2014

Picking the Right Tools: Why Regulation of Greenhouse Gases under the Clean Air Act’s National Ambient Air Quality Standards Is Statutorily Compelled, But Not a Practical Tool in the Combat Against Climate Change

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Picking the Right Tools:
Why Regulation of Greenhouse Gases under the Clean Air Act’s National Ambient Air Quality Standards Is Statutorily Compelled, But Not a Practical Tool in the Combat Against Climate Change
by
Megen E. Miller

Submitted in partial fulfillment of the requirements of the
King Scholar Program
Michigan State University College of Law
under the direction of
Professor Paul Stokstad
Spring, 2014
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“Human influence on the climate system is clear. . . . Warming in the climate system is unequivocal. “

– Intergovernmental Panel on Climate Change (IPCC) Press Release

“Someday, our children, and our children’s children, will look at us in the eye and they’ll ask us, did we do all that we could when we had the chance to deal with this problem and leave them a cleaner, safer, more stable world?”

– President Barack Obama, June 25, 2013

INTRODUCTION

While portions of the United States public continue to contest the existence of climate change and whether its cause is anthropogenic, scientific experts accept that the earth is warming and that human activities are virtually certain to be the cause. The effects of climate

3 Michelle S. Simon & William Pentland, Reliable Science: Overcoming Public Doubts in the Climate Change Debate, 37 WM. & MARY ENVTL. L. & POL’Y REV. 219, 220-23 (2012) (discussing the American public’s lack of confidence in the credibility and legitimacy of climate change science and noting that other researchers have attributed this “to the prevalence of scientific illiteracy, lack of familiarity with technical problems, industry propaganda, and political luddites”); Andrew J. Hoffman, Climate Science as Culture War, STANFORD SOC. INNOVATION REV. (Fall 2012), http://www.ssireview.org/articles/entry/climate_science_as_culture_war (discussing the lack of confidence in the belief in climate science, that climate change has become a part of the partisan “culture wars,” backlash against scholars in the modern era, and that climate change is “an existential challenge to our contemporary worldview”).
4 William R. L. Anderegg, James W. Prall, Jacob Harold & Stephen H. Schneider, Expert Credibility in Climate Change, 107 Proceedings of the Nat’l Acad. of Sci. of the U.S. of Am. 12107 (2010); IPCC, Human Influence, supra note 1, at 1. The Intergovernmental Panel on Climate Change (IPCC) is an international body formed by the United Nations (UN) to assess climate change. In 1988, the UN formed the panel and charged it with
change can already be seen in the increase in morbidity and mortality due to extreme weather events, especially for vulnerable populations; decreased crop yields; negative impacts on ecosystems; and loss of coastal lands to rising sea levels. Climate change is quickly becoming a human rights issue due to the looming threats, including disease, increase in heat stroke death, loss of agriculture, and the displacement of entire communities to rising sea levels.

Climate change poses one of the most difficult challenges the United States and the world have ever had to face. Addressing climate change involves not only slowing the emissions of greenhouse gases into the air, but convincing the public of the existence of climate change and the need for action, adapting to the changing climate and world, inventing clean technologies and the corresponding intellectual property issues, and handling the economic consequences of the change from business as usual by transforming the need for regulation and adaptation into an

preparing “‘a comprehensive review and recommendations with respect to the state of knowledge of the science of climate and climate change.” G.A. Res. 43/53, ¶ 10, U.N. Doc. A/RES/43/53 (Dec. 6, 1988). The panel is made up of thousands of scientists from around the world. It does not complete its own research, but reviews and assesses “the most recent scientific, technical and socio-economic information produced worldwide relevant to the understanding of climate change.” IPCC, Organization, IPCC, http://www.ipcc.ch/organization/organization.shtml (last visited March 30, 2014).

Since then it has released five climate change assessment reports; the finalized version of the fifth assessment report (AR5) will not be available until October 31, 2014, but the three Working Groups have released their portions of the report, with the synthesis report being the last portion not yet published. Fifth Assessment Report (AR5), IPCC, http://www.ipcc.ch/ (last visited May 4, 2013) (providing links to the different portions of the report). In recent years, the findings of IPCC have been under attack because one finding of the IPCC review was found to have been based on a non-peer reviewed article. As a result, the IPCC analyzed its procedures and concluded that it had to handle non-peer reviewed information differently. See INTERACADEMY COUNCIL COMMITTEE TO REVIEW THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE ASSESSMENTS: REVIEW OF THE PROCESSES AND PROCEDURES OF THE IPCC xiii–xiv (2010); Simon & Pentland, supra note 3, at 222. Despite these problems, the IPCC is a leading body on climate change assessment, and this article will make use of its most recent findings in AR5.


7 See generally Simon & Pentland, supra note 3.

8 See generally GERRARD & KUH, supra note 6.

9 See generally MATTHEW RIMMER, INTELLECTUAL PROPERTY AND CLIMATE CHANGE: INVENTING CLEAN TECHNOLOGIES (2011).
economic benefit rather than a loss.\textsuperscript{10} The United States, until recently, has done very little to address climate change and its role in the problem, despite being the second largest emitter of greenhouse gases.\textsuperscript{11}

This path changed shortly before President Obama entered office, when the Supreme Court of the United States decided \textit{Massachusetts v. EPA}.\textsuperscript{12} Knowledge of the basics of the Clean Air Act is necessary to understand the Court’s decision and the subsequent development of the law surrounding greenhouse gases (GHGs). The Clean Air Act is intricate health and science based environmental legislation that Congress passed originally in 1970 and has subsequently amended on multiple occasions.\textsuperscript{13} The Clean Air Act addresses pollution from both stationary and mobile sources.\textsuperscript{14} One of the main purposes of the Clean Air Act programs is to “protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population.”\textsuperscript{15} The Act established multiple programs to address climate change, including the National Ambient Air Quality Standards (NAAQS), the Prevention of Significant Deterioration/New Source Review (PSD/NSR) program, the New Source Performance Standards (NSPS), the acid rain control program, the Title V operating

\textsuperscript{10} Scott Victor Valentine, \textit{Reframing Global Warming: Toward a Strategic National Planning Framework}, in \textit{CRUCIAL ISSUES IN CLIMATE CHANGE & THE KYOTO PROTOCOL: ASIA & THE WORLD} 31(2010) (discussing by using Singapore as a case study, how, though the idea may appear “naïve” upon first encountering it, climate change “can give rise to positive national economic benefits”).


\textsuperscript{12} 549 U.S. 497 (2007).

\textsuperscript{13} ROY S. BELDEN, \textit{CLEAN AIR ACT} 11 (2d Ed. 2011).

\textsuperscript{14} 42 U.S.C. § 7401 \textit{et seq.} (2013); \textit{see also} BELDEN, \textit{supra} note 13, at 2-3.

\textsuperscript{15} 42 U.S.C. § 7401(b)(1).
permit program, the mobile source emissions and fuel standards (hereinafter Mobile Source Emissions Standards), and the National Emissions Standards for Hazardous Air Pollutants.16

The NAAQS and the Mobile Source Emissions Standards are the programs focused on in this article. The NAAQS provide one of the key programs for addressing air pollution under the Clean Air Act.17 Under the NAAQS, the EPA establishes standards for air pollutants that have been classified by Congress or the EPA as “criteria pollutants.”18 These emissions standards are set based on what the EPA considers an acceptable volume of the pollutant in the ambient air, and the EPA then defers attainment of the standards to the states.19 The Mobile Source Emissions Standards set standards for emissions from certain mobile sources and regulate fuel and fuel additives.20 In order for a pollutant to be regulated under the Clean Air Act, it must be defined as an “air pollutant.”21 Additionally, to be regulated under both the NAAQS and the Mobile Source Emissions Standards, either Congress must mandate regulation of the specific air pollutant or the EPA must make endangerment and cause and contribute findings.22 This means that the EPA has determined that the air pollution endangers the public health and welfare and that the air pollutant in question causes or contributes to the air pollution.23

In Massachusetts v. EPA, the pivotal case shifting the United States towards from action in the fight against climate change, petitioners challenged the Environmental Protection Agency’s (EPA) decision not to make endangerment findings for GHGs under the Mobile

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16 Belden, supra note 13, at 1-3, 88. A detailed discussion of all these programs is beyond the scope of this article.
17 Belden, supra note 13, at 11.
18 Id. at 11-12.
19 Id. If the states are not willing to comply, the EPA establishes a Federal Implementation Plan. Id. at 12.
20 Id. at 155.
21 42 U.S.C. § 7602(g); see also 42 U.S.C. §§ 7408 (a)(1) (“For the purpose of establishing national primary and secondary air quality standards, the Administrator shall . . . publish, and shall from time to time thereafter revise, a list which includes each air pollutant . . . .”) (emphasis added) & § 7521(a)(1) (“The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant . . . .”) (emphasis added).
22 See discussion infra Section III.B.
23 See discussion infra Section III.B.
Source Emission Standards. The Court held that the EPA’s denial of the petition to make endangerment findings for GHGs was arbitrary and capricious because GHGs were an “air pollutant” for the purposes of the Clean Air Act and the EPA statutorily could base its endangerment findings only on scientific judgments of certainty and the effect of GHGs on human health and public welfare. Two years after this decision, the EPA made the Endangerment and Cause or Contribute Findings for GHGs under Section 202(a) – Mobile Source Emission Standards – of the Clean Air Act (hereinafter Endangerment Findings for Mobile Sources).

On May 7, 2010, as a result of the Endangerment Findings for Mobile Sources, the United States government “took its first formal step” in regulating climate change when the EPA and the National Highway Traffic Safety Administration (NHTSA) issued the Tailpipe Rule, which set GHG emissions and mileage standards for new light-duty vehicles. Under an existing EPA policy, this regulation triggered the application of the Prevention of Significant Deterioration (PSD) and Title V programs of the Clean Air Act to stationary sources that emit

24 Section 202(a) of the Clean Air Act found at 42 U.S.C. § 7521 et seq.
26 Specifically, the finding is for “the mix of six long-lived and directly emitted greenhouse gases: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act; Final Rule, 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009) [hereinafter Endangerment Findings].
27 Id.
The EPA then promulgated the Tailoring Rule, which set up standards for application of the PSD and Title V programs to GHGs.\textsuperscript{31} The United States federal government addressed climate change again when in President Obama’s Climate Action Plan, released in June 2013, the Administration laid out its plans for addressing “one of our greatest challenges of our time,” involving specific actions to adapt, cut carbon pollution, and lead international efforts in combating climate change.\textsuperscript{32} After the release of the Action Plan, President Obama and the EPA began work on creating regulations to limit emissions of GHGs from existing power plants, instead of only under new power plants under the PSD and Title V Programs.\textsuperscript{33} Other recent actions include the EPA’s release of a rule reducing the allowable sulfur in gasoline,\textsuperscript{34} a climate change data website,\textsuperscript{35} and a strategy to cut methane emissions.\textsuperscript{36}

\textsuperscript{30} Tailoring Rule, 75 Fed. Reg. 31514, 31553-54.

\textsuperscript{31} See generally Tailoring Rule, 75 Fed. Reg. 31514. This rule has faced backlash for being arbitrary and capricious on multiple bases. Coal. for Responsible Regulation, Inc. v. EPA, 684 F.3d 102 (D.C. Cir. 2012) cert. granted in part, 134 S. Ct. 418, 187 L. Ed. 2d 278 (U.S. 2013) and cert. denied, 134 S. Ct. 418, 187 L. Ed. 2d 279 (U.S. 2013) and cert. denied, 134 S. Ct. 418, 187 L. Ed. 2d 279 (U.S. 2013) and cert. granted in part, 134 S. Ct. 418, 187 L. Ed. 2d 278 (U.S. 2013) and cert. granted in part, 134 S. Ct. 419, 187 L. Ed. 2d 278 (U.S. 2013) and cert. granted in part, 134 S. Ct. 419, 187 L. Ed. 2d 278 (U.S. 2013) and cert. granted in part, 134 S. Ct. 468, 187 L. Ed. 2d 278 (U.S. 2013) and cert. granted in part, 134 S. Ct. 468, 187 L. Ed. 2d 278 (U.S. 2013) and cert. denied, 134 S. Ct. 468, 187 L. Ed. 2d 279 (U.S. 2013). The United States Supreme Court has granted a writ of certiorari of the consolidated case to determine “[w]hether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases.” Util. Air Regulatory Grp. v. EPA., 571 U.S. __; 134 S. Ct. 418 (2013).


\textsuperscript{34} The final version of the rule in Federal Register is not yet available at the time of writing this, but a version that has not been checked for accuracy is available on the EPA’s website at http://www.epa.gov/otaq/documents/tier3/tier-3-fr-preamble-regs-3-3-14.pdf (last visited Mar. 30, 2014).

\textsuperscript{35} This website was unveiled on March 19, 2014 and is intended to “make climate data more accessible to researchers and industries trying to adapt to global warming.” Carly Cody, White House Launches Climate Change Data Website, NPR (Mar. 19, 2014), http://www.npr.org/blogs/itsallpolitics/2014/03/19/291420186/white-house-launches-climate-change-data-website. The website is: data.gov/climate.

While the Obama Administration and United States federal law are certainly making a more concerted effort against climate change, the question remains whether the EPA and Administration are properly ignoring an existing statutory scheme to address climate change: the National Ambient Air Quality Standards (NAAQS). A stated above, the NAAQS are a broad scheme of health and welfare based standards that must be met nationally and on the local level and have been a key in the fight against air pollution.\(^{37}\) In order to be subject to the NAAQS, an air pollutant must be classified as a “criteria pollutant.”\(^{38}\) There is debate surrounding whether the NAAQS would be useful or practical to address GHGs and many strong arguments against their use.\(^{39}\) However, the language of the Clean Air Act’s requirements to be classified as a criteria pollutant and to be regulated under the Mobile Source Emission Standards contain largely the same language.\(^{40}\) The Endangerment Findings for the Mobile Source Emissions Standards likely legally compel the EPA to classify GHGs as criteria pollutants and therefore to regulate them under the NAAQS.\(^{41}\) However, regardless of its legal necessity, in order for the EPA to actually be forced to make an endangerment finding, members of the public would have to litigate the issue. Though the EPA may not have statutory authority to consider matters outside

\(^{37}\) Belden, \textit{supra} note 13, at 11.


\(^{40}\) Compare 42 U.S.C. § 7408 (a)(1) (“For the purpose of establishing national primary and secondary ambient air quality standards, the 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) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare; (B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and (C) 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 42 U.S.C. § 7521(a)(1) (“The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare. Such standards shall be applicable to such vehicles and engines for their useful life (as determined under subsection (d) of this section, relating to useful life of vehicles for purposes of certification), whether such vehicles and engines are designed as complete systems or incorporate devices to prevent or control such pollution.”).

\(^{41}\) See discussion \textit{infra} Part III; 42 U.S.C. § 7409.
of the effect on public health and welfare,\textsuperscript{42} states, interest groups, and other members of the public should consider policy before trying to force the EPA to regulate under a scheme that may not prove useful.

This article addresses why the EPA is likely legally compelled to classify GHGs as criteria pollutants, but argues that the public should not force the issue, as the NAAQS are not properly suited to address climate change and the attempt would funnel federal, state, and private resources away from more useful regulations. Part I discusses the basic physical science behind climate change and its effects on human health and public welfare so as to provide the reader with a more informed analysis of the area of the law. Next, Part II discusses in detail the holdings and findings of \textit{Massachusetts v. EPA} and the Endangerment Findings for Mobile Sources. Then, Part III discusses why an endangerment finding for the NAAQS is likely compelled based upon the statutory language of the Clean Air Act, findings of the Court and EPA, and science. Finally, Part IV discusses why the public should not try to force the EPA to regulate GHGs under the NAAQS because the application of the NAAQS to GHGs is impractical, despite the apparent legal necessity.

I. \textbf{(V)ERY (B)ASIC (O)VERVIEW OF THE (S)CIENCE AND (E)FFECTS OF (C)LIMATE (C)HANGE}

Of course, an in depth analysis of the climate science and the existing and potential effects of global climate change is beyond the scope of this article. However, a basic understanding of climate change to understand the decision of the Supreme Court in \textit{Massachusetts v. EPA}, the Endangerment Findings for Mobile Sources, and whether the regulation of GHGs under the NAAQS is legally compelled and practical is needed.

\textsuperscript{42} \textit{Massachusetts}, 549 U.S. at 505, 533-35.
A. The Physical Science of Climate Change

Understanding the greenhouse effect is the basis for understanding global climate change. The greenhouse effect is a natural process wherein GHGs in the atmosphere absorb infrared energy reflected by the earth and by doing so, heat the planet. The greenhouse effect keeps the global temperature warm enough to be habitable for life as it has evolved on earth. Water vapor and carbon dioxide are the two main naturally occurring GHGs. Water vapor does not stay long in the atmosphere and globally does not appear to be directly anthropogenically affected. However, as the atmosphere warms, it can hold more water, which affects cloud formation, and clouds in turn can absorb and reflect radiation from the sun and the earth.

However, GHGs are also emitted from human activities, which has greatly increased the levels of GHGs in the atmosphere beyond natural levels and contributed to the warming of the earth. The primary cause of human release of GHGs is the burning of fossil fuels. The main global activities that release GHGs and their corresponding global percentages from 2010 are: agriculture, forestry and other land use (23 percent); electricity and heat production (20 percent); industry (18 percent); road transportation (10.2 percent); residential buildings (4.4 percent); other transportation (3.9 percent); waste (2.9 percent); and commercial buildings (1.7 percent). The most significant GHG that results from human activities is carbon dioxide. In the United States,
in 2012, carbon dioxide constituted 82% of GHG emissions.\textsuperscript{53} When emissions of GHGs are measured, they are measured based on their global warming potential (GWP),\textsuperscript{54} which is then translated into its CO\textsubscript{2} equivalent.\textsuperscript{55} The other main GHGs are methane, nitrous oxide, and fluorinated gases.\textsuperscript{56} Though released in lower quantities, these other gases are problematic because they have higher GWPs than CO\textsubscript{2}; for example, sulfur hexafluoride has a GWP of 23,900.\textsuperscript{57}

The United States is the second largest emitter of GHGs in the world, second only to China.\textsuperscript{58} Up until 2006, the United States was the world’s largest emitter of GHGs.\textsuperscript{59}

B. The Human Health, Public Welfare, and Environmental Effects of Climate Change\textsuperscript{60}

Climate change is unequivocal and that this change is anthropogenically caused is virtually certain.\textsuperscript{61} In March 2014, the IPCC’s report concluded that there are already significant observable negative impacts as a result of climate change.\textsuperscript{62} These impacts have been observed on “physical, biological, and human systems.”\textsuperscript{63} In a summary of finding for the Report, the IPCC described the following observable effects:

Many regions have experienced warming trends and more frequent high-temperature extremes. Rising temperatures are associated with decreased

\textsuperscript{54} Carbon dioxide has a GWP of 1. A GHGs GWP is based on its radiative force and expected lifetime in the atmosphere. REITZE, supra note 44, at 463.
\textsuperscript{55} Id.
\textsuperscript{56} Overview of Greenhouse Gases, supra note 53.
\textsuperscript{58} Top 20 GHG Emitting Countries, supra note 11; China Overtakes U.S., supra note 11.
\textsuperscript{59} China Overtakes U.S., supra note 11.
\textsuperscript{60} The discussion in this Subsection relies on the most recent reports of the IPCC. In its technical summary, the IPCC indicated that the number of articles analyzing climate change impacts, adaptation, and vulnerabilities had more than doubled from the period of 2005-2010 (since its last report), which allows for a better report and basis for policymaking. IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability: Technical Summary 2 (Mar. 31, 2014), available at http://ipcc-wg2.gov/AR5/images/uploads/WGIIAR5-TSGFDally.pdf.
\textsuperscript{61} IPCC, Human Influence, supra note 1, at 1.
\textsuperscript{63} Id.
snowpack, and many ecosystems are experiencing climate-induced shifts in the activity, range, or abundance of the species that inhabit them. Oceans are also displaying changes in physical and chemical properties that, in turn, are affecting coastal and marine ecosystems such as coral reefs, and other oceanic organisms such as mollusks, crustaceans, fishes, and zooplankton. Crop production and fishery stocks are sensitive to changes in temperature. Climate change impacts are leading to shifts in crop yields, decreasing yields overall and sometimes increasing them in temperate and higher latitudes, and catch potential of fisheries is increasing in some regions but decreasing in others. Some indigenous communities are changing seasonal migration and hunting patterns to adapt to changes in temperature.\footnote{Id.}

The summary indicated that though some regions will see some benefits due to climate change, the overall impact is negative.\footnote{Id.}

Specifically in the United States and North America, there have been significant observed negative impacts.\footnote{IPCC North America, supra note 5.} In regards to public health in North America, the IPCC reported that there have already been observed increases in human mortality and morbidity, due largely to increase in extreme heat waves.\footnote{Id. at 4.} Human health is expected to be further impacted by a continuing increase in heat waves and extreme weather events.\footnote{Id. at 4.} The Report also indicated that increase in infectious diseases, air pollution, and airborne pollen is likely (with moderate confidence).\footnote{Id. at 4-5.} The Report also stated that North American ecosystems are especially vulnerable to climate extremes, and the increasing temperatures, carbon dioxide concentrations, and rising sea levels are imposing rising levels of stress on the ecosystems.\footnote{Id. at 4.} The IPCC noted that the North American economy and infrastructure are vulnerable to the effects of climate change, and these impacts can already be seen due to rising sea levels; higher occurrence of extreme weather

\footnote{\textit{Id.}}
events, such as droughts, storms, and heat waves; and changes in temperature and precipitation.\footnote{Id. at 5.} The Report stated that the infrastructure, if not modified, is at significant risk due to extreme weather events.\footnote{Id.}

These are only a partial list of the observed list of impacts on North America. The IPCC Report lays forth the effects in more detail and discusses the significant negative expected impact of climate change in the future.\footnote{See generally id. (discussing North America observed impacts, vulnerabilities, future impacts, and suggested adaptation measures).}

II. THE LEGAL BACKGROUND: MASSACHUSETTS v. EPA AND THE ENDANGERMENT FINDINGS

Before the Obama Administration’s recent efforts to combat climate change, the United States had largely ignored the global issue.\footnote{CARLARNE, supra note 11, at 35.} In 1998, Vice President Al Gore signed the Kyoto Protocol in an attempt to encourage the United States to join the global efforts to fight climate change.\footnote{Id. at 30.} However, Congress refused to ratify the Protocol because of economic concerns and global competitiveness.\footnote{Id.} The policy regarding climate change under the presidency of George W. Bush was just that, policy.\footnote{Id. at 37-38.} It lacked any legal substance and relied on voluntary and non-binding goals.\footnote{Id. at 39.} Additionally, the George W. Bush Administration made significant efforts to roll back environmental laws, even repudiating the Kyoto Protocol.\footnote{Id. at 31, 34 n.39.} This failure to enact any substantive laws or regulations regarding climate change shifted after the Supreme Court decided in a pivotal case that the term “air pollutant” in the Clean Air Act applied to GHGs.\footnote{Massachusetts v. EPA, 549 U.S. 497, 532 (2007).}
A. Massachusetts v. EPA

i. Background

In 2007, in the last years of the Bush Administration, the Supreme Court ruled on a lawsuit based on a rulemaking petition filed in 1999 by 19 non-governmental groups seeking to compel the EPA to regulate GHGs under Section 202(a) of the Clean Air Act – the Mobile Source Emission Standards.\(^{81}\) Though the EPA had issued a memorandum in 1998 stating that carbon dioxide was an “air pollutant” under the Clean Air Act, EPA’s general counsel in the Bush Administration released a memorandum in 2003 concluding that carbon dioxide was not an air pollutant for purpose of the Clean Air Act.\(^{82}\) Additionally, the EPA formally denied the rulemaking petition in September 2003.\(^{83}\) The EPA argued that it could not regulate GHG emissions under Section 202(a) of the Clean Air Act because it did not have statutory authority.\(^{84}\) In addition, the EPA argued that even if it had statutory authority, it should not regulate GHGs under Section 202(a) because “President Bush has established a comprehensive global climate change policy” and regulating GHGs would conflict with the foreign policy power of the president.\(^{85}\)

The organizations and intervenor states and local governments sought review of the decision on rulemaking in the United States Court of Appeals for the District of Columbia Circuit.\(^{86}\) The D.C. Circuit denied the petition for review, stating that the EPA properly exercised

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\(^{81}\) Id. at 510.

\(^{82}\) Belden, supra note 13, at 145-46; Memorandum from Jonathan Z. Cannon to EPA Adm’r Carol M. Browner, EPA’s Authority to Regulate Pollutants Emitted by Electric Power Generation Sources (Apr. 10, 1998); Memorandum from Robert E. Fabricant to EPA Acting Adm’r Marianne L. Horinko, EPA’s Authority to Impose Mandatory Controls to Address Global Climate Change Under the Clean Air Act (Aug. 28, 2003).


\(^{84}\) Id. at 52925.

\(^{85}\) Id.

\(^{86}\) Massachusetts, 549 U.S. at 514.
its discretion. The Supreme Court granted the petitioners’ and intervenors’ writ of certiorari to decide whether they had standing to challenge the EPA’s denial of the petition for rulemaking and the substantive issue of whether the EPA had authority to regulate GHGs under Section 202(a) of the Clean Air Act.

ii. The Court’s Rulings

a. The Petitioners Have Standing

The Court first held that the petitioners and intervenors had standing to sue the EPA for denying its rulemaking petition. In discussing that the petitioners had met the injury requirement of standing, the Court noted that “[t]he harms associated with climate change are serious and well recognized.” The Court observed that an NRDC Report that the EPA found to be “‘an objective and independent assessment of the relevant science’ . . . identifies a number of environmental changes that have already inflicted significant harms.” The Court also stated that the sea level rise had already begun to cover some of Massachusetts’ land. The Court noted that the severity of the loss of land would only increase over the next century, which could cause millions of dollars of damage to Massachusetts just for remediation. The Court did indicate that it was basing its findings on the uncontested affidavits of the petitioners. Nevertheless, these statements show the Court’s willingness to recognize the existing and future effects of climate change as injuries to the public.

87 Id.
88 Id. at 505-06.
89 Id. at 516-26.
90 Id. at 521.
91 Id. The harms in the Report mentioned specifically in the Court’s decision were “‘the global retreat of mountain glaciers, reduction in snow-cover extent, the earlier spring melting of ice on rivers and lakes, [and] the accelerated rate of rise of sea levels during the 20th century relative to the past few thousand years.’” Id.
92 Id. at 522.
93 Id. at 522-23.
94 Id. at 526.
95 The Court was, however, strongly divided on this case, including the standing issue. The majority opinion was written by Justice Stevens and four other justices dissented. Id. at 504, 535. Chief Justice Roberts issued
b. Greenhouse Gas Are an “Air Pollutant” Under the Clean Air Act

The most important portion of the decision, as relating to an analysis of whether an endangerment finding for GHGs is necessary under the NAAQS, is the Court’s holding that GHGs qualify as an “air pollutant” under the Clean Air Act.\textsuperscript{96} As a threshold issue regarding the scope of judicial review of the EPA’s actions, the Court held that the Clean Air Act expressly provided for review of the denial of the petition for rulemaking under 42 U.S.C. § 7607 (b)(1) & (d)(9). The Court noted that such review was “‘extremely limited’ and ‘highly deferential.’”\textsuperscript{97}

The first question that the Court addressed on the merits was whether Section 202(a) of the Clean Air Act authorized “the EPA to regulate greenhouse gas emissions from new motor vehicles in the event that it forms a ‘judgment’\textsuperscript{98} that such emissions contribute to climate change.”\textsuperscript{99} In deciding that greenhouse gases are unambiguously “air pollutants” for the Clean Air Act, the Court looked to the Act’s definition of “air pollutant.”\textsuperscript{100} The Act defines an “air pollutant” as “any air pollution agent or combination of such agents, including any physical, chemical, biological . . . substance or matter which is emitted into or otherwise enters the

\hspace{1cm}a dissenting opinion on the issue of standing, stating in the relevant portion that any alleged loss of coastal land by Massachusetts is not concrete, particularized, or imminent as is required for Article III standing. \textit{Id.} at 541-42.

\textsuperscript{96} \textit{Id.} at 532.

\textsuperscript{97} \textit{Id.} at 527-28 (quoting Nat’l Customs Brokers & Forwarders Ass’n of Am., Inc. v. United States, 883 F.2d 93, 96 (C.A.D.C. 1989)).

\textsuperscript{98} This quotation by the Court of the word “judgment,” though not cited in the opinion, is a quote of the relevant statute, which states:

\hspace{1cm}The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which \textit{in his judgment} cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

\textsuperscript{99} \textit{Massachusetts}, 549 U.S. at 529.

\textsuperscript{100} \textit{Id.} at 528-29.
ambient air.”101 The Court stressed the definition’s express use of the word *any*, which means that the term “air pollutant” “embraces all airborne compounds of whatever stripe.”102 The Court held that the statute unambiguously includes specific GHGs because they “are without a doubt ‘physical [and] chemical . . . substance[s] which [are] emitted into . . . the ambient air.’”103

Interestingly, the Court also discussed in a footnote that the phrase “ambient air” in the statute did not limit the EPA to regulating air pollution agents near the earth.104 The Court stated:

[The] EPA’s distinction [between local and global atmosphere pollutants], however, finds no support in the text of the statute, which uses the phrase “the ambient air” *without distinguishing between atmospheric layers*. Moreover, it is a *plainly unreasonable reading* of a sweeping statutory provision designed to capture “*any* physical, chemical . . . substance or matter which is emitted into or otherwise enters the air.”105

The Court observed that the parties also did not dispute that GHGs are emitted into the ambient air.106

The EPA argued that Congress’s actions and deliberations after enacting the Clean Air Act, which did not include a command to EPA to regulate GHGs, showed Congressional intent that the EPA not regulate GHGs.107 The Court held that Congress’s postenactment actions and inactions, and decisions not to regulate GHGs did not change the fact that the statute’s definition of “air pollutant” unambiguously included GHGs.108 The Court stated that the subsequent decisions of Congress not to act regarding GHGs under the Clean Air Act did not indicate that

101 42 U.S.C. § 7602(g). “Such term includes any precursors to the formation of any air pollutant, to the extent the Administrator has identified such precursor or precursors for the particular purpose for which the term ‘air pollutant’ is used.” *Id.*
102 *Massachusetts*, 549 U.S. at 529.
103 *Id.* (edits in original).
104 *Id.* at 529 n.26.
105 *Id.* (quoting 42 U.S.C. § 7602(g)) (some emphasis added).
106 *Id.*
107 *Id.*
108 *Id.* at 529-30.
Congress intended that EPA did not have authority to regulate GHGs under Congress’s most recent amendments of Section 202(a)(1).\textsuperscript{109}

Additionally, the Court held that Congress’s delegation of the setting of mileage standards to the Department of Transportation did not alter the EPA’s obligation under the Clean Air Act to regulate GHGs.\textsuperscript{110} The Clean Air Act’s mandate to the EPA required it to address GHGs as an “air pollutant” and this joint responsibility showed Congress’s intent “to promote interagency collaboration and research to better understand climate change.”\textsuperscript{111} The collaboration of the different statutes and agencies would aid “thoughtful regulation.”\textsuperscript{112} Similarly, the Court held that the Department of Transportation’s requirement to set mileage standards did not obviate the EPA’s duty to protect the public’s health and welfare.\textsuperscript{113} Instead, the Court held that the two agencies should work towards a consistent standard with their differing obligations in mind.\textsuperscript{114}

In its argument against regulating GHGs, the EPA had relied upon \textit{FDA v. Brown \& Williamson Tobacco Corporation}, wherein the Court upheld the FDA’s refusal to regulate tobacco products as a “drug” under the Food, Drug, and Cosmetic Act.\textsuperscript{115} The Court distinguished that case on two bases.\textsuperscript{116} First, the Court noted that in \textit{Brown}, regulating tobacco products as a drug would have required a complete ban on tobacco products, whereas in \textit{Massachusetts}, the Court would not be taking such extreme measures and would only be regulating emissions.\textsuperscript{117} Further, banning tobacco products would clash “with the ‘common

\textsuperscript{109} Id.
\textsuperscript{110} Id. at 530-32.
\textsuperscript{111} Id. at 530.
\textsuperscript{112} Id.
\textsuperscript{113} Id. at 531-32.
\textsuperscript{114} Id. at 532.
\textsuperscript{115} 529 U.S. 120, 133 (2000); \textit{Massachusetts}, 549 U.S. at 530.
\textsuperscript{116} Id at 530-31.
\textsuperscript{117} Id. at 531.
sense’ intuition that Congress never meant to remove those products from circulation,” whereas regulating emission of GHGs is not counterintuitive at all.\textsuperscript{118} Additionally, the Court discussed that in \textit{Brown}, there were consistent congressional enactments that made sense only if the FDA did not have authority to regulate tobacco and consistent statements made by the FDA that it did not have authority to regulate tobacco, but in \textit{Massachusetts}, the EPA could not make parallel claims to those in \textit{Brown} regarding its regulation of GHGs.\textsuperscript{119} Instead, no congressional enactments contradicted EPA’s power to regulate GHGs and the EPA had historically affirmatively stated that it had authority to regulate GHGs.\textsuperscript{120} Therefore, the Court held that the EPA’s reliance on \textit{Brown} was misplaced and did not change that the Clean Air Act mandated the EPA to regulate GHGs as air pollutants.\textsuperscript{121}

Finally, the Court noted that Congress intended “regulatory flexibility” in enacting the Clean Air Act and Section 202(a)(1) specifically.\textsuperscript{122} The Court stated that the broad language of the Act shows the enactors’ intent to allow the Act to adapt to changing circumstances and advancements in science and scientific knowledge in order to avoid rendering the Act “obsolete.”\textsuperscript{123}

Therefore, the Court held that the EPA had authority to regulate GHG emissions from motor vehicles under Section 202(a)(1) if it made the proper endangerment findings.\textsuperscript{124}

c. The EPA Must Consider Only Scientific Judgments in Deciding Whether to Make an Endangerment Finding

The alternative basis that the EPA argued prevented it from regulating GHGs under Section 202(a)(1) of the Clean Air Act was that it would be unwise to do so.\textsuperscript{125} However, the

\textsuperscript{118} Id. (quoting \textit{Brown}, 529 U.S. at 133).
\textsuperscript{119} Id.
\textsuperscript{120} Id.
\textsuperscript{121} Id. at 530-31.
\textsuperscript{122} Id. at 532.
\textsuperscript{123} Id.
\textsuperscript{124} Id.
Court held that this justification was “divorced from the statutory text.” The Court stated that though the language of the statute required the Administrator to make a “judgment,” this judgment must be based on “whether an air pollutant ‘cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare.” The use of the word “judgment” did not give the Administrator “a roving license” to make decisions on non-statutory bases. The Court noted that, though the EPA has large levels of discretion in making regulations, when the EPA responds to a petition for rulemaking, “its reasons for action or inaction must conform to the authorizing statute.” The Court held:

[The] EPA can avoid taking further action only if it determines that greenhouse gases do not contribute to climate change or if it provides some reasonable explanation as to why it cannot or will not exercise its discretion to determine whether to do so. The Court indicated that this may constrain the EPA’s discretion in pursuing other priorities of the agency or President, but that this was the statute’s design.

The Court discussed that the justifications for making a reasoned decision on whether to regulate GHGs must be based on scientific judgments whether GHG emissions contribute to climate change. The decision could not be based on extra-statutory considerations, such as whether “regulating greenhouse gases might impair the President’s ability to negotiate” with other nations, that other policies in place “provide an effective response to the threat of global warming,” or that using Section 202(a)(1) would create an “inefficient, piecemeal approach” to

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125 68 Fed. Reg. at 52925; see also Massachusetts, 549 U.S. at 532.
126 Massachusetts, 549 U.S. at 532.
127 Id. at 532-33 (quoting 42 U.S.C. § 7521(a)(1)).
128 Id. at 533.
129 Id.
130 Id.
131 Id.
132 Id. at 533-34.
regulating climate change.\textsuperscript{133} The Court also stated that “residual uncertainty” “surrounding various features of climate change . . . is irrelevant.”\textsuperscript{134} It reasoned that “uncertainty . . . so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming” could be a basis for refusal to make an endangerment finding, but that the “EPA must say so.”\textsuperscript{135}

The Court did not require that the EPA make an endangerment finding, but held that the agency’s denial of the petitioners’ petition was arbitrary and capricious because it did not offer a reasoned explanation based upon the statute.\textsuperscript{136} The Court therefore remanded to the EPA to make a reasoned decision consistent with the opinion.\textsuperscript{137}

B. The EPA’s Endangerment Findings for Mobile Sources

About two years after the Court’s decision in Massachusetts and a change in the presidency, the EPA released its Final Rule of the Endangerment and Cause or Contribution Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act (Endangerment Findings for Mobile Sources).\textsuperscript{138} The Endangerment Findings for Mobile Sources is a dense, 50-page rule and a minute analysis of its details is beyond the scope of this article.\textsuperscript{139} However, a general analysis of the Endangerment Findings for Mobile Sources is necessary to determine whether the EPA is compelled to make an endangerment finding for the NAAQS. Though the Endangerment Findings for Mobile Sources state that the findings therein are for the purposes of Section 202(a) of the Clean Air Act, logic dictates that many of the findings are relevant for the NAAQS and do not lose their factual basis simply because the NAAQS program is a different

\begin{itemize}
\item \textsuperscript{133}Id. at 533.
\item \textsuperscript{134}Id. at 534.
\item \textsuperscript{135}Id.
\item \textsuperscript{136}Id. at 534-35.
\item \textsuperscript{137}Id.
\item \textsuperscript{138}Endangerment Findings, 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009); President Barack Obama, WHITE HOUSE, \url{http://www.whitehouse.gov/administration/president-obama} (last visited March 31, 2014).
\item \textsuperscript{139}See Endangerment Findings, 74 Fed. Reg. 66496.
\end{itemize}
section of the Clean Air Act. Additionally a brief discussion of the Court of Appeals for the District of Columbia’s decision to uphold the Endangerment Findings shows how and why the Endangerment Findings were upheld and is important because the Supreme Court is not reviewing these Findings, as it has denied certiorari on the issue.

i. *The Substance of the Endangerment Findings*

The Endangerment Findings for Mobile Sources were limited to the mix of six specific “long-lived and directly emitted” GHGs: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6). The Findings concluded that these GHGs “in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare.” The Administrator also found that the emissions of the listed GHGs from transportation sources “contribute to the total greenhouse gas air pollution, and thus to the climate change problem.” The primary basis for the Administrator’s decision was assessments by the United States Global Climate Research Program, the IPCC, and the National Research Council. The Findings focused on the United

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140 Id. at 66499.
142 These findings are laid out in detail in this section so as to provide a basis for understanding the depth of the EPA’s findings and why the Endangerment Findings for Mobile Sources should be applied to the parallel requirements for classification as a criteria pollutant under the NAAQS. See discussion infra Section III.B.
143 Endangerment Findings, 74 Fed. Reg. at 66497.
144 Id.
145 Id. at 66499.
146 Id. at 66497.
States, but also considered other world regions because the effects on other world regions can negatively impact the United States.\textsuperscript{147}

The EPA found ample support for its finding that GHGs in the atmosphere may reasonably be anticipated to impact public health and welfare.\textsuperscript{148} In reference to the impact on public health, first, the EPA found that the presence of GHGs in the atmosphere and the corresponding climate change will affect the quality of air negatively by increasing ozone levels.\textsuperscript{149} The Findings indicated that the increase in average temperatures had a consequential increase in morbidity and mortality, due in part to increase in heat waves.\textsuperscript{150} Additionally, the EPA found that anthropogenic climate change will likely increase the severity and intensity of extreme weather events, such as hurricanes and floods.\textsuperscript{151} The EPA noted that even a small increase in the severity of these events could have serious adverse effects.\textsuperscript{152} Additionally, the Findings stated that some evidence showed that climate change and carbon concentrations could “lead to changes in aeroallergens that could increase the potential for allergenic illnesses.”\textsuperscript{153} The EPA also noted that, though uncertain, climate change may increase pathogen borne diseases.\textsuperscript{154} Finally, in making its decision, the EPA “place[d] weight” on the fact that these public health affects would affect specific groups most heavily, namely children, the elderly, and the poor.\textsuperscript{155}

The EPA also addressed the impact of GHGs in the atmosphere and climate change on the public welfare.\textsuperscript{156} The EPA found support for its Endangerment Finding in considering “how elevated concentrations of the well-mixed greenhouse gases and associated climate change affect

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\item \textsuperscript{147} \textit{Id.}
\item \textsuperscript{148} \textit{Id.} at 66516-36.
\item \textsuperscript{149} \textit{Id.} at 66497.
\item \textsuperscript{150} \textit{Id.}
\item \textsuperscript{151} \textit{Id.} at 66497-98.
\item \textsuperscript{152} \textit{Id.} at 66497.
\item \textsuperscript{153} \textit{Id.} at 66498, 66525.
\item \textsuperscript{154} \textit{Id.}
\item \textsuperscript{155} \textit{Id.}
\item \textsuperscript{156} \textit{Id.}
\end{itemize}
\end{footnotesize}
public welfare by evaluating numerous and far-ranging risks to food production and agriculture, forestry, water resources, sea level rise and coastal areas, energy, infrastructure, and settlements, and ecosystems and wildlife.\(^{157}\) The Findings stated that the “most serious potential adverse effects are the increased risk of storm surge and flooding in coastal areas from sea level rise and more intense storms.”\(^{158}\) The EPA also discussed the impact on hydropower resources; the vulnerability of industry, infrastructure, and settlements; and the adverse impact on biodiversity and ecosystems.\(^{159}\) The EPA did note that there was a potential net increase for certain crops in the near future, but found that there would be an overall adverse effect on agriculture and production over time, with substantial possibilities of significant crop failures.\(^{160}\) Similarly, the EPA discussed that in the near future in certain parts of the country, climate change will cause a beneficial impact on forest growth and productivity, but that these benefits are outweighed by already observed increase in wildfires and spread of pests and disease.\(^{161}\) The EPA found that these observed and future impacts served a strong basis for finding that climate change and the presence of GHGs in the atmosphere would adversely impact the public welfare.\(^{162}\)

In addition, in order to regulate under Section 202(a) of the Clean Air Act, the EPA had to make a finding that GHGs from mobile sources caused or contributed to the climate change problem found to adversely affect the public health and welfare.\(^{163}\) The EPA found that the six well-mixed GHGs contribute to the climate change problem.\(^{164}\) In order to determine whether these GHGs emitted from mobile sources contributed to the climate change problem, the EPA compared the emissions of the GHGs from Section 202(a) emissions sources with the total GHG emissions from mobile sources.

\(^{157}\) Id.
\(^{158}\) Id.
\(^{159}\) Id.
\(^{160}\) Id.
\(^{161}\) Id.
\(^{162}\) Id. at 66498-99.
\(^{164}\) Endangerment Findings, 74 Fed. Reg. at 66499.
emissions in the United States and total GHG emissions globally. The EPA noted that Section 202(a) source emissions amounted to 23 percent of the total United States well-mixed GHG emissions and 4 percent of total global well-mixed GHG emissions. The EPA found based on this that GHG emissions from Section 202(a) “clearly” contribute to GHG concentrations. The EPA noted that the total emissions from these sources amounted to more GHG emissions than any other individual country except China, Russia, and India. Additionally, it observed that 202(a) sources emitted the second most GHGs in the United States, second only to electricity generation. The EPA also indicated that it agreed with the Supreme Court’s judgment that Section 202(a) sources “make a meaningful contribution” to GHG concentrations and climate change.

This Endangerment Finding for Mobile Sources did not place any substantive requirements on industries. The finding, however, formed the basis for the Tailpipe Rule and subsequently led to the application of the PSD and Title V Programs of the Clean Air Act to GHGs emissions.

165 Id.
166 Id.
167 Id.
168 Id.
169 Id.
170 Id.


ii.  *Judicial Review of the Endangerment Findings*: Coalition for Responsible Regulation, Inc. v. EPA

In a lengthy decision addressing challenges to many aspects of the EPA’s regulation of GHGs, the Court of Appeals for the District of Columbia upheld the Endangerment Findings for Mobile Sources as not arbitrary or capricious, or an abuse of discretion.\(^\text{174}\) The court first held that the EPA properly restricted its decision on scientific judgments and did not consider policy considerations, such as the impact on beneficial sources that emit GHGs.\(^\text{175}\) Next the court held that the Endangerment Findings for Mobile Sources had adequate scientific support; the use of peer-review assessments was proper and independent research by the EPA was not necessary.\(^\text{176}\) The court also indicated that the residual uncertainty of climate change did not dampen the adequacy of the scientific support for the EPA’s findings.\(^\text{177}\) The court next held that the EPA did not need to make a judgment regarding what threshold limit of GHG concentrations would adversely impact public health and welfare.\(^\text{178}\) The court observed that this was unnecessary statutorily and the “precautionary thrust” of the Clean Air Act further supported this holding.\(^\text{179}\)

For these reasons – and others irrelevant to this article – the D.C. Circuit Court of Appeals upheld the Endangerment Findings for Mobile Source provisions.\(^\text{180}\) The Court of Appeals denied the petitioners’ petition for an en banc rehearing, though some judges dissented.\(^\text{181}\) Additionally, the Supreme Court denied certiorari on the issue of whether the

\[\text{\^{\text{174}}} \text{Coalition, 684 F.3d at 117.}\]
\[\text{\^{\text{175}}} \text{Id. at 117-19.}\]
\[\text{\^{\text{176}}} \text{Id. at 119-20.}\]
\[\text{\^{\text{177}}} \text{Id. at 120-22.}\]
\[\text{\^{\text{178}}} \text{Id. at 122-23.}\]
\[\text{\^{\text{179}}} \text{Id. at 123.}\]
\[\text{\^{\text{180}}} \text{Id. at 117-26.}\]
\[\text{\^{\text{181}}} \text{See generally Coal. for Responsible Regulation, Inc. v. EPA., No. 09-1322, 2012 WL 6621785 (D.C. Cir. Dec. 20, 2012).}\]
Endangerment Findings for Mobile Sources was arbitrary and capricious, meaning the conclusions in the Endangerment Findings will not be reviewed by the Court.\textsuperscript{182}

III. \textit{MASSACHUSETTS v. EPA AND THE ENDANGERMENT FINDINGS FOR MOBILE SOURCES LIKELY LEGALLY COMPEL THE EPA TO MAKE AN ENDANGERMENT FINDING FOR GREENHOUSE GASES UNDER THE NAAQS}

The Supreme Court’s holdings and statements in \textit{Massachusetts v. EPA} and the EPA’s findings that form the basis of its Endangerment Findings for Mobile Sources create a legal backdrop that likely compels a finding of endangerment for GHGs under the NAAQS.\textsuperscript{183} Though the EPA stated that its findings for the Endangerment Findings for Mobile Sources applied only to Section 202(a) of the Clean Air Act, logic dictates that many of the findings apply to the necessary factual basis for an endangerment finding under the NAAQS, due to the identical language in portions of the relevant statutory sections.\textsuperscript{184} A step-by-step comparison of the requirements for the different endangerment findings show the likelihood that the six well-mixed GHGs legally must be classified as a criteria pollutant and therefore be subject to the NAAQS.\textsuperscript{185}

A. The Definition of “Air Pollutant” in \textit{Massachusetts v. EPA} Applies to the Entire Clean Air Act

As a threshold issue in determining whether an endangerment finding can be made under either the NAAQS or Section 202(a), the EPA must first determine whether the substance in question is an “air pollutant” as defined by the Clean Air Act.\textsuperscript{186} The Clean Air Act has a

\textsuperscript{182} Util. Air Regulatory Grp. v. EPA., 571 U.S. \_\_\_; 134 S. Ct. 418 (2013) (granting certiorari for the sole issue of “Whether EPA permissibly determined that its regulation of greenhouse gas emissions from new motor vehicles triggered permitting requirements under the Clean Air Act for stationary sources that emit greenhouse gases”).  

\textsuperscript{183} See discussion infra Subparts III.A-C.  

\textsuperscript{184} Endangerment Findings, 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009); see also discussion infra Subpart III.B.  

\textsuperscript{185} This discussion only relates to the legal aspects of the classification of GHGs as criteria pollutants. See discussion infra Part IV for a discussion of the policy and practical concerns of this classification.  

\textsuperscript{186} 42 U.S.C. § 7408 (a)(1) (“For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall . . . publish, and shall from time to time thereafter revise, a list which includes each air pollutant . . . .”) (emphasis added); § 7521(a)(1) (“The Administrator shall by regulation prescribe
definitional section that defines the term “air pollutant” for the entire Act. As discussed, in *Massachusetts v. EPA*, the Supreme Court held that the six well-mixed GHGs unambiguously fell into the definition of “air pollutant” for the Clean Air Act. Therefore, for the purposes of the NAAQS, this threshold determination that the six well-mixed GHGs constitute an “air pollutant” has already been answered affirmatively and unambiguously. Notice also that the definition of “air pollutant” specifically requires that it is released into the ambient air, meaning GHGs have also been found to be emitted into the ambient air.

B. Comparing the Substantive Requirements of the Provisions

To be regulated under Section 202(a), the Mobile Source Emissions Standards, the following requirements must be satisfied:

The Administrator shall by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which in his judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare.

In order to qualify as a criteria pollutant for the NAAQS, an “air pollutant” must meet the following requirements:

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the 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) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the 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) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

(1) For the purpose of establishing national primary and secondary ambient air quality standards, the 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) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;

(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; and

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187 § 7602(g).
188 549 U.S. 497, 528-29 (2007); see also Subsection II.A.ii.b.
189 42 U.S.C. § 7602(g) (“[A]ir pollutant’ means any air pollution agent or combination of such agents. . . which is emitted into or otherwise enters the ambient air.”).
190 § 7521(a)(1) (emphasis added).
(C) 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.\textsuperscript{191} The text of these provisions has parallel language. The similarity of the language in each of these provisions and the impact of this similarity on an endangerment finding under the NAAQS is discussed below.

\textit{i. The EPA’s First Step in Classifying Greenhouse Gases as a Criteria Pollutant Is Satisfied Because the “presence of [Greenhouse Gases] in the ambient air results from numerous or diverse mobile or stationary sources”}\textsuperscript{192}

A logical place to start the analysis of whether the EPA is compelled to classify GHGs as a criteria pollutant under the NAAQS is to determine whether GHGs in the ambient air result from “numerous or diverse mobile or stationary sources.”\textsuperscript{193} This requirement is different than the Section 202(a) requirement that the air pollutant must be emitted “from any class or classes of new motor vehicles or motor vehicle engines.”\textsuperscript{194} A “‘stationary source’ means generally any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle.”\textsuperscript{195} Though the phrase “ambient air” may have imposed a limitation on the applicability of the NAAQS to local pollution, the Supreme Court stated in \textit{Massachusetts v. EPA} that the Clean Air Act is not limited to local ambient air, as the phrase “ambient air” in the statute does not distinguish between atmospheric levels.\textsuperscript{196} The requirement that the GHGs are present in the ambient air due to

\textsuperscript{191} § 7408(a)(1)(A)-(C) (emphasis added).
\textsuperscript{192} 42 U.S.C. § 7408(a)(1)(B).
\textsuperscript{193} Id.
\textsuperscript{194} § 7521(a)(1).
\textsuperscript{195} § 7602(z).
\textsuperscript{196} \textit{Massachusetts v. EPA}, 549 U.S. 497, 529 n.26 (quoting 42 U.S.C. § 7602(g)) (“[The] EPA’s distinction [between local and global atmosphere pollutants], however, finds no support in the text of the statute, which uses the phrase ‘the ambient air’ without distinguishing between atmospheric layers. Moreover, it is a plainly unreasonable
numerous stationary and mobile sources is satisfied because GHGs in the United States are emitted from many different mobile and stationary sources, e.g., electricity production, transportation, industry, commercial and residential, agriculture, and land use and forestry, and the ambient air is not limited to local air.¹⁹⁷

ii. The EPA’s Second Step in Classifying Greenhouse Gases as a Criteria Pollutant Is Satisfied the “air pollution may reasonably be anticipated to endanger public health or welfare.”¹⁹⁸

Under both provisions, the EPA must first decide whether the air pollution in question “may reasonably be anticipated to endanger public health or welfare.”¹⁹⁹ In the Endangerment Findings for Mobile Sources, the EPA determined that the six well-mixed GHGs in the atmosphere “may reasonably be anticipated both to endanger public health and to endanger public welfare.”²⁰⁰ The EPA based that determination on strong evidence of GHGs in the atmosphere and climate change’s adverse impact on both public health and welfare.²⁰¹ As stated, the language at issue for both of these provisions is identical regarding the standard of endangerment for the air pollution, including the requirement for a “judgment” by the Administrator of the EPA.²⁰²

¹⁹⁷ EPA, Sources of Greenhouse Gas Emissions, EPA, http://www.epa.gov/climatechange/ghgemissions/sources.html (last visited April 1, 2014); see § 7408(a)(1)(B). This requirement might even be satisfied if it was limited to the local ambient air because the emitted GHGs must be present in the local ambient air in order to reach other atmospheric levels.

¹⁹⁸ §§ 7408(a)(1)(A) & 7521(a)(1).

¹⁹⁹ Id.


²⁰¹ Id. at 66497-99, 66516-36; see also discussion supra Subsection II.B.i.

²⁰² §§ 7408(a)(1)(A) & 7521(a)(1).
In *Massachusetts v. EPA*, the Supreme Court held that this language did not give the Administrator a “roving license” to ignore the statutory text, but that the determination had to be based on a scientific judgment of whether the air pollution “may reasonably be anticipated to endanger public health or welfare.” As discussed, the EPA made this finding for the Endangerment Findings for Mobile Source Provisions, and there is no reasoned basis for declining to apply the findings that GHGs adversely impact the public health and welfare from mobile sources to both mobile and stationary sources under the NAAQS, especially considering stationary sources emit more GHGs than mobile sources.

In addition, the Supreme Court recognized the adverse impacts of climate change and GHGs in the atmosphere in its discussion of petitioners’ standing in *Massachusetts*. Also, the D.C. Circuit Court of Appeals upheld the Endangerment Findings for Mobile Sources as not arbitrary or capricious and held that the science was adequate, as the use of the major assessments for evidence of harms and causation and the residual uncertainty of climate change did not render the Findings arbitrary or capricious. Additionally, the Supreme Court refused to analyze these findings when it denied certiorari regarding review of the adequacy of the Endangerment Findings for Mobile Sources. Furthermore, at this point, the science has further

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203 §§ 7408(a)(1)(A) & 7521(a)(1); *Massachusetts v. EPA*, 549 U.S. 497, 532-33 (2007); see also discussion *supra* Subsection II.A.ii.c.


205 *Massachusetts*, 549 U.S. at 516-26 (“The harms associated with climate change are serious and well recognized.”); see also discussion *supra* Subsection II.A.ii.a.

206 Coal. for Responsible Regulation, Inc. v. EPA., 684 F.3d 102, 117-26 (D.C. Cir. 2012). While this holding does not mean the EPA could not have arrived at a different conclusion, it does indicate the reviewing court’s acceptance of the science used by the EPA that would be directly applicable to the criteria pollutant classification. *Id.*

developed and has become more certain and detailed regarding the adverse impacts of GHGs in the atmosphere and climate change on the public health and welfare.\(^\text{208}\)

For these reasons, the findings made in the Endangerment Findings for Mobile Sources, further supported by advances in climate change science, logically mean that the requirement under the NAAQS that GHG air pollution endangers the public health and welfare is satisfied.

iii. *Greenhouse Gases Cause or Contribute to the Air Pollution and Climate Change*

In the EPA’s Endangerment Findings for Mobile Sources, the EPA easily concluded that GHGs emitted from Section 202(a) sources (transportation sources) contribute to GHG air pollution and therefore climate change.\(^\text{209}\) The transportation sources under Section 202(a) accounted for 23 percent of the total United States six well-mixed GHG emissions and 4 percent of the total global well-mixed GHG emissions.\(^\text{210}\) If all stationary and mobile sources are covered by the NAAQS, then all of the six well-mixed GHG anthropogenic emissions are emitted from these sources.\(^\text{211}\) Additionally, as of 2008, the United States emitted 19 percent of the total world carbon dioxide emissions.\(^\text{212}\) As the EPA noted, the Supreme Court stated that “[j]udged by any standard, U.S. motor-vehicle emission make a meaningful contribution to greenhouse gas


\(^{210}\) Id.

\(^{211}\) “Stationary source” is defined by the general provisions of the Clean Air Act as “any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in [the Mobile Source Emissions Standards].” 42 U.S.C. § 7602 (2013). The relevant portion of the Code of Federal Regulations for the NAAQS does not provide an alternative definition. See 40 C.F.R. § 50.1 (2013). Therefore, stationary sources combined with mobile sources together include all sources that emit GHGs because a stationary source is defined essentially as not being a mobile source.

concentrations and hence, . . . to global warming.”

To claim that GHG emissions from mobile sources, but not GHG emissions from mobile sources and stationary sources contribute to GHG atmospheric pollution and climate change would be beyond illogical. Therefore, the Supreme Court’s decision in Massachusetts and the EPA’s finding that mobile sources contribute to climate change – and reasoning behind this finding – dictate that GHGs for the purpose of the NAAQS contribute to climate change.

C. Classification of Criteria Pollutants that Meet the Requirements is Statutorily Mandatory

The language of the NAAQS provision states, “For the purpose of establishing national primary and secondary ambient air quality standards, the Administrator shall . . . publish, and shall from time to time thereafter revise, a list which includes each air pollutant” that meets the substantive requirements discussed above and “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.” This language indicates that the Administrator has a duty to revise the list of criteria pollutants. The language of the Act further states:

Not later than December 31, 1980, and at five-year intervals thereafter, the Administrator shall complete a thorough review of the criteria . . . and the national ambient air quality standards . . . and shall make such revisions in such criteria and standards and promulgate such new standards as may be appropriate . . .

\[\text{References}\]

214 Especially considering that stationary sources include the electricity generation sector, which emitted 33 percent of the total United States six well-mixed GHG emission, as opposed to the transportation sector’s 28 percent. Sources, supra note 197.
215 See Massachusetts, 549 U.S. at 525; Endangerment Findings, 74 Fed. Reg. at 66499.
217 See id.
218 § 7409(d)(1) (emphasis added).
This language creates a mandatory duty of revision for the Administrator and sets a specific schedule: every five years.219 Furthermore, an independent scientific review committee has a similar obligation to review the criteria and the NAAQS and to recommend to the Administrator any revisions.220

In National Resources Defense Council v. Train, after a detailed discussion of legislative history, EPA policy, and case law, the Court of Appeals for the Second Circuit held that the language of Section 108 of the Clean Air Act (codified at 42 U.S.C. Section 7408 and quoted above) mandated that once the Administrator made the determination that the air pollutant met the two substantive requirements,221 the Administrator had to classify the pollutant as a criteria pollutant.222 The Court noted that the discretion given to the Administrator in the provision is in reviewing the state implementation plans, and “does not extend to the issuance of air quality standards for substances derived from specified sources which the Administrator had already adjudged injurious to health.”223 Additionally, in National Audubon Society v. Department of Water, citing Train, the Court of Appeals for the Ninth Circuit stated, “Once the EPA determines that a particular pollutant has an adverse effect on public health or welfare and originates from one or more numerous or diverse mobile or stationary sources, the EPA must develop national air quality standards and the states must implement them within a limited time period.”224

Additionally, in Train, the Second Circuit noted that regulation of an air pollutant under one of

219 Id.
220 § 7409(d)(2)(A)-(B).
221 § 7408(a)(1)(A)-(B) (stating that the NAAQS apply to air pollutants “emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare” and “the presence of which in the ambient air results from numerous or diverse mobile or stationary sources”).
222 Natural Res. Def. Council, Inc. v. Train, 545 F.2d 320, 325 (2d Cir. 1976) (affirming the order of the district court that held that classification of lead as a criteria pollutant was mandated).
223 Id. at 325.
224 869 F.2d 1196, 1201-02 (9th Cir. 1988).
the other various provisions of the Clean Air Act did not obviate the need to regulate under the NAAQS.\textsuperscript{225}

This reading of the statute is in accordance with basic principles of statutory construction. Congress’s use of the word “shall” in the provisions vests the EPA with a nondiscretionary duty to revise the list of criteria pollutants and list those that meet the statutory definition every five years.\textsuperscript{226} Furthermore, Congress’s use of the word “each” before “air pollutant” indicates that the EPA has to list every air pollutant that meets the requirements.\textsuperscript{227} Regulating the six well-mixed GHGs as a single pollutant would be proper, as the GHGs have “common properties.”\textsuperscript{228} This type of regulation of multiple substances as one air pollutant is exemplified by the EPA’s current regulation of particulate matter (PM) under the NAAQS, as PM\textsubscript{10} and PM\textsubscript{2.5} both are made of multiple different substances with common properties regulated as a single air pollutant.\textsuperscript{229}

In addition, like in Section 202(a) for transportation sources, the language “in [the Administrator’s] judgment” does not give the EPA “roving license” to ignore the statutory text, and here the text mandates application of the NAAQS to air pollutants that meet the statutory requirements.\textsuperscript{230} Additionally, the EPA’s “judgment” of whether to regulate GHGs under the NAAQS must be based on a reasoned decision whether the GHGs cause or contribute to air

\textsuperscript{225} 545 F.2d at 327-28.
\textsuperscript{226} See Coal. for Responsible Regulation, Inc. v. EPA, 684 F.3d 102, 126 (D.C. Cir. 2012) (“By employing the verb 'shall,' Congress vested a non-discretionary duty in EPA.”). However see discussion infra note 286 and accompanying text (discussing Young v. Community Nutrition Institute, 476 U.S. 974 (1986), where the Supreme Court held a reasonable interpretation of “shall” in the context was “may”).
\textsuperscript{227} MERRIAM WEBSTER DICTIONARY, “Each” (defining “each” as “every one of two or more people or things considered separately).
\textsuperscript{228} Endangerment Findings, 74 Fed. Reg. 66496, 66519 (Dec. 15, 2009) (discussing why regulating the six well-mixed GHGs as “an air pollutant” is proper, comparing it to PM, which is defined as a “complex mixture of extremely small particles and liquid droplets. Particle pollution is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles”)
\textsuperscript{229} Id.; see also 40 C.F.R. § 50.6-7 (2013) (setting the NAAQS for PM\textsubscript{10} and PM\textsubscript{2.5}).
\textsuperscript{230} See Massachusetts v. EPA, 549 U.S. 497, 533 (2007).
pollution that may reasonably endanger public health or welfare.\textsuperscript{231} As has been explained, these endangerment findings are logically compelled.\textsuperscript{232}

Finally, the third statutory requirement in the analysis for listing a criteria pollutant is that the “\textit{shall} . . . revise, a list which includes each air pollutant . . . 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.”\textsuperscript{233} Arguably this could introduce a basis for agency discretion to decide to list a pollutant as a criteria pollutant.\textsuperscript{234} However, as the Second Circuit explained, though the text of Section 7048(a)(1)(C) is somewhat ambiguous, the legislative history makes clear that the listing of pollutants was intended to be mandatory and “deliberate inclusion of a specific timetable for the attainment of ambient air quality standards . . . would become an exercise in futility if the Administrator could avoid listing pollutants simply by choosing not to issue air quality criteria.”\textsuperscript{235} The District Court explained that the “but for which he plans to issue air quality criteria” language did not create a third requirement that must be met because of legislative history and the health-oriented nature of the Clean Air Act.\textsuperscript{236} The District Court stated that the EPA had discretion in making endangerment findings, but it did not have discretion not to list a

\textsuperscript{231} \textit{Id.} at 532-33.
\textsuperscript{232} See discussion supra Section III.B.
\textsuperscript{233} 42 U.S.C. § 7408(a)(1).
\textsuperscript{234} See the EPA’s argument in \textit{Natural Resource Defense Council, Inc. v. Train}, 545 F.2d 320, 325 (2d Cir. 1976) and \textit{Natural Resource Defense Council, Inc. v. Train}, 411 F. Supp. 864, 867 (S.D.N.Y. 1976) aff’d, 545 F.2d 320 (2d Cir. 1976). Note that the Second Circuit stated that it agreed with the District Court’s decision on this specific issue. \textit{Train}, 545 F.2d at 325.
\textsuperscript{235} \textit{Train}, 545 F.2d at 326-27. At the time of the issuance of \textit{Train}, the Supreme Court had not yet decided \textit{Chevron v. Natural Resource Defense Council, Inc.}, which mandates deference to an agency’s reasonable reading of a statutory ambiguity. 467 U.S. 837, 842-43 (1984). This means if a reviewing court found the statutory language and intent ambiguous, the reviewing court would have to defer to a reasonable interpretation by the EPA, which could include a reading that the revision of the criteria pollutants is discretionary. For further discussion, see discussion infra notes 279-286 and accompanying text. However, the Second Circuit in \textit{Train} stated that while the “literal language” of the statute was ambiguous, Congressional had evidenced a clear intent to make the listing of criteria pollutants that met the statutory requirements mandatory. \textit{Train}, 545 F.2d at 326-27 Therefore, if the reviewing court followed the precedent of the Second Circuit, \textit{Chevron} deference would not apply and it would have to follow the clear intent of Congress and hold listing of criteria pollutants to be mandatory.
\textsuperscript{236} \textit{Train}, 411 F. Supp at 868.
pollutant that had been found to satisfy the endangerment and cause or contribution requirements.\textsuperscript{237}

As has been explained above, the EPA has already found that GHGs may reasonably be anticipated to endanger the public health or welfare, and logic dictates that if mobile sources contribute to the climate change problem, so do both mobile and stationary sources.\textsuperscript{238} Therefore, any decision by the EPA denying a petition to make an Endangerment Finding for the NAAQS would be arbitrary and capricious. After this endangerment finding is made, listing the six well-mixed GHGs as a criteria pollutant and setting NAAQS would then be a mandatory duty for the EPA.\textsuperscript{239}

\textbf{IV. REGARDLESS OF LEGAL NECESSITY, ENVIRONMENTALISTS SHOULD NOT FORCE THE ISSUE}

Though the existing regulatory framework and the NAAQS provisions likely mandate that GHGs be classified as a criteria pollutant, the EPA would probably never make this decision without being forced.\textsuperscript{240} Even though the statute expressly contemplates adding new criteria pollutants, the EPA has only ever added a single pollutant – lead – to the original list of criteria pollutants listed by Congress.\textsuperscript{241} And, as discussed above, this was after an environmental group forced the issue in court.\textsuperscript{242} One scholar writes, “It is unlikely that [the] EPA will take steps to regulate any new criteria pollutants other than the six that are currently regulated for the simple reason that almost all air pollutants with known or suspected effects on public health or the

\begin{itemize}
  \item \textsuperscript{237} Id. However, as discussed below, the EPA has not listed any other pollutant since \textit{Train} mandated that it list lead. \textit{See infra} notes 241-244. Though groups have petitioned the EPA to list other criteria pollutants, there has been no further apparent action taken or any more recent litigation regarding the mandatory listing of criteria pollutants. \textit{See, e.g., Broad Coalition Petitions EPA to Regulate Ammonia Gas Pollution from Factory Farms, HUMANE SOCY U.S. (Apr. 6, 2011), http://www.humanesociety.org/news/press_releases/2011/04/ammonia_epa_04062011.html.}
  \item \textsuperscript{238} \textit{See discussion supra} Sections III.A-B.
  \item \textsuperscript{239} 42 U.S.C. § 7408(a)(1); \textit{Train}, 545 F.2d at 326-27.
  \item \textsuperscript{240} Belden, \textit{supra} note 13, at 24.
  \item \textsuperscript{241} Chris Wold, David Hunter, & Melissa Powers, \textit{Climate Change and the Law} 540 (2009).
  \item \textsuperscript{242} \textit{See generally} Natural Res. Def. Council, Inc. v. \textit{Train}, 545 F.2d 320 (2d Cir. 1976).
\end{itemize}
environment are currently regulated under the Clean Air Act.” Therefore, any steps taken to list GHGs as a criteria pollutant would need to be forced through litigation. In fact, on December 2, 2009, the Center for Biological Diversity and 350.org filed a petition with the EPA to request that it regulate GHGs under the NAAQS. No action has apparently been taken by either the petitioners or the EPA.

Why has the Center of Biological Diversity not forced the issue? Is the EPA proper, practically speaking, in ignoring the petition? If we as a nation seek to do everything we can to combat climate change, shouldn’t we use all tools available to us? The answer to these questions is likely that the NAAQS are not properly suited to addressing the global problem of GHGs in the atmosphere.

A. Regulating GHGs Does Not Make Practical Sense Under the NAAQS

When the Center for Biological Diversity and 350.org petitioned the EPA to regulate GHGs under the NAAQS, “many experts . . . insist[ed] that it does not make sense” to regulate GHGs as criteria pollutants under the NAAQS. In fact, in October of 2009, Gina McCarthy, the EPA’s air chief, reportedly stated that the EPA did not intend to regulate GHGs under the NAAQS. The petition requested that the EPA set the level of carbon dioxide in the atmosphere

243 Belden, supra note 13, at 24.
244 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 N.Y.U. Envtl. L.J. 298, 376 (2005) (discussing that litigation would be a necessary step in order to force the EPA to list carbon dioxide as a criteria pollutant).
246 See About the Climate Law Institute, CTR. FOR BIOLOGICAL DIVERSITY, http://www.biologicaldiversity.org/programs/climate_law_institute/index.html (last visited Apr. 1, 2014) (mentioning the petition, but not indicating any further action or response).
247 Id.
248 Id.
at 350 parts per million (ppm), indicating that levels at the time were at 385.2 ppm.249 The chief climate counsel of the Sierra Club, David Bookbinder, indicated that the petition’s position was a minority view “and that the document is headed to ‘well-deserved bureaucratic oblivion’ at [the] EPA.”250 A former EPA air chief (during the George W. Bush Administration) and industry attorney claimed that the petition was more of a political statement than anything and that he did not know anyone at the EPA who thought regulating GHGs under the NAAQS was a sensible decision.251 The goal of 350 ppm is supported by NASA scientists and experts in the field.252 However, that the goal of the petition was sensible does not mean the means suggested are.

The basic requirements of the NAAQS are as follows. Once an air pollutant has been classified as a criteria pollutant, the EPA must promulgate primary and secondary NAAQS. The primary NAAQS must be set at a level sufficient, with “an adequate margin of safety,” to protect the public health.253 The secondary NAAQS must be set at a level “to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.”254 The public welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.255

The NAAQS are expressed as either an acceptable concentration for a specific time period or acceptable mass per volume of air.256 The EPA then delegates authority to the states to enforce the standards, requiring the states to create state implementation plans (SIPs) that have

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249 Petition, supra note 245, at 18-24.
250 Bravender, supra note 39.
251 Id.
252 Id.; Petition, supra note 245, at 20-24.
254 § 7409(b)(2).
255 § 7602(h).
256 BELDEN, supra note 13, at 12.
the goal of attaining or maintaining the NAAQS.\textsuperscript{257} The EPA along with the relevant body of the states establish air quality control regions (AQCRs), and then these different AQCRs or portions thereof are labeled as either in attainment or not in attainment for each of the different criteria pollutants.\textsuperscript{258} Certain other programs of the Clean Air Act are tied to whether the areas are in attainment or nonattainment.\textsuperscript{259} The program is premised on the idea that certain areas can be in attainment and others will not and different methods will be used in the nonattainment areas.\textsuperscript{260}

There are two major practical problems with regulating GHGs under the NAAQS. First, climate change is a global and unique problem. Concentrations of GHGs are essentially the same throughout the world.\textsuperscript{261} Additionally, the global nature of the problem and the GHGs unique indirect path of adversely impacting public health and welfare mean that the EPA cannot set NAAQS that meet the statutory requirements.\textsuperscript{262} The GHGs adverse impact is unique because the indirect impact of the GHGs is different than the other criteria pollutants, which generally cause direct adverse health impact due to the concentration, such as PM causing asthma.\textsuperscript{263} The greenhouse effect, not the concentration of the pollutant itself, is what causes the harm from GHGs.\textsuperscript{264} Therefore, addressing GHGs through the NAAQS is quite different than any current criteria pollutant because it is not the “mere presence of [GHGs] in the air that is dangerous,” but the total “volume of carbon dioxide emissions” in the global atmosphere that causes the harms,

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{257} § 7410. If a state declines to create a SIP (which it can do based on tenants of United States federalism) or the SIPs fail short of the requirements, the EPA institutes a federal implementation plan (FIP). § 7410(c)(1); New York v. United States, 505 U.S. 144, 176 (1992) (holding that the federal government cannot commandeer the states or force them to carry out a federal program).
\item \textsuperscript{258} § 7410(a)(1); Belden, supra note 13, at 23.
\item \textsuperscript{259} Belden, supra note 13, at 11.
\item \textsuperscript{260} Bravender, supra note 39.
\item \textsuperscript{261} Id.
\item \textsuperscript{263} Id. at 23.
\item \textsuperscript{264} Id. at 24.
\end{enumerate}
\end{footnotesize}
which is not conducive to addressing at a local level unlike current criteria pollutants.\textsuperscript{265} Furthermore, that the concentration of the GHGS are consistent throughout the world and impacted by world emissions means that the whole world would either be in an attainment area or a nonattainment area.\textsuperscript{266} The EPA could not meaningfully set primary or secondary NAAQS, as the United States alone could not reach NAAQS that were statutorily set at a level that provided an adequate margin of safety sufficient to protect health or even adequate to protect the public welfare.\textsuperscript{267} Therefore, it would not make sense to use the NAAQS as a tool to address GHGs.

If Congress created statutory amendments that allowed a different approach under the NAAQS for GHGs, with lowered expectations that did not require the level of emissions to be set at levels adequate to protect the public health and welfare, the NAAQS could potentially be used to address climate change. Even without Congressional amendment, efforts states would have to use to attempt to achieve the NAAQS could be helpful in combating climate change. A detailed discussion of such efforts is beyond the scope of this article.\textsuperscript{268} However, due to Congressional stand-still, relying on Congress to act is unwise, especially on the issue of climate change.\textsuperscript{269} Additionally, even though efforts to reach the NAAQS could mitigate climate change,


\textsuperscript{266} Avi-Yonah \\& Uhlmann, \textit{supra} note 262, at 24.

\textsuperscript{267} \textit{Id.} at 24; 42 U.S.C. \textsection 7409(b)(1)-(2).


mandating achievement of an unachievable goal is not the only means to make use of such efforts.\textsuperscript{270} Instead, the federal, state, local governments and private entities should use efforts to practically and effectively combat climate change.

B. State Implementation Would Cause Significant Problems

Historically, the EPA has had difficulties in delegation of implementation of the NAAQS to the states.\textsuperscript{271} The EPA has had difficulty with states failing to develop and implement their SIPs.\textsuperscript{272} Additionally, sometimes states create SIPs that are too restrictive, which could become the case if states try to reach NAAQS set by the EPA that attempt to protect the public health and welfare.\textsuperscript{273} Furthermore, the states have shown recent resistance to implementing federally mandated programs when they are controversial, for example, the Affordable Care Act.\textsuperscript{274}

Because a large, vocal portion of the American public has not accepted that climate change is anthropogenically caused or even that climate change exists,\textsuperscript{275} delegating enforcement of such a demanding and resource-consuming plan to the states would likely be met with resistance and refusal to comply with requests for SIPs. This public opposition and problems with delegation would be further compounded by the fact that “[i]ndividual states do not have the funding or resources to adequately address an international problem like climate change.”\textsuperscript{276} This could

\textsuperscript{270} See, e.g., supra notes 26-36 and accompanying text.
\textsuperscript{271} CARLARNE, supra note 11, at 32.
\textsuperscript{272} Id.
\textsuperscript{273} See id.
\textsuperscript{274} Sandhya Somashekhar, States Find New Ways to Resist Health Law, WASH. POST, Aug. 28, 2013, http://www.washingtonpost.com/national/health-science/states-find-new-ways-to-resist-health-law/2013/08/28/c63f8498-0a93-11e3-8974-f97ab3b3c677_story.html. (”Several Republican-led states at the forefront of the campaign to undermine President Obama’s health-care law have come up with new ways to try to thwart it, refusing to enforce consumer protections, for example, and restricting federally funded workers hired to help people enroll in coverage. And in at least one state, Missouri, local officials have been barred from doing anything to help put the law into place.”).
\textsuperscript{275} Karpinski, supra note 269 (discussing that many members of Congress deny the existence of climate change or that it is anthropogenically caused); Simon & Pentland, supra note 3, at 220-23; Hoffman, supra note 3.
\textsuperscript{276} Reiblich, supra note 265, at 55.
undermine other valid uses of state resources and further alienate people already resisting actions
to combat climate change.

Even if meaningful levels of NAAQS could be set for GHGs, the state implementation of
the NAAQS would create a possibly insurmountable obstacle to its enforcement.

C. The Supreme Court Could Read More Discretion into the Clean Air Act

If litigants did try to force the EPA to regulate GHGs under the NAAQS, the Supreme
Court could have the opportunity to introduce more discretion into the Clean Air Act. For
instance, the Supreme Court has never decided whether listing criteria pollutants after an
endangerment finding is necessary under the statute. The Court could decide in opposition to the
Second Circuit’s decades old decision and find that the Administrator has discretion not to list
criteria pollutants.277 While this direct holding may not cause problems due to the EPA’s general
inaction in listing new criteria pollutants, introducing discretion into this portion of the Clean Air
Act may set precedent for more discretion in the heretofore science and health focused Act.278

The Court would likely introduce discretion into the Clean Air Act through Chevron
deference.279 The Chevron doctrine governs judicial review of agency interpretations of statutory
delocations.280 Under Chevron, the reviewing court first asks whether “Congress has directly
spoken to the precise question at issue.”281 If Congress’s intent is clear, then it is controlling and
any other interpretation by an agency is improper.282 If Congress’s intent is not clear, then the
court must review the agency’s interpretation deferentially and uphold the interpretation if it “is

277 See Natural Res. Def. Council, Inc. v. Train, 545 F.2d 320, 325 (2d Cir. 1976).
278 Massachusetts v. EPA, 549 U.S. 497, 533-34 (2007) (holding that an endangerment finding under the
Mobile Source Emissions Standards must be made based on scientific judgment regarding the air pollutant’s effect
on public health and welfare); Natural Res. Def. Council, Inc. v. Train, 411 F. Supp. 864, 868 (S.D.N.Y. 1976) aff’d,
545 F.2d 320 (2d Cir. 1976).
280 Id. at 842-43.
281 Id. at 842.
282 Id. at 842-43.
based on a permissible construction of the statute.”283 This doctrine would allow the Court to
determine that a portion of the Clean Air Act was ambiguous and thereby defer to the
interpretation of the EPA that did not require classification of GHGs as criteria pollutants. One
possible source of this ambiguity was discussed by the Second Circuit. In Natural Resource
Counsel Defense, Inc. v. Train, the Second Circuit stated that the statutory language regarding
revision of criteria pollutants was “ambiguous” as to its “literal language,” though Congress’s
intent was clear.284 The Supreme Court could use this ambiguity in the text to allow the EPA to
avoid listing criteria pollutants regardless of the apparent mandatory language, i.e., “shall.”285 In
Young v. Community Nutrition Institute, the Court determined that the use of the word “shall” in
the context of an apparently unambiguous statute could mean “may” and deferred to the
“reasonable” interpretation of the agency.286 The Court could apply this same rationale to the
Clean Air Act, specifically the NAAQS, and thereby set the precedent of introducing
unnecessary discretion into portions of the Clean Air Act.

Additionally, the Supreme Court could apply the “prevention of absurd results” doctrine
to avoid requiring the EPA to apply the NAAQS to greenhouse gases, perhaps even in the
absence of ambiguous language.287 The prevention of absurd results doctrine requires that

283 Id. at 843. “The court need not conclude that the agency construction was the only one it permissibly
could have adopted to uphold the construction, or even the reading the court would have reached if the question
initially had arisen in a judicial proceeding.” Id. at 843 n.11.
284 Natural Res. Def. Council, Inc. v. Train, 545 F.2d 320, 326-27 (1976). This decision came before
Chevron was decided in 1984.
285 42 U.S.C. § 7408 (a)(1) (“For the purpose of establishing national primary and secondary ambient air
quality standards, the Administrator shall . . . publish, and shall from time to time thereafter revise, a list which
includes each air pollutant . . . .”) (emphasis added); §7409(d)(1) (“Not later than December 31, 1980, and at five-
year intervals thereafter, the Administrator shall complete a thorough review of the criteria . . . and shall make such
revisions . . . .) (emphasis added).
refusing to apply the absurd results doctrine). This doctrine has already been used by the EPA in issuing the
Tailoring Rule for the PSD and Title V Programs of the Clean Air Act, which deviates from a clear statutory
mandate in the Clean Air Act regarding at what levels of emissions the programs should apply because the required
levels would be “absurd” if applied to GHGs. Tailoring Rule, 75 Fed. Reg. 31514, 31516 (June 3, 2010). The
“interpretations of a statute which would produce absurd results are to be avoided if alternative interpretations consistent with the legislative purpose are available.” This could set unnecessary precedent for allowing “prevention of absurd results” to allow the EPA to avoid important regulations.

CONCLUSION

When deciding to act, the EPA is in theory constrained by the statutory limits of its guiding statutes. However, when an agency refuses to act, the public must challenge the agency’s inaction to force it to comply with its statutory mandate. In determining whether to force the EPA to classify GHGs as a criteria pollutant for the NAAQS, potential litigants should exercise discretion and choose not to compel EPA’s rulemaking because the NAAQS are not a useful tool in the battle against climate change. The United States and its individual states have limited resources, and these resources should be used on programs that will effect positive change in the efforts against climate change.

A program should not be ignored because it will use significant resources or take significant efforts. Due to the disastrous nature and unfathomable scale of the adverse impacts of climate change, significant resources and efforts must be taken. However, attempting to force the climate change problem into a program that is not suited to address it would be a waste of valuable time and money. Furthermore, attempting to do so could further alienate people already skeptical of addressing climate change in any fashion. All programs used against climate change should be a valuable use of resources, or the public may act out against not just the bad programs, but the programs that are useful in this fight. For these reasons, even though the application of the NAAQS is likely legally compelled, the public should exercise discretion.

Tailoring Rule was upheld by the Second Circuit in Coalition for Responsible Regulation v. EPA. 684 F.3d 102, 132-49 (D.C. Cir. 2012). This was despite the fact that the language of the statutory delegation was unambiguous.

where the EPA legally cannot and should not attempt to force the EPA to classify GHGs as a criteria pollutant subject to the NAAQS.