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CLIMATE CHANGE

CLEAN AIR ACT

The author of this article says the case of *Massachusetts v. EPA*, decided in April by the U. S. Supreme Court, may be the most important case in the history of environmental law. He says EPA's air program personnel are now straining to grapple with new, enormously consequential legal and policy questions in the aftermath of this case. The author says it remains to be seen whether such activity functions as a flashpoint for dispute and a prod for congressional action or whether it leads to major regulatory steps under the Clean Air Act to control greenhouse gases. The author finds four parts of the Clean Air Act to be the chief battlegrounds for how the law might be applied to greenhouse gases—the regulation of motor vehicles under Title II; the National Ambient Air Quality Standards program; new source performance standards; and the prevention of significant deterioration permit program.

Climate Change Law and Litigation in the Aftermath of Massachusetts v. EPA

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The opinions expressed here do not represent those of BNA, which welcomes other points of view.

On April 2, the Supreme Court issued its landmark climate change decision in *Massachusetts v. EPA*, finding that the Environmental Protection Agency may marshal the existing Clean Air Act to regulate greenhouse gases. The court's decision has coincided with unprecedented urgency in Congress, internationally, and in the media emphasizing the need to address climate change before atmospheric concentrations of greenhouse gases reach a level described as irretriev-

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ably leading to what are described as catastrophic global consequences.[1] Surely this political momentum and scientific urgency is critical to reaching the kind of consensus necessary in our society and globally to address as complex and difficult a problem as climate change. But especially in the United States, legal process can matter greatly, especially with regard to the speed with which regulatory changes may occur. Climate change increasingly is cast as a race against time. For these reasons, the significance of the *Massachusetts* decision and the regulatory activity it is unleashing at the federal level is difficult to overestimate. To be sure, it remains to be seen whether the Clean Air Act will be a primary mechanism for regulating greenhouse gases, or whether the arguments and regulatory initiatives being advanced following the Supreme Court's decision will function more as a prod to Congress toward a new and more comprehensive program, or whether the outcome will be somewhere in between. Whatever the outcome, the *Massachusetts* case may well be the most important case in the history of environmental law in its transformative impact on federal regulation. Indeed, it already is plain to practitioners who interact regularly with EPA's air program staff that agency personnel are now straining to grapple with a vast new array of enormously consequential legal and policy questions in the aftermath of this case.

The Clean Air Act, adopted in its current structure first in 1970 and overhauled twice (in 1977 and 1990) is both a broad and aspirational statute and, at the same time, a detailed and highly prescriptive statute. Indeed, the history of the Clean Air Act's major programs to address ozone smog, acid rain, and preservation of air resources in more pristine areas reflect a recurring pattern. First, spurred by environmental advocates, has come initial engagement and litigation over aspirational goals, followed by EPA regulatory initiatives and then increasingly prescriptive congressional codifications in statutory amendments.[2] As with these earlier clean air struggles, the *Massachusetts v. EPA* seems to have set off a similar paradigm for climate change in which the specific goals of regulation presently are ill-defined and aspirational with ''success'' very far into the future, EPA appears set to embark on at least an initial regulatory response, and Congress is very much engaged both in oversight of EPA activity and crafting and debating legislative proposals.

There are at least four major parts of the statute that are the current chief battlegrounds for how the Clean Air Act might be applied, with various degrees of creativity and potential dispute, to regulate greenhouse gases. These include: (1) the regulation of motor vehicles under Title II of the Act, which was the subject of the *Massachusetts* case and thus pending on remand from the Supreme Court; (2) the potentially much broader utilization of the National Ambient Air Quality Standards (NAAQS) program in Title I of the Act to adopt a more comprehensive regulatory program; (3) EPA adoption of GHG New Source Performance Standards (NSPS) for new, modified and also existing stationary sources across a broad range of listed source categories; and (4) the application of the Prevention of Significant Deterioration (PSD) permit program to require Best Available Control Technology (BACT) for new construction or modification of what might appear to be virtually any modest size emitter of carbon dioxide. Given the comparative magnitude and potential import of the climate change challenge, it remains to be seen how far greenhouse gas regulation under these programs might proceed under the current law, how litigation over the apparent questions might be resolved, and at what point and how Congress might step in with new legislation. With the extraordinary urgency, complexity, and costs at stake, this dynamic of regulation, litigation, and legislation over the next several years is certain to be of unparalleled interest and importance to industry, the environmental community, and the general public.

The Supreme Court's Decision

In *Massachusetts v. EPA* (*Massachusetts*),[3] the Supreme Court, convinced that Congress intended to equip EPA to respond to air pollution encompassing climate change, opened the door to greenhouse gas regulation under the current Clean Air Act. At issue was a challenge by states and environmental groups to EPA's 1999 denial of a petition to regulate greenhouse gases from motor vehicles under Section 202(a)(1) of the Clean Air Act.[4] That provision requires the EPA Administrator to set standards for motor vehicle emissions of ''any air pollutant . . . which in his judgment cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare.''[5] That basic test—whether the air pollutant in question may in the EPA Administrator's judgment be anticipated to endanger public health or welfare—reappears ubiquitously throughout the Clean Air Act. The Supreme Court's discussion of what that means is a primary reason that the case has such potentially broad repercussions for greenhouse gas regulation in multiple Clean Air Act programs.

In its *Massachusetts* decision, the court held first that the petitioners had standing, emphasizing both their procedural interest in challenging a denial of a petition for rulemaking and the ''special solicitude'' owed states as petitioners.[6] Moreover, the court found that, through uncontested affidavits, the states satisfied the traditional standing requirements of showing: (a) concrete

[1] *See, e.g.*, Zachary Coile, *Boxer Gives Views on Politics, Climate, War*, S.F. Chron., Sept. 23, 2007, at A4 (describing the ''stunning'' effects of global warming and the ''sense of urgency'' among members of Congress to address climate change).

[2] For example, this was the course followed in the development of the controversial ''Prevention of Significant Deterioration'' (PSD) program. Act to Amend the Clean Air Act, Pub. L. No. 95-95, 91 Stat. 685 (1977). In 1972, environmental organizations, relying on general statements of purpose in the Clean Air Act directing EPA to ''protect and enhance'' air quality, successfully litigated a case calling for EPA to regulate construction of pollution sources in areas already attaining the NAAQS. *See Sierra Club v. Ruckelshaus*, 344 F. Supp. 253, 4 ERC 1205 (D.D.C. 1972). Congress eventually codified the *Ruckelshaus* decision in the PSD provisions of the 1977 Amendments. *See* 42 U.S.C. §§ 7472, 7475(a)(4); *see also* Bruce Ackerman and William T. Hassler, *Clean Coal/Dirty Air: or How the Clean Air Act Became a Multibillion-Dollar Bail-Out for High-Sulfur Coal Producers* (1981) (describing history of SO2 control, NSPS and forerunner of acid rain program).

[3] 127 S. Ct. 1438, 63 ERC 2057 (2007).

[4] *Id.* at 1449.

[5] 42 U.S.C. § 7521(a)(1).

[6] *Massachusetts*, 127 S. Ct. at 1454-55.

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injury (through a risk of sea level rise); (b) fairly traceable to the challenged EPA denial; and (c) that was likely to be redressed by a favorable decision.[7] The importance of this holding is that environmental advocates now seeking EPA action to adapt various Clean Air Act programs to regulate greenhouse gases likely will continue to have recourse to the federal courts. This was by no means a foregone conclusion, as four justices of the court, led by Chief Justice John Roberts, declined to find standing. Indeed, the Chief Justice observed that the absence of recourse to the courts would not preclude regulatory action, even if it precluded environmental advocates from seeking judicial review of that action.[8] The Chief Justice's position reflects a restrained view of the significance of the courts in the dynamic among the three branches of the federal government in shaping environmental and Clean Air Act policy over the last several decades.

Second, the *Massachusetts* Court found that carbon dioxide qualifies as an ''air pollutant'' as defined in Section 302(g) of the Clean Air Act.[9] This of course was crucial, since the finding that carbon dioxide is an air pollutant would apply with respect to Clean Air Act provisions well beyond Section 202(a)(1). Indeed, had the four-justice minority's view to the contrary prevailed, the potential for Clean Air Act regulation of greenhouse gases under current law would have been stopped dead in its tracks.

Third, the court found that EPA improperly relied on policy factors such as foreign relations in determining whether to exercise its judgment to find that greenhouse gases present an endangerment finding under Section 202(a)(1). Rather, according to the court, EPA must make its determination based alone on the existence of an endangerment to health and welfare presented by the air pollutant.[10] The court did not *order* EPA to regulate greenhouse gases from motor vehicles, but as a practical matter the expectation from the outset of the litigation has been that it would be very difficult—politically or otherwise—for EPA to decline if forced to consider only endangerment and the science. Indeed, the role of inertia regarding EPA's exercise of its judgment and decision to regulate greenhouse gases is remarkable. Had EPA relied on essentially the same rationale concerning ''policy'' factors simply to *defer* any final action on the petition to regulate greenhouse gases from motor vehicles, the petitioners in the case quite arguably would have no final agency action to challenge at all, and only could have resorted to challenging EPA's ''unreasonable delay'' in making a decision. That would have been a very difficult path and one almost certainly that would not have ended in the Supreme Court. Instead, EPA reached out actually to *deny* the petition, setting up the *Massachusetts* case as a test of EPA's authority. The EPA decision to so act was political, as it surely was not the strongest legal strategy to protect the decision not to regulate. Now having lost and shifted the political momentum, those same forces are working to compel EPA to proceed with regulation.

[7] *Id.* at 1458-59.
[8] *Id.* at 1463-64.
[9] *Id.* at 1460-61.
[10] *Id.* at 1463.

Areas of Clean Air Act Regulatory Debate

I. Mobile Sources

A. EPA Regulation of Motor Vehicles on Remand

EPA's obligation on remand from the *Massachusetts v. EPA* decision is to revisit its position under Section 202(a)(1) as to whether to regulate greenhouse gases from motor vehicles.[11] EPA now has indicated that it intends to regulate.[12] Additionally, EPA has announced plans to adopt limits on greenhouse gases from motor vehicles and, at the same time, to promulgate rules to limit carbon emissions from fuels.[13] Indeed, Section 211 of the Clean Air Act contains the same directive that was at issue in Section 202(a)(1): EPA may regulate a motor vehicle fuel or fuel additive ''if in the judgment of the Administrator any emission product of such fuel or fuel additive causes, or contributes, to air pollution which may reasonably be anticipated to endanger the public health or welfare.''[14] (Interestingly, regulation of greenhouse gases from motor fuels arguably would not even require that the emissions constitute ''air pollutants,'' because the test under Section 211 is only whether the ''emission product'' from the fuel presents an endangerment. It seems hard to contest at least on its face that carbon dioxide is an ''emission product'' of gasoline or diesel fuel.)

EPA has also indicated that it plans to propose such vehicle and fuels rules this year and to take final action by the end of 2008.[15] Although the contours of EPA's rules remain very vague, several reports have provided some hints as to what EPA is currently thinking. First, as a predicate to regulation it appears that EPA is planning to make an ''endangerment'' finding and is thinking through carefully it should do that.[16] In particular, as elaborated below, whether EPA relies on ''public health'' or ''welfare'' justifications for an endangerment finding could affect implications for the National Ambient Air Quality Standards. Second, EPA is apparently coordinating the promulgation of these rules with the National Highway Transportation & Safety Administration (NHTSA), which is responsible for corporate average fuel economy (CAFE) standards.[17] Reports from an August 6, 2007 stakeholder meeting with EPA and NHTSA officials are that the agencies intend to release EPA's GHG emissions standard proposal and NHTSA's CAFE proposal at the same time. Such coordination would be consistent with President Bush's May 2007 Executive Order directing agencies to work together on such issues.[18]

Third, it also was reported recently that EPA is considering some type of allowance trading program, in-

[11] *Id.* at 1443-44.
[12] *See, e.g.*, Office of the Press Secretary, *Briefing by Conference Call on the President's Announcement on CAFE and Alternative Fuel Standards*, May 14, 2007, *available at* http://www.whitehouse.gov/news/releases/2007/05/20070514-6.html.
[13] *See id.*
[14] 42 U.S.C. § 7545(c)(1).
[15] *See id.*
[16] *See* Doug Obey, *EPA Mulls Narrow CO2 Regulatory Finding to Avoid NAAQS Hurdles*, Clean Air Report, Oct. 4, 2007.
[17] *See id.*
[18] Exec. Order No. 13,432, 72 Fed. Reg. 27,717 (May 14, 2007).

cluding between fuel and vehicle manufacturers.[19] Initial concerns with this concept have focused on the projected existence of surplus credits for trading and how greenhouse gas intensity of the process to bring different motor fuels to market would be determined. Very recent reports are that EPA also is seeking to develop a structure to enable refiners to meet low-carbon targets on an averaged basis or through credit purchases, with the aim of preserving the potential for ''coal-to-liquids'' (often referenced as CTL) to participate in the market, despite the greater carbon emissions associated with production of such fuels, absent use of carbon sequestration technology.[20]According to the report, EPA is undertaking ''life-cycle'' greenhouse gas analyses of a wide variety of fuels using a variant of a Department of Energy model. That could provide a basis for its regulatory approach. Finally, at a recent meeting of a subcommittee of the Clean Air Act Advisory Committee, the Director of EPA's Office of Transportation Air Quality focused on the potential to restrict further sulfur levels in gasoline to facilitate use of efficient ''lean burn'' gasoline engine technologies.

Significantly, the same ''endangerment'' language common to Section 202(a)(1)[21] and Section 211(c) also appears in Section 213[22] (regulating non-road engines) and Section 231[23] (regulating aircraft). However, these sectors have also been the focus of interest in reducing greenhouse gas emissions, particularly in international discussions of air transport.[24] EPA has not indicated whether it intends to regulate those sources, and until very there had been no word of petitions to encompass them. On Oct. 3, however, the state of California and environmental groups (Oceana, Friends of the Earth and the Center for Biological Diversity), petitioned EPA to set emissions standards to control greenhouse gas emissions from ocean ships, arguing that EPA has authority to adopt such standards under Section 213.[25]

B. Clean Air Act and Related EPCA Preemption

The flip-side of these federal programs for EPA to set standards for motor vehicles, engines, airplanes and fuels is that the Clean Air Act, subject to certain exceptions, preempts state regulation of these sources. Through such preemption, Congress explicitly sought to preclude a patchwork of emissions standards for such products in a national market. Specifically, Section 209 of the Clean Air Act preempts states from adopting auto emissions standards.[26] Section 209 includes an exception allowing California to obtain a waiver of preemption from EPA if it demonstrates that its standards: are at least as protective as EPA's standards; are consistent with federal standards; and are necessary for California to address ''compelling and extraordinary'' conditions.[27] Section 177 permits other states to adopt standards identical to California's, so that there are potentially two different standards in the U.S., but no ''third car'' standards.[28] Parallel to these provisions, Section 213 generally preempts state standards for non-road engines with a modified exception for California, and Section 211(c)(4) preempts states from regulating any ''characteristic or component'' of a fuel if EPA has either itself regulated that characteristic or component or found such regulation to be unnecessary, with an exemption from preemption for California.

In addition to preemption under the Clean Air Act, preemption under the federal CAFE program (pursuant to the Energy Policy and Conservation Act, or EPCA)[29] also is related and pertinent. Fuel economy correlates closely with GHG emissions, as fossil fuels like gasoline and diesel fuels consist of hydrocarbons whose chemical energy is released by ''combustion,'' in which the hydrocarbons react with oxygen to form carbon dioxide and water and release energy. Indeed, fuel economy is determined using EPA test procedures by capturing and quantifying the amount of carbon dioxide emitted from the tailpipe.[30] The automakers have argued that, even if EPA grants a waiver for California's greenhouse gas standards, they remain preempted by Section 509(a) of EPCA, which provides that no state shall have authority to ''adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards for automobiles'' covered by federal standards.[31] Importantly, unlike the Clean Air Act, EPCA contains no exception for California standards (or thus for other states to ''opt-into'' California standards).

California's Standards. California has adopted its own greenhouse gas emissions standards for motor vehicles,[32] and has sought a waiver of federal preemption for those standards under the Clean Air Act from EPA.[33] That waiver decision has been the subject of intense political jockeying. For example, Congressman Henry Waxman (D-Calif.) issued a letter on Sept. 24 accusing the Bush Administration of improper lobbying of EPA against the waiver.[34] EPA has committed to issuing a decision on this request by the end of 2007.[35] That decision is certain to generate controversy and litigation. The issue is likely to come down to whether EPA will decide that California needs the standards to address ''compelling and extraordinary'' conditions that warrant the waiver. Congress historically aimed that

[19] *See, e.g.*, David Shepardson, *Dingell: Expand Emissions Trade Plan*, Detroit News, Oct. 4, 2007.

[20] *See*, ''EPA Considering Coal-Based Vehicle Fuel as Part of Greenhouse Gas Proposal,'' 182 DEN A-12, 9/20/07.

[21] 42 U.S.C. § 7521(a)(1)

[22] *Id.* § 7547(a)(1).

[23] *Id.* § 7571(a)(2).

[24] *See, e.g.*, ''International Civil Aviation Organization Backs Mutual Agreement Approach to Emissions Reductions but Europe Objects,'' 189 DEN A-11, 10/1/07.

[25] *See* Letter from Timothy Ballo and Sarah Burt, Attorneys for Petitioners, to Stephen L. Johnson, Administrator, EPA (Oct. 3, 2007); *see also* Petition for Rule Making Seeking the Regulation of GHG Emissions from Ocean-Going Vessels, *Brown v. Johnson* (EPA filed Oct. 3, 2007).

[26] 42 U.S.C. § 7543(a).

[27] *Id.* § 7543(b).

[28] *Id.* § 7507.

[29] Pub. L. 94-163, 89 Stat. 871 (1975).

[30] *See* 49 U.S.C. § 32904(c).

[31] *Id.* § 32919(a).

[32] *See* Cal. Health & Safety Code § 43018.5; *see also* Press Release, Office of the Governor of the State of California, Governor Davis Signs Historic Global Warming Bill (July 22, 2002).

[33] California State Motor Vehicle Pollution Control Standards, 72 Fed. Reg. 21,260 (Apr. 30, 2007). California's request was submitted Dec. 21, 2005. *Id.* at 21,261.

[34] Letter from Rep. Henry A. Waxman, Chairman, House Committee on Oversight and Government Reform, to James L. Cunningham, Chairman, Council on Environmental Quality (Sept. 24, 2007).

[35] ''Wildfires Force Second Delay in EPA Waiver Lawsuit,'' 211 DEN A-17, 11/1/07.

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language at California's need for more stringent standards to address the very severe air pollution problems that have persisted for many years—particularly in the Los Angeles basin—as the worst in the country.[36] Less clear is whether California is in a similarly ''compelling and extraordinary'' position with regard to greenhouse gas emissions as compared to other states not granted the unique ability to petition EPA for authority to regulate auto emissions. Whatever risks that California might claim it faces from the impacts of climate change, it is difficult to see how those are more severe than those that might be claimed by various other coastline states, or even other parts of the country that are predicted to face droughts and other weather-related disruptions. This issue of whether California faces ''compelling and extraordinary'' conditions that warrant it alone among the states to adopt its own greenhouse gas regulations for motor vehicles will likely be EPA's an important basis, should it decide to deny the California waiver.

In addition, EPA might well take into account in its approach the agency's parallel effort to adopt federal greenhouse gas controls, and even possibly anticipated action to tighten fuel economy rules under the CAFE program, as pertinent to whether California's rules are ''necessary.'' (For example, EPA similarly tied its decision to withdraw its decision that it is ''necessary'' to regulate mercury from coal-fired power plants under Section 112(n)[37] of the Clean Air Act to the agency's separate action to adopt a cap-and-trade program for such emissions under Section 111 of the Act.[38]) Although such actions would not be final by the self-imposed deadline EPA has set to respond to California's waiver request, EPA might conceivably adopt some interim decision to be revisited based on developments on a particular schedule. California officials reportedly have indicated that EPA is considering granting the preemption waiver ''temporarily,'' reserving the right to preempt the California requirements once EPA adopts final federal regulations. For its part, in rulemaking revising fuel economy standards for Model Year 2008-2011 light trucks, NHTSA discussed preemption of the California standards at length, concluded that California's ''vehicle greenhouse gas regulation is. . . clearly related to fuel economy standards and thus subject to the preemption provision of EPCA'' and also concluded that the regulation of carbon dioxide emissions from motor vehicles is impliedly preempted because it conflicts with NHTSA's efforts to implement the CAFE program consistently with EPCA.[39]

Preemption Litigation. Indeed, the California standards are already the subject of litigation brought by automakers. In *Central Valley Chrysler-Jeep v. Witherspoon*, the federal district court rejected California's motion for judgment on the pleadings, finding the automakers' preemption arguments sufficient to move forward.[40] Three preemption arguments are in play in that case. *First*, for now, without an EPA waiver, the California standards remain preempted under the CAA.[41] *Second*, regardless of whether EPA grants a waiver, the court found that the automakers have stated a claim for preemption based on Section 509(a) of EPCA.[42] The question is whether, given the nexus between greenhouse gases and fuel consumption, greenhouse gas standards are ''related to'' fuel economy. *Third*, the automakers grounded their preemption claim in foreign policy conflict, based on Supreme Court precedent indicating that state law can so interfere with federal control over foreign affairs that it is preempted.[43] This litigation will continue, in part depending on EPA's decision whether to waive preemption under the Clean Air Act.

Green Mountain Chrysler Case. In addition to the *Central Valley* case, automakers also challenged the state of Vermont's adoption of the California greenhouse gas standards. In *Green Mountain Chrysler v. Crombie*, the U.S. District Court for the District of Vermont proceeded to consider the automakers' claims after trial.[44] The court acknowledged that ''[t]here is no dispute that if California fails to receive a waiver from EPA for its standards, then Vermont's greenhouse gas standards are invalid.''[45] Nevertheless, because the automakers have to begin now to comply with the Vermont standards that take effect (with the California standards), in model year 2009, the court proceeded to consider whether the standards would be preempted by the fuel economy laws assuming EPA does grant a waiver to California.

In a very lengthy opinion making findings of fact and law, the *Green Mountain Chrysler* court, among other things, held that California's greenhouse gas laws, and hence Vermont's adoption of them, are not preempted by EPCA. The court rooted its EPCA analysis in a facially counter-intuitive preemption analysis of the relationship between EPCA and the Clean Air Act.[46] Specifically, the court concluded that federal preemption analysis under EPCA does not apply to the California greenhouse gas standards. The court did not reference or address NHTSA's analysis of the issue. The court explained that, once EPA waives federal preemption under the Clean Air Act, those state standards are considered *federal* standards within the meaning of EPCA, and thus preemption of state law does not apply at all.[47] Thus, even if California's greenhouse gas standards were to constitute outright fuel economy standards, the *Green Mountain Chrysler* court would hold that they are not preempted if EPA grants a waiver under the Clean Air Act because they thereby become federal standards.

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[36] *See, e.g.*, Waiver of Federal Preemption Notice of Decision, 49 Fed. Reg. 18,887, 18,890 (May 3, 1984).

[37] 42 U.S.C. § 7412(n).

[38] *See* 70 Fed. Reg. 8,314, 8,320-21 (Feb. 18, 2005) (Clean Air Mercury Rule); *see also* Revision of December 2000 Regulatory Finding on the Emissions of Hazardous Air Pollutants From Electric Utility Steam Generating Units and the Removal of Coal- and Oil-Fired Electric Utility Steam Generating Units From the Section 112(c) List, 70 Fed. Reg. 15,994 (Mar. 29, 2005).

[39] Average Fuel Economy Standards for Light Trucks Model Years 2008-2011; Final Rule, 71 Fed. Reg. 17,566, 17654-17,670 (April 6, 2006).

[40] 456 F. Supp. 2d 1160, 1167-83 (E.D. Cal. 2006).

[41] *Id.* at 1174.

[42] *Id.* at 1167.

[43] *Id.* at 1175-83.

[44] No. 2:05-CV302, slip op. at 234-35 (D. Vt. Sept. 12, 2007), 177 DEN A-15, 9/13/07.

[45] *Id.* at 104.

[46] *Id.* at 118.

[47] *Id.* at 104.

The court relied for this conclusion principally on a provision no longer appearing in EPCA. That provision defined ''Federal standards'' to include EPA-waived California standards for purposes of authorizing modification of fuel economy standards to account for fuel economy impacts of hydrocarbon, carbon monoxide and nitrogen oxide emissions standards in Model Years 1978-80. The court acknowledged that the provision was removed from the statute in a subsequent recodification, emphasizing that the recodification was not intended to change the substance. (The automakers might contend, however, that the recodification reflected Congress's understanding that the provision was simply no longer relevant after 1980, or is in a state of desuetude.) The court further reasoned that, throughout the history of both statutes, Congress was aware of a potential conflict between tighter pollution control standards under the Clean Air Act and improved fuel economy, but nevertheless consistently reaffirmed California's waiver scheme.[48] The court concluded that ''Congress has essentially designated California as a proving ground for innovation in emission control regulations.''[49] It does not seem clearly to follow that Congress intended California to be a proving ground for regulating fuel economy, even if EPA waived federal preemption for such rules under the Clean Air Act due to some overlap in goals or effects. This reasoning is likely to be confronted in any appeal from the district court's decision. [50]

Apparently recognizing the novelty of concluding that preemption analysis does not apply where ''the express language of EPCA's preemption provision appears literally to forbid the enactment or enforcement of Vermont's GHG regulation,''[51] the court went on to consider a ''standard'' preemption analysis assuming the California standards are state standards. The court found that no express preemption applies under EPCA either, because ''the [California] regulations set GHG emissions standards and are sufficiently unrelated to fuel economy standards not to be expressly preempted.''[52] In particular, the court relied on provisions of the California program in which automakers could get ''credit'' to comply with the standards through reductions in emissions unrelated to carbon dioxide, such as controlling emissions of HCFCs (different greenhouse gases) emitted from air conditioning systems. This, too, is a likely subject of argument on appeal, as it amounts to a conclusion that even unabashed California fuel economy standards would be saved from preemption if credit is given under the program for other actions that do not involve fuel economy, such as HCFC or VOC reductions or even installation of airbags. The court also relied on provisions of the California program that account for differences in fuel economy (focusing on a miles per gallon measurement) and carbon dioxide emissions among different fuels (particularly gasoline, diesel and E85). This, too, is subject to further argument, as the various fuels each have a energy content released through combustion (reaction with oxygen), and differences among them in ''fuel economy'' may be attributed substantially to differences in energy content of the chemical compounds in the fuel per unit volume. (For example, compressed natural gas does not have a ''per gallon'' fuel economy at all, but an energy content based on the amount of methane per unit volume.) Greenhouse gas standards require improvements in efficiency in the use of this energy content of fossil fuels, which tracks carbon content very closely. The CAFE program gives NHTSA full authority to require such improvements, and it is not apparent why California's program is aimed differently or is not ''related'' even if the manner in which California is different in stringency and some details than NHTSA's current program.

A National Program? Ultimately at issue in this preemption debate is whether there will be a sole national program to govern greenhouse gas emissions from automobiles or whether California might play its historical role of forging its own rules independently from the federal government. Indeed, the chief ''political'' argument of environmental advocates and the states to support the California waiver and in the litigation with the automakers is that California is moving ahead of U.S. EPA in greenhouse gas regulation and that absent such leadership U.S. EPA will not ''do the right thing.'' Allowing such additional California action of course has costs and an EPA conclusion that California faces ''compelling and extraordinary'' conditions with respect to climate change would effectively place those costs and the balance and structure of how to structure control over the automotive piece of the climate change puzzle beyond federal control. As this debate moves forward, Congress might at any time also step in with its own approach and a clarification of the role it would reserve for California (and the other states).

II. National Ambient Air Quality Standards

The broadest program that EPA could potentially adopt to address greenhouse gas emissions under the Clean Air Act would involve establishing National Ambient Air Quality Standards (NAAQS) for carbon dioxide or other greenhouse gases. Although this approach seems to be the most farfetched, the same now oft-repeated language that was the subject of *Massachusetts* also appears in Section 108, which requires EPA to establish criteria and NAAQS for those air pollutants which, in EPA's judgment, reasonably pose an endangerment to health or welfare.[53] Environmental groups, therefore, contend that EPA should establish a NAAQS for greenhouse gases that states would be required to achieve within their borders through State Implementation Plans (SIPs). This is the basic system in which EPA has set standards for ozone smog, sulfur dioxide, carbon monoxide and other pollutants that affect human health and that states are then responsible for achieving through SIPs. In fact, several states pursued such a case to require that EPA set a NAAQS for greenhouse gases in 2003 – prior to *Massachusetts v. EPA* – in *Massachusetts v. Whitman*.[54] For strategic reasons, after EPA in September 2003 denied the petition to regulate mobile sources, the states decided to pursue the automobile

[48] *Id.* at 105-12.
[49] *Id.* at 238.
[50] The automakers filed an appeal Oct. 5, *Green Mountain Chrysler-Plymouth-Dodge-Jeep v. Crombie*, D. Vt., No. 05-CV-302, *notice of appeal filed* 10/5/07, 194 DEN A-1, 10/9/07.
[51] *Id.* at 119.
[52] *Id.* at 237.
[53] 42 U.S.C. § 7408(a)(1)(A).
[54] Civ. No. 3:03CV984 (D. Conn. filed June 4, 2003).

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lawsuit first and, accordingly, terminated the NAAQS lawsuit.[55]

In denying the petition to regulate greenhouse gases from automobiles that was the subject of *Massachusetts v. EPA*, EPA itself advanced the impracticability of administering a NAAQS for greenhouse gases as evidence that Congress did not intend the Clean Air Act to encompass greenhouse gas regulation. An EPA NAAQS setting a level of *ambient* concentration that is sufficient to protect human health and welfare for carbon dioxide (and other greenhouse gases), and then requiring that states adopt programs to achieve that level within their borders even though carbon dioxide is well-mixed throughout the atmosphere *globally*, obviously seems dissonant. The difficulty of how EPA might decide on what level to set and the problem of making states responsible for controlling emissions to achieve that level within their borders that is not only beyond their control but also beyond control of even the *federal* government surely explains why the environmental groups abandoned their NAAQS litigation in favor of the more straightforward case about motor vehicle standards. Still, some have creatively urged that EPA could set an ambient standard, then effectively treat the situation as so dominated by interstate – or even global – transport of emissions that it should fall to EPA to regulate through a Federal Implementation Plan. Advocates of this approach argue that EPA could then establish a national cap-and-trade program for greenhouse gases. Now that the Supreme Court has concluded in *Massachusetts v. EPA* that greenhouse gases are ''air pollutants'' and that EPA must decide based on the existence of an ''endangerment'' whether to regulate, it is no longer so far-fetched at least to envision a renewed petition asking EPA to pursue this course and litigation over EPA's decision. Such a program, if adopted, would surely be complex and controversial, and the potential itself and litigation over it might be a further prod for congressional action.

In a sign that EPA is considering these potential implications seriously, it recently was reported that EPA is engaged in an interagency discussion of whether to limit the scope of its ''endangerment finding'' under Section 202(a) for purposes of regulating greenhouse gases from motor vehicles to ''welfare'' rather than impacts on ''public health.'' Although Sections 108 and 109 of the Clean Air Act provide that EPA is to establish as criteria air pollutants and set NAAQS for air pollutants that EPA determines endanger ''public health or welfare,'' Section 109 draws distinctions in how the level is to be set as between ''primary'' health-based NAAQS and ''secondary'' welfare-based NAAQS. Under Section 109(a), EPA must exercise its judgment to set primary NAAQS at levels ''allowing an adequate margin of safety [as] requisite to protect the public health.'' Under Section 109(b), EPA must exercise its judgment to set secondary NAAQS ''requisite to protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air.'' Thus, in the anticipated motor vehicle rulemaking and endangerment finding, EPA might well foreshadow its views regarding the potential for a NAAQS for greenhouse gases.

[55] *See* Office of the Massachusetts Attorney General, Climate Change, http://www.mass.gov.

III. New Source Performance Standards

Much narrower and more specific than the NAAQS—and the subject of current rulemaking proceedings and litigation—is EPA's obligation to set Best Demonstrated Technology (or best achievable) standards for carbon dioxide as part of its New Source Performance Standards (NSPS) under Section 111 of the Clean Air Act.[56] Under Section 111, EPA establishes standards of performance applicable to categories of stationary sources when they are new or modified (in manner that increases the hourly emissions rate of an air pollutant from the source), and also is to establish a program to regulate certain existing sources. EPA was required in 1970 to publish a list of source categories for which NSPS would be set, and the statute specifies only that EPA shall ''from time to time thereafter'' revise the list (with no set time interval for so doing).[57] EPA also requires state or federal plans to regulate existing sources for emissions of pollutants that are not regulated under the NAAQS program or the hazardous air pollutant program but that would be subject to NSPS if the source were new.

The criterion for including a source category on the list for regulation is based yet again on the familiar phrase from *Massachusetts v. EPA*: the source category must be on the list if, in the administrator's judgment, the category of sources ''causes, or contributes significantly to, air pollution which may reasonably be anticipated to endanger public health or welfare.''[58] (One difference in the phrase here is the qualifier that the source category contribute ''significantly'' to air pollution, which limitation is absent from the mobile source and NAAQS tests. It remains to be seen what role that apparently explicit authority to disregard ''insignificant'' contributions will play in how EPA might shape any regulatory decisions.) EPA actually promulgated an extensive list of source categories for NSPS rulemaking in 1979.[59] EPA's explanation of the basis for listing the various source categories was relatively general, without a specific discussion of the significant contribution to endangerment posed by specific pollutants from each category.[60]

Once EPA established the source categories list, the agency was required to set standards of performance for each source category on the list that would apply to new and modified sources.[61] ''Standard of performance'' is defined to mean 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 that EPA determines has been demonstrated adequately, taking into account cost, any non-air quality health and environmental impacts and energy requirements.[62] Importantly, EPA is required to review and, if appropriate, revise the NSPS at least every eight years (or determine that such review is not appropriate in light of readily available information).[63]

[56] 42 U.S.C. § 7411.
[57] *Id.* § 7411(b)(1)(A).
[58] *Id.*
[59] *See* 44 Fed. Reg. 49,222 (Aug. 21, 1979).
[60] *Id.* at 49,222-23.
[61] These are codified for the various source categories at 40 C.F.R. Part 60.
[62] 42 U.S.C. § 7411(a)(1).
[63] *Id.* § 7411(b)(1)(B).

A threshold issue is the extent to which the NSPS may or must address *every* air pollutant species emitted from a source category. EPA's current list of source categories was not based on emissions of greenhouse gases contributing to global warming, and the agency has not addressed whether such emissions from specific categories make a ''significant contribution'' to danger posed by global warming. It might seem reasonable to interpret the statute to require that EPA set and revisit the NSPS for those air pollutants that were the basis for the listing of the source category in the first place (considering significant contribution to air pollution that presents an endangerment), or make an endangerment finding together with a decision whether to extend the NSPS to a new air pollutant. Otherwise, EPA would be required to set an emissions standard for a pollutant from a source category without any predicate finding that the pollutant from that source category involves any significant contribution to air pollution. As a matter of practice, EPA has chosen to entertain whether to extend the NSPS to additional pollutants when considering revisions to those standards for various source categories. For example, EPA decided not to extend the NSPS for combustion turbines to carbon monoxide, volatile organic compounds and particulate matter,[64] but did decide in its controversial Clean Air Mercury Rule to extend the NSPS for coal-fired steam electric generating units to mercury.[65]

Dispute regarding the NSPS might well focus on the timing of EPA's obligations to consider regulation of greenhouse gases, as well as the substantive questions of whether greenhouse gases contribute significantly to air pollution for each specific source category and what are appropriate standards taking into account cost, environmental impacts, and energy impacts. Regarding timing, EPA has a mandatory duty to revisit the standards every eight years that environmental advocates can enforce. However, EPA only is required to revisit the source category list ''from time to time,'' which timeframe can only be enforced through a more difficult claim of unreasonable delay. Arguments might arise as to whether EPA *must* consider the greenhouse gas endangerment issue when conducting an eight-year review of an NSPS or whether EPA has broader discretion to defer consideration of the greenhouse gas endangerment issue for its own timetable. Of course, as in the petition to make the endangerment finding for greenhouse gas emissions from motor vehicles, EPA could choose at any time in response to petitions or comments or on its own initiative to address whether greenhouse gases from particular source categories contribute significantly to air pollution that may reasonably be anticipated to endanger health or welfare. That analysis might be expected to vary depending on the source category.

To date, states and environmental groups have challenged two NSPS on the grounds that EPA failed to set standards for greenhouse gases—for power plants and industrial boilers— in consolidated cases in the D.C. Circuit: *New York v. EPA*[66] and *Coke Oven Environmental Task Force v. EPA*.[67] Both cases were filed prior to *Massachusetts v. EPA* and were stayed pending the outcome of that case.[68] Following the Supreme Court's decision, EPA and the petitioners agreed to a voluntary remand.[69] The parties continue to dispute, however, whether EPA's NSPS decision on greenhouse gases should be vacated, or whether EPA should be allowed a voluntary remand to consider in the first instance the impact of the Supreme Court's decision in *Massachusetts*; this issue remains pending before the D.C. Circuit. Plainly indicating that this will be a continuing issue, EPA's April 2007 proposed NSPS for refineries[70] has drawn comments at the end of August from environmental advocates seeking standards for carbon dioxide and methane as greenhouse gases.[71] Those comments elaborate their argument that EPA is required to address the endangerment posed by *all* air pollutants emitted from a source category in the eight-year periodic review of the NSPS for that source category. For refineries, they contend EPA should mandate use of existing technologies to reduce carbon dioxide emissions from refineries, such as use of advanced process heaters. As EPA continues to promulgate NSPS for various source categories, one can expect repeated comments arguing that EPA must adopt standards for greenhouse gases for those source categories, and litigation over EPA's decisions however they come out.

In addition to the ''new source'' aspect of the NSPS, under Section 111(d) of the Clean Air Act EPA is required to establish a regulatory program for states to establish performance standards for existing sources for any air pollutant for which EPA has not established air quality criteria (a step in the process to establish NAAQS) and hazardous air pollutant standards do not apply, but that would be subject to NSPS for that pollutant if a new source. (EPA also may establish the standards where a state fails to do so satisfactorily.) There are no specific deadlines in this provision for EPA to act. Nonetheless, the broad reach of this provision as applied to existing sources of greenhouse gases were EPA to set such standards for new sources is plain, since greenhouse gases are not now ''criteria'' pollutants for which there are NAAQS and are not regulated as hazardous air pollutants. Indeed, environmental advocates in their comments on the petroleum refinery NSPS rulemaking argue that EPA's regulation of greenhouse gases from new refineries will trigger this requirement for existing sources, and contend that EPA must require states to submit plans to regulate greenhouse gases from existing refineries.[72]

[64] 70 Fed. Reg. 8,314, 8,320-21 (Feb. 18, 2005).
[65] 70 Fed. Reg. 28,606 (May 18, 2005).
[66] No. 06-1322 (D.C. Cir. filed Sept. 13, 2006)
[67] No. 06-1131 (D.C. Cir. filed Apr. 7, 2006).

[68] *See* Paul Sheridan, *Supreme Court Ruling May Open Gates For More Climate Change Legislation*, Mondaq Business Briefing, Apr. 24, 2007.
[69] Order, *New York v. EPA*, No. 06-1322 (D.C. Cir. June 17, 2007).
[70] 72 Fed. Reg. 27,177 (May 14, 2007).
[71] *See, e.g.*, Environmental Integrity Project and the Sierra Club, *Comments on Proposed Amendments to the Current Standards of Performance for Petroleum Refineries* (Aug. 27, 2007), *available at* http://www.earthjustice.org/library/legal_docs/epa-must-limit-carbon-dioxide-from-petroleum-refineries.pdf).
[72] *See, e.g.*, Environmental Integrity Project and the Sierra Club, Comments on Proposed Amendments to the Current Standards of Performance for Petroleum Refineries, Docket No. EPA-HQ-OAR-2007-0011 (Aug. 27, 2005), at 15.

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IV. Prevention of Significant Deterioration

The final area of most significant dispute following *Massachusetts* is the Prevention of Significant Deterioration (PSD) program. PSD is a permitting program that applies to stationary sources in areas attaining the NAAQS that EPA has established.[73] The permits are issued by states that have adopted their own rules in accordance with federal rules, or in the absence of such state rules then the permits may be issued by states who have received delegated authority to implement EPA's federal rules, or are issued by EPA itself. In general, PSD permits are required for construction of a new major source, or a modification of such a source that causes a significant increase in emissions.[74] A ''major'' source is defined as one in a handful of identified industrial source categories (that Congress originally believed to contribute the majority of industrial air pollution) that emits 100 tons per year or more of ''any air pollutant,'' or any source not within those listed categories that emits 250 tons per year or more of ''any air pollutant.''[75] What constitutes a significant increase in emissions resulting from a modification has been determined by EPA by regulation (and, for example, is 40 tons per year for volatile organic compounds and nitrogen oxides and 7 tons per year for sulfuric acid).[76] Among other requirements, one seeking a PSD permit must install ''Best Available Control Technology,'' defined to mean an emission limit ''based on the maximum degree of reduction of *each pollutant subject to regulation under this chapter* emitted from or which results from any major emitting facility, which the permitting authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable . . . .''[77] (BACT can be no less stringent than any NSPS that applies to the facility.[78])

The PSD program has been a source of tremendous controversy in its own right in recent years, and questions about interpretation of the complicated rules to determine whether a ''modification'' triggers PSD permitting was the subject of a Supreme Court decision announced the same day as *Massachusetts v. EPA*.[79] In the broadest sense, that debate centers on whether triggering time-consuming case-by-case permitting decisions and technology reviews every time a facility might undertake a modification that is said to increase emissions under a complex test is an effective and efficient approach to controlling emissions, for example as compared to a cap-and-trade program in which area-wide emissions goals are set and business is given flexibility in how it achieves them. Extension of this controversial PSD program to encompass regulation of greenhouse gases is thus likely to generate even more debate.

Specifically at issue now post-*Massachusetts* is whether greenhouse gases, and particularly carbon dioxide, is or will be considered ''subject to regulation'' under the Clean air Act and thus whether a new major stationary source that emits more than the 100/250 ton per year thresholds or undertakes a modification that increases emissions by more than a ''significant'' amount must install BACT for those emissions. This could have very substantial implications, as the carbon dioxide emissions from combustion of fossil fuels is so large that the major source threshold of 250 tons per year (or 100 tons per year for listed source categories), could be exceeded very easily for a wide range of facilities that would then be subject to a lengthy permitting process in which BACT for carbon dioxide is set on a case-by-case basis by the state or EPA permitting authority. For example, 250 tons per year is approximately the amount of carbon dioxide emitted by a furnace or boiler in a commercial building, according to EPA officials. (In comparison, the level being considered in California to trigger greenhouse gas reporting requirements is 25,000 tons per year and the level for requiring participation in the greenhouse gas emissions trading program being developed in California is 10,000 tons per year.) Indeed, in many cases emissions control systems such as flares or oxidizers that are designed to combust volatile organic compounds (VOCs) to prevent emissions of those pollutants *increase* carbon dioxide emissions, because that combustion involves the same reaction with oxygen to form carbon dioxide and water that takes place when fossil fuels are combusted. Such an expansion of the PSD permitting program to encompass all of these sources and circumstances involving greenhouse gases would tremendously strain regulators and affected businesses alike.

An official from EPA's Office of Air and Radiation reportedly advised members of EPA's Clean Air Act Advisory Committee at a September 19, meeting that the agency likely will begin work on a PSD rule governing carbon dioxide once EPA completes its proposed rule governing carbon dioxide from automobiles.[80] It remains unclear, however, at what point BACT requirements for greenhouse gases would apply, and whether that must await EPA rulemaking. At the outset, some environmental advocates have contended that BACT limits should already be set for greenhouse gases, on the grounds that the *Massachusetts v. EPA* decision made greenhouse gases ''subject to regulation'' under the Clean Air Act. However, both a Georgia Administrative Law Judge[81] and EPA recently have taken the position that carbon dioxide is not yet ''subject to regulation'' under the Clean Air Act and will not be until there are actual greenhouse gas standards in place for some type of source under some provisions of the statute.

EPA addressed this issue at length a Region VIII PSD permit for the Deseret Power Electric Cooperative issued Aug. 30.[82] and took the same position in issuing a construction permit for the Bonanza power plant in Utah. Further, EPA took the same position in issuing a

[73] *See, e.g.*, EPA, PSD Basic Information, http://www.epa.gov/nsr/psd.html#best.

[74] 42 U.S.C. § 7475(a)(4).

[75] *Id.* § 7479(1).

[76] 40 C.F.R. § 52.21.

[77] 42 U.S.C. § 7479(3) (emphasis added).

[78] *See, e.g.*, EPA, PSD Basic Information, http://www.epa.gov/nsr/psd.html#best.

[79] *See Envtl. Def. v. Duke Energy Corp.*, 127 S. Ct. 1423, 63 ERC 2088 (2007).

[80] ''EPA May Apply New Source Review Rules to Carbon Emissions from Industrial Plants,'' 183 DEN A-10, 9/21/07.

[81] *See* Dave Williams, *Judge: Suit Still Viable*, The Albany Herald, Aug. 18, 2007.

[82] *See generally* EPA, Response to Public Comments on Draft Air Pollution Control Prevention of Significant Deterioration (PSD) Permit to Construct Permit No. PSD-OU-0002-04.00 (Aug. 30, 2007), *available at* http://epa.gov/region8/air/permitting/ResponseToComments.pdf [hereinafter ''Deseret Permit Decision''].

permit June 5, to Christian County Generation, LLC for construction of an Integrated Gasification Combined Cycle (IGCC) coal-fired power plant in Illinois. In those cases, EPA relied on its historical interpretation of the phrase ''subject to regulation'' to mean that actual emissions limits for the pollutant are in effect.[83] The Sierra Club petitioned the EPA Environmental Appeals Board (EAB) to review EPA's decision not to regulate carbon dioxide from Christian County and the proposed Bonanza plant.[84] In those petitions, Sierra Club contends that a BACT limit must be set for carbon dioxide, because carbon dioxide is ''subject to regulation'' under the Clean Air Act, emphasizing both the *Massachusetts* decision and monitoring and reporting requirements for carbon dioxide (for power plants under the acid rain program).

At oral argument before the EAB in the Christian County case October 17, much debate focused on whether the Sierra Club waived the issue because it did not submit comments in the permit proceeding arguing that the permitting authority should set BACT for carbon dioxide. Sierra Club's response essentially was that, prior to the Massachusetts decision, EPA had already reached a final decision that carbon dioxide is not an air pollutant, so the permitting authority had no flexibility to reach a different conclusion, which circumstance changed when the Supreme Court vacated EPA's decision on the definition of ''air pollutant.'' On the merits, Sierra Club argued that the term ''each air pollutant subject to regulation under this chapter'' is broad enough to encompass the recordkeeping and reporting requirements that apply to carbon dioxide under Section 821 of the Clean Air Act Amendments of 1990,[85] and arguing that Congress could have readily limited the reach to air pollutants subject to an ''emission limitation'' or ''emission standard''[86] if that is what it intended. EPA's Office of General Counsel, participating in the case at the EAB's request, argued that EPA has a long history of interpreting ''subject to regulation'' as meaning emissions limits, rather than mere monitoring or recordkeeping requirements. Indeed, Sierra Club's position would mean that Congress would have intended to require BACT emissions limits for pollutants to prevent deterioration of air quality in areas otherwise meeting ambient standards even without any emissions limits for such air pollutants for any purpose anywhere else under the statute.

EPA's position has drawn strong criticism from Rep. Henry Waxman (D-Calif.), chairman of the House Oversight and Government Reform Committee. In a letter to EPA Administrator Stephen Johnson, Waxman wrote that *Massachusetts* presented EPA with the authority to address ''global warming harm from a major new stationary source'' of greenhouse gases, and that EPA's rationale for failing to use its authority was ''[i]n essence . . . that because EPA has not regulated [GHG] emissions in the past, the agency cannot regulate [GHG] emissions now.''[87] Waxman announced that the committee would investigate the actions EPA took before granting the permit, and requested copies of all documents related to EPA's decision. Even if EPA is right, however, that PSD and BACT do not apply to greenhouse gases until there is actual GHG regulation, it is unclear whether those requirements apply once EPA adopts greenhouse gases standards for automobiles as planned, or whether it must further await new rules to apply PSD to greenhouse gases as EPA has suggested it is now considering.

Even if greenhouse gases are eventually considered subject to regulation and BACT for PSD permits, a further important question is what technology options for BACT must be considered in the permitting process. A Dec. 13, 2005 memo from EPA's Director of the Office of Air Quality Planning & Standards explained EPA's view that a permitting authority need not consider Integrated Gasification Combined Cycle (IGCC) a technology touted better to enable carbon dioxide sequestration, in a BACT analysis for a new coal-fired power plant.[88] EPA reasoned that such technology involves a fundamentally different process for generating electricity and would effectively ''redefine the source'' contrary to what EPA envisions should constitute a BACT analysis.[89] A lawsuit challenging the validity of the memo was settled with EPA clarification that it would not treat it as binding.[90]

Recent litigation may indicate of how this technology issue will further unfold in the future. In *Sierra Club v. EPA*, petitioners challenged the failure of both Illinois EPA and the U.S. EPA to consider low-sulfur coal as an alternative option for a mine-mouth plant designed to use local, higher sulfur Illinois coal.[91] Although the case technically involved sulfur, the larger issue was again whether an alternative such as the one advocated by petitioners must be considered in the BACT analysis, or whether the agencies were not required to consider options that would fundamentally redefine the basic design or scope of the project.[92] The Seventh Circuit ultimately endorsed EPA's view.[93] This result is significant, as the debate continues over whether agencies must consider IGCC in a BACT analysis.[94] In the Deseret

[83] *Id.* at 5-6.

[84] *See* Petition for Review and Request for Oral Argument, *In the Matter of: Christian County Generation, LLC* (EPA filed July 7, 2007); Petition for Review and Request for Oral Argument, *In re Deseret Power Elec. Coop.* (EPA filed Oct. 1, 2007); *see also* ''EPA Faulted for Approval of Utah Coal Plant; Waxman Launches Investigation of Decision,'' 182 DEN A-1, 9/20/07.

[85] *See* Section 821 of Pub. L. No. 101-549, Nov. 15, 1990, 104 Stat. 2699 (requiring EPA to promulgate regulations within 18 months after enactment to require sources to monitor carbon dioxide emissions and report to the Administrator, and to have EPA make aggregate annual data available to the public); *see also* 40 C.F.R. Part 75 (incorporating carbon dioxide into emissions monitoring requirements).

[86] These terms are defined at Section 302(k) of the Clean Air Act, 42 U.S.C. § 7602(k).

[87] Letter from Rep. Henry A. Waxman to EPA Administrator Stephen L. Johnson, at 2,6, Sept. 19, 2007, *available at* http://oversight.house.gov/documents/20070919110339.pdf.

[88] Note that the plant at issue in the letter – Christian County – is an IGCC plant, though without a carbon capture requirement.

[89] Letter from Stephen D. Page, Director, EPA Office of Air Quality, Planning and Standards, to Paul Plath, Senior Partner, E3 Consulting, LLC (Dec. 13, 2005), at 2-3.

[90] *See* Settlement Agreement at 2, *Natural Res. Def. Council v. EPA*, No. 06-1059 (consolidated with Nos. 06-1062 and 06-1063) (D.C. Cir. 2006)

[91] No. 06-3907, 2007 WL 2406857, at *1 (7th Cir. Aug. 24, 2007).

[92] *Id.* at *3.

[93] *Id.* at *3-4.

[94] See, e.g., Clean Air Task Force, *Taming Coal: The Imperative for Rapid Demonstration and Scale-Up of Advanced*

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Power permit, EPA declined to require consideration of IGCC, relying on the *Sierra Club* decision.[95] This issue will be a continuing point of conflict, as consideration might be given to what options must be considered for greenhouse gas control under PSD and NSPS.

Conclusion

In addition to congressional, state, and local initiatives, and the courts considering common law cases, the Supreme Court's decision in *Massachusetts v. EPA* assured that, in addition to the Clean Air Act, regulatory development and litigation will constitute an additional major venue for domestic climate policy development. As in so many areas of legal, regulatory, legislative, and policy debate, inertia is a critical factor. There can be no question that the most important consequence of *Massachusetts v. EPA* is that it fundamentally changed that inertia. Prior to this decision, the baseline at the federal level was one of inaction and the urgency of shifting to action has been constrained to expressions of concern about continually rising atmospheric levels of greenhouse gases. As important as public concern about the science of global warming has been, there has been no process that could run a course to drive federal mandatory controls until Congress acts. Now all of that has changed. Absent legislative action, there is at least the potential to force EPA to pursue regulatory action under the Clean Air Act or for the agency to pursue a very substantial set of initiatives on its own. However the Clean Air Act might be creatively adapted to address greenhouse gases, surely it was not designed with greenhouse gas controls specifically in mind. As a result, many adaptations and approaches, for automobiles, the NSPS, the NAAQS and PSD to identify the most important right now, are messy, fraught with potentially problematic implications for business, and difficulties that may test EPA's resources, and litigation at every turn. That may substantially shift the equation in Congress as legislative inaction is now against the background of potentially sweeping regulatory activity.

Ultimately, it remains to be seen whether, in the current administration or the next, such actions under the current Clean Air Act function as a flashpoint for dispute and a prod for congressional action, or whether they may become an actual source of authority for major regulatory steps to control greenhouse gases. But that question clearly is now in play and the Clean Air Act activities are sure in some manner to affect the shape of greenhouse gas regulation to come.

Coal Gasification and Carbon Sequestration and the Reform of Coal Mining and Waste Disposal Practices, at 2 (2007), *available at* http://www.catf.us/projects/ power_sector/ advanced_coal/CATF_Taming_Coal_March_2007.pdf (last visited Sept. 21, 2007).

[95] *See* Deseret Permit Decision, *supra* note 79, at 11, 15.