized pollutants as more appropriate for a program that authorized EPA to set "standards of performance" for new sources (then numbered section 113, later section 111). S. Rep. No. 91-1196, *supra* note 105, at 18. That list represented only a subset of the pollutants EPA had under study at the time. Congress also identified an even smaller subset of substances as appropriate for the "hazardous" pollutant standards. *Id.* at 20.

As it turned out, EPA never exercised its separate listing authority under subparagraph C. Yet, that is not saying very much because EPA has only listed *two* new criteria pollutants since 1970. One was nitrogen oxides, which had been studied pursuant to the 1967 law, and which EPA declared to be harmful and widespread very shortly after passage of the 1970 amendments. Air Pollution Prevention and Control: List of Air Pollutants; Issuance of Air Quality Criteria, 36 Fed. Reg. 1515 (1971). The other was lead, which the Agency was ordered to list by the *NRDC* decision. 545 F.2d at 322.

Thus, section 108(a)(1) of the Clean Air Act probably contains a scrivener's error not recognized until now, with subparagraph C meant to be a separate basis for listing a pollutant, not the third of three factors. That intent would have been reflected in the statutory changes highlighted below:

- (1) For the purpose of establishing national [] ambient air quality standards, the [EPA] Administrator shall within 30 days after December 31, 1970, publish, and shall from time to time thereafter revise, a list which includes each air pollutant—
- (A) (1) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; and
- (2) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; or
- (B) for which air quality criteria had not been issued before December 31, 1970, but for which he plans to issue air quality criteria under this section.

With only those few, very minor changes, Congress could have avoided the circularity of sections 108(a)(1) and 108(a)(2) that eviscerates any requirement for EPA to list a pollutant and begin the standard-setting process.

In similar circumstances, courts have recognized scrivener's errors in the Clean Air Act. For example, in the *Appalachian Power* case, the U.S. Court of Appeals for the D.C. Circuit concluded that section 126 of the Clean Air Act contained a scrivener's error because reading it literally would have created a "circular cross-reference,"¹¹² very similar to the circularity that would be created here. Moreover, the court rejected the argument that with one word Congress intended a substantial alteration of the basic interstate pollution program in the Clean Air Act.¹¹³ Similarly here, it is hard to fathom that with an "and" rather than an "or" between subparagraphs B and C, Congress intended to give EPA permission to avoid the entire national standards scheme believed to be so vital to protecting the public health and welfare in 1970.¹¹⁴

The *NRDC* court makes no mention of the possibility of a scrivener's error. Instead, the Second Circuit, describing section 108 as ambiguous,¹¹⁵

112. *Appalachian Power Co. v. EPA*, 249 F.3d 1032, 1042 (D.C. Cir. 2001).

113. *Id.*

114. *See also* *Env'tl. Def. Fund v. EPA*, 82 F.3d 451, 468-469 (D.C. Cir. 1996) (rejecting literal interpretation of section 176(c)(1) of the Clean Air Act because it "would actually frustrate the congressional intent").

115. *NRDC*, 545 F.2d at 327.

declared that subparagraph C—with its reference to EPA’s “plans”—somehow related only to the initial list EPA adopted in early 1971 and not to the revised list under review in 1976.¹¹⁶ But the statutory language makes no such distinction. Moreover, by the court’s reasoning, EPA could have avoided the very first list and the regulatory program arising from it simply by claiming that the Agency did not “plan” to issue air quality criteria for any pollutants—a result plainly inconsistent with congressional intent. Nevertheless, while the Second Circuit’s reasoning was flawed, its conclusion that EPA must list a pollutant if it satisfies subparagraphs A and B of section 108(a)(1), without regard to subparagraph C, seems sound.

In an attempt to avoid the implications of *NRDC*, EPA notes that the opinion was issued before the U.S. Supreme Court’s famous *Chevron* decision.¹¹⁷ That matters little, however, because the reasoning of *NRDC* itself is not working against EPA so much as the newly-identified scrivener’s error in the statute. And a scrivener’s error does not create a statutory ambiguity deserving *Chevron* deference. Instead, as the D.C. Circuit has explained, if the statutory language does not reflect “the unambiguously expressed intent of Congress,” then an agency “may deviate . . . from the statute” but only so far as necessary “to protect congressional intent,” with the court’s “review of the agency’s deviation from the statutory text [occurring] under the first step of the *Chevron* analysis.”¹¹⁸

In sum, because the legislative history suggests a scrivener’s error, EPA’s obligation to list a pollutant may only depend on it endangering public health or welfare and arising from numerous or diverse sources. When EPA issues the final endangerment finding for vehicle emissions, the Agency will have information sufficient to demonstrate those conditions for the six greenhouse gases addressed in that finding.¹¹⁹ As a result, EPA would appear to be obligated to list those six pollutants and issue national standards for them.¹²⁰

116. *Id.* at 325 (“We agree with [the district court judge] that it is to the initial list alone that the phrase ‘but for which he plans to issue air-quality criteria’ is directed.”). The district court’s reasoning was very terse; it simply quoted the same language from the Senate report relied on here, and then merely declared – without support from the report itself – that subparagraph C only relates to the initial list. *See* *Natural Res. Def. Council v. EPA*, 411 F. Supp. 864, 868 (S.D.N.Y. 1976).

117. *Advance Notice*, 73 Fed. Reg. at 44,477 & n.229 (citing *Chevron v. Natural Res. Def. Council*, 467 U.S. 837 (1984)).

118. *Mova Pharm. Corp. v. Shalala*, 140 F.3d 1060, 1068 (D.C. Cir. 1998) (internal quotation marks and citations omitted).

119. *See supra* text accompanying notes 72–74.

120. The requirement that EPA only publish revisions to the list “from time to time,” 42 U.S.C. § 7408(a), does not alter that conclusion. Any court agreeing that the endangerment finding compels EPA to list greenhouse gases for national standards might grant the Agency a reasonable amount of time to conduct the listing rulemaking, but almost certainly will not allow EPA to delay indefinitely.

Still, that interpretation rests entirely on the legislative history from 1970, when Congress felt the need to kick start the regulatory process after years of frustration. Nearly 40 years later, a court might not give that history much weight if broadly-applicable standards implemented by the states appear to be fundamentally inappropriate in the special circumstances of greenhouse gases. Instead, the court would simply read subparagraph C's reference to EPA's "plans" for air quality criteria literally, thereby granting the Agency discretion to decide whether to list and regulate those pollutants. Thus, more careful consideration must be given to EPA's arguments about the conflict between greenhouse gases and this prominent Clean Air Act program, especially in light of the skepticism on EPA's climate change record signaled by the Supreme Court in the *Massachusetts* decision.

V. THE *MASSACHUSETTS* DECISION AND SKEPTICISM ABOUT EPA'S CHARACTERIZATION OF THE NATIONAL STANDARDS FOR GREENHOUSE GASES

In *Massachusetts*, as noted earlier, the Supreme Court reversed the Bush Administration's decision not to make an endangerment finding for greenhouse gas emissions from vehicles.¹²¹ EPA claimed that Congress had entirely precluded regulation of those pollutants under the Clean Air Act.¹²² The Agency argued, for example, that when Congress amended the Act in 1990, the legislators were well aware of global climate change but only authorized research on the topic, and rejected a proposed amendment that would have set restrictions on greenhouse gases.¹²³ EPA also noted the ineffectiveness of any U.S. emissions reductions under the Act, which would be offset by increased emissions in other countries.¹²⁴ Moreover, even if the statute authorized regulation of greenhouse gases, the Agency declined to exercise that discretion because of the scientific uncertainty surrounding global climate change¹²⁵ and the "piecemeal approach" of the Act's programs,¹²⁶ which conflicted with domestic and international efforts underway by the Bush Administration.¹²⁷ The Court rejected all of EPA's arguments, concluding the

121. *Massachusetts*, 549 U.S. at 535.

122. Petition Denial, 68 Fed. Reg. at 52,925 (citing memorandum from General Counsel Robert Fabricant).

123. *Id.*

124. *Id.* at 52,927 (a national standard "could not be obtained by any area of the U.S. until such a standard were obtained by the entire world as a result of emission controls implemented in countries around the world").

125. *Id.* at 52,930 ("The science of climate change is extraordinarily complex and still evolving.").

126. *Id.* at 52,931.

127. *Id.*

Clean Air Act plainly covers greenhouse gases, and ordered the Agency to reconsider its decision not to make the endangerment finding.¹²⁸

In the July 2008 Advance Notice exploring how to address greenhouse gases, EPA under President Bush continued to offer those same basic arguments about scientific uncertainty,¹²⁹ the impossibility of making meaningful domestic reductions of these global pollutants,¹³⁰ and the limits of a “piecemeal” solution (now referred to as a “patchwork of [state] regulations”¹³¹)—not, as before, to demonstrate that greenhouse gases should be avoided entirely under the Clean Air Act, but to argue in particular that nationwide standards, to be implemented by the states, are especially inappropriate.¹³² The Obama Administration has not disavowed any of those arguments and has not shown any greater enthusiasm for regulating greenhouse gases under the broadly-applicable national standards.¹³³

Because those standards serve an even more central role under the Clean Air Act than the vehicle emission limits at issue in *Massachusetts*, the judicial skepticism evident in that case may be all the more prevalent in a review of the Agency’s efforts to avoid the national standards. Thus, rather than merely rehashing its old claims, EPA will have to present much more persuasive arguments, delving into the details of the interplay between the Act and greenhouse gases. Yet, under closer scrutiny, some of its claims may not survive.

For example, although the future effects of global climate change are uncertain, EPA frequently works on the cutting edge of scientific knowledge, with no certainty about the effects of exposure to a pollutant, and simply uses its best judgment to make legally defensible national standards.¹³⁴ The Agency even manages to do so with some pollutants that, like greenhouse gases, do not appear to have any threshold below which no adverse effects occur.¹³⁵

128. 549 U.S. at 528, 535.

129. Advance Notice, 73 Fed. Reg. at 44,479.

130. *Id.* at 44,481, 44,485.

131. *Id.* at 44,483.

132. See *supra* text accompanying notes 49–67.

133. Instead, the Obama Administration is willing to regulate emissions of greenhouse gases from new vehicles and from certain large, stationary sources. See *infra* text accompanying notes 167–173. In addition, the Administration supports efforts to pass comprehensive cap and trade legislation. See *Obama Asks Congress for Cap-and-Trade Bill; Supporters See Renewed Prospect of Passage*, 40 Env’t Rep. (BNA) 417 (February 27, 2009).

134. See, e.g., *Lead Indust. Ass’n, Inc. v. EPA*, 647 F.2d 1130, 1160–1161 (D.C. Cir. 1980) (upholding EPA’s national standards for lead even though “the issues involved are at the ‘very frontiers of scientific knowledge’”).

135. See, e.g., *Am. Trucking Ass’ns v. EPA*, 283 F.3d 355, 359–360 (D.C. Cir. 2002) (upholding national standards for ozone, which is a non-threshold pollutant, and for particulate matter, which may be non-threshold). See generally Joseph M. Feller, *Non-Threshold Pollutants and Air Quality Standards*, 24

The proposed endangerment finding for greenhouse gases from vehicles, in fact, suggests that EPA will not be stymied by the scientific uncertainty. There the Agency acknowledged the complex science of global climate change, noting, as the D.C. Circuit has written, that “[m]an’s ability to alter his environment has developed far more rapidly than his ability to foresee with certainty the effects of his alterations.”¹³⁶ EPA went on to document the harms greenhouse gases pose to public health and welfare in the United States, including respiratory illnesses from poor air quality, deaths from more intense heat waves, and the spread of food- and water-borne illnesses.¹³⁷ To be sure, in the proposed endangerment finding EPA was not trying to select a precise level of greenhouse gases that would “protect the public health” with “an adequate margin of safety,” as required for the national standards.¹³⁸ Still, whether greenhouse gases and their long-term impacts are so completely different from conventional pollutants that the task is not merely difficult but unworkable remains unclear.

EPA’s second argument about the “patchwork of regulations” also is weak, because the Agency has tools to minimize the fractured nature of state programs. In particular, while EPA would not be able to *impose* a federal cap and trade program on the states, it has the ability to set up a *model* cap and trade program and to create incentives to encourage the states to participate in that federal scheme, as it did with a rule for conventional pollutants, the NOx SIP Call.¹³⁹ In addition, even without federal aid, many states have managed to coordinate their efforts, including the Regional Greenhouse Gas Initiative

ENVTL. L. 821 (1994).

136. Proposed Endangerment Finding, 74 Fed. Reg. at 18,890 (quoting Ethyl Corp. v. EPA, 541 F.2d 1, 6 (D.C. Cir. 1976)).

137. *Id.* at 18,901.

138. 42 U.S.C. § 7409(b)(1).

139. See Patricia Ross McCubbin, *Michigan v. EPA: Interstate Ozone Pollution and EPA’s “NOx SIP Call,”* 20 ST. LOUIS U. PUB. L. REV. 47 (2001). More recently, EPA tried unsuccessfully to adopt a federally-coordinated cap and trade program, this time for both ozone and particulate matter, in its Clean Air Interstate Rule (CAIR). See Rule to Reduce Interstate Transport of Fine Particulate Matter and Ozone (Clean Air Interstate Rule); Revisions to Acid Rain Program; Revisions to the NOx SIP Call, 70 Fed. Reg. 25,162 (2005). The D.C. Circuit initially vacated that rule, finding that EPA had exceeded its statutory authority and made arbitrary decisions, but the court subsequently modified its opinion to only remand the rule, rather than vacate it. *North Carolina v. EPA*, 531 F.3d 896 (D.C. Cir.), *modified on reh’g in part*, 550 F.3d 1176 (D.C. Cir. 2008). While the *North Carolina* decision might at first appear to be the death knell for any cap and trade program to implement national standards, in fact, as I argue elsewhere, the ruling continues to allow for such a program, but imposes certain ambiguous restrictions on it. See Patricia Ross McCubbin, *Cap and Trade Programs under the Clean Air Act: Lessons from the Clean Air Interstate Rule and the NOx SIP Call* (forthcoming).

in the Northeast¹⁴⁰ and the Western Climate Initiative.¹⁴¹ And even *uncoordinated* state programs have benefits. Congress established a system of cooperative federalism under the Clean Air Act that allows states to experiment with different regulatory tools,¹⁴² which likely would be as useful for greenhouse gases as for conventional pollutants.¹⁴³

Finally, as for EPA's concern that the states could not meet a national standard given all the other global emissions, perhaps EPA, rather than setting an allowable *ambient concentration*, could proscribe a total number of tons of greenhouse gases that must be reduced here in United States—for example, requiring a 25% reduction from 1990 emission levels nationwide by the year 2020.¹⁴⁴ The Agency, in fact, hints at that possibility when it writes that perhaps “viable legal approaches could be identified for limiting the control burden on U.S. sources, such as *by defining a U.S. share of emissions reductions needed to attain a [national standard]*.”¹⁴⁵ The effectiveness of

140. See GLOBAL CLIMATE CHANGE AND U.S. LAW 321–326 (Michael P. Gerrard ed., American Bar Association 2007) (describing the cap and trade program of the Northeast).

141. See, e.g., *Western Climate Initiative Proposes Mandatory Emissions Reporting Rules*, 40 Env't Rep. (BNA) 1114 (May 15, 2009) (describing collaboration between seven Western states and four Canadian provinces).

142. See *Connecticut v. EPA*, 696 F.2d 147, 151 (2d Cir. 1982); Hope M. Babcock, *Dual Regulation, Collaborative Management, or Layered Federalism: Can Cooperative Federalism Models From Other Laws Save Our Public Lands?*, 3 HASTINGS W.-N.W. J. ENVTL. L. & POL'Y 193, 207 (Winter 1996) (describing models of cooperative federalism that “allow[] for state experimentation and innovation”).

143. See Doremus and Hanemann, *supra* note 99, at 823 (arguing that “the state planning and implementation framework used to achieve the [national standards] is an excellent fit for addressing global warming” because, among other things, it can “help states learn from one another’s successes and failures”). Professors Doremus and Hanemann, however, advocate for *Congress*, rather than EPA, setting the national standard, and they suggest the standard should be “an emission target” and not “an atmospheric level target.” *Id.* at 821–22. See also Thomas E. Peterson, Robert B. McKinstry, Jr. & John C. Dernbach, *Developing a Comprehensive Approach to Climate Change Policy in the United States That Fully Integrates Levels of Government and Economic Sectors*, 26 VA. ENVTL. L.J. 227 (2008) (arguing for Congress to set a national standard, but allowing a continued role for the states in implementing that standard).

144. The Intergovernmental Panel on Climate Change, convened under the auspices of the United Nations, recommends a 25% to 40% reduction from 1990 levels by 2020, and is moving toward an aggressive 80% to 95% reduction target by the year 2050. See *IPCC Official Says Industrialized Nations Must Cut Emissions Up To 95 Percent*, 39 Env't Rep. (BNA) 1917 (September 26, 2008). During his campaign, then-candidate Obama called for emissions to be reduced to 1990 levels by the year 2020, with an 80% reduction below those levels by 2050. See *Obama Asks Congress for Cap-and-Trade Bill; Supporters See Renewed Prospect of Passage*, 40 Env't Rep. (BNA) 417 (February 27, 2009). More recently, however, the Administration and legislators on Capitol Hill have used the higher greenhouse gas levels of the year 2005, not 1990, as the baseline against which to measure emission reductions. *Obama Plan Uses 2005 Emissions Baseline; Reductions in Line with Recent Legislation*, 40 Env't Rep. (BNA) 474 (March 6, 2009).

145. Advance Notice, 73 Fed. Reg. at 44,485 (emphasis added).

state efforts could then be measured without the background noise of emissions from other nations.¹⁴⁶

Even if that were not possible, air quality in the states might still meet the national standard if it were set well *above* current greenhouse gas concentrations, which are estimated at 380 to 400 ppm.¹⁴⁷ If EPA set a limit of 450 ppm, for example, as recommended by some scientists,¹⁴⁸ and if global concentrations continued to increase by the current average of roughly 2 ppm per year,¹⁴⁹ then states could comply for more than two decades.

If states are meeting a national standard, the Clean Air Act imposes only a few obligations on them. Usually the most notable requirement is the Prevention of Significant Deterioration (PSD) program, which requires new or modified sources to install the “best available control technology.”¹⁵⁰ That mandatory technology, however, will *not* be triggered initially by a national standard for greenhouse gases. Rather, because of a particular provision in the Clean Air Act, that requirement will be triggered *first* by EPA’s promulgation of greenhouse gas limits for new vehicles under section 202, regardless of whether the Agency ever sets a national standard for those pollutants.¹⁵¹

146. Whether each state would be measured against its own 1990 levels or would share in some type of allocation of the nation’s total emissions would have to be worked out. In addition, as with all domestic emission reductions, there is a concern that U.S. industries will move operations to nations that do not impose comparable emission limits. One goal of any Kyoto II international agreement is to address such “emissions leakage.” See, e.g., Jonathan B. Wiener, *Think Globally, Act Globally: The Limits of Local Climate Policies*, 155 U. PA. L. REV. 1961, 1967–1968 (2007) (discussing emissions leakage); Patricia Ross McCubbin, *China and Climate Change: Domestic Environmental Needs, Differentiated International Responsibilities, and Rule of Law Weaknesses*, 3 ENVTL. & ENERGY L. & POL’Y F. 200, 227 (2008) (acknowledging concern about manufacturers’ incentives under different emissions caps for China in any Kyoto II agreement).

147. Pearce, *supra* note 52, at 6.

148. *Id.*

149. David Adam, *World CO2 Levels at Record High, Scientists Warn*, The Guardian (May 12, 2008), available at <http://www.guardian.co.uk/environment/2008/may/12/climatechange.carbonemissions> (last visited July 3, 2009) (referring to an annual average rise, since the year 2000, of 2.1 ppm).

150. 42 U.S.C. § 7475(a)(4). See generally Craig N. Oren, *Prevention of Significant Deterioration: Control-Compelling Versus Site Shifting*, 74 IOWA L. REV. 1 (1998) [hereinafter Oren PSD].

151. The BACT requirement applies to any “pollutant subject to regulation” under the Clean Air Act. 42 U.S.C. § 7475(a)(4). And it applies whenever a new or modified source is built in an area that is meeting even one national standard, regardless of which pollutant that standard addresses. Thus, the BACT requirement applies nationwide because all parts of the country are in attainment of at least one of the other national standards for particulate matter, ozone, and so on. See Oren PSD, *supra* note 150, at 19. Hence, even without a national standard for greenhouse gases, when EPA promulgates greenhouse gas limits for new vehicles under section 202, the gases will be “subject to regulation,” and the PSD program will kick into force for greenhouse gases throughout the country. Advance Notice, 73 Fed. Reg. at 44,500 (the “PSD program requirements would become applicable immediately upon the effective date of the first regulation requiring [greenhouse gas] control under the act.”) Industry is very concerned about this possibility, and EPA is exploring whether it could use its authority for *de minimis* exceptions to narrow the scope of the PSD program. *Id.* at 44,506

Nevertheless, the adoption of a national standard *will* trigger a few other aspects of the PSD program, including the requirement for new or modified sources to conduct modeling to demonstrate that they “will not cause, or contribute to, air pollution in excess of any” national standard or any “increment” EPA might assign to protect that national standard.¹⁵² But all in all, this scenario—with states complying with a national greenhouse gas standard of 450 ppm—would not appear to impose undue burdens on regulated entities or the states.¹⁵³

Perhaps, however, EPA would be required by the science or the law to adopt a much more stringent national standard. If the Agency set the limit as low as 350 ppm, as urged by some scientists,¹⁵⁴ then even the most draconian state emissions reductions would not bring U.S. air quality into line, because of the continuing contributions from other nations. The question then becomes why that, in fact, makes a national standard inappropriate for greenhouse gases. Although it may seem odd to suggest that EPA adopt a target that cannot be met, the advantages and disadvantages of such a scheme must be considered more carefully.

To begin, states that fail to achieve a national standard—referred to as “nonattainment” in Clean Air Act parlance—must comply with special statutory provisions. Of particular importance, no new “major” sources can be built in a nonattainment area without (a) installing the most sophisticated pollution control equipment,¹⁵⁵ and (b) obtaining offsetting reductions of emissions from facilities already in the area.¹⁵⁶ Currently under this “new source review” program, a source is generally considered “major” if it has the potential to emit 100 tons per year,¹⁵⁷ which, for greenhouse gases, is quite low. Even a new large apartment building, with greenhouse gases emitted from its furnace,

(discussing *Alabama Power v. EPA*, 636 F.2d 323 (D.C. Cir. 1980)).

152. See 42 U.S.C. § 7475(a)(3); Advance Notice, 73 Fed. Reg. at 44,498.

153. See Advance Notice, 73 Fed. Reg. at 44,482 (referring to “a much shorter list of requirements” that would apply if the country were attaining a national standard and summarizing two other requirements).

154. Hansen et al., *Target Atmospheric CO₂: Where Should Humanity Aim?* (2008), available at http://pubs.giss.nasa.gov/abstracts/2008/Hansen_etal.html (last visited July 2, 2009).

155. 42 U.S.C. § 7503(a)(2) (requiring “the proposed source . . . to comply with the lowest achievable emission rate”).

156. *Id.* § 7503(a)(1)(A), (c).

157. As EPA explains, the thresholds for new “major” sources vary “depending on the pollutant and the nonattainment classification” and may be less than 100 tons per year in some areas. Advance Notice, 73 Fed. Reg. at 44,498. “Major modifications” of sources must also undergo preconstruction review. See *id.* (discussing the thresholds for “major modifications”).

would emit well above that threshold,¹⁵⁸ and thus would be subject to these stringent requirements, along with schools, hospitals and many other facilities very different from the industrial plants typically envisioned in this scheme. Although such broad coverage would substantially reduce overall greenhouse gas levels, it might be difficult to administer and might impose excessive costs on relatively small sources that cannot benefit from economies of scale. For these reasons, EPA is exploring whether it could focus only on larger sources using, for example, its previously-recognized authority to establish *de minimis* exceptions to the new source review program.¹⁵⁹ Such a tailored approach, if legally viable, would provide environmental benefits while reducing the regulatory and administrative burdens that might otherwise make this option untenable.

Nevertheless, because domestic action alone will not bring the states into compliance with a national standard, they will face potentially significant sanctions, including the loss of federal funds for certain highway construction projects.¹⁶⁰ The effect of the sanctions, however, could be limited. Under a special provision of the Clean Air Act, if a state could comply “but for emissions emanating from outside the United States,” then EPA can approve the jurisdiction’s regulatory plan and avoid the sanctions.¹⁶¹ Even if for some reason a state could not make that special showing, sanctions only apply 18 months after the Agency “finds” that the state has failed to submit an approvable plan,¹⁶² so that EPA could provide protection by delaying that

158. *Id.* (predicting that even “a very small commercial furnace,” if operated year-round, would emit 250 tons per year of carbon dioxide). As EPA notes, carbon dioxide “emissions from many source types are *orders of magnitude* greater than for currently regulated pollutants.” *Id.* (emphasis added). It gives the example of “a hypothetical 500 [megawatt] electric utility boiler firing a bituminous coal,” which could “emit approximately 4 million tons of [carbon dioxide] per year.” *Id.* at 44,499 (emphasis added).

159. *Id.* at 44,506 (discussing *Alabama Power v. EPA*, 636 F.2d 323 (D.C. Cir. 1980)). Much of EPA’s discussion is focused on the PSD program because, as noted earlier, that new source review program will be triggered once EPA sets the emission limits for vehicles. *See supra* text accompanying notes 150–151. However, EPA indicates that its inquiry is applicable also “by extension [to] the nonattainment [new source review] permitting requirements if a [national standard] is set for [greenhouse gases].” Advance Notice, 73 Fed. Reg. at 44,506.

160. 42 U.S.C. § 7509(b)(1). The other sanction is an increase in the amount of “offsets” that new or modified sources must obtain. *Id.* § 7509(b)(2). In theory, states also face the risk of EPA imposing a federal implementation plan, but that option has never been politically viable. *See Oren CAA Overview, supra* note 90, at 1840–41 (giving example of “EPA’s judicially forced implementation of transportation control plans” in California, which turned into “a public relations disaster for the Agency that damage[d] its political credibility”).

161. 42 U.S.C. § 7509(a) (2006). *See* Christopher T. Giovinazzo, *Defending Overstatement: Symbolic Clean Air Act and Carbon Dioxide*, 30 HARVARD ENVTL. L. REV. 99, 154 (2006) (discussing section 179B of the Clean Air Act).

162. 42 U.S.C. § 7509(a)(1).

finding or not making it at all, which would not be surprising given the Agency's reluctance generally, in the face of political realities, to impose any of these sanctions.¹⁶³

In short, it appears that the states could possibly avoid serious sanctions for failing to meet the national standard, while the emission control measures—especially if they could be tailored to larger sources—would aid efforts to reduce U.S. contributions to climate change. While the Clean Air Act was not written with global climate change in mind, statutes are often stretched to address new circumstances, and regulating greenhouse gases under the national standards may turn out to be an appropriate application of the Act, even if at first it does not appear so. This analysis, however, only addresses a few of the many statutory provisions governing nonattainment states,¹⁶⁴ and a more complete consideration of the environmental and economic ramifications of those provisions will be addressed in a subsequent article. The point here is simply that the connection between greenhouse gases and the national standards raises far more issues than the Agency suggests. With a fuller explanation, EPA might very well be able to demonstrate that broadly-applicable standards cannot be issued or implemented in the unique context of global climate change. But without that, EPA will have a more difficult time convincing a court that the Agency need not list greenhouse gases for regulation under the state-implemented scheme.

One other factor may be working in EPA's favor. The Obama Administration's willingness to address greenhouse gases under *other* provisions of the Clean Air Act stands in sharp contrast to the Bush Administration's refusal to impose any mandatory emissions limits whatsoever. In the *Massachusetts* decision, EPA tried unsuccessfully to argue that President Bush offered a "comprehensive approach" to global climate change,¹⁶⁵ but, in fact, at stake were only voluntary measures to improve energy efficiency and reduce emissions, as well as research programs to study climate change further and to develop fuel-efficient vehicles and other technological innovations.¹⁶⁶

163. As Professor Oren observes, this reluctance is beneficial; otherwise EPA might "carry out congressionally specified tasks, even those of doubtful wisdom or feasibility." Oren CAA Overview, *supra* note 90, at 1840. Nevertheless, he notes that citizen suits can force EPA to perform its nondiscretionary duties, leaving the Agency in a difficult position politically. *Id.* at 1841.

164. Nonattainment areas, for example, must develop certain "contingency measures," demonstrate "transportation conformity," and require existing sources to use "Reasonably Available Control Measures." *See* Advance Notice, 73 Fed. Reg. at 44,480–81. In addition, under section 126 of the Clean Air Act, downwind states may petition EPA to impose emission limits on sources in upwind states that are contributing to nonattainment downwind. 42 U.S.C. § 7426(b) and (c).

165. 549 U.S. at 513 (quoting Petition Denial, 68 Fed. Reg. at 52,932).

166. *Id.* (discussing Petition Denial, 68 Fed. Reg. at 52,932–33).

Today the Obama Administration is actively regulating greenhouse gases. Obviously the proposed endangerment finding represents one important step that, once finalized, will be followed by emission limits for new vehicles.¹⁶⁷ In addition, EPA recently proposed a new rule requiring large facilities to report their annual greenhouse gas emissions, which will help the Agency design emission limits for those stationary sources in the future.¹⁶⁸

Those limits would likely be set under section 111 of the statute, which authorizes the Agency to establish “standards of performance” for new and existing sources.¹⁶⁹ EPA would prefer this approach because it believes the Agency can target “those source categories with the largest [greenhouse gas] emissions and reduction opportunities”¹⁷⁰ and adopt a cap and trade program to govern them.¹⁷¹ It is exploring the creation of “super-categories,” which would allow it to regulate, for example, “all sources emitting [greenhouse gases] through a stack as a result of combustion processes.”¹⁷² In the meantime, EPA is assessing greenhouse gas limits from three specific categories: steam-generating boilers at power plants, Portland cement plants, and petroleum refineries.¹⁷³

The section 111 program can be implemented far more quickly than the national standards. The adoption and implementation of the latter can easily take more than a decade,¹⁷⁴ whereas EPA indicates that it could issue some of

167. See *EPA Proposed Rule on Vehicle Emissions Could Be Issued by August, Jackson Says*, 40 Env't Rep. (BNA) 1417 (June 19, 2009) (EPA Administrator Jackson explaining that vehicle limits will be proposed as early as August 2009, but will not be completed until the final endangerment finding is released).

168. Mandatory Reporting of Greenhouse Gases; Proposed Rule, 74 Fed. Reg. 16,448 (April 10, 2009).

169. 42 U.S.C. § 7411 (2006). In Clean Air Act parlance, these are referred to as “new source performance standards” (NSPS) and existing source “emission guidelines.” See Advance Notice, 73 Fed. Reg. at 44,486–87.

170. *Id.* at 44,489. While in the Advance Notice EPA tried not to clearly signal which option it prefers, the technical support documents accompanying that Notice, as well as conversations with industry and EPA officials, strongly suggest that the Agency views the section 111 alternative as the most viable. See, e.g., Martella, *supra* note 7 (describing how EPA’s technical support documents “outline[] with some specificity how it might enact [section 111] standards” for various industrial sectors).

171. Advance Notice, 73 Fed. Reg. at 44,490. See also *id.* at 44,515 (discussing viability of a cap and trade program under section 111). Many states and environmental organizations strongly disagree that the Agency can adopt a cap and trade program under section 111, and they challenged EPA’s first attempt to do so, in its Clean Air Mercury Rule. The D.C. Circuit struck down that rule on other grounds. *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir.), *reh’g denied* (2008). Therefore, the legality of such a program remains unclear.

172. Advance Notice, 73 Fed. Reg. at 44,488 & n.245.

173. *Id.* at 44,399, 44,487 & n.243.

174. See *id.* at 44,483–84 (describing all the various steps required to adopt and implement a national standard, each of which can take a year or two).

the section 111 standards in as little as two years.¹⁷⁵ New sources would have to comply right away,¹⁷⁶ and states typically give existing sources no more than three years to comply.¹⁷⁷

One disadvantage, however, of the section 111 scheme is its relatively narrow scope. To implement a national standard, states might try to control all manner of sources—everything from home appliances, lawn mowers, outboard motors and other small combustion sources to larger facilities, as well as cars, trucks and other vehicles. Typically the section 111 program, by contrast, only covers certain types of industrial facilities and not such a variety of small and large commercial and noncommercial sources, although EPA’s plans for “super-categories” might broaden the scope somewhat.

Moreover, the section 111 standards may be less restrictive. That provision allows EPA to scale back emission control requirements if further reductions would be too costly,¹⁷⁸ whereas EPA can only base the national standards on the benefits to public health and welfare, and cannot take into account the costs that will be incurred to reduce emissions.¹⁷⁹ Even though the states can consider those costs when designing their implementation plans,¹⁸⁰ their ability to adopt relaxed standards is limited by the need ultimately to meet EPA’s stringent requirements. Whether these limitations diminish the usefulness of the section 111 program remains to be seen.

In sum, the *Massachusetts* decision suggests courts will give close scrutiny to EPA’s arguments opposing broadly-applicable, national standards for greenhouse gases. With a thorough explanation of the interplay between the standards and those pollutants, the Agency might be able to overcome judicial skepticism, but, at least as an initial matter, its claims seem vulnerable. State implementation of national standards, central to the Clean Air Act, does not appear to be entirely impractical for greenhouse gases. In addition, while the Obama Administration intends to regulate greenhouse gases more aggressively than the Bush Administration, its preferred approach may not have the same scope or stringency as the program it seeks to avoid.

175. *Id.* at 44,489.

176. *See* 42 U.S.C. § 7411(a)(2) (defining a “new source” as any source constructed or modified after the publication of *proposed* standards, making compliance required immediately upon publication of the final standards).

177. Advance Notice, 73 Fed. Reg. at 44,489.

178. 42 U.S.C. § 7411(a)(1) (directing EPA to “tak[e] into account the cost of achieving [emission] reduction[s]”).

179. *Am. Trucking Ass’ns v. Whitman*, 531 U.S. at 462.

180. *Union Elec. Co. v. EPA*, 427 U.S. 246, 258 (1976) (“[T]he most important forum for consideration of claims of economic and technological infeasibility is before the state agency formulating the implementation plan.”).

VI. CONCLUSION

By one reading of the Clean Air Act, EPA has discretion not to list greenhouse gases for wide regulation because the Agency does not “plan[] to issue air quality criteria” for them, as specified in subparagraph C of section 108(a)(1). Yet that interpretation seems inconsistent with Congress’s intent in 1970 to establish a series of mandatory obligations for EPA and the states to better protect the public from harmful pollutants. The legislative history suggests, instead, that subparagraph C contains a scrivener’s error, so that a pollutant must be listed and regulated if it endangers public health or welfare and arises from numerous or diverse sources, as specified in subparagraphs A and B, without regard to the Agency’s “plans” for air quality criteria.

Which interpretation a court will choose depends ultimately on whether EPA persuasively demonstrates that control of greenhouse gases under this scheme is unworkable and unnecessary. If the court agrees with the Agency and many others that the national standards are fundamentally inappropriate in this context, then it will apply subparagraph C literally. As it stands now, however, a skeptical court may not be entirely convinced, and might very well rely on the scrivener’s error and the facts found in the endangerment finding to compel EPA to list greenhouse gases, adopt broadly-applicable standards for them, and oversee the states’ implementation of those standards. Whichever decision is made will have profound implications for public health, the environment and the economy.