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CLIMATE CHANGE

On the whole, according to the authors of this article, EPA's Advance Notice of Proposed Rulemaking on regulating greenhouse gas emissions under the Clean Air Act is providing an opportunity to see the future of an upcoming era of climate change concerns mandating the regulation of energy efficiency and to play a key role in the formulation of an era that likely will last for decades to come. While some have dismissed the significance of the document, the authors say the notice is the most significant climate change development since the U.S. Supreme Court's decision in *Massachusetts v. EPA*. With the advance notice's public comment period closing November 28, the authors urge stakeholders to participate in what history may identify as the opening debate on establishing the nation's greenhouse gas control framework. This article describes how the debate got to this juncture, reviews the major themes of the advance notice, and gives an overview of its structure and content.

EPA's Greenhouse Gas Proposal: A Blueprint for Federal Regulation

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After more than a decade of broad speculation on what the nation's first mandatory greenhouse gas controls might look like, the Environmental Protection Agency recently provided the first rough draft of what likely will become the bible of climate change controls for years if not decades to come.

In the waning months of the Bush administration, EPA's Advance Notice of Proposed Rulemaking (ANPR) on greenhouse gases officially kicked off for

120 days what may be the most intense debate of how the world's largest economy can act domestically to solve a challenge fundamentally global in nature.

While some have dismissed the significance of the document to at most a kicking of the proverbial can, in fact the ANPR is the most significant climate change development since the Supreme Court's landmark decision *Massachusetts v. EPA*, 549 U.S. 497, 127 S. Ct. 1438, 63 ERC 2057 (2007), which held the Clean Air Act could authorize EPA to regulate greenhouse gases.

At the end of the ANPR process, which will conclude barely seven weeks before a new President takes office,

both the next administration and Congress will have the most detailed roadmap ever created on how to prescribe mandatory controls for EPA to regulate virtually every sector of the economy. Beyond merely an environmental regulation, even if only a portion of the ideas discussed in the ANPR ultimately are promulgated or adopted in some form, EPA will become not just a regulator of the environment, but of energy and major sectors of the economy as well.

Importantly, the process set in motion by the ANPR, relying as it does on the existing provisions of the Clean Air Act regulating all air pollutants, does not need any legislative action to impose comprehensive greenhouse gas controls on the U.S. economy. Further, the greenhouse gas regulatory process, just as many other major Clean Air Act programs have in the past, may be driven largely by litigation in the courts. Therefore, its trajectory is not wholly dependent upon policy makers in the Executive Branch or Congress: just because there will be a new administration in a few months does not mean the ANPR will go away.

With the public comment period on the ANPR closing November 28, stakeholders should give serious consideration to participating in what history may identify as the opening debate on establishing the nation's greenhouse gas control framework that could be in place for generations to come. Given its breadth and depth, a detailed discussion of ANPR is beyond the scope of this article. Rather, the goal is to describe how the debate got to the ANPR juncture, review the major themes of the ANPR, and provide overview of its structure and content.

The Path to the ANPR

While the climate change debate has raged for decades, serious discussion of possible EPA regulatory controls began in 1998. That is when the then-EPA General Counsel opined: (1) that the Clean Air Act could apply to regulate greenhouse gases; and (2) despite the potential authority, EPA actually could not regulate greenhouse gases at that time because the EPA administrator had not determined that greenhouse gases "endanger" public health or welfare. This finding is frequently referred to as the "endangerment finding" and is the necessary prerequisite to regulating pollutants under the Clean Air Act.

The Pre-Massachusetts Decision Era

Coming close on the heels of this agency opinion, in 1999 several environmental groups formally petitioned the EPA to regulate greenhouse gases from new motor vehicles, a class of vehicles that by definition includes passenger cars, light duty trucks, and on-road heavy duty trucks (203 DEN A-5, 10/21/99). The Clinton administration left office in January 2001 without responding to this petition. In 2003, the Bush administration EPA did act on this petition, denying the request to regulate greenhouse gases from cars. In doing so, a new EPA General Counsel reversed the legal opinion of his predecessor, opining that the Clean Air Act did not authorize the EPA to regulate greenhouse gases under any circumstances. The Bush administration for most of its administration emphasized voluntary measures and technology development to address climate change over mandatory regulatory controls.

Environmental groups and certain states, with the state of Massachusetts leading the effort, went to fed-

eral court to challenge EPA's denial in an attempt to force the agency to regulate greenhouse gases from motor vehicles. Initially, they did not meet with success. The U.S. Court of Appeals for the District of Columbia Circuit supported the Bush administration's position 2-1, holding that Congress did not intend the Clean Air Act to control greenhouse gases.¹ On petition from Massachusetts and others, the U.S. Supreme Court decided to review the D.C. Circuit's decision.²

The Massachusetts Decision

The Supreme Court, in what many have hailed as the most significant environmental law decision in the United States, sided with Massachusetts and environmental groups and reversed the lower court. In the closely split 5-4 decision, the court first concluded that Massachusetts had standing by adequately demonstrating harm from the potential impacts of climate change due to adverse effects to coastal property from rising sea levels. On the substantive issues, the court held that the Clean Air Act's broad definition of "air pollutant" encompassed greenhouse gases.

Importantly, however, the court stopped short of ordering the government to begin regulating greenhouse gases. Instead, it said EPA was required to make the requested endangerment finding and decide (1) whether greenhouse gases endanger public health or welfare; (2) whether greenhouse gases do not endanger public health or welfare; or (3) instead, offer a "reasonable explanation as to why it cannot or will not exercise its discretion to determine whether they do." While the third option outlined by the court suggests the agency has significant discretion in not making any endangerment finding, the court went on to suggest EPA could avoid a positive determination of endangerment only if "the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether [GHG] contribute to global warming."

The Post-Massachusetts Era

Approximately one month after the *Massachusetts* decision, President George W. Bush announced in the White House Rose Garden that EPA would finalize regulations for greenhouse gas emissions from cars and light duty trucks by the end of the Administration. Such regulations more or less would implement the President's previously announced 20-in-10 policy, which sought to reduce the nation's consumption of oil by 20 percent in 10 years by improving fuel efficiency and mandating renewable and alternative fuels.

Meanwhile, environmental groups began petitioning EPA to begin regulating greenhouse gases from other mobile sources, including aircraft engines, marine engines, and nonroad vehicles and engines such as construction vehicles and lawn equipment (233 DEN A-4, 12/5/07 and 18 DEN A-7, 1/29/08). Further, groups similarly argued that EPA was required to impose greenhouse gas controls in specific permits for new power plants and stationary sources, as well as require greenhouse gas controls for broad sectors of industrial sources. Importantly, these groups argued that once EPA took any action to regulate greenhouse gases from cars and trucks, it would be required to impose controls on these other sources as well.

¹ *Massachusetts v. EPA*, 415 F.3d 50, 60 ERC 1641 (D.C. Cir. 2005).

² *Massachusetts v. EPA*, 548 U.S. 903 (2006).

On the eve of EPA releasing its proposal on how to regulate greenhouse gases from cars, Congress in December 2007 enacted the Energy Independence Security Act (EISA), Pub. L. 110-140. EISA altered several of the Clean Air Act provisions under which EPA was considering greenhouse gas controls for cars and mandates for renewable fuels. For the first time since 1975, EISA also called for the Department of Transportation, in consultation with EPA, to increase fuel efficiency standards.

Given the changes imposed by EISA and the greenhouse gas benefits to be achieved by the increased fuel efficiency standards, EPA revisited the decision to finalize separate EPA rules for cars. Instead, the EPA administrator concluded that given the numerous petitions to regulate greenhouse gases from a broad range of mobile and stationary sources, it would be appropriate to take a broader look at how to develop a comprehensive greenhouse gas regulatory scheme. To that end, the administrator announced that the agency would release an "Advance Notice of Proposed Rulemaking" by the end of spring (75 DEN A-1, 4/18/08).

The Release and Aftermath of the ANPR

The EPA administrator released the ANPR to the public on July 11. As described below, the thousands of pages in the ANPR package, which includes several supporting "technical support documents," details hundreds of proposals on how EPA could regulate greenhouse gases from virtually every sector of the economy, and solicits comments on these ideas. EPA published the ANPR in the *Federal Register* July 30.³

The contents of the ANPR itself to some extent were overshadowed by the actual release of the document. On the same day, the Bush administration released a "Policy Memorandum" denouncing virtually the entire ANPR. This memorandum cited to the comments of at least four cabinet-level officials—including Agriculture, Commerce, Energy, and Transportation—as well as senior White House officials criticizing the various elements of the ANPR. The administration argued in the alternative that climate change should be addressed through new legislation as opposed to the Clean Air Act. The EPA administrator inserted these views into the front of the ANPR itself, and expressed his own reservations with regulating greenhouse gases under the Clean Air Act.

Both presidential candidates the following day, when asked to comment on the ANPR and the controversy, issued broad statements generally conforming to the administration's preference of pursuing new legislation over the Clean Air Act.

Yet, those who might have taken some comfort in the reservations expressed soon realized that the ANPR nonetheless could serve as the climate change roadmap for eventual regulation by EPA. Environmental groups soon signaled that they were unlikely to give the next administration abundant time to debate the issue further. On July 31, the day after EPA published the ANPR in the *Federal Register*, a coalition of environmental groups announced their intent to sue EPA to force greenhouse gas regulations of the aircraft and marine sectors, despite the fact both sectors are addressed in

detail in the ANPR (148 DEN A-2, 8/1/08). This action suggests that even if the next administration decides to take a cautious approach toward enacting climate change controls, environmental groups will seek to force quicker action in the courts. Therefore, the future of comprehensive regulatory controls over greenhouse gas emissions may not be completely in the hands of either EPA or Congress.

Five Key Themes

As discussed above, because there is no straightforward way to summarize a document the size of the ANPR and its supporting documents, we have focus in this article on the key themes and organization of the ANPR.⁴ With a document of this complexity, a good starting point to understanding its importance is to examine the prevalent themes that run throughout the entire proposal.

(1) The comprehensive scope of the reach of the ANPR: From locomotives to lawn mowers, virtually all sectors of the economy that emit greenhouse gases are addressed. Early in the ANPR, EPA includes a pie chart that breaks down the relative greenhouse gas emissions of the electricity, transportation, industry, agriculture, commercial, and residential sectors. The ANPR accordingly includes proposals to address both the largest and smallest sources from each of these sectors. It is apparent that as much attention is given to lawn mowers, forklifts, and motorcycles as utilities, aircraft, and cement kilns.

(2) Focus on energy efficiency: The ANPR would reduce greenhouse gas emissions by squeezing energy efficiency improvements both in design and operations. The overriding theme of the document is to mandate energy efficiency improvements by telling industry not only how to build the proverbial railroad, but also how to run it better. In describing the prevalent approach throughout the entire document, EPA states "[t]here are both technological controls and operational measures potentially available to reduce GHG emissions. . . ."⁵ For example, regarding aircraft EPA makes several suggestions on how aircraft could be built to use less fuel—including the use of new materials, reducing aerodynamic drag through installing four different types of technology, and using alternative fuels. In addition, EPA proposes several suggestions on how air traffic could be controlled better to enhance fuel efficiency, even where such decisions are within the domain of the Federal Aviation Administration. Discussion at this level of detail is repeated for virtually all industrial sectors.

(3) An economic approach to the problem: The ANPR consistently merges policy and economic discussions, de-

⁴ The authors have prepared summaries digesting key discussions in the ANPR preamble and other documents in the ANPR record, as well as related petitions, relevant to the following sectors. All summaries are available for download at no charge at <http://www.sidley.com/climatechange/>. The sectors include stationary sources, cars and light duty trucks, aircraft (two volumes), marine vessels (two volumes), locomotives, nonroad vehicles, heavy duty trucks (two volumes), and market-based approaches.

⁵ 73 Fed. Reg. 44,354, 44,470 (7/30/08).

³ See 73 Fed. Reg. 44,354 (7/30/08).

tailoring several macroeconomic approaches. As described below, EPA devotes significant attention both separately and throughout the document to broader approaches toward reducing greenhouse gases, such as cap-and-trade and carbon tax proposals, as well as justifying a policy of forcing technology improvements through regulation. At the same time, EPA devotes little attention to the question of its legal authority for enacting some of these mechanisms, strongly suggesting that it sees this debate as one not just for the agency, but for Congress.

(4) De facto presumptive finding of endangerment: The ANPR states that the evidence regarding endangerment is “compelling and robust.” Although EPA attaches a technical support document discussing the endangerment finding, it devotes relatively little discussion to the science relating to climate change in the ANPR itself. The vast bulk of the discussion implicitly presumes a positive endangerment finding will be made. Much of the scientific discussion incorporates the United Nations Intergovernmental Panel on Climate Change’s (IPCC) findings. In many ways, the ANPR reads like a hypothetical Volume II to the IPCC, providing a how-to manual for achieving the conclusions set out by the IPCC.

(5) Focus on existing Clean Air Act authority: The ANPR generally limits the scope of its discussion to existing Clean Air Act authority. Although there will be some debate on whether the Clean Air Act provides EPA with authority to implement the trading and tax proposals, the document otherwise squarely addresses only potential measures that the agency believes are within the bounds of its existing Clean Air Act authority. This has two major takeaways. First, EPA believes it can theoretically do quite a lot without additional legislative action. Second, consideration of other opportunities to reduce greenhouse gas emissions not within the scope of the Clean Air Act, such as sustainable forestry and broadband communications, are not considered in the analysis.

Three General Volumes

Roughly speaking, the ANPR can be subdivided into three general volumes. The first volume can be thought of addressing overlaying issues, which would apply generally to all greenhouse gas rulemakings regardless of the source or the sector. The second volume addresses mobile sources, including on road and off-road vehicles and fuels. The third volume addresses stationary sources and alternative regulatory mechanisms such as cap-and-trade.

Overlaying Issues

Part III of the ANPR discusses the nature of climate change and greenhouse gases. Importantly, the ANPR makes reference to the IPCC’s finding that a concentration of 450 ppm of carbon dioxide is a “stabilization scenario,”⁶ necessary to avoid long-term global temperatures from exceeding 2.8 degrees Celsius relative to pre-industrial temperatures.⁷ This suggests the strin-

⁶ 73 Fed. Reg. 44,354, 44,437 (7/30/08).

⁷ *Id.* at 44,401. Current carbon dioxide concentrations are estimated at 379 ppm.

gency EPA will look to in seeking to reduce greenhouse gas emissions.

Part III also lays out several policy and economic themes that are prevalent throughout the entire document, and thus EPA’s decisionmaking. Without reaching any definitive conclusions, the ANPR makes the case for advancing regulation to push technology improvements to reduce greenhouse gases, as opposed to relying solely on voluntary market mechanisms.

Various market-based approaches to be considered as part of a comprehensive greenhouse gas regulatory regime also are described in Part III. These approaches include carbon taxes, cap-and-trade, emissions credits, and a “hybrid option.” The ANPR returns to these approaches in Part VII when discussing stationary sources. EPA solicits the public’s view on which, if any, of these options should be implemented domestically as part of a greenhouse gas regulatory framework. Yet, the relative lack of discussion on legal authority for these options suggests that the debate is intended to inform Congress as well.

Part IV discusses the tools available under the Clean Air Act to potentially regulate greenhouse gases from mobile and stationary sources. Importantly, the discussion addresses how regulating greenhouse gases under one provision of the Clean Air Act, thus bringing greenhouse gases within the definition of “regulated pollutant,” overflows into other provisions of the Clean Air Act.

Part V presents issues pertaining to EPA’s endangerment finding. However, as described above, the preamble does not go into detail regarding any scientific debate over climate change. Instead, the document establishes the scientific evidence regarding climate change to be “compelling and robust,” and then solicits comment on legally technical issues such as how “air pollutant” and “air pollution” should be defined under the Clean Air Act in the context of greenhouse gases. The basis on which EPA may rely on ultimately making an endangerment finding is provided in a technical support document located in the ANPR docket.⁸

Mobile Sources

Part VI of the ANPR addresses mobile sources and is divided into three sections: (1) on-road sources including cars and trucks, (2) a wide variety of nonroad sources from airplanes to lawn equipment, and (3) fuels.

Importantly, the ANPR incorporates at least seven pending petitions to regulate greenhouse gases from mobile sources.⁹ Prior to the ANPR, environmental

⁸ See Document #EPA-HQ-OAR-2008-0318-0082, available at <http://www.regulations.gov>, by searching “Draft Technical Support Document - Endangerment Analysis for Greenhouse Gas Emissions under the Clean Air Act.”

⁹ See for example, *California et al.*, “Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Aircraft,” *Oceana et al.*, “Petition for Rulemaking Seeking the Regulation Under the Clean Air Act to Reduce the Emission of Air Pollutants from Marine Shipping Vessels that Contribute to Global Climate Change” (10/3/07), available at http://www.oceana.org/fileadmin/oceana/uploads/Climate_Change/Marine_GHG_Petition_FINAL.pdf; *International Center for Technology Assessment et al.*, “Petition for Rulemaking Seeking the Regulation of Greenhouse Gas Emissions from Non-road Vehicles and Engines” (1/29/08), available at <http://www.icta.org/doc/213%20Petition%20Final%201-28-08.pdf>.

groups and state and local governments petitioned EPA to regulate greenhouse gases from cars and trucks, aircraft, marine vessels, and nonroad engines. The ANPR in turn incorporates by reference the substance of these petitions. Thus, for stakeholders in these industries it will be important to address not only issues raised by EPA in the ANPR, but also issues raised by the petitioners relevant to the industry. As discussed above, environmental groups already have signaled their intent to sue to force regulation of aircraft and marine vessels. Accordingly, the breadth of the ANPR should be considered to include these underlying petitions.

Consistent with its overarching theme of energy efficiency, the ANPR's discussion of mobile sources focuses on improving energy efficiency of the various sectors through technological and operational changes. This approach is repeated for all mobile source sectors.¹⁰

Onroad vehicles. Regarding specific sectors, the most detail is provided for cars and light duty trucks. The extensive discussion in the ANPR is supplemented by a 108-page technical support document and almost 500 pages of other discussion that goes into greater detail for how EPA could fashion greenhouse gas regulations for cars and light duty trucks. This detail likely reflects the well-known efforts by EPA in crafting a greenhouse gas proposal for these vehicles during 2007, and suggests EPA would be in a position to propose and finalize car regulations promptly if it receives direction from the next administration or the courts to do so. When taken as a whole, EPA's detailed discussion in the ANPR for cars and trucks appears more akin to an actual Notice of Proposed Rulemaking.

In the ANPR, EPA focuses on two alternative approaches to increase the fuel efficiency of cars: a straight-line four percent reduction in carbon dioxide emissions per year and a model-optimized approach that considers a broad range of factors including technology feasibility, lead time, effectiveness, discount rates, future fuel prices, and other externalities. EPA also proposes methods to reduce greenhouse gas emissions other than carbon dioxide, such as through modified air conditioning systems. Demonstrating the thoroughness of EPA's thinking on car regulation, EPA also discusses test procedures as well as enforcement and penalties, and identifies at least 31 technologies that could be considered for greenhouse gas reduction from cars and their likely implementation cost.

As it has done in the past, EPA distinguishes between light duty and heavy duty trucks. While it provides less detail on the potential regulation of heavy duty trucks, it includes several documents in the docket outlining specific proposals for new truck and engine technologies and ways of operating truck fleets to improve energy efficiency.

Other Mobile Sources. Regarding other sectors, including nonroad engines (which includes agricultural, construction, commercial, industrial lawn and garden, outdoor power, farm, recreational, and logging sectors), aircraft, marine vessels, and locomotives, EPA provides varying amounts of detail ranging from scores of pages for locomotives to nearly 600 pages of discussion and support documents for aircraft and aircraft engines.

The theme across all sectors, however, remains the same—proposals to enhance energy efficiency through technological and operational modifications. In the case of mobile sources, EPA includes numerous specific proposals for engine redesign, vehicle redesign, and operational controls for each of the mobile source sectors.

Given the July notice of intent to sue to force greenhouse gas regulation of aircraft and marine vessels, it would seem likely that EPA may focus attention on those sectors. On the other hand, regulation of nonroad engines and vehicles presents the additional challenge of how to encompass scores of different categories of engines, vehicles, and equipment suggesting that across the board regulation of nonroad vehicles may prove more formidable.

The discussion in the ANPR at times also identifies what is likely to be a key issue in any actual greenhouse gas regulation—the coordination with other regulatory agencies. In the case of aircraft, the Federal Aviation Administration exercises authority over air traffic control. In the case of marine shipping vessels, the International Maritime Organization sets voluntary standards for emissions for ocean-going vessels. Furthermore, the Supreme Court in the *Massachusetts* decision itself acknowledged the tension between both EPA and the Department of Transportation regulating fuel efficiency under separate authority. EPA's discussions in the ANPR acknowledge the need to consult with other regulatory agencies with overlapping jurisdiction, but do not necessarily concede the need to conform such regulations into a single regulatory regime.

Renewable and Alternative Fuels. EPA has existing authority to regulate renewable and alternative fuels under Clean Air Act Sections 211(c) (alternative fuels) and 211(o) (renewable fuels). The December 2007 Energy Independence and Security Act amended Section 211(o) to provide certain mandates for renewable fuel standards through 2022. EPA is reported to be preparing a proposed rule implementing the EISA mandates this fall (133 DEN A-1, 7/11/08).

In the ANPR, EPA seeks comments on issues at the intersection of the Clean Air Act and EISA. For example, it points out that while the EISA mandates certain levels of cellulosic biofuels, it does not provide how to weight varying types of biofuels based on their greenhouse gas impacts and lifecycle analysis. Accordingly, EPA requests comment on "the importance of distinguishing fuels beyond the categories established in EISA and how an alternative program might further encourage the development and use of low GHG fuels."¹¹ EPA also points out that EISA focuses entirely on renewable fuels to the exclusion of alternative fuels and does not allow for consideration of credits for petroleum products with lower greenhouse gas lifecycles.

While industries involved in traditional, renewable, and alternative fuels are monitoring closely the upcoming EPA proposed rulemaking implementing EISA, the ANPR raises significant issues that are both distinct and related to the EISA rulemaking. For example, EPA requests comment on whether to set a cap on total emissions from all transportation fuels, applying a lifecycle approach to petroleum that would include refinery emissions, and whether Clean Air Act Section 211(c) enables it to enact a broader or more aggressive pro-

¹⁰ See *supra*, n. 4.

¹¹ *Id.* at 44,475.

gram than EISA and Section 211(o) of the air act.¹² Specifically, EPA requests comment on the potential to reduce greenhouse gas emissions from fuels “over and above” the Renewable Fuel Standard and EISA.

Stationary Sources

In the preamble, the ANPR takes a different approach to discuss stationary sources than mobile sources. As opposed to a sector-specific breakdown, the ANPR, likely due to the hundreds of different types of stationary source emitters, focuses on more thematic issues pertaining to the regulation of stationary sources generally under the Clean Air Act. The discussion is divided into three sections: (1) discussion of which of three Clean Air Act regulatory pathways could be used to regulate stationary sources generally; (2) the consequences of regulating greenhouse gases on the Clean Air Act’s PSD and Title V programs; and (3) market-based approaches to regulating stationary source sectors such as cap-and-trade mechanisms.

Despite the more generalized discussion in the ANPR itself compared to mobile sources, EPA does raise sector-specific proposals for various stationary source categories in technical support documents. These sectors include industrial boilers, utility boilers, petroleum refineries, Portland cement manufacturing, iron and steel, petroleum production and natural gas systems, landfills, and agriculture.¹³

The Three Clean Air Act Pathways. The ANPR discusses all three existing Title I options that potentially could be considered for the regulation of greenhouse gases. The first option, Section 108, establishes National Ambient Air Quality Standards (NAAQS). For certain criteria pollutants, EPA decides on uniform levels of ambient concentrations for the entire nation that are needed to protect public health and welfare. States generally have primary responsibility for implementing programs to realize these standards on a county-by-county basis. However, because greenhouse gases have a uniform effect on the entire globe, and not at the local level, many believe applying this local system to global pollutants would be impractical, if not impossible, as the entire nation either would attain or not attain the standard.

The second option, Section 111, establishes standards of performance for various categories of stationary sources known as New Source Performance Standards (NSPS). If EPA decides to establish a pollutant standard for a given source, it mandates the Best Demonstrated Technology. This standard, termed BDT, in turn permits considerations of cost/benefits and technical feasibility, permitting more flexibility than the other two Title I pathways.

One notable distinction between Section 111 and other Clean Air Act provisions pertains to the endangerment finding. Unlike most other provisions of the Clean Air Act, under Section 111, EPA is required to determine whether a category of sources, not a specific pollutant, presents an endangerment to public health or welfare. Because EPA has made such findings for scores of source categories, the legal question is

whether EPA is required to include greenhouse gases as part of the set of pollutants EPA regulates from listed source categories. Environmental groups have petitioned EPA to issue greenhouse gases standards for sources already regulated for other pollutants, including petroleum refineries and utility boilers. EPA recently deferred consideration of these petitions pending the outcome of the ANPR, and environmental groups have challenged that decision in court.¹⁴

The third option, Section 112, addresses hazardous air pollutants. Such “HAPs” are subjected to a more stringent Maximum Achievable Control Technology, which does not allow cost considerations. Thus, facilities triggering MACT arguably could be required to impose stringent technology that addresses greenhouse gases with less need to justify such technology on an economic or feasibility basis. Traditionally, in setting a MACT standard, EPA has looked to the ceiling of performance set by industry and has turned that ceiling into a floor.

Many observers, industry and environmental groups alike, have presumed that if EPA is compelled to regulate stationary sources under the Clean Air Act, it would proceed with Section 111 NSPS given the greater flexibility available under Section 111 compared to Section 108 NAAQS and Section 112 HAPs. To these observers, the detailed attention EPA gives the non-111 options may come as something of an alarm. In fact, EPA does not appear to channel the analysis toward Section 111 and away from Section 108 or Section 112, but devotes significant detail and attention to all three options. Indeed, while even some leading nongovernmental organization attorneys have discounted the NAAQS option recently,¹⁵ prior to the International Center for Technology Assessment’s petition, environmental groups petitioned EPA to set a NAAQS for greenhouse gases. Thus, it appears at least at this stage that all three options are on the table from EPA’s perspective.

On the other hand, other documents in the ANPR’s record suggest EPA has given significant thought to implementing greenhouse gas regulation through Section 111. In a technical support document for stationary sources, EPA outlines with some specificity how it might enact NSPS standards for greenhouse gas emissions from eight classes of sources, including industrial and utility boilers, petroleum refineries, and cement kilns. Little to no attention is given to actual implementation of either NAAQS or HAPs standards. Also, as described below, EPA discusses how it might implement alternative regulatory approaches such as cap-and-trade through Section 111 authority.

Finally, as Table A (located at the end of this article) shows, one of the factors in considering the three Title I options goes to their preclusive effect on each of the other options. In other words, the three Title I options do not provide EPA an “a la carte” menu from which it can pick and choose elements of each. Instead, selecting one option can preclude provisions of another option. For example, according to the ANPR, proceeding with a NAAQS would preclude regulation under Sec-

¹² *Id.* at 44,475-44,476.

¹³ As with mobile sources, the authors’ digest of the issues pertaining to these sectors is available on the Web at <http://www.sidley.com/climatechange/> under “Stationary Source Summary.”

¹⁴ EPA’s rationale for not regulating greenhouse gases under an NSPS is included in the author’s Stationary Source summary referenced above.

¹⁵ See, e.g. testimony of David Bookbinder before House Select Committee on Energy Independence and Global Warming (3/13/08).

tion 111 for existing (but not new and modified) sources and Section 112 for any source. Meanwhile, listing greenhouse gases as hazardous air pollutants under Section 112 similarly would preclude regulation under Section 111 for existing (but not new and modified) sources and would preclude greenhouse gases from regulation under the PSD program, described below. EPA does not identify any preclusive effect on other provisions from regulating greenhouse gases under Section 111.

PSD and Title V. Perhaps one of the most discussed, and significant, aspects of greenhouse gas regulation under the Clean Air Act is the way such regulation likely will trigger permitting requirements for as many as a million new sources under Title I's New Source Review program, particularly the Prevention of Significant Deterioration (PSD) and nonattainment NSR (NNSR) provisions. Under New Source Review, owners and operators of stationary sources must obtain construction permits prior to building or modifying a facility. These permits provide for public comment and mandate Best Achievable Control Technology (BACT).

The requirement for such permits is triggered by emissions of 250 tons per year of a "regulated pollutant" or for some source categories 100 tons per year. Traditionally these thresholds, set by statute in the language of the Clean Air Act itself, generally have limited PSD to larger stationary sources.

In the context of greenhouse gases, however, the 250-ton per year threshold is relatively small by many accounts and, according to one study, would capture at least a million new sources.¹⁶ Following the *Massachusetts* decision, certain environmental groups have argued greenhouse gases now are a "regulated pollutant" under the Clean Air Act, which would in turn trigger PSD, while the agency has taken the position that greenhouse gases do not become "regulated pollutants" until the EPA begins to control greenhouse gas emissions under the Clean Air Act. This issue currently is being litigated before EPA's Environmental Appeals Board and in several other contexts, most notably the appeal of the Deseret power plant permit before the EAB.¹⁷

While the ANPR approximates that only 2,000-3,000 facilities would be affected each year by New Source Review for greenhouse gases (compared to 200-300 today),¹⁸ the document is frank in its discussion of the administrative and practical burdens that applying New Source Review to greenhouse gases would inflict on the agency and industry. As the ANPR explains, applying New Source Review thresholds to greenhouse gases would subject "[m]any types of new GHG sources" to PSD permitting requirements" because "the mass CO₂ emissions from many source types are orders of magnitude greater than for currently regulated pollutants."¹⁹ The ANPR believes these requirements could apply to "smaller industrial sources, as well as large office and residential buildings, hotels, large retail establishments,

and similar requirements."²⁰ Others have commented on triggering permitting requirements for big box stores, civic buildings, and schools.

The tone of the ANPR does not express an eagerness for EPA to take on this "order of magnitude" increased administrative burden (or for that matter, the states, who in most cases, are the delegated or authorized permitting agencies for PSD), and suggests that "Congress could consider legislative alterations."²¹ At the same time, given the potential realities of the New Source Review requirements being triggered, EPA proposes several approaches to both "streamline" a permitting process and to reserve the argument that PSD thresholds may not be triggered in all instances, at one point soliciting comment "on whether these PSD threshold requirements may present one of those rare cases in which congressional intent differs, based on the legislative history."²² However, the document also recognizes, implicitly if not explicitly, that the creative workarounds proposed are untested.

As Table B (located at the end of this article) shows, EPA also discusses potential impacts of greenhouse gas regulation on the Title V program, which addresses operating permits as opposed to construction permits under New Source Review and PSD. EPA estimates in the ANPR that more than 550,000 additional sources would require Title V permits, including commercial and residential buildings, a tenfold increase of what is estimated today.²³ EPA describes potential Title V requirements as "improved energy efficiency and other process operational changes rather than the use of add-on emission reduction devices."²⁴

Similar to PSD, the ANPR does not express an overwhelming intent on behalf of EPA to regulate hundreds of thousands of new sources. Similarly, EPA proposes several alternatives to mitigate the impacts of a Title V permit, including a general permit and higher thresholds. However, like PSD, it should be assumed that a party seeking to challenge a project may cite to Title V compliance concerns under a strict reading of the Clean Air Act.

Market Approaches. Finally, EPA outlines in more detail four "alternative designs for market-oriented regulatory mechanisms for stationary sources," including cap-and-trade and what is generally referred to as a "carbon tax." During the past several years, there has been some controversy regarding EPA's legal authority to implement trading mechanisms under the Clean Air Act. In fact, on the same day EPA released the ANPR, the D.C. Circuit rejected the agency's Clean Air Interstate Rule, which set up a trading mechanism under Title I.²⁵

In the ANPR, EPA appears to suggest it could use the flexibility offered by Section 111 to craft New Source Performance Standards to implement these mechanisms.²⁶ Specifically, EPA inquires into the extent such approaches "could be used in lieu of, or in addition to, other options including emission rate standards,

²⁰ *Id.* at 44,499.

²¹ *Id.* at 44,500.

²² *Id.* at 44,506.

²³ *Id.* at 44,511.

²⁴ *Id.*

²⁵ *North Carolina v. EPA*, D.C. Cir., No. 05-1244, 7/11/08. (See also 134 DEN A-6, 7/14/08).

²⁶ 73 Fed. Reg. 44,354, 44, 514.

¹⁶ See U.S. Chamber of Commerce "Mills" study, available at <http://www.uschamber.com/co2>.

¹⁷ *In the Matter of Deseret Power Electric Cooperative*, EAB App. No. PSD 07-03.

¹⁸ 73 Fed. Reg. 44,354, 44,499.

¹⁹ *Id.* at 44, 498.

technology-based standards, or work practices” under Section 111.²⁷ Both industry and environmental groups have argued at times that EPA lacks authority to impose such trading schemes, even under Section 111, and it may be that the true relevance of this discussion is one for Congress as it considers energy and climate legislation.²⁸

Briefly, the four options EPA discusses are: (1) a cap-and-trade system that would cap aggregate emissions from covered sources and allow trading of emissions allowances; (2) a rate-based emissions credit that would not cap aggregate emissions but set standards based on emissions intensity and allow trading among sources who operate above and below the set intensity standards; (3) an emissions fee or “carbon tax” that would not cap aggregate emissions but establish a fixed price per ton of greenhouse gas emitted; and (4) a hybrid approach that combines set emissions rates, credit trading, and fees.

Conclusion

In the thousands of pages comprising the entire ANPR package, the most evident theme is that no sector of industry would be immune from EPA regulation of greenhouse gas emissions. From mammoth utilities to motorcycles, locomotives to lawn mowers, EPA proposes hundreds if not thousands of ideas for both re-engineering technology and how to operate it better.

Yet, from another perspective, the ANPR is exceedingly simple. A major theme of the document is to mandate increased energy efficiency. The bulk of the proposals are aimed at squeezing more efficiency from anything that combusts or uses energy, thereby reducing the nation’s contribution to the global pool of greenhouse gases in the atmosphere.

In many ways, at EPA headquarters, it is 1970 again, with an agency confronting the daunting challenge of creating an entirely new regulatory regime to address a global environmental problem more complex than any issue the agency has addressed in its history. The ANPR is the first insight into the way EPA would seek to regulate industry for years and decades to come. Given such regulation stands to dramatically impact every element of industry and the economy, companies should consider several key issues in deciding whether to comment.

Establishing a stakeholder relationship. For many groups, the most important opportunity the ANPR offers may be to introduce themselves to EPA at the outset of the climate change regulatory era. Once EPA moves forward with climate change regulations, it will regulate industry in ways it never has before while also bringing new types of industries and commerce within its regulatory authority. Now is the time to make intro-

ductions to EPA in the climate change context that will establish a constructive and consultative relationship moving forward so that interested stakeholders can be consulted as EPA crafts complex and highly technical rules regulating industry in ways it never has before.

For mobile source groups, treating elements of the ANPR as a proposed rule. At the close of the ANPR comment period, environmental groups will continue to ask the courts to force EPA to regulate greenhouse gases from mobile sources. As discussed above, automobile manufacturers may be the first in line, with aircraft and marine vessels appearing to be the next target in the sights. It is important for manufacturers in the mobile source sectors to provide input into the very specific proposals not only in the ANPR, but in the underlying environmental group petitions that have been incorporated into the ANPR. Because there generally is less flexibility for an agency to make changes once it proposes an actual rule, this is a critical opportunity to raise concerns now regarding the proposed methods to regulate these sources.

For stationary sources, addressing the feasibility and infeasibility of using the Clean Air Act tools. Virtually all observers, including advocates for greenhouse gas regulation, would agree the Clean Air Act is a far from ideal tool for regulating greenhouse gases as a general proposition. Beyond the general issues that are frequently raised, certain groups may decide to point out specific examples of areas where Clean Air Act regulation of their sectors might lead to consequences not anticipated or addressed by EPA. For those sectors such as utilities, manufacturing, and petroleum refining addressed specifically in technical support documents, industry should consider responding to specific EPA proposals that would mandate further energy efficiency. Industry also should point out early actions it already has taken to improve energy efficiency and reduce greenhouse gases.

For other sectors, consider raising downstream impacts. Sectors not traditionally regulated by EPA should consider the impacts of climate change regulation on their business models as well. There will be direct impacts due to the triggering of PSD and Title V permits described below, potentially requiring commercial and residential buildings to obtain costly and time consuming EPA permits for operating boilers and furnaces. Downstream impacts of increased fuel and energy costs may affect vehicle fleets and increase expenses. Meanwhile, companies that bring novel solutions toward reducing greenhouse gases through technology, alternative energy, or efficiency solutions will have a unique opportunity to introduce their solutions to EPA at this early state of rulemaking.

On the whole, the ANPR is providing the nation with a unique opportunity to not only see the future of an upcoming era of climate change concerns mandating the regulation of energy efficiency, but to play a key role in the formulation of an era that likely will last for decades to come.

²⁷ *Id.*

²⁸ Indeed, EPA concedes at one point that it is “not taking a position” on its legal authority to implement these options. See 73 Fed. Reg. 44,354, 44,516.

Table A: Stationary Source Pathways

Provision	Summary	Preclusive effect	Comments
Section 108/109 NAAQS	Would set ambient greenhouse gas standards for nation, thus entire nation would be in or out of attainment; primary standard goes to health concerns, secondary standard goes to welfare; costs cannot be considered in setting standard	Precludes listing under Section 111 for existing sources (but not new and modified sources) and Section 112	ANPR proposes four NAAQS scenarios; likely would take 10 years before any regulatory effect; 10 year horizon to achieve NAAQS “ill suited to greenhouse gases”
Section 111 New Source Performance Standards	Sets performance standards for certain listed “source categories;” provides for consideration of costs and discretion in type and size of facilities regulated; standard is Best Demonstrated Technology (BDT)	Would trigger PSD and Title V permitting	Stationary source TSD addresses specifics for industrial and utility boilers, petroleum refineries, and Portland cement facilities; arguably strongest authority of the three Title I options for trading programs; likely would combine efficiency and workplace standards
Section 112 Hazardous Air Pollutants	Provides little discretion to distinguish between sizes and categories; costs largely irrelevant; standard is MACT (Maximum Achievable Control Technology)	Greenhouse gases would be exempt from PSD program; would preclude Section 111 standards for existing sources (but not new or modified sources)	10/25 ton threshold for regulation

Table B: PSD/NSR and Title V

PSD/NSR permits are pre-construction permits
Title V permits are operating permits.

PSD	Title V
Threshold is 100 or 250 tons per year	Threshold is 100 tons per year
Standard is Best Available Control Technology (BACT) (can consider costs); ANPR suggests could require carbon capture and sequestration	Requires a permit contain “all applicable requirements” under the Clean Air Act; EPA anticipates improved energy efficiency and operational changes
Would encompass small industrial sources, “large office and residential buildings, hotels, large retail establishments, and similar facilities”	EPA estimates 550,000 additional sources (compared to 15,000-16,000 current Title V sources)
Would be effective immediately at time greenhouse gases are “regulated pollutants”	Must apply for permit within one year of being subjected to Title V
EPA proposes several suggestions include Congressional fix, “tailoring approaches,” legal arguments to craft relief from strict language; streamlined regulatory approaches; general permits; higher thresholds; EnergyStar as “presumptive BACT”	EPA proposes several suggestions including legal arguments to craft relief; higher greenhouse gas cutoffs; deferral approach; general permits; adjusted fee structure

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