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COMMENTS

Regulating Climate: What Role for the Clean Air Act?

by Brigham Daniels, Hannah Polikov, Timothy Profeta, and James Salzman

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For the Barack Obama Administration, addressing climate change has quickly risen as a priority. How the Administration should address climate change, however, remains very much in question. The U.S. Congress has started to move on climate legislation, but assuming passage, the final shape and detail of these efforts may not be known for months or even years. In the meantime, the Clean Air Act (CAA)[1]—a complex legal framework with many regulatory hooks and levers—remains the law of the land.

In light of the CAA's central role in addressing climate change over at least the near term, and perhaps far longer, on March 26, 2009, a group of the nation's leading CAA experts gathered at Duke University to focus specifically on how the U.S. Environmental Protection Agency (EPA) could or should use the CAA to reduce the nation's greenhouse gases (GHGs). Cosponsored by the Nicholas Institute for Environmental Policy Solutions at Duke University, the Duke Law School, and the Harvard Law School, the conference was organized with robust participation from EPA. To ensure that the presentations and discussions were policy-relevant, each panel commenced with a speaker from EPA providing an overview of the current policy landscape. The speakers who followed, drawn from academia, industry, and the nonprofit sector, then focused on specific opportunities and challenges presented by the CAA.[2]

This short Article highlights the major points raised during the day-long conference and seeks to provide insight into the factors EPA will need to consider as it moves forward with crafting GHG regulations under the CAA. We by no means claim to provide a full catalogue of the insights and discussion of the different panels but instead try to crystallize the key messages of the day as perceived by the authors.

I. The Endangerment Finding

At the time of the conference, there was much speculation over whether EPA would even try to use the CAA to regulate GHGs. Since the conference, however, EPA has put all speculation to rest. On April 17, the Agency issued a proposed endangerment finding.[3] In many respects, an endangerment finding provides the gateway to regulation under the CAA. Though not yet finalized, the finding concludes that the current and projected concentrations of GHGs in the atmosphere threaten the public health and welfare of current and future generations.[4] The finding focuses on the six main GHGs: carbon dioxide (CO_2); methane (CH_4); nitrous oxide (N_2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulfur hexafluoride (SF_6).

EPA's proposal was made pursuant to §202 of the CAA, which requires EPA to make an endangerment finding prior to regulating automobile emissions.[5] It seems reasonable that EPA looked to §202 because EPA needed to respond to the U.S. Supreme Court's landmark ruling of *Massachusetts v. EPA*[6] that mandated the Agency either to make an endangerment finding under that section of the CAA or provide a valid reason to decline to do so.

The need to respond to *Massachusetts*, however, may have not been the only reason for EPA's reliance on §202. While EPA commenced with §202, similarly structured endangerment finding requirements are found in other sections of the CAA. It seems likely, for example, that the Agency could have equally made an endangerment finding under §108 (the first step to triggering a GHG national ambient air quality standard (NAAQS)),[7] or under §111 (triggering new source performance standards).[8] As a number of experts at the conference noted, the automobile regulatory structure

1. 42 U.S.C. §§7401-7671q, ELR Stat. CAA §§101-618.
2. An online video of the conference can be viewed at http://www.nicholas.duke.edu/institute/clean.air.2009.html The conference also included a background paper. Brigham Daniels, Regulating Climate: What Role for the Clean Air Act? A Primer, *available at* http://www.nicholas.duke.edu/institute/clean.air.2009.html. Some of the content of the unpublished background paper is included in this Article.
3. Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act, 74 Fed. Reg. 18886 (Apr. 24, 2009).
4. *Id.* at 18895-96.
5. *Id.* at 18887-88.
6. 549 U.S. 497, 37 ELR 20075 (2007).
7. 42 U.S.C. §7408(a)(1)(A) (2008).
8. 42 U.S.C. §7411(b)(1)(A) (2008).

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under §202 is the most straightforward and sensible of all the tools in the CAA toolbox. Section 202 imposes a technology standard on newly manufactured vehicles. Even for the participants who largely favored a GHG cap-and-trade system, for example, many of these still believed that placing technology standards on new cars was the best way to deal with the transportation sector. Indeed, it is telling that many states have embraced this approach in crafting their own GHG regulatory programs. In fact, the coalition of states who brought suit against EPA in *Massachusetts* sought permission to deal with vehicle emissions precisely in this manner. Hence, the choice to make the finding under §202 may also represent a pragmatic approach to move forward.[9]

The endangerment finding under §202 puts to rest many of the questions raised by participants of the conference with regards to if and how the Obama Administration would use the mobile provisions of the CAA to regulate GHGs, particularly in light of recent developments regarding fuel efficiency standards.[10] The endangerment finding, however, makes even more relevant the other panel discussions, since the finding may well set in motion—or at least open the door to—other less intuitive CAA regulations. The finding has relevance to three broad CAA programs: NAAQS/state implementation plans (SIPs) found in §108; the new source performance standards (NSPS) found in §111; and the prevention of significant deterioration (PSD) preconstruction permits found in §165. We discuss some of the major findings relating to all three of these programs below.

II. GHGs and the NAAQS Program

In simple terms, the CAA tackles common air pollutants by having EPA identify so-called criteria air pollutants and then set NAAQS for the nation's air.[11] Given its central role in the CAA, it is interesting to note that there was little enthusiasm for using NAAQS to address climate change. Indeed, most speakers at the conference argued that, if at all possible, EPA should *avoid* using the NAAQS program. This caution was particularly interesting since there has been some speculation that EPA could use the NAAQS/SIP program to create a cap-and-trade program under this section.[12]

Whether or not EPA even has the discretion to refrain from using the NAAQS program to address GHGs, however, remains a matter of contention. It may be that once EPA has made an endangerment finding, it must issue a NAAQS. Whether or not it has discretion hinges on language found in CAA §108(a)(1)(C), which says EPA shall issue NAAQS for any air pollutant not regulated by the 1970 CAA for which EPA "plans" to issue air quality criteria under the NAAQS program.[13] At first blush, this seems to create breathing room for the Agency—EPA can avoid issuing NAAQS for GHGs simply by asserting that it has no plans to do so. But this reading contradicts the holding of an earlier precedent, *Natural Resources Defense Council, Inc. v. Train*,[14] which provides EPA no discretion to opt out of issuing NAAQS in the face of an endangerment finding. Speakers also noted that a decision against issuing NAAQS appears to fly in the face of the Court's direction in *Massachusetts* that the Agency not hide behind policy considerations in deciding whether to proceed.[15]

Whatever the legal requirements, however, many of the conference speakers identified both specific and significant policy arguments against using NAAQS to address GHGs. The following paragraphs set out the range of their concerns.

First, the scale of the GHG problem and the scale of the NAAQS/SIP structure are a poor fit. GHGs are a global pollutant. In terms of the net effect on the environment, it makes little difference whether an emission comes from Durham, North Carolina; Houston, Texas; or Bangalore, India. Yet, the very structure of the NAAQS/SIP program assumes both that it makes sense for the nation to set a national air quality standard and that states have the power to improve air quality within their airsheds. GHG levels are virtually the same worldwide, and because GHGs spread uniformly in the upper reaches of the earth's atmosphere, a single state has little power to reduce GHGs in the state's airshed, no matter how draconian the regulation.

Second, given the presence of fossil fuels in every corner of the economy, getting the right balance between costs and benefits of any particular GHG limitation is difficult, to say the least. Under the NAAQS program, however, it is even more difficult because in setting the NAAQS, EPA is explicitly forbidden from considering costs.[16] As a political matter, EPA stating that it cannot pay attention to the impacts of NAAQS on the struggling American economy will not play well in Tallahassee, Toledo, or Topeka.

Third, GHG emissions are long-lived, staying in the atmosphere for decades or even centuries. EPA would need

9. Assuming one were to use the CAA to regulate climate, it is important to note that while §202 seems like the most prudent place to start, this is not to say that making an endangerment finding under §202 will not trigger one or more other similarly worded endangerment findings found in the CAA. In fact, presumably it will. This is one of the chief risks of unleashing the CAA on a pollutant like GHGs that are prevalent in all or virtually all sectors of the economy. We discuss this point in greater detail below.
10. In a related development, on May 19, 2009, President Barack Obama announced a collaboration between EPA, the U.S. Department of Transportation (DOT), the world's largest automakers, the United Auto Workers, environmental groups, the state of California, and other states. He went further, announcing that EPA will use its authority under the CAA to set the first ever federal emissions standards for GHGs. And, in tandem, the DOT's National Highway Traffic Safety Administration will propose related fuel economy standards under the Energy Policy and Conservation Act. The coordinated approach will allow automakers to build a single national light-duty fleet by 2030 with 19% lower GHG emissions than those of today's fleet. Fact Sheet: EPA Will Propose Historic Greenhouse Gas Emissions Standards for Light-Duty Vehicles (May 2009), *available at* http://www.epa.gov/otaq/climate/regulations.htm.
11. 42 U.S.C. §7408 (2008).
12. *See, e.g.*, Regulating Greenhouse Gas Emissions Under the Clean Air Act, 73 Fed. Reg. 44353, 44482 (July 11, 2008).
13. 42 U.S.C. §7408 (2008).
14. 545 F.2d 320, 7 ELR 20004 (2d Cir. 1976). EPA, in fact, adopted this reading of *Natural Resources Defense Council, Inc. v. Train* on the public record but argued that it is possible that courts may rethink this interpretation of §108.
15. EPA might distinguish *Natural Resources Defense Council, Inc. v. Train* by arguing that it does not "plan" to use the NAAQS program but does "plan" on using another section of the CAA.
16. 42 U.S.C. §7409 (2008).

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to find a way to treat the emissions already in the atmosphere rationally as well as grappling with creating annual pollution budgets that recognize that emissions from this year are going to be on the books for a long time going forward.

Fourth, the bedrock of the NAAQS/SIP program—cooperative federalism—does not match well with global pollutants. Since the air above the Black Hills of South Dakota has the same GHG concentrations as the air above the coal plants in Ohio, should both states be required to write SIPs that achieve the same level of GHG reductions?[17] Alternatively, should EPA allocate GHG reduction requirements according to each state's ability to achieve emissions, with the greatest burden falling on the states that can most quickly or cheaply achieve reductions? And, given that emissions in significant part are a reflection of economic activity and growth, how should EPA factor that into the equation? For example, should industrial states have a lower regulatory burden than rural states, i.e., to allow them to continue to promote economic growth? Similarly, what weight should EPA put on the current population, forecasted population growth, historic emissions, and each state's need for economic growth?

Addressing these concerns will, no doubt, require creative thinking. One conference participant, for example, suggested that EPA could set a reduction goal by setting a NAAQS, e.g., a 50% reduction compared to 2005 levels by 2050, and then allocate wedges of that reduction trajectory to each state. While EPA could rely on various factors in doing so, e.g., state gross domestic product, state population, or some combination of the two, coming up with a plan that EPA deems sensible does little in reducing the political firestorm that may erupt when it becomes clear which states are political winners and losers due to EPA's calculus.

Fifth, some have argued that EPA could acknowledge the global nature of GHGs, declare all state SIPs inadequate (or advise states not to issue SIPs), and then create a federal implementation program along the lines of a mandatory cap-and-trade program.[18] While there are some questions about whether EPA even has the power to forge down this road, some at the conference argued that this approach was politically infeasible since it contradicted the cooperative federalism spirit that for nearly three decades has politically sustained the NAAQS/SIP program.

Perhaps the most practical observation in the context of NAAQS came in the context of timing. Even if EPA decides to issue NAAQS for GHGs (or a court orders it to do so), many at the conference argued that conservatively it would take at least a decade, if not longer, before these regulations entered into force, even if the Agency tried to rush the process.[19] As a result, the threat of NAAQS regulation is not imminent. Thus, while the NAAQS program may be heading for a collision with GHGs, if at all, the collision will play out in slow-motion for the next few years, giving Congress plenty of time to act.

III. GHGs and the NSPS Program

The NSPS program takes a technology-based approach, authorizing EPA to require a stationary source, such as a petroleum refinery, to install a particular technology or decrease its emissions to levels that are the functional equivalent of installing such a technology.[20] The NSPS program does not apply to all stationary sources, but rather only to new or modified sources that "contribute significantly" to air pollution that "endangers public health or welfare."[21] Importantly, in the event that EPA has not promulgated a NAAQS program, the NSPS program would also apply to existing sources.[22]

While speakers were generally critical of the NAAQS program, they were more optimistic about the returns of EPA employing the NSPS approach.[23] Some suggested the flexibility under this program constituted a major benefit because it allowed EPA to craft GHG regulation with particular sectors in mind, deciding not only which subsectors of the economy to tackle first but also how stringently to regulate them.[24] In theory, this would allow EPA to go slowly and methodically. As one panelist explained, in the short term EPA could, for example, set NSPS at modest levels, review them, and potentially increase them as new emission reduction technologies became available. Participants saw that another advantage of the NSPS program is that it, unlike the NAAQS program, allows EPA to consider costs and take into account the potential drag of regulations on the economy.[25]

Yet, endorsement of the NSPS program did come with reservations. One of the expressed concerns to this approach related to the potential of uneven regulation across the economy. Even if EPA only focused on major emitters, it will take a long time for EPA to work its way through the myriad sources of GHGs. By necessity, some sectors will likely face NSPS regulations long before others. Others argued that a level playing field that addresses multiple sources at once—such as cap-and-trade programs—is a more sensible and less politically charged way to proceed than cherry-picking various targets across the economy and having them bear burdens before other sectors. Still others voiced concern that the lag time for using NSPS was just too long.

17. This is generally the approach taken by EPA for other air pollutants since the air pollutant concentration in a state's airshed is usually caused by the state's own emissions. When emissions are caused by another state, the affected state can attempt to force the first state to reduce its emissions by enforcing §110 of the CAA, which provides that no state shall "contribute significantly" to another state's nonattainment. Section 110, however, has been the subject of much debate and litigation.
18. Jonathan B. Weiner, *Think Globally, Act Globally: The Limits of Local Climate Policies,* 155 U. Pa. L. Rev. 1961-79 (2007).
19. Some of EPA's major procedural steps include crafting what is known as a scientific document setting out the rationale of the NAAQS, walking through the rulemaking process, providing regulatory guidance to the states, providing time for states to generate SIPs, and providing time for various sources to comply.
20. 42 U.S.C. §7411 (2009).
21. *Id.*
22. *Id.*
23. One speaker from EPA pointed out that most of the comments to EPA's advanced notice that favored CAA GHG regulation using the NSPS program.
24. 73 Fed. Reg. at 44486-87.
25. *Id.* at 44486.

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Discussion also turned to whether an NSPS approach provided an obvious pathway to a market-based regulation, such as a cap-and-trade program. Some argued that a creative reading of the CAA could open this door. In fact, EPA's advance notice suggests that the NSPS program may permit EPA to pursue a cap-and-trade system by defining very broad industry categories and then permitting some sort of trading within these categories.[26] It is uncertain, however, whether this reading of the CAA is permissible or whether such a program would work.[27]

IV. GHGs and the PSD Program

The PSD program requires preconstruction permits for any new or modified "major" stationary sources.[28] This requirement is applicable so long as the source at issue emits pollutants "subject to regulation under the act."[29] This would apply to pollutants regulated under various sections of the CAA, including §§108 (NSPS) and 111 (NAAQS/SIP). Such a permit must contain emissions limitations based on a technology standard referred to as the best available control technology for each pollutant subject to regulation. This review is more complex and often more demanding in the event that the major stationary source emits a pollutant that is covered by a NAAQS, particularly where the source is found within a nonattainment area.[30]

A source is defined as a major stationary source if: (i) it is one of the sources explicitly listed in the statute and it emits more than 100 tons of any pollutant regulated under the CAA; or (ii) it emits more than 250 tons of any pollutant regulated under the CAA. Given that some GHGs (especially CO_2) are frequently emitted in much larger amounts than traditional pollutants, the 100- and 250-ton thresholds are easily crossed. While one conference participant argued that the regulation of GHGs under the CAA would not trigger the PSD program, citing evidence in the CAA that Congress only intended the PSD program to apply to traditional pollutants, most other conference participants shared the concern that any regulation of GHGs by the CAA would push many emitters into the category of major stationary sources for the first time—meaning the PSD program and the expense of permitting could penetrate far deeper into the economy, potentially applying to everything from indoor shopping malls to large residential buildings.[31]

Assuming that the PSD program were to apply, conference participants from industry were particularly concerned about the effect of PSD permitting on modified sources of GHGs. A major modification triggering PSD permitting is "a physical change in or change in the method of operation of a major stationary source that would result in a significant net emissions increase of any" regulated pollutant.[32] The concern was that such permitting requirements would discourage companies from cleaning up or even maintaining existing plants (even through innovative technologies) because the companies would fear triggering PSD's burdensome and costly requirements.[33]

V. Limitations of the CAA in Addressing Climate

Given that Congress crafted the CAA as a response to local and regional air pollution, it is not surprising that crafting a sensible climate policy for the CAA feels a bit like jamming a square peg into a round hole. Many argued that the fit is so poor that Congress will have no choice but to act. Yet, until Congress or the courts say otherwise, the CAA is the law under which we will regulate climate change.

The imperfection of the CAA as a tool to address the full climate challenge was drawn out throughout the conference. Legal experts and advocates representing the full range of interests and perspectives participated, and seemingly to a man or woman, they agreed that the CAA did not provide an appropriate mechanism to address the global and pervasive challenge of climate change. While some panelists argued that there was a role for CAA regulation—particularly under Title II and the NSPS program—none believed that those mechanisms would suffice. For the most overarching pro-

26. *Id.* at 44490.
27. The permissibility of using NSPS to create a cap-and-trade program turns on the definition of "standard of performance." CAA §111(a) defines "standard of performance" as a "standard for emissions." CAA §302 then defines "emission standard" as a requirement "which limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis." As one of the conference speakers argued, the §302 language refers to a plant-specific emission measure (like a scrubber) and thereby precludes a cap-and-trade program wherein sources could buy emission allowances to avoid making any reductions. Others, however, have argued that the language of §§111(a) and 302 is consistent with a cap-and-trade program. *See, e.g.*, Inimai M. Chettiar & Jason A. Schwartz, *The Road Ahead: EPA's Options and Obligations for Regulating Greenhouse Gases*, Institute for Policy Integrity, NYU School of Law, Report No. 3, April 2009, at 86-88, *available at* http://www.law.nyu.edu/news/IPI_REPORT_GREENHOUSE_GASES. EPA's only previous attempt to create a cap-and-trade program under the NSPS program was the Clean Air Mercury Rule (CAMR). CAMR was vacated by the U.S. Court of Appeals for the District of Columbia (D.C.) Circuit for reasons unrelated to EPA's authority to create such a cap-and-trade program in *New Jersey v. EPA*, 517 F.3d. 574, 38 ELR 20046 (D.C. Cir. 2008).
28. 42 U.S.C. §7475 (2009).
29. 42 U.S.C. §7479 (2009).
30. 73 Fed. Reg. 44486-87.
31. *Id.* at 44499, stating

    > we estimate that if CO_2 becomes a regulated NSR pollutant (either as an individual GHG or as a group of GHGs), the number of PSD permits required to be issued each year would increase by more than a factor of 10 (i.e., more than 2000-3000 permits per year), unless action were taken to limit the scope of the PSD program under one or more of the legal theories described below. The additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings, hotels, large retail establishments, and similar facilities.

    For a pessimistic view of how troubling this might actually be, see Portia M.E. Mills & Mark P. Mills, A Regulatory Burden: The Compliance Dimension of Regulating CO_2 as a Pollutant (2008), *available at* http://www.uschamber.com/assets/env/regulatory_burden0809.pdf.
32. 40 C.F.R. §51.166(b)(2)(i). As the Court held in *Environmental Defense v. Duke Energy Corp.,* 549 U.S. 561, 37 ELR 20076 (2007), the definition of "modification" for PSD purposes is not the same as the definition for NSPS purposes, which is any change that increases the hourly rate of emissions from a facility.
33. Industry has long been making this argument for traditional pollutants as well. *See, e.g.*, U.S. EPA, New Source Review: Report to the President, (June 2002), *available at* http://www.epa.gov/nsr/documents/nsr_report_to_president.pdf.

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gram of the CAA—the NAAQS program—there was serious pushback on the idea of using it to address GHGs.

At the same time, the conference participants expressed a near collective belief that, once the endangerment finding was made, EPA would not have the discretion to forego all CAA regulation. Many speculated that EPA was one lawsuit from having to move forward on all fronts. Thus, throughout the day, there remained an undercurrent of discussion of climate legislation, with the suggestion that new action by Congress—action specifically tailored to the challenge of global warming—would provide a far better regulatory approach to the problem.

In sum, EPA's authority under the CAA stands as the most obvious and well-established regulatory requirement for the federal government to address climate change. While it is imperfect, it may be the proverbial gun in the hand of the executive branch, pointing at itself and the country at large, with which EPA can ask Congress to please legislate before it is forced to shoot.