

*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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“Human influence on the climate system is clear. . . . Warming in the climate system is unequivocal.”¹

– 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?”²

– 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,³ scientific experts accept that the earth is warming and that human activities are virtually certain to be the cause.⁴ The effects of climate

¹ IPCC, *Human Influence on Climate Change Clear, IPCC Report Says*, IPCC, 1 (Sept. 27, 2013), http://www.ipcc.ch/news_and_events/docs/ar5/press_release_ar5_wgi_en.pdf [hereinafter IPCC, *Human Influence*].

² Tom Randall, *We Need to Act’: Transcript of Obama’s Climate Change Speech*, BLOOMBERG (June 25, 2013), <http://www.bloomberg.com/news/2013-06-25/-we-need-to-act-transcript-of-obama-s-climate-change-speech.html>.

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.⁵ 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.⁶

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,⁷ adapting to the changing climate and world,⁸ inventing clean technologies and the corresponding intellectual property issues,⁹ 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 IINTERACADEMY 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.

⁵ IPCC WORKING GROUP II, *Chapter 26 North America, in IPCC WRGII AR5*, IPCC (Mar. 31, 2014), http://ipcc-wg2.gov/AR5/images/uploads/WGIAR5-Chap26_FGDall.pdf [hereinafter *IPCC North America*].

⁶ JAAP SPIER, SHAPING THE LAW FOR GLOBAL CRISES 71-82 (2012) (discussing the necessity of viewing climate change as a human rights issue); MICHAEL B. GERRARD & KATRINA FISCHER KUH, THE LAW OF ADAPTATION TO CLIMATE CHANGE: U.S. AND INTERNATIONAL ASPECTS 352, 693-96 (2012); IPCC WORKING GROUP II, *Chapter 11 Human Health: Impacts, Adaptation, and Co-Benefits, in IPCC WRGII AR5*, IPCC 3-4 (Mar. 31, 2014), http://ipcc-wg2.gov/AR5/images/uploads/WGIAR5-Chap11_FGDall.pdf.

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.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.¹¹

This path changed shortly before President Obama entered office, when the Supreme Court of the United States decided *Massachusetts v. EPA*.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.¹³ The Clean Air Act addresses pollution from both stationary and mobile sources.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.”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

¹⁰ Scott Victor Valentine, *Reframing Global Warming: Toward a Strategic National Planning Framework*, in 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”).

¹¹ CINNAMON PIÑON CARLARNE, CLIMATE CHANGE LAW & POLICY: EU & US APPROACHES 34-58 (2010) (discussing the United States' historical failure to act regarding climate change); *Top 20 GHG Emitting Countries – Breakdown by Sector*, THE SHIFT PROJECT DATA PORTAL, <http://www.tsp-data-portal.org/TOP-20-emitter-by-sector#tspQvChart> (last visited March 30, 2014) (listing 2010 emissions); *China Overtakes U.S. in Greenhouse Gas Emissions*, N.Y. TIMES (June 20, 2007), <http://www.nytimes.com/2007/06/20/business/worldbusiness/20iht-emit.1.6227564.html>.

¹² 549 U.S. 497 (2007).

¹³ ROY S. BELDEN, CLEAN AIR ACT 11 (2d Ed. 2011).

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

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

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 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 (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.²⁴ 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.²⁵ Two years after this decision, the EPA made the Endangerment and Cause or Contribute Findings for GHGs²⁶ under Section 202(a) – Mobile Source Emission Standards – of the Clean Air Act (hereinafter Endangerment Findings for Mobile Sources).²⁷

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.²⁸ Under an existing EPA policy,²⁹ 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.*

²⁵ *Massachusetts v. EPA*, 549 U.S. 497, 528-30, 533-35 (2007).

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.*

²⁸ John M. Broder, *U.S. Issues Limits on Greenhouse Gas Emissions from Cars*, N.Y. TIMES (April 1, 2010), http://www.nytimes.com/2010/04/02/science/earth/02emit.html?_r=0; Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule, 75 Fed. Reg. 25324 (May 7, 2010) (codified at 40 C.F.R. Parts 85, 86, & 600; 49 C.F.R. Parts 531, 533, 536, 537, & 538) [hereinafter Tailpipe Rule].

²⁹ The EPA has treated regulation of “any air pollutant” under the provisions of Title V and the PSD Program to require regulation of any air pollutant already regulated under any other portion of the Clean Air Act. *See* Requirements for Preparation, Adoption, and Submittal of Implementation Plans; Approval and Promulgation of Implementation Plans, 45 Fed. Reg. 52676, 52711 (Aug. 7, 1980) (PSD program); Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule: Final Rule, 75 Fed. Reg. 31514, 31553–54 (June 3, 2010) (codified at 40 C.F.R. Pts 51, 52, 70, et al.) [hereinafter Tailoring Rule] (discussing history of Title V regulation and applicability).

GHGs.³⁰ The EPA then promulgated the Tailoring Rule, which set up standards for application of the PSD and Title V programs to GHGs.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.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.³³ Other recent actions include the EPA's release of a rule reducing the allowable sulfur in gasoline,³⁴ a climate change data website,³⁵ and a strategy to cut methane emissions.³⁶

³⁰ Tailoring Rule, 75 Fed. Reg. 31514, 31553-54.

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).

³² Executive Office of the President, *The President's Climate Action Plan* 5, (June 2013), <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf>.

³³ John M. Broder, *Obama Readyng Emissions Limits on Power Plants*, N.Y. TIMES (June 19, 2013), <http://www.nytimes.com/2013/06/20/science/earth/obama-preparing-big-effort-to-curb-climate-change.html>.

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).

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.

³⁶ *A Strategy to Cut Methane Emissions*, WHITE HOUSE BLOG, <http://www.whitehouse.gov/blog/2014/03/28/strategy-cut-methane-emissions> (last visited Mar. 30, 2014). This plan was unveiled on March 28, 2014 and is part of the Obama Administration's Climate Change Action Plan. Coral Davenport, *White House Unveils Plans to Cut Methane Emissions*, N.Y. TIMES (Mar. 28, 2014), <http://www.nytimes.com/2014/03/29/us/politics/white-house-unveils-plans-to-to-cut-methane-emissions.html>.

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). As 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, *supra* note 13, at 11.

³⁸ 42 U.S.C. §§ 7408-09 (2014).

³⁹ Robin Bravender, *Groups Petition EPA to Set Greenhouse Gas Limits under Clean Air Act*, N.Y. TIMES (Dec. 2, 2009), <http://www.nytimes.com/gwire/2009/12/02/02greenwire-groups-petition-epa-to-set-greenhouse-gas-limi-40485.html>.

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 *infra* Part III; 42 U.S.C. § 7409.

of the effect on public health and welfare,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 *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. A (VERY) BASIC OVERVIEW OF THE SCIENCE AND EFFECTS OF CLIMATE CHANGE

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 *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.

⁴² *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.⁴³ 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.⁴⁴ The greenhouse effect keeps the global temperature warm enough to be habitable for life as it has evolved on earth.⁴⁵ Water vapor and carbon dioxide are the two main naturally occurring GHGs.⁴⁶ Water vapor does not stay long in the atmosphere and globally does not appear to be directly anthropogenically affected.⁴⁷ 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.⁴⁸

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.⁴⁹ The primary cause of human release of GHGs is the burning of fossil fuels.⁵⁰ 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).⁵¹ The most significant GHG that results from human activities is carbon dioxide.⁵² In the United States,

⁴³ SCOTT D. DEATHERAGE, *CARBON TRADING LAW AND PRACTICE* 5 (2011).

⁴⁴ *Id.*; ARNOLD W. REITZE, JR., *AIR POLLUTION CONTROL & CLIMATE CHANGE MITIGATION LAW* 463 (2d Ed. 2010).

⁴⁵ DEATHERAGE, *supra* note 43, at 5.

⁴⁶ *Id.*

⁴⁷ REITZE, *supra* note 44, at 463.

⁴⁸ *Id.*

⁴⁹ *Id.* at 464-65.

⁵⁰ EPA, *The Causes of Climate Change*, EPA, <http://www.epa.gov/climatechange/science/causes.html#greenhouseeffect> (last visited Mar. 30, 2014).

⁵¹ For a more complete and detailed list, see IPCC WORKING GROUP III, *Introductory Chapter, in Mitigation of Climate Change*, IPCC, 20 (Apr. 12, 2014), http://report.mitigation2014.org/drafts/final-draft-postplenary/ipcc_wg3_ar5_final-draft_postplenary_chapter1.pdf.

⁵² DEATHERAGE, *supra* note 43, at 5.

in 2012, carbon dioxide constituted 82% of GHG emissions.⁵³ When emissions of GHGs are measured, they are measured based on their global warming potential (GWP),⁵⁴ which is then translated into its CO₂ equivalent.⁵⁵ The other main GHGs are methane, nitrous oxide, and fluorinated gases.⁵⁶ Though released in lower quantities, these other gases are problematic because they have higher GWPs than CO₂; for example, sulfur hexafluoride has a GWP of 23,900.⁵⁷

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

B. The Human Health, Public Welfare, and Environmental Effects of Climate Change⁶⁰

Climate change is unequivocal and that this change is anthropogenically caused is virtually certain.⁶¹ In March 2014, the IPCC's report concluded that there are already significant observable negative impacts as a result of climate change.⁶² These impacts have been observed on "physical, biological, and human systems."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

⁵³ EPA, *Overview of Greenhouse Gases*, EPA, <http://www.epa.gov/climatechange/ghgemissions/gases.html> (last visited March 30, 2014).

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.

⁵⁵ *Id.*

⁵⁶ *Overview of Greenhouse Gases*, *supra* note 53.

⁵⁷ EPA, *Emissions of Fluorinated Gases*, EPA, <http://www.epa.gov/climatechange/ghgemissions/gases/fgases.html> (last visited March 30, 2014).

⁵⁸ *Top 20 GHG Emitting Countries*, *supra* note 11; *China Overtakes U.S.*, *supra* note 11.

⁵⁹ *China Overtakes U.S.*, *supra* note 11.

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/WGIAR5-TS_FGDall.pdf.

⁶¹ IPCC, *Human Influence*, *supra* note 1, at 1.

⁶² IPCC, *Volume Wide Frequently Asked Questions 2* (Mar. 31, 2014), http://ipcc-wg2.gov/AR5/images/uploads/WGIAR5-Volume-FAQs_FGD.pdf.

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.⁶⁴

The summary indicated that though some regions will see some benefits due to climate change, the overall impact is negative.⁶⁵

Specifically in the United States and North America, there have been significant observed negative impacts.⁶⁶ 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.⁶⁷ Human health is expected to be further impacted by a continuing increase in heat waves and extreme weather events.⁶⁸ The Report also indicated that increase in infectious diseases, air pollution, and airborne pollen is likely (with moderate confidence).⁶⁹ 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.⁷⁰ 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

⁶⁴ *Id.*

⁶⁵ *Id.*

⁶⁶ *IPCC North America, supra* note 5.

⁶⁷ *Id.* at 4.

⁶⁸ *Id.* at 4.

⁶⁹ *Id.* at 4-5.

⁷⁰ *Id.* at 4.

events, such as droughts, storms, and heat waves; and changes in temperature and precipitation.⁷¹ The Report stated that the infrastructure, if not modified, is at significant risk due to extreme weather events.⁷²

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.⁷³

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.⁷⁴ 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.⁷⁵ However, Congress refused to ratify the Protocol because of economic concerns and global competitiveness.⁷⁶ The policy regarding climate change under the presidency of George W. Bush was just that, policy.⁷⁷ It lacked any legal substance and relied on voluntary and non-binding goals.⁷⁸ Additionally, the George W. Bush Administration made significant efforts to roll back environmental laws, even repudiating the Kyoto Protocol.⁷⁹ 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.⁸⁰

⁷¹ *Id.* at 5.

⁷² *Id.*

⁷³ *See generally id.* (discussing North America observed impacts, vulnerabilities, future impacts, and suggested adaptation measures).

⁷⁴ CARLARNE, *supra* note 11, at 35.

⁷⁵ *Id.* at 30.

⁷⁶ *Id.*

⁷⁷ *Id.* at 37-38.

⁷⁸ *Id.* at 39.

⁷⁹ *Id.* at 31, 34 n.39.

⁸⁰ *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

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).

⁸³ 68 Fed. Reg. 52922 (Sept. 8, 2003).

⁸⁴ *Id.* at 52925.

⁸⁵ *Id.*

⁸⁶ *Massachusetts*, 549 U.S. at 514.

its discretion.⁸⁷ 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.⁸⁸

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.⁸⁹ 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.”⁹⁰ 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.”⁹¹ The Court also stated that the sea level rise had already begun to cover some of Massachusetts’ land.⁹² 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.⁹³ The Court did indicate that it was basing its findings on the uncontested affidavits of the petitioners.⁹⁴ Nevertheless, these statements show the Court’s willingness to recognize the existing and future effects of climate change as injuries to the public.⁹⁵

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 Gase 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.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.’”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’⁹⁸ that such emissions contribute to climate change.”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.”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

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. *Id.* at 541-42.

⁹⁶ *Id.* at 532.

⁹⁷ *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)).

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:

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.

42 U.S.C. § 7521(a)(1) (emphasis added).

⁹⁹ *Massachusetts*, 549 U.S. at 529.

¹⁰⁰ *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).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.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."¹¹¹ The collaboration of the different statutes and agencies would aid "thoughtful regulation."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.¹¹³ Instead, the Court held that the two agencies should work towards a consistent standard with their differing obligations in mind.¹¹⁴

In its argument against regulating GHGs, the EPA had relied upon *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.¹¹⁵ The Court distinguished that case on two bases.¹¹⁶ First, the Court noted that in *Brown*, regulating tobacco products as a drug would have required a complete ban on tobacco products, whereas in *Massachusetts*, the Court would not be taking such extreme measures and would only be regulating emissions.¹¹⁷ Further, banning tobacco products would clash "with the 'common

¹⁰⁹ *Id.*

¹¹⁰ *Id.* at 530-32.

¹¹¹ *Id.* at 530.

¹¹² *Id.*

¹¹³ *Id.* at 531-32.

¹¹⁴ *Id.* at 532.

¹¹⁵ 529 U.S. 120, 133 (2000); *Massachusetts*, 549 U.S. at 530.

¹¹⁶ *Id.* at 530-31.

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.¹¹⁸ Additionally, the Court discussed that in *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 *Massachusetts*, the EPA could not make parallel claims to those in *Brown* regarding its regulation of GHGs.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.¹²⁰ Therefore, the Court held that the EPA’s reliance on *Brown* was misplaced and did not change that the Clean Air Act mandated the EPA to regulate GHGs as air pollutants.¹²¹

Finally, the Court noted that Congress intended “regulatory flexibility” in enacting the Clean Air Act and Section 202(a)(1) specifically.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.”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.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.¹²⁵ However, the

¹¹⁸ *Id.* (quoting *Brown*, 529 U.S. at 133).

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ *Id.* at 530-31.

¹²² *Id.* at 532.

¹²³ *Id.*

¹²⁴ *Id.*

Court held that this justification was “divorced from the statutory text.”¹²⁶ 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.’”¹²⁷ The use of the word “judgment” did not give the Administrator “a roving license” to make decisions on non-statutory bases.¹²⁸ 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.”¹²⁹ 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.¹³⁰

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.¹³¹

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.¹³² 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

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.¹³³ The Court also stated that “residual uncertainty” “surrounding various features of climate change . . . is irrelevant.”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.”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.¹³⁶ The Court therefore remanded to the EPA to make a reasoned decision consistent with the opinion.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).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.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

¹³³ *Id.* at 533.

¹³⁴ *Id.* at 534.

¹³⁵ *Id.*

¹³⁶ *Id.* at 534-35.

¹³⁷ *Id.*

¹³⁸ Endangerment Findings, 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009); *President Barack Obama*, WHITE HOUSE, <http://www.whitehouse.gov/administration/president-obama> (last visited March 31, 2014).

¹³⁹ *See* Endangerment Findings, 74 Fed. Reg. 66496.

section of the Clean Air Act.¹⁴⁰ 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.¹⁴¹

i. *The Substance of the Endangerment Findings*¹⁴²

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).¹⁴³ The Findings concluded that these GHGs “in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare.”¹⁴⁴ 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.”¹⁴⁵ 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.¹⁴⁶ The Findings focused on the United

¹⁴⁰ *Id.* at 66499.

¹⁴¹ *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 solely 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).

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.¹⁴⁷

The EPA found ample support for its finding that GHGs in the atmosphere may reasonably be anticipated to impact public health and welfare.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.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.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.¹⁵¹ The EPA noted that even a small increase in the severity of these events could have serious adverse effects.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.”¹⁵³ The EPA also noted that, though uncertain, climate change may increase pathogen borne diseases.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.¹⁵⁵

The EPA also addressed the impact of GHGs in the atmosphere and climate change on the public welfare.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

¹⁴⁷ *Id.*

¹⁴⁸ *Id.* at 66516-36.

¹⁴⁹ *Id.* at 66497.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 66497-98.

¹⁵² *Id.* at 66497.

¹⁵³ *Id.* at 66498, 66525.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

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

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

¹⁶¹ *Id.*

¹⁶² *Id.* at 66498-99.

¹⁶³ 42 U.S.C. § 7521; *see* Endangerment Findings, 74 Fed. Reg. at 66499.

¹⁶⁴ Endangerment Findings, 74 Fed. Reg. at 66499.

emissions in the United States and total GHG emissions globally.¹⁶⁵ 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.¹⁶⁶ The EPA found based on this that GHG emissions from Section 202(a) “clearly” contribute to GHG concentrations.¹⁶⁷ 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.¹⁶⁸ Additionally, it observed that 202(a) sources emitted the second most GHGs in the United States, second only to electricity generation.¹⁶⁹ 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.¹⁷⁰

This Endangerment Finding for Mobile Sources did not place any substantive requirements on industries.¹⁷¹ The finding, however, formed the basis for the Tailpipe Rule¹⁷² and subsequently led to the application of the PSD and Title V Programs of the Clean Air Act to GHGs emissions.¹⁷³

¹⁶⁵ *Id.*

¹⁶⁶ *Id.*

¹⁶⁷ *Id.*

¹⁶⁸ *Id.*

¹⁶⁹ *Id.*

¹⁷⁰ *Id.*

¹⁷¹ EPA, *Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*, EPA, <http://www.epa.gov/climatechange/endangerment/> (last visited Mar. 31, 2014).

¹⁷² The Tailpipe Rule sets emissions and mileage standards for certain mobile sources “that would translate to a combined fuel economy average for new vehicles of 35.5 miles per gallon by 2016.” Broder, *supra* note 28; Tailpipe Rule, 75 Fed. Reg. 25324 (May 7, 2010). For updated versions of the rules and fact sheets regarding the rules for both light-duty and heavy-duty vehicles, see EPA, *Transportation and Climate: Regulations & Standards: Light-Duty*, EPA, <http://www.epa.gov/otaq/climate/regs-light-duty.htm#new1> (last visited May 4, 2014) and EPA, *Transportation and Climate: Regulations & Standards: Heavy-Duty*, EPA, <http://www.epa.gov/otaq/climate/regs-heavy-duty.htm> (last visited May 4, 2014).

¹⁷³ Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards; Final Rule, 75 Fed. Reg. 25324; *Coal. for Responsible Regulation, Inc. v. EPA.*, 684 F.3d 102, 129-44 (D.C. Cir. 2012) (upholding application of the PSD and Title V Programs to GHG emissions).

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.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.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.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.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.¹⁷⁸ The court observed that this was unnecessary statutorily and the "precautionary thrust" of the Clean Air Act further supported this holding.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.¹⁸⁰ The Court of Appeals denied the petitioners' petition for an en banc rehearing, though some judges dissented.¹⁸¹ Additionally, the Supreme Court denied certiorari on the issue of whether the

¹⁷⁴ *Coalition*, 684 F.3d at 117.

¹⁷⁵ *Id.* at 117-19.

¹⁷⁶ *Id.* at 119-20.

¹⁷⁷ *Id.* at 120-22.

¹⁷⁸ *Id.* at 122-23.

¹⁷⁹ *Id.* at 123.

¹⁸⁰ *Id.* at 117-26.

¹⁸¹ *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.¹⁸²

III. *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 *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.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.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.¹⁸⁵

A. The Definition of “Air Pollutant” in *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.¹⁸⁶ The Clean Air Act has a

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”).

¹⁸³ See discussion *infra* Subparts III.A-C.

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

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.

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.¹⁸⁷ 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.¹⁸⁸ 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.¹⁸⁹

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.*¹⁹⁰

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

(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).

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.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.

- 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"*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.”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.”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.”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 *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.¹⁹⁶ The requirement that the GHGs are present in the ambient air due to

¹⁹¹ § 7408(a)(1)(A)-(C) (emphasis added).

¹⁹² 42 U.S.C. § 7408(a)(1)(B).

¹⁹³ *Id.*

¹⁹⁴ § 7521(a)(1).

¹⁹⁵ § 7602(z).

¹⁹⁶ *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

reading of a sweeping statutory provision designed to capture 'any physical, chemical . . . substance or matter which is emitted into or otherwise enters the air.'").

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.*

All language referring to effects on 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.

§ 7602(h).

²⁰⁰ Endangerment Findings, 74 Fed. Reg. 66496, 66497 (Dec. 15, 2009).

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.”²⁰³ 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.²⁰⁴

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*.²⁰⁵ 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.²⁰⁶ 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.²⁰⁷ Furthermore, at this point, the science has further

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.

²⁰⁴ *See EPA, National Greenhouse Gas Emissions Data*, EPA, <http://www.epa.gov/climatechange/ghgemissions/usinventoryreport.html> (last visited May 3, 2014).

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.*

²⁰⁷ *Util. Air Regulatory Grp. v. EPA.*, 571 U.S. __; 134 S. Ct. 418 (2013) (granting certiorari for the sole issue of “[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”).

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.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.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.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.²¹¹ Additionally, as of 2008, the United States emitted 19 percent of the total world carbon dioxide emissions.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

²⁰⁸ See IPCC WORKING GROUP III, *Climate Change 2014: Mitigation of Climate Change*, (Apr. 11, 2014), <http://mitigation2014.org/report/final-draft/> (providing links to the pdf chapters of the report); IPCC WORKING GROUP II, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, (Mar. 31, 2014), <http://ipcc-wg2.gov/AR5/report/final-drafts/> (providing links to the pdf chapters of the report); see also discussion *supra* Subpart I.B.

²⁰⁹ Endangerment Findings, 74 Fed. Reg. 66496, 66499 (Dec. 15, 2009).

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.

²¹² EPA, *Global Greenhouse Emissions Data*, EPA, <http://www.epa.gov/climatechange/ghgemissions/global.html> (last visited April 1, 2014).

concentrations and hence, . . . to global warming.”²¹³ 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.²¹⁴ 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.²¹⁵

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.”²¹⁶ This language indicates that the Administrator has a duty to revise the list of criteria pollutants.²¹⁷ 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 .

. . .²¹⁸

²¹³ *Massachusetts v. EPA*, 549 U.S. 497, 525 (2007); Endangerment Findings, 74 Fed. Reg. at 66499.

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.

²¹⁶ 42 U.S.C. § 7408(a)(1).

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.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.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.²²⁷ Regulating the six well-mixed GHGs as a single pollutant would be proper, as the GHGs have "common properties."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 PM₁₀ and PM₂₅ both are made of multiple different substances with common properties regulated as a single air pollutant.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.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

²²⁵ 545 F.2d at 327-28.

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").

²²⁷ MERRIAM WEBSTER DICTIONARY, "Each" (defining "each" as "every one of two or more people or things considered separately).

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")

²²⁹ *Id.*; see also 40 C.F.R. § 50.6-7 (2013) (setting the NAAQS for PM₁₀ and PM₂₅).

²³⁰ See *Massachusetts v. EPA*, 549 U.S. 497, 533 (2007).

pollution that may reasonably endanger public health or welfare.²³¹ As has been explained, these endangerment findings are logically compelled.²³²

Finally, the third statutory requirement in the analysis for listing a criteria pollutant is that the “*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.”²³³ Arguably this could introduce a basis for agency discretion to decide to list a pollutant as a criteria pollutant.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.”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.²³⁶ The District Court stated that the EPA had discretion in making endangerment findings, but it did not have discretion not to list a

²³¹ *Id.* at 532-33.

²³² See discussion *supra* Section III.B.

²³³ 42 U.S.C. § 7408(a)(1).

²³⁴ See the EPA’s argument in *Natural Resource Defense Council, Inc. v. Train*, 545 F.2d 320, 325 (2d Cir. 1976) and *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. *Train*, 545 F.2d at 325.

²³⁵ *Train*, 545 F.2d at 326-27. At the time of the issuance of *Train*, the Supreme Court had not yet decided *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 *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. *Train*, 545 F.2d at 326-27 Therefore, if the reviewing court followed the precedent of the Second Circuit, *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.

²³⁶ *Train*, 411 F. Supp at 868.

pollutant that had been found to satisfy the endangerment and cause or contribution requirements.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.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.²³⁹

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.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.²⁴¹ And, as discussed above, this was after an environmental group forced the issue in court.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

²³⁷ *Id.* However, as discussed below, the EPA has not listed any other pollutant since *Train* mandated that it list lead. 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. See, e.g., *Broad Coalition Petitions EPA to Regulate Ammonia Gas Pollution from Factory Farms*, HUMANE SOCIETY U.S. (Apr. 6, 2011), http://www.humansociety.org/news/press_releases/2011/04/ammonia_epa_04062011.html.

²³⁸ See discussion *supra* Sections III.A-B.

²³⁹ 42 U.S.C. § 7408(a)(1); *Train*, 545 F.2d at 326-27.

²⁴⁰ BELDEN, *supra* note 13, at 24.

²⁴¹ CHRIS WOLD, DAVID HUNTER, & MELISSA POWERS, *CLIMATE CHANGE AND THE LAW* 540 (2009).

²⁴² See *generally* *Natural Res. Def. Council, Inc. v. Train*, 545 F.2d 320 (2d Cir. 1976).

environment are currently regulated under the Clean Air Act.”²⁴³ Therefore, any steps taken to list GHGs as a criteria pollutant would need to be forced through litigation.²⁴⁴ 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.²⁴⁵ No action has apparently been taken by either the petitioners or the EPA.²⁴⁶

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.²⁴⁷ 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.²⁴⁸ 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).

²⁴⁵ Ctr. for Biological Diversity, *Petition to Establish National Pollution Limits for Greenhouse Gases Pursuant to the Clean Air Act*, Dec. 2, 2009, available at http://www.biologicaldiversity.org/programs/climate_law_institute/global_warming_litigation/clean_air_act/pdfs/Petition_GHG_pollution_cap_12-2-2009.pdf [hereinafter “Petition”].

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 Bravender, *supra* note 39.

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

²⁴⁹ *Petition*, *supra* note 245, at 18-24.

²⁵⁰ Bravender, *supra* note 39.

²⁵¹ *Id.*

²⁵² *Id.*; *Petition*, *supra* note 245, at 20-24.

²⁵³ 42 U.S.C. § 7409(b)(1).

²⁵⁴ § 7409(b)(2).

²⁵⁵ § 7602(h).

²⁵⁶ BELDEN, *supra* note 13, at 12.

the goal of attaining or maintaining the NAAQS.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.²⁵⁸ Certain other programs of the Clean Air Act are tied to whether the areas are in attainment or nonattainment.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.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.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.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.²⁶³ The greenhouse effect, not the concentration of the pollutant itself, is what causes the harm from GHGs.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,

²⁵⁷ § 7410. If a state declines to create a SIP (which it can do based on tenants of United States federalism) or the SIPs fall 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).

²⁵⁸ § 7410(a)(1); BELDEN, *supra* note 13, at 23.

²⁵⁹ BELDEN, *supra* note 13, at 11.

²⁶⁰ Bravender, *supra* note 39.

²⁶¹ *Id.*

²⁶² See Reuven S. Avi-Yonah & David M. Uhlmann, *Combating Climate Change: Why a Carbon Tax Is a Better Response to Global Warming Than Cap and Trade*, 28 STAN. ENVTL. L.J. 3, 23-34 (2009).

²⁶³ *Id.* at 23.

²⁶⁴ *Id.* at 24.

which is not conducive to addressing at a local level unlike current criteria pollutants.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.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.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.²⁶⁸ However, due to Congressional stand-still, relying on Congress to act is unwise, especially on the issue of climate change.²⁶⁹ Additionally, even though efforts to reach the NAAQS could mitigate climate change,

²⁶⁵ Jesse Reiblich, *Addressing Climate Change: Have the Political Winds Shifted in Favor of a Carbon Tax*, 2 L.S.U. Energy L. & Resources 49, 55 (2013).

²⁶⁶ Avi-Yonah & Uhlmann, *supra* note 262, at 24.

²⁶⁷ *Id.* at 24; 42 U.S.C. § 7409(b)(1)-(2).

²⁶⁸ For a discussion of such efforts, the IPCC's Working Group III published on April 11, 2014 provides a highly detailed discussion of efforts that can and should be used to mitigate climate change and the IPCC's Working Group II published on March 31, 2014 a detailed discussion of adaptation to climate change. IPCC WORKING GROUP III, *Climate Change 2014: Mitigation of Climate Change*, (Apr. 11, 2014), <http://mitigation2014.org/report/final-draft/> (providing links to the pdf chapters of the report); IPCC WORKING GROUP II, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, (Mar. 31, 2014), <http://ipcc-wg2.gov/AR5/report/final-drafts/> (providing links to the pdf chapters of the report).

²⁶⁹ See Gene Karpinski, *Where Do Your Members of Congress Stand on Climate Change?*, HUFF. POST (Aug. 8, 2013), http://www.huffingtonpost.com/gene-karpinski/where-do-your-members-of-_b_3727903.html (discussing how “[w]e can't count on members of Congress to fix a problem if they don't even admit it exists”); see also, e.g., Tom Cohen, *U.S. Government Shuts Down as Congress Can't Agree on Spending Bill*, CNN (Oct. 1, 2013), <http://www.cnn.com/2013/09/30/politics/shutdown-showdown/>.

mandating achievement of an unachievable goal is not the only means to make use of such efforts.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.²⁷¹ The EPA has had difficulty with states failing to develop and implement their SIPs.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.²⁷³ Furthermore, the states have shown recent resistance to implementing federally mandated programs when they are controversial, for example, the Affordable Care Act.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,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.”²⁷⁶ This could

²⁷⁰ See, e.g., *supra* notes 26-36 and accompanying text.

²⁷¹ CARLARNE, *supra* note 11, at 32.

²⁷² *Id.*

²⁷³ See *id.*

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.”).

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.

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 delegations.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).

²⁷⁹ *Chevron v. Natural Res. Def. Council, Inc.*, 467 U.S. 837 (1984)

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).

²⁸⁶ 476 U.S. 974 (1986).

²⁸⁷ *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982) (acknowledging the validity of, but 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.”²⁸⁸ 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.

²⁸⁸ *Griffin v. Oceanic Contractors, Inc.*, 458 U.S. 564, 575 (1982).

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