

TESTIMONY OF PETER GLASER
ON STRENGTHS AND WEAKNESSES OF REGULATING GREENHOUSE GAS
EMISSIONS UNDER EXISTING CLEAN AIR ACT AUTHORITIES

SUBCOMMITTEE ON ENERGY AND AIR QUALITY OF
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INTRODUCTION

My name is Peter Glaser. I am a partner in the Washington, D.C., office of Troutman Sanders LLP. I received a B.A. from Middlebury College in 1975 and a J.D. from the George Washington University National Law Center in 1980. I practice in the areas of environmental and energy law. I have an active Clean Air Act (CAA) practice and have been involved in greenhouse gas (GHG) legal issues for more than a decade. I filed an amicus brief before the Supreme Court and the U.S. Court of Appeals for the D.C. Circuit in the *Massachusetts v. EPA* litigation.

Let me begin by stating that I am not here before the committee representing or advocating the position of any particular company or industry. I am not receiving remuneration from anyone for my testimony, and the views expressed in my testimony are my own and not necessarily those of any company or group that I currently represent or have represented.

In addition, I am not here to recommend any particular course of action by this Committee or Congress. I have been asked to offer my views as a practicing attorney on three issues pertaining to potential regulation by the U.S. Environmental Protection Agency (EPA) of greenhouse gases (GHGs) under the Clean Air Act (CAA).

By way of introduction, let me say that I believe that the CAA is a complete misfit for regulation of GHGs. While the statute may, as the Supreme Court found in the *Massachusetts v.*

EPA case,¹ have literal application to GHGs, that does not mean that the CAA is an appropriate GHG regulatory vehicle. In fact, if one were to design a statutory system uniquely unsuited for cost-effective GHG regulation, that statute would be the CAA. As discussed in more detail below:

- The CAA has no global reach and presents no opportunity to coordinate a domestic response with other country actions. Yet global warming is by nature an international issue that requires an international response.
- The CAA's National Ambient Air Quality Standards (NAAQS) program – the program the courts refer to as “central”² to and the “centerpiece”³ of the CAA's regulatory scheme, and as “the engine that drives nearly all of Title I of the CAA,”⁴ – is wholly unsuited for GHG regulation. NAAQS regulation will be a hugely expensive exercise in futility.
- Cap-and-trade opportunities under the statute are limited. For instance, EPA tried to utilize cap-and-trade to control powerplant mercury emissions in its Clean Air Mercury Rule (CAMR) under the Section 111 New Source Performance Standards (NSPS) program, but environmental parties maintained in court that EPA had no such authority. CAMR was overturned without the court reaching this issue.⁵
- Inflexible command and control mechanisms are the most likely form of GHG regulation under the CAA. Yet most agree that some form of flexible market-based approach is preferable.
- CAA regulation will not necessarily lead to the types of emissions cuts that advocates seek. Regulatory standards such as NSPS and Best Available Control Technology

¹ *Massachusetts v. EPA*, 127 S. Ct. 1438 (2007).

² *NRDC v. Gorsuch*, 685 F.2d 718 (D.C. Cir. 1982).

³ *Sierra Club v. Costle*, 657 F.2d 298, 315 (D.C. Cir. 1981).

⁴ *Whitman v. American Trucking Assns*, 531 U.S. 457, 468 (2001).

⁵ See *New Jersey v. EPA*, No. 05-1097, *slip op* (D.C. Cir. Feb. 8, 2008).

(BACT) require balancing of environmental, cost and technology factors. Some will argue that, under current technology, the appropriate NSPS and BACT level for many sources is zero.

Ultimately, society cannot significantly reduce GHG emissions without significant technological advances. Pushing regulation before technology is available may not produce the desired results.

- Regulation of GHGs under the CAA will create a disaster under the Prevention of Significant Deterioration (PSD) permitting program. Hundreds of thousands of small, previously unregulated sources across the economy will become subject to PSD permitting, creating a substantial drag on new investment activity and a huge backlog in the permitting process.

- The country will experience years, if not decades, of regulatory agony, as EPA will be required to undertake numerous, controversial, time-consuming, expensive, and difficult regulatory proceedings, all of which ultimately will be litigated.

Despite these problems with CAA regulation of GHGs, the country may be on the path to CAA regulation at the current time. In *Massachusetts v. EPA*, the Court found that GHGs are CAA “pollutants;” that EPA must determine whether GHGs emitted from new motor vehicles do or do not endanger public health or welfare, or supply a reason for not making this determination; and that, if EPA makes an “endangerment finding,” it must issue regulations.

Although the Court decision is technically limited to new motor vehicles, the precedent obviously extends throughout the CAA. Controversy now exists over EPA’s announcement that it will shortly issue an Advance Notice of Proposed Rulemaking in response to *Massachusetts* and to other petitions it has received to regulate GHG emissions from other mobile and stationary sources. But the controversy only concerns the timing of EPA’s response to *Massachusetts*. Ultimately, as EPA recognizes, it will need to make a full and final response to

the Supreme Court's decision. If its response is that GHGs endanger public health or welfare, CAA regulatory mechanisms will be triggered.

Congress has before it proposed legislation for a cap-and-trade program to address GHG emissions. I am not here to endorse or oppose such legislation. Given the concerns I have identified, however, I do urge that, if Congress adopts GHG legislation, it should do so as the exclusive means of regulating GHGs, to the exclusion of the CAA.

RESPONSE TO SUBCOMMITTEE'S QUESTIONS

1. What sections of the existing Clean Air Act might arguably provide authority to regulate greenhouse gas emissions?

In March 13, 2008 testimony before the House Select Committee on Energy Independence and Global Warming, EPA Administrator Stephen L. Johnson stated that the agency was "continuing to collect information to evaluate the availability and potential use of various CAA authorities for GHG mitigation," given "the complexity and interrelationship of potential approaches to GHG regulation under the Clean Air Act." Given the length and density of the statute and EPA's implementing regulations, along with nearly four decades of interpretive case law, Mr. Johnson may have understated the difficulty of reaching firm conclusions as to available regulatory mechanisms. Accordingly, my testimony here only identifies what I believe are the most significant potential avenues of GHG regulation under the statute. Other avenues may exist.⁶

The following sections are potential sources of GHG regulation: (a) New Source Performance Standards (NSPS), CAA § 111; (b) New Source Review (NSR), specifically the Prevention of Significant Deterioration (PSD) program, CAA, Title I, Part C; (c) National

⁶ Additionally, given space limitations here, my discussion necessarily condenses and summarizes complex provisions and omits much of the detail. I do not endorse any of these provisions as appropriate or lawful methods of GHG regulation. My purpose is only to identify potentially applicable provisions.

Ambient Air Quality Standards (NAAQS), CAA §§ 107-110, *et al.*; (d) interstate air pollution, CAA § 126; (e) international air pollution, CAA § 115; (f) Hazardous Air Pollutants (HAPs), CAA § 112; (g) new motor vehicles and new motor vehicle engines, CAA § 202; (h) nonroad engines, CAA § 213; and (i) aircraft, CAA § 231.

2. For each such section, please describe how this section might be applied to greenhouse gases, including a description of:

- a. The finding or other action that could trigger, allow or obligate the Environmental Protection Agency (EPA) to regulate under this section;**
- b. The types of sources that could be regulated;**
- c. The factors that EPA could consider (e.g., cost, technological feasibility); and**
- d. The amount of flexibility that EPA could provide sources (e.g., whether EPA could use a cap-and-trade approach, or would have to set standards that each regulated source would have to meet).**

A. New Source Performance Standards (NSPS)

GHG regulation under the CAA will almost inevitably include NSPS regulation under CAA § 111. EPA has already specifically been asked to regulate GHG regulations under the NSPS program in at least two proceedings.⁷

Section 111 of the CAA requires EPA to establish and periodically revise a list of categories of stationary sources. Under Section 111, EPA is required to include a source category on the list “if in his judgment it causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.”

EPA is also required to promulgate federal “standards of performance” for new and modified sources within such category. A “standard of performance” is defined under Section

⁷ See *New York v. EPA*, No. 06-1322 (D.C. Cir. 2006) (remand from Court case seeking to review EPA’s refusal to set new source performance standards for electric generating units and other large stationary sources); *Standards of Performance for Petroleum Refineries; Proposed Rule*, 72 Fed. Reg. 27178 (May 14, 2007), Comment by Environmental Integrity Project and the Sierra Club (August 7, 2007).

111(a)(1) as “a standard for emissions of air pollutants which reflects the degree of emission limitation achievable through the application of the best system of emission reduction which (taking into account the cost of achieving such reduction and any nonair quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated.” This standard has come to be known as “best demonstrated technology” or BDT.

Once EPA has established standards of performance, states are required to submit to the agency a procedure for implementing and enforcing such standards for *new or modified* sources located in the state. If EPA finds that the state procedure is adequate, it will delegate to the state implementation and enforcement authority.

Additionally, EPA is required to prescribe regulations setting forth procedures for state establishment of standards of performance for *existing* sources. The procedures are required to be similar to the procedures used under CAA § 110 whereby states submit state implementation plans for EPA approval. The standards of performance will apply to any existing source not regulated under the NAAQS or HAPs programs, both of which are described below.

Under the BDT standard for establishing standards of performance, both the availability and cost of technology must be considered. Although the standard can be set to be “technology-forcing,” the standard cannot be based on results achieved short-term at a small-scale “pilot” plant. EPA must show that the standard is “achievable” in the real world, that is, it “must be ‘adequately demonstrated’ that there will be ‘available technology.’”⁸

Court precedent emphasizes the breadth of inquiry that must be undertaken to establish standards of performance. According to the U.S. Court of Appeals for the D.C. Circuit, “[t]he

⁸ *Portland Cement Ass’n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974), quoting the statutory text. EPA has the burden to make this demonstration; it cannot be passed off to industry. *National Lime Ass’n v. EPA*, 627 F.2d 416, 432 (D.C. Cir. 1980).

language of section 111 . . . gives EPA authority . . . to weigh cost, energy, and environmental impacts in the broadest sense at the national and regional levels and over time as opposed to simply at the plant level in the immediate present.”⁹ The Court stated that ““section 111 of the Clean Air Act, properly construed, requires the functional equivalent of a NEPA impact statement.””¹⁰

Whether EPA could use a cap-and-trade program under Section 111 in lieu of plant-by-plant standards of performance is open to debate. As stated, EPA’s authority to use Section 111 as a vehicle for a cap-and-trade program was challenged in court in the CAMR case, but the court decision reversing CAMR did not reach the issue.¹¹

B. NAAQS

Under CAA § 108, EPA is required to publish and periodically revise a list of each air pollutant: “(A) the 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.” For each air pollutant included on this list, EPA is required to issue air quality criteria reflecting the “latest scientific knowledge useful in indicating the kind and extent of all identifiable effects on public health or welfare which may be expected from the presence of such pollutant in the ambient air, in varying quantities.” Under CAA § 109, EPA is required to simultaneously establish primary and secondary NAAQS for each pollutant for which air quality criteria are issued. Primary standards must be set at a level “which in the judgment of the Administrator, based on such criteria and allowing an adequate

⁹ *Sierra Club v. Costle*, 657 F.2d 298, 330 (D.C. Cir. 1981).

¹⁰ *Id.* at 331, quoting *Portland Cement*, 486 F.2d at 384.

¹¹ See *New Jersey v. EPA*, No. 05-1097, *slip op* (D.C. Cir. Feb. 8, 2008).

margin of safety, are requisite to protect the public health.” Secondary standards must be set at a level “which in the judgment of the Administrator, based on such criteria, is requisite to protect the public welfare.” The cost of attaining the NAAQS cannot be considered in setting the standards.¹²

The NAAQS are implemented and enforced through an elaborate federal-state partnership. In brief, under CAA §§ 107 and 110, subject to EPA review and approval, states establish attainment and non-attainment areas within the state for each area meeting or not meeting the NAAQS. States also develop and submit attainment plans setting forth control measures for maintaining attainment status in attainment areas and for bringing non-attainment areas into attainment within defined time limits. States are given some discretion to develop these control measures, so long as the ultimate goal of curing non-attainment and maintaining attainment are met. Severe sanctions apply to states which do not attain and maintain the NAAQS.

Cap-and-trade is a potential control mechanism under the NAAQS program to address interstate pollution transport. EPA has implemented a nitrogen oxide cap-and-trade program in a number of eastern states under the so-called NOX SIP Call, and it is implementing a nitrogen oxide and sulfur dioxide cap-and-trade program under its Clean Air Interstate Rule (CAIR). EPA’s authority to use cap-and-trade in the NAAQS program, however, is not entirely free from doubt. The CAIR rule is currently under judicial review, and it is not known whether the court’s decision will address the ability of EPA to provide a cap-and-trade system to address interstate air pollution.

It is hard to imagine how NAAQS regulation would work for a GHG. As stated, the establishment of a NAAQS triggers a process whereby attainment and nonattainment areas are

¹² *Whitman v. American Trucking Assns*, 531 U.S. 457, 464 (2001).

designated, states are required to submit implementation plans to attain or maintain the NAAQS, and severe sanctions are mandated for non-compliance. This process cannot work for GHGs, however, given that GHGs circulate and are well-mixed in the global atmosphere. As a result, a ton of GHG emitted in, for instance, Maryland has the same impact on GHG concentrations over Maryland as a ton emitted in China. Given this fact and given the large and rapidly increasing foreign GHG emissions, Maryland can do nothing about attaining or maintaining a GHG NAAQS. Maryland could literally cease emitting any GHGs tomorrow and it would have no discernable impact on GHG concentrations over the state. Yet Maryland would nevertheless be subject to severe sanctions for failing to attain or maintain the GHG NAAQS.

Similarly, GHG emissions are not a pollutant transport issue, such as ozone, where groups of states can combine to reduce emissions for the purpose of regional attainment, as is the case under the NOX SIP Call and CAIR. Given the nature of GHGs, not even the most draconian multi-state emission reductions could ensure attainment or maintenance of a GHG NAAQS. As a result, attempting to apply the NAAQS program to GHGs would be futile.

Debate exists as to whether EPA has discretion to refuse to adopt a NAAQS for a GHG given the futility of the program in the GHG context. In recent testimony before the House Select Committee on Energy Independence and Global Warming, David Bookbinder, Chief Climate Counsel for the Sierra Club, suggested that EPA might have discretion not to establish a NAAQS for carbon dioxide even though, in his view, carbon dioxide may reasonably be anticipated to endanger public health and welfare. As noted, under CAA §§ 108 and 109, EPA must establish a NAAQS for each pollutant that meets three tests. Mr. Bookbinder would undoubtedly maintain that GHGs meet the first two tests: they endanger public health and welfare and their presence “in the ambient air results from numerous or diverse mobile or

stationary sources.” Mr. Bookbinder suggested that the third Section 108(a)(1) factor for issuance of air quality criteria – the pollutant is one for which air quality criteria had not been issued before December 31, 1970 but is one for which the Administrator plans to issue air quality criteria under this section – might provide authority not to regulate under the NAAQS program. Mr. Bookbinder suggests that EPA could simply not plan to issue air quality criteria for a GHG, even one that endangers public health or welfare.

While I hope Mr. Bookbinder is right, his argument is directly contradicted by the holding of a case cited on a separate point in supporting testimony in the same hearing by Georgetown University Law Center Professor Lisa Heinzerling. *See Natural Resources Defense Council v. Train*, 545 F.2d 320 (2d Cir. 1976). Moreover, before EPA acted on the petition that led to the *Massachusetts v. EPA* case, Massachusetts and two other states brought an action in federal district court to compel EPA to establish a NAAQS for carbon dioxide, alleging that EPA had a non-discretionary duty to do so. *See Massachusetts v. Whitman*, Civil Action No. 03-CV-984 (D. Conn. 2003). This lawsuit was withdrawn when EPA denied the petition to regulate that led to the *Massachusetts v. EPA* case. Thus, the lead petitioner in the *Massachusetts v. EPA* case apparently does not share the view that EPA has discretion not to adopt a NAAQS for GHGs.

C. NSR/PSD

The New Source Review (NSR) program requires new and modified sources emitting more than defined levels of air pollutants to obtain an air quality permit prior to commencing construction. There are two types of programs – non-attainment NSR for sources located in non-attainment areas and attainment NSR implemented through the Prevention of Significant Deterioration (PSD) program. The PSD program was adopted by Congress in 1977 and applies in all areas of the country where existing ambient air quality is better than the NAAQS.

Although the NAAQS set maximum allowable levels of pollutants in the ambient air, Congress decided that in existing clean air areas the air should stay cleaner than the NAAQS, and for that purpose adopted the PSD program.¹³ The PSD program also applies to air pollutants for which NAAQS are not issued, so long as they are not regulated under the Section 112 HAPs program described below. Thus, the PSD program would apply to GHGs whether or not EPA establishes a NAAQS for GHGs, so long as it does not regulate such emissions through the HAPs program.

Under the PSD program, permits must be obtained before construction may begin on “major” new stationary sources of CAA-regulated air pollutants.¹⁴ The CAA lists 28 specific types of stationary sources, such as power plants, refineries, steel mills, chemical plants, etc., that are “major,” and subject to the PSD program, if they can emit at least 100 tons per year (tpy) of any regulated air pollutant.¹⁵ Other, unlisted types of stationary sources do not trigger PSD permitting as “major” sources unless they can emit at least 250 tpy of any air pollutant.¹⁶ The term “stationary source” is very broad. It includes “any building, structure, facility or installation” which emits or may emit a regulated pollutant.¹⁷

Also, once a facility is “major,” a change to that facility is subject to preconstruction PSD permitting if the change causes a “significant” emissions increase. EPA’s regulations numerically define a “significant” emission increase for a number of pollutants. For instance, an increase of particulate matter emissions of 25 tpy, or of sulfur dioxide or nitrogen oxides emissions of 40 tpy, is considered a “significant” increase. For pollutants for which EPA has not

¹³ See generally Clean Air Act, Title I, Part C, Subpart I, 42 U.S.C. §§ 7470-7479.

¹⁴ 42 U.S.C. § 7475(a).

¹⁵ 42 U.S.C. § 7479(1).

¹⁶ *Id.*

¹⁷ 40 C.F.R. § 52.21(b)(6).

provided a numerical “significance” definition, such as CO₂, *any* emission increase is considered to be a “significant” increase.¹⁸

In order to obtain a PSD permit, a source, among other requirements, must install Best Available Control Technology (BACT) for each pollutant which is “subject to regulation” under the Act.¹⁹ BACT is determined on a case-by-case basis as the maximum emission reduction achievable, taking into account energy, environmental, and economic impacts and other costs.²⁰

The PSD program is largely implemented through a state-administered permitting system. Seven states administer the program through “delegated” authority from EPA; they essentially act as EPA’s agent in administering EPA’s PSD permit requirements. On the other hand, forty-three states administer their own PSD programs for which EPA regulations prescribe the minimum CAA requirements. These states promulgate their own PSD regulations in their State Implementation Plans (SIPs). Those SIPs are submitted to EPA for approval. In a few instances, such as a project being located on Native American lands, EPA itself directly administers the PSD permit system.

The 100/250 tpy threshold for PSD applicability was established by Congress based on emission levels of traditional pollutants, such as particulate matter, nitrogen oxides and sulfur dioxide. Emissions above this threshold were considered to be significant enough to trigger a need to regulate these pollutants. The PSD-triggering threshold was not set based on the premise that 100/250 tpy is a significant enough level of CO₂ emissions to justify regulation. CO₂ is not like traditional pollutants for a number of reasons, one of which is that 100 or 250 tpy are not a great deal of CO₂. Although the 100/250 tpy level for traditional pollutants generally limits PSD permit requirements to large stationary sources like coal-fired electric generators, chemical

¹⁸ 40 C.F.R. §§ 52.21(b)(1)(ii), 52.21(b)(2), 52.21(b)(23).

¹⁹ 42 U.S.C. § 7475(a)(4).

²⁰ 42 U.S.C. § 7479(3).

plants, refineries and the like, a 100/250 tpy threshold for CO₂ will subject a massive number of previously unregulated small facilities to PSD requirements, as discussed more fully in response to question 3 below.

PSD regulation is not discretionary on EPA's part. It applies to any pollutant which is regulated under the CAA. Thus, if EPA regulates a GHG under *any* CAA program (other than the Section 112 HAPs program), it must also regulate that GHG under PSD. For instance, if on remand of the *Massachusetts v. EPA* case, EPA were to regulate GHG emissions from new motor vehicles, EPA would also be required to regulate GHGs under the PSD program. In other words, the new motor vehicle GHG regulation sought in the *Massachusetts v. EPA* case would also subject numerous small stationary sources to difficult PSD permitting requirements.

D. Interstate Air Pollution

Section 110(a)(2)(D)(i) requires state SIPs to contain measures prohibiting in-state sources from emitting pollutants which contribute significantly to NAAQS non-attainment or to the prevention of NAAQS maintenance by a downwind state. Section 126 authorizes EPA to receive and act on petitions from states alleging violations by an upwind state of this requirement. Both the NOX SIP Call and CAIR rule were adopted by EPA under these provisions to address interstate pollutant transport. Since these provisions are essentially NAAQS enforcement mechanisms, the NAAQS discussion set forth in part B above is applicable here and need not be repeated.

E. International Air Pollution

Section 115 of the CAA provides for regulation “[w]henver the Administrator, upon receipt of reports, surveys or studies from any duly constituted international agency has reason to believe that any air pollutant or pollutants emitted in the United States cause or contribute to air

pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country or whenever the Secretary of State requests him to do so with respect to such pollution which the Secretary of State alleges is of such a nature. . . .” In such event, the Administrator is required to notify the state in which such air pollutant originates, and the state in turn is required to adopt SIP provisions eliminating such endangerment. Again, since this provision is essentially a NAAQS enforcement mechanism, the NAAQS discussion set forth in part B above is applicable here and need not be repeated.

F. Hazardous Air Pollutants (HAPs)

Under CAA § 112(b), the Administrator is required to compile a list of HAPs, defined to include the 190 substances specifically listed in such subsection as well as:

. . . pollutants which present, or may present, through inhalation or other routes of exposure, a threat of adverse human health effects (including, but not limited to, substances which are known to be, or may reasonably be anticipated to be, carcinogenic, mutagenic, teratogenic, neurotoxic, which cause reproductive dysfunction, or which are acutely or chronically toxic) or adverse environmental effects whether through ambient concentrations, bioaccumulation, deposition, or otherwise . . .

Under CAA § 112(c), the Administrator is required to compile a list of categories of major sources and area sources of each listed HAP. Under CAA Section 112(d), the Administrator is required to promulgate regulations establishing national emissions standards for HAPs (NESHAPs) applicable to both new and existing sources. Such NESHAPs must require the use of maximum available control technology (MACT) in controlling sources of HAPs. Under Section 112(d)(2), MACT standards are set taking into consideration the cost of achieving emissions reductions and any non-air quality health and environmental impacts and energy requirements. However, Section 112(d)(3), “[t]he maximum degree of reduction in emissions that is deemed achievable for each new sources in a category or subcategory shall not be less

stringent than the emission control that is achieved by the best controlled similar source, as determined by the Administrator.” For existing sources, MACT standards may not be less stringent (and may be more stringent) than (a) the average emission limitation achieved by the best performing 12 percent of existing sources (subject to certain exceptions) or (b) the average emission limitation achieved by the best performing 5 sources in a category or subcategory with fewer than 30 sources.

I do not believe that GHGs qualify for regulation under Section 112 because I do not think that GHGs are, in nature or effect, HAPs within the meaning of the section. Each of the 190 substances originally listed by Congress as HAPs under CAA Section 112 is a poison, producing toxic effects in small dosages. By any stretch of the imagination, GHG are not poisons, at least not in the quantities that cause concern as to climate effects. Nevertheless, in an April 10, 1998 memorandum, former EPA General Counsel Jonathan Z. Cannon suggested, without discussion, that section 112 is “potentially applicable” to GHG regulation.

G. New Motor Vehicles and New Motor Vehicle Engines

Section 202(a)(1) of the CAA provides that:

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

In general, under CAA § 302(k), an emission standard means “a requirement established by the State or the Administrator which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis, including any requirement relating to the operation or maintenance of a source to assure continuous emission reduction, and any design, equipment, work practice or operational standard promulgated under this Act.” Section 202(a)(1) standards

are required to be set considering technology and cost factors. Under Section 202(a)(2), such standards “shall take effect after such period as the Administrator finds necessary to permit the development and application of the requisite technology, giving appropriate consideration to the cost of compliance within such period.” The *Massachusetts v. EPA* case was brought to review a petition to establish new motor vehicle standards under Section 202(a).

H. Nonroad Engines

Section 213(a)(5) provides that if EPA determines that emissions from new nonroad engines or vehicles:

significantly contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, the Administrator may promulgate (and from time to time revise) such regulations as the Administrator deems appropriate containing standards applicable to emissions from those classes or categories of new nonroad engines and new nonroad vehicles (other than locomotives or engines used in locomotives) which in the Administrator’s judgment cause, or contribute to, such air pollution, taking into account costs, noise, safety, and energy factors associated with the application of technology which the Administrator determines will be available for the engines and vehicles to which such standards apply.

EPA currently has before it petitions under this section to regulate GHG emissions from marine vessels and from land-based nonroad vehicles and engines.²¹

I. Aircraft

Under CAA § 231(a)(2), EPA “shall, from time to time, issue proposed emission standards applicable to the emission of any air pollutant from any class or classes of aircraft engines which in his judgment causes, or contributes to, air pollution which may reasonably be

²¹ *Petition for Rulemaking under the Clean Air Act to Reduce the Emission of Air Pollutants from Marine Shipping Vessels that Contribute to Global Climate Change* (Oct. 3, 2007), brought by Oceana, Friends of the Earth, Center for Biological Diversity and Earth Justice, and *Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Ocean-Going Vessels* (Oct. 3, 2007), brought by the State of California; *Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Nonroad Vehicles and Engines* (Jan. 29, 2008), brought by the States of California, Connecticut, Massachusetts, New Jersey and Oregon.

anticipated to endanger public health or welfare.” At least one petition to regulate GHG emissions from aircraft is currently pending before EPA.²²

3. What are the potential strengths and weaknesses of regulating greenhouse gas emissions under the Clean Air Act?

I see only weaknesses, and no strengths. I summarize the key weaknesses below:

1. No global reach or interface. Greenhouse gas emissions pose a global issue that must be addressed in a global context. The CAA is limited to domestic emissions. No opportunity exists within the statute to utilize international offsets or credits or to coordinate a domestic response with that of other countries.

2. Central regulatory program untenable. As discussed, the central CAA regulatory program is the NAAQS program. Yet that program cannot rationally be applied to control GHGs. EPA would be required to develop GHG standards requisite to protect the public health and welfare without considering the cost of attainment, and states would be required to adopt measures to attain or maintain the NAAQS, again regardless of cost. Yet the states will be essentially powerless to affect GHG concentrations within their borders.

3. Cap-and-trade opportunities limited. As discussed, environmental parties contest EPA’s ability to utilize cap-and-trade under the Section 111 program. Cap-and-trade seems more likely (although not definitively so) under Section 110 as a NAAQS attainment mechanism. Yet the NAAQS program in and of itself as applied to GHGs is irrational.

4. Inflexible command and control the most likely option. Most of the CAA provisions discussed above set forth command and control mechanisms, including the Section 111 NSPS program, the Section 112 MACT standards for HAPs, the Title I, Part C PSD

²² *Petition for Rulemaking under the Clean Air Act to reduce the Emission of Air Pollutants from Aircraft that Contribute to Global Climate Change* (Dec. 31, 2007), brought by Friends of the Earth, Oceana, NRDC and Earth Justice.

permitting requirements, including BACT standards, and the emission standards for new motor vehicles and engines in Section 202(a), for nonroad engines in Section 213, and for aircraft in Section 231. In all of these sections, EPA is required to establish minimum standards that every regulated source must meet. The use of flexible, market-based solutions under these provisions would likely generate controversy.

5. Uncertain results. Because many CAA regulatory standards, such as BACT and NSPS, require consideration of technological feasibility, CAA regulation may not result in any near term GHG emission reductions. Many will argue that, at the present time, zero controls represent the most appropriate BACT and NSPS levels. Plainly, technological breakthroughs are needed to significantly reduce GHG emissions. Attempting to impose regulation before technology is available will not produce the desired results.

6. PSD disaster.

The PSD burden caused by the 100/250 tpy applicability threshold for GHGs could be overwhelming for small and large businesses alike. New sources emitting more than 100/250 tpy of GHGs could not be built without first obtaining a PSD permit after undergoing the BACT process. Existing sources that emit more than 100/250 tpy of GHGs that wish to expand or modify their facilities in a way that would increase GHGs emissions by *any* amount would likewise first have to obtain a PSD permit after undergoing the BACT process.

The 100/250 tpy threshold, while appropriate for traditional types of air pollutants, is an extremely low threshold for carbon dioxide. The threshold is so low that hundreds of thousands of relatively small GHG-emitters will be swept into the PSD program if GHGs are regulated under the CAA. Buildings of about 100,000 square feet, if they are heated by oil or natural gas, would likely become subject to the program because of their carbon dioxide emissions, as would

relatively small users of natural gas such as commercial kitchens that use natural gas for cooking and businesses that use CO₂ naturally as a component of their operations. A very large number and variety of buildings and facilities could therefore become subject to the program – including many office and apartment buildings; hotels; enclosed malls; large retail stores and warehouses; college buildings, hospitals and large assisted living facilities;²³ large houses of worship; product pipelines; food processing facilities; large heated agricultural facilities; indoor sports arenas and other large public assembly buildings; restaurants; soda manufacturers; bakers, breweries and wineries; and many others. None of these types of sources has ever been subject to PSD permitting requirements before because they emit so little traditional air pollution; but they would be now if GHGs are regulated under the CAA.

PSD permitting is complicated, time-consuming and expensive. No small business requiring a moderate-sized building or facility heated with fossil fuel could operate subject to the PSD permit administrative burden.

The requirement that sources emitting more than 100/250 tpy of carbon dioxide apply BACT as a condition to permitting would also inject considerable, and perhaps fatal, uncertainty for businesses. No one can say at this time what BACT is for CO₂ because there is no precedent or guidance. BACT is determined through a case-by-case evaluation of control technology alternatives and involves a complicated weighing of economic, environmental, energy and other factors. BACT can even be no control measure if the weighing process fails to identify a technically and economically feasible technology for controlling the pollutant in question. But since BACT determinations for carbon dioxide have no regulatory history at this time, and can

²³ States may exempt non-profit health or education institutions from the PSD program. Absent such exemption, even non-profit hospitals, nursing homes, assisted living facilities and school buildings of more than about 100,000 square feet would be subject to PSD regulation if CO₂ is deemed to be a regulated CAA pollutant.

vary by type of facility and from state-to-state, businesses wishing to construct new sources or modify existing ones would have no basis for planning what the regulatory requirements will be.

The consequences of GHGs becoming CAA-regulated pollutants would also be experienced by state PSD-permitting agencies and by EPA. These agencies are wholly unprepared for the flood of PSD permit applications that would ensue. These agencies would either have to reassign scarce resources from other environmental programs to handle the permitting burden, resulting in a decline in environmental regulation in these other areas, or PSD permitting would become so backlogged as to effectively create a permitting moratorium.

PSD regulation is not discretionary. The consequences I describe will occur if EPA regulates GHGs under any CAA program.

7. Regulatory agony.

GHG regulation under the CAA will result in years, if not decades, of costly, time-consuming, controversial, and hugely difficult regulatory proceedings and litigation. Standard-setting will not happen quickly.

Consider the difficulty of setting GHG standards just under the Section 111 NSPS program, given the fact that NSPS process “requires the functional equivalent of a NEPA impact statement.”²⁴ In 1980, in a case involving the limestone industry, the Court stated that the “sheer massiveness of impact of the urgent regulations,” considered in that and other cases had “prompted the courts to require the agencies to develop a more complete record and a more clearly articulated rationale to facilitate review for arbitrariness and caprice” than had been applied in previous cases.²⁵ If massiveness of regulatory impact was a concern in a limestone industry case, that concern would be magnified many times in promulgating GHG standards of

²⁴ *Sierra Club v. Costle*, 657 F.2d at 331, quoting *Portland Cement*, 486 F.2d at 384.

²⁵ *National Lime*, 627 F.2d at 451 n.126.

performance not just in the limestone industry but in all of the many industries that emit GHGs. A plethora of issues would be relevant in setting GHG standards, with EPA weighing the cost, energy, and environmental impacts of GHG regulation “in the broadest sense at the national and regional levels and over time” as if it were preparing an Environmental Impact Statement. A large number of parties would be interested given the overwhelming importance of the issues. Thus, an EPA rulemaking to establish NSPS for utility units would be highly complex, controversial and time-consuming.

The daunting nature of the task of establishing NSPS for GHGs is illustrated by another case, *Sierra Club v. Costle*, 657 F.2d 298 (D.C. Cir. 1981). In 1976, a number of parties petitioned EPA to revise the sulfur dioxide NSPS for coal-burning powerplants. It took three years for EPA to conclude the proceedings and another two years for the court to review the case. The court noted “[t]he importance of the challenged standards [that] arises not only from the magnitude of the environmental and health interests involved, but also from the critical implications the new pollution controls have for the economy at the local and national levels.”²⁶ The court further noted that “the volume and technical complexity of the material necessary for our review is daunting.”²⁷ According to the Court, the record before EPA included more than 2,520 submissions; EPA’s statement accompanying the rule took up 43 triple columns of single-spaced type; EPA had performed or obtained from contractors 120 studies and collected more than 400 items of reference literature; and EPA had received almost 1400 comments, written 650 letters and 2000 interagency memos, held over 50 public meetings and substantive telephone

²⁶ *Sierra Club v. Costle*, 657 F.2d. at 313.

²⁷ *Id.* at 314.

conversations with the public, and conducted four days of public hearings.²⁸ Briefs submitted to the Court ran to 670 pages, and the Court's decision was more than 100 pages in length.

As with the limestone industry case examined in *National Lime*, the powerplant proceeding in *Sierra Club v. Costle* pertained to a single industry. If EPA is required to set standards for *all* GHG emitting industries, not just under Section 111 NSPS but under all of the CAA provisions discussed above, the result will be a regulatory nightmare.

In sum, if the goal is to set rational GHG policy in a timely fashion, the CAA should not be the vehicle of choice.

CONCLUSION

Congress should not allow for GHG regulation under the CAA. I appreciate the opportunity to submit these comments.

²⁸ *Id.*, n. 22.