

Why Building Owners Need to Be Concerned About EPA's Advanced Notice of Proposed Rulemaking for Regulating CO₂

By Larry Schnapf

On July 23rd, 2008, EPA issued an advance notice of proposed rulemaking (ANPRM) soliciting comments on the regulation of GHG emissions. The ANPRM was issued in response to the United States Supreme Court decision in *Massachusetts v. EPA*,¹ where the Court ruled that carbon dioxide (CO₂) fell within the definition of air pollutant contained in the federal Clean Air Act (CAA) and instructed EPA to make an "endangerment" finding to determine if CO₂ should be regulated under the CAA.

While EPA did not make an endangerment determination in the ANPRM, the agency provided a detailed analysis of the various authorities for regulating GHG emissions. The ANPRM should serve as a wake-up call to property owners and their lenders about the potential significant impact that GHG regulation may have on their buildings.

I. Overview of Greenhouse Gases and Emissions Sources

The principal GHG s of concern are carbon dioxide (CO₂), methane (CH₄), Nitrous Oxide (N₂O), hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulfur hexafluoride (SF₆). Global emissions of these six GHGs have grown since pre-industrial times and have increased by 70% between 1970 and 2004. In 2000, U.S. GHG emissions accounted for approximately 21% of the global total.² There are other GHGs and aerosols that have climatic warming effects: water vapor, chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), halons, stratospheric and tropospheric ozone (O₃), and black carbon.³

Pursuant to the United Nations Framework Convention on Climate Change (UNFCCC) that the United States ratified in 1992, EPA prepares an annual complete inventory of GHG emissions from human activities as well as natural processes that absorb or remove GHGs from the atmosphere (e.g., CO₂ uptake by plants through photosynthesis).

The primary GHG emitted as a result of human activities in the United States is CO₂, representing approximately 85% of total GHG emissions. CO₂ results primarily from fossil fuel combustion to generate electricity, power vehicles and factories, heat buildings, etc. Methane emissions comprise approximately 8% of total U.S. GHG emissions. However, methane has 20 times the trapping heat ability than CO₂. The largest sources of methane emissions are enteric fermentation (22.7%), landfills (22.6%), natural gas systems (18.4%), coal mining (10.5%), and manure management (7.5%). Smaller sources such as rice cultivation and incomplete fossil fuel combustion account for the remainder.

Nitrous Oxide emissions are just over 5% of total U.S. GHG emissions. However, N₂O is approximately 300 times more powerful than CO₂. The main anthropogenic activities producing N₂O in the United States are agricultural soil management (72%),

and fuel combustion in motor vehicles (9%). A variety of chemical production processes and liquid waste management sources also emit N₂O.

The three other GHGs (HFCs, PFCs, and SF₆) are often grouped together because they contain fluorine. This combined emissions from , these GHGs made up 2.1% of total U.S. GHG emissions in 2006. However, Intergovernmental Panel on Climate Change has found that SF₆ is the most potent greenhouse gas that it has evaluated, with a global warming potential of 22,200 times that of CO₂. HFCs and some PFCs are increasingly being used as substitutes for the ozone depleting substances controlled under the Montreal Protocol and Title VI of the CAA. The largest source is the use of HFCs in air conditioning and refrigeration systems. Other sources include HFC-23 emitted during the production of HCFC-22, electrical transmission and distribution systems (SF₆), and PFC emissions from semiconductor manufacturing and primary aluminum production.

EPA does not currently regulate greenhouse gas emissions from stationary or mobile sources under the CAA. In 1999, a group of states, local governments, and private organizations filed a rulemaking petition asking EPA to regulate carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons from new motor vehicles under § 202 of the CAA (the "ICTA Petition").⁴

The petition alleged that climate change will have serious adverse effects on human health and the environment and that the agency had already confirmed that it had the power to regulate carbon dioxide.⁵ The petitioners asserted that EPA was required under section 202 of the CAA to promulgate emissions standards for "any air pollutant" that EPA determines has caused or contributed to air pollution reasonably anticipated to endanger public health or welfare.

In September 2003, EPA denied the request on the basis that the CAA did not require and it would be unwise for the agency to regulate GHG emissions. The agency also concluded that greenhouse gases cannot be "air pollutants" within the meaning of the CAA because the only feasible method of reducing CO₂ tailpipe emissions would be to improve fuel economy which would interfere with fuel economy standards issued by the Department of Transportation (DOT) under EPCA.

The United States Court of Appeals for the District of Columbia Circuit upheld EPA's denial of the petition in a 2-1 opinion.⁶ However, the United States Supreme Court reversed and held in a 5-4 decision that EPA had improperly denied ICTA's petition in *Massachusetts v. EPA*.⁷

The Court first held that petitioners had standing to challenge EPA's denial of their rulemaking petition since at least one petitioner state properly asserted a concrete injury from the potential further loss of its coastal land, much of which was owned by the state, from rising sea levels caused by climate change.

The Court also rejected the argument that EPA could not regulate new motor vehicle emissions because of the potential conflict with the DOT fuel economy standards, holding that EPA's mandate to protect public health and welfare is "wholly independent of DOT's mandate to promote energy efficiency," even if the authorities may overlap.⁸

Turning to whether CO₂, CH₄, N₂O, and HFCs fit the CAA's definition of "air pollutant", the Court noted that the sweeping CAA definition of "air pollutant" included "any" physical or chemical substance or matter that is emitted into or otherwise enters the

ambient air." Since the definition of "air pollutant" encompassed all airborne compounds and that the four GHGs were "physical or chemical substances that are emitted into the ambient air, the court ruled that greenhouse gases fit well within the CAA's "capacious definition" of air pollutant and that EPA has the statutory authority to regulate the emission of such gases from new motor vehicles.⁹

Because the GHGs fell within the definition of air pollutants, the Court said EPA must then determine if the GHG emissions caused or contributed to air pollution that may reasonably be anticipated to endanger public health or welfare. If EPA finds that new motor vehicle GHG emissions meet the endangerment test, the agency would be required under section 202(a)(1) of the CAA to promulgate motor vehicle standards for GHG emissions. In remanding the decision back to EPA, the Court cautioned that generalized concerns about scientific uncertainty were insufficient unless "the scientific uncertainty is so profound that it precludes EPA from making a reasoned judgment as to whether greenhouse gases contribute to global warming."¹⁰

While the *Massachusetts* decision related to GHG emissions from mobile sources, the definition of "air pollutants" also applies to stationary sources. In addition, numerous sections of the CAA addressing stationary sources have endangerment language similar to that found in section 202, including §§ 108, 111, 112, and 115. Thus, if EPA determines that GHG emissions from mobile sources contribute or cause air pollution that endanger public health or welfare, the agency may also be required to control GHG emissions from stationary sources.

Several CAA provisions require stationary sources that emit traditional air pollutants above specific emission thresholds to comply with certain requirements. Applying the same thresholds to GHGs could result in numerous sources, such large residential and commercial buildings, becoming newly subject to those requirements. Currently regulated sources could become subject to additional requirements. This would occur in part because most sources typically emit CO₂ in much larger quantities than traditional air pollutants. Indeed, also received public comments seeking to include GHGs to the list of pollutants covered by the new source performance standard (NSPS) for several industrial sectors under section 111 of the CAA. In addition, legal challenges have been brought seeking controls for GHG emissions in preconstruction permits for several coal-fired power plants.

II. Potential CAA Authority for Regulation GHG Emissions Associated With Buildings.

Following is a discussion of the various authorities EPA reviewed in the ANPRM and how these authorities could impact owners of residential and commercial buildings.¹¹

A. National Ambient Air Quality Standards (NAAQS)

Section 108 of the CAA authorizes EPA to list air pollutants that cause or contribute to air pollution. For every criteria pollutant listed, EPA is required by section 109 to set NAAQS that are "requisite" to protect public health and welfare. EPA may not consider the costs of meeting the NAAQS in setting the standards. If EPA lists GHGs as a criteria pollutant under section 108(a), the CAA generally would preclude listing the

same GHG as a hazardous air pollutant (HAP) under section 112(b). Listing an air pollutant under section 108(a) also precludes regulation of that air pollutant from existing sources under section 111(d) of the New Source Performance Standard (NSPS) program.

In its ANPRM, EPA said that direct exposure to GHGs at current or projected ambient levels did not appear to have known adverse effects on human health. Instead, the agency suggested the direct effects of GHG emissions appear to be indirect impacts resulting from ecological and meteorological changes (e.g., increased viability or altered geographical range of pests or diseases; increased frequency or severity of severe weather events including heat waves). Since these changes are principally or exclusively welfare-related, EPA speculated that it may be more appropriate to address these health effects by setting a secondary NAAQS rather than a primary NAAQS.

One complicating factor in establishing NAAQS for GHG is whether EPA should list the GHG individually or as a group. The agency said that GHGs vary in their global warming potential so it would be challenging to determine the appropriate indicator for use in measuring ambient air quality in comparison to a GHG NAAQS. One approach could be to measure the total atmospheric concentration of a group of GHGs on a CO₂ equivalent basis

After determining that NAAQS should be established for GHGs, the next step would be to identify areas of the country that do not meet the primary and secondary NAAQS. In contrast to current NAAQS pollutants which vary regionally, EPA indicated in the ANPRM that it would likely have to establish a uniform GHG NAAQS since atmospheric concentrations of GHGs are relatively uniform. Thus, the entire U.S. would be designated either attainment or non-attainment, depending on the level of the NAAQS compared to observed GHG ambient concentrations.

Under section 110, states are responsible for developing to state implementation plans (SIPs) for attaining, maintain, and enforcing the NAAQS and visibility protection goals as well as to prevent significant deterioration of air quality in areas meeting the NAAQS. If EPA designated the entire country as non-attainment for a primary GHG NAAQS, each state would be required to develop and submit a SIP that provided for attainment including all imposition of Reasonably Available Control Measures (RACM) that would at a minimum, impose emissions reductions on stationary sources through adoption of Reasonably Available Control Technology (RACT). In addition, pre-construction permits would be required for major new or modified stationary sources under the non-attainment new source review. EPA suggested that in the absence of substantial cuts in worldwide emissions, worldwide concentrations of GHGs would continue to increase despite active control efforts to meet a NAAQS, meaning that the entire U.S. would remain in non-attainment for an unknown number of years. This would result would be long-term application of sanctions, nationwide (e.g., more stringent offset requirements and restrictions on highway funding), as well as restrictions on approvals of transportation projects and programs related to transportation conformity¹²

On the other hand, if a primary or secondary GHG NAAQS were set at a level higher than ambient GHG levels at the time of designations, then the country would be in attainment. In this case, SIPs would be required to include PSD programs for GHGs, which would require preconstruction permitting of new major sources and significant modifications to existing major sources. If states needed to adopt measures beyond the PSD/NSR permit programs to maintain attainment, EPA suggested in its ANPRM that

one available tool might be implementation of a nationwide cap-and-trade program similar to but broader in scope than existing programs such as the more limited NOx regional cap-and-trade system.

B. New Source Performance Standards (NSPS)

EPA is authorized to set national performance standards (NSPS) for stationary sources under section 111. Under the NSPS program, EPA has established standards that do not necessarily set emission limits for all pollutants or even all regulated pollutants emitted by sources within the relevant source category. Rather, the NSPS generally focus on specific pollutants of concern for a particular source category.

Section 111 establishes two distinct mechanisms for controlling emissions of air pollutants from stationary sources. Section 111(b) provides authority for EPA to promulgate NSPS which may be issued if there is a NAAQS for the pollutant but only for new and modified sources.

EPA has previously made endangerment findings under this section for more than 60 stationary source categories and subcategories that are now subject to NSPS. Air pollutants currently regulated through section 111(b) include the criteria pollutants listed under section 108 and certain additional pollutants. EPA would have to make an endangerment finding for listing additional source categories under section 111(b), but would not be required to regulate GHGs from source categories that have already been listed.

Once EPA has elected to set an NSPS for new and modified sources in a given source category, states are required under section 111(d) to promulgate a standard for existing sources in the regulated source category for a criteria pollutant or where the source emits listed Hazardous Air Pollutants (HAP) that are regulated under section 112. Likewise, listing an air pollutant as a HAP under section 112(b) generally precludes regulation of that air pollutant from existing sources under section 111(d). Like NSPS standards, the emission guideline established under section 111(d) must reflect the emission reduction achievable through the application of BDT.

The NSPS may take cost into account. EPA also has substantial discretion regarding the types and size of sources regulated. To define the affected facilities, EPA can use size thresholds for regulation and create subcategories based on source type, class or size. EPA may also determine the pollutants for which standards should be developed, and set the level of the NSPS. Emission limits also may be established either for equipment within a facility or for an entire facility.

EPA also has significant discretion to determine the appropriate level for the standards. In the ANPRM, EPA suggested that the NSPS and emission reduction guidelines could utilize energy efficiency, process efficiency improvements, recovery and beneficial use of process gases, and certain raw material and product changes that could reduce inputs of carbon or other GHG-generating materials. In addition, EPA indicated that it believes that the NSPS program is flexible enough to allow the use of certain market-oriented mechanisms to regulate emissions.

As with most other CAA authorities, however, establishment of a section 111 standard for any source category of GHGs would trigger preconstruction permitting requirements for all types of GHG major sources under the PSD program.

C. National Emissions Standards for Hazardous Air Pollutants (NESHAP)

Along with the NAAQS system and section 111 standards, section 112 is one of the three main regulatory pathways under the CAA for stationary sources. Section 112 of the CAA authorizes EPA to list and issue national emissions standards for hazardous air pollutants (NESHAPs) from existing and new major stationary sources that reflect to “maximum achievable control technology” (MACT) standards. EPA is also authorized to list and regulate smaller “area” sources of HAPs. CAA section 112(d)(5) provides that for area sources, EPA can establish either MACT or less stringent generally available control technology or management practices (GACT) in lieu of MACT.

HAPs are broadly defined as pollutants that present, or may present, a threat of adverse human or environmental effects. An adverse environmental effect is defined as “any significant and widespread adverse effect, which may reasonably be anticipated, to wildlife, aquatic life, or other natural resources, including adverse impacts on populations of endangered or threatened species or significant degradation of environmental quality over broad areas.

In its ANPRM, EPA indicated that if GHGs were listed as HAP, EPA would be required to regulate a very large number of new and existing stationary sources, including smaller sources than if alternative CAA authorities were used to regulate GHG. Indeed, estimated that that small commercial or institutional establishments and facilities with natural gas-fired furnaces would exceed this major source threshold of ten tons per year for CO₂. EPA said that a large single-family residence could exceed this threshold if all appliances consumed natural gas.

D. Prevention of Significant Deterioration (PSD) Pre-Construction Permitting

As noted previously, the PSD program requires new major stationary sources and modified major stationary sources that significantly increase emissions to obtain air pollution permits before commencement of construction and install best available control technology (BACT) for each pollutant (other than a HAP) regulated under the CAA.¹³ The PSD permit must contain emissions limitations based on BACT for each pollutant “subject to regulation” under the CAA.

A “major emitting facility” is generally any source that emits or has the potential to emit 250 tons per year (tpy) of a regulated NSR pollutant, or belongs to specifically identified source categories and emits or has the potential to emit 100 tpy of a regulated NSR pollutant

EPA has defined the phrase “subject to regulation” to include pollutants that are regulated under a NAAQS or NSPS, a class I or II substance under Title VI of the Act. EPA has historically interpreted the phrase “subject to regulation under the Act” to describe air pollutants subject to CAA statutory provisions or regulations that require actual control of emissions of that pollutant.¹⁴ Since there is currently no NAAQS for GHGs and GHGs are not otherwise subject to regulation under the CAA, the PSD program is not currently applicable to GHG. Thus, PSD permits have not been required to contain BACT emissions limit for GHGs because GHGs and CO₂ in particular.¹⁵

Currently there is no defined significance level for GHGs because they are not regulated NSR pollutants, the significance threshold would be zero.

The Supreme Court's conclusion that GHGs are "air pollutants" under the CAA did not automatically make these pollutants subject to the PSD program. A substance may be an "air pollutant" under the Act without being regulated under the Act. The agency must first make an endangerment finding which EPA believes would not constitute a regulation requiring actual control of emissions. GHGs would become regulated pollutants under the Act if and when EPA subjects GHGs to control requirements under a CAA provision other than sections 112. Any decision to control emissions of CO₂ or other GHGs under other provisions of the CAA would make parts of the PSD program applicable to these additional air pollutant(s) that EPA regulates modified source subject to PSD

If GHG emissions become subject to regulation under any of the stationary or mobile source authorities (except sections 112 and 211(o)), GHGs could become regulated NSR pollutants. According to the ANPRM, many types of new GHG sources and GHG-increasing modifications that have not heretofore been subject to PSD would become subject to PSD permitting requirements. This is particularly true for CO₂ because the mass CO₂ emissions from many source types are orders of magnitude greater than for currently regulated pollutants. Thus, many types of new small fuel-combusting equipment could become newly subject to the PSD program if CO₂ becomes a regulated NSR pollutant.

The extent that such equipment would become subject to PSD would depend upon whether, for each type of equipment, its maximum capacity considering its physical and operational design would involve constant year-round operation or some lesser amount of operation. For example, the calculated size of a natural gas-fired furnace that has a potential to emit 250 tpy of CO₂, if year-round operation (8760 hours per year) were assumed, would be only 0.49 MMBTU/hr, which is comparable to the size of a very small commercial furnace.

In practice, a furnace like this would likely operate far less than year round and its actual emissions would be well below 250 tpy. For example, such a furnace, if used for space heating, might only be burning gas for about 1000 hours per year, meaning that it would need to be sized at over 4 MMBTU/hr – a size more comparable to a small industrial furnace -- to actually emit 250 tons of CO₂. For sources such as these, the interpretation of the term "potential to emit" and the availability of streamlined mechanisms for smaller sources to limit their potential to emit would determine whether they would be considered "major" for GHG emissions under PSD.

Once a source is major for any NSR regulated pollutant, PSD applies to significant increases of *any other* regulated pollutant, so significant increases of GHGs would become newly subject to PSD at sources that are now major for other regulated pollutants. Similarly, significant increases of other pollutants would become subject to PSD if they occur at sources previously considered minor, but which become classified as major sources for GHG emissions. Thus, for sources already major for other pollutants, it is likely that many more changes made by the source would also qualify as major modifications and become subject to PSD as well, unless potential approaches (including those discussed below) for raising applicability thresholds were implemented. Relatively small changes in energy use that cause criteria pollutant emissions too small to trigger

PSD would newly trigger PSD at such facilities because such changes would likely result in greater CO₂ increases.

For example, consider a hypothetical 500 MW electric utility boiler firing a bituminous coal that is well-controlled for traditional pollutants. Such a boiler, operating more than 7000 hours per year (out of a possible 8760), can emit approximately 4 million tons of CO₂ per year, or more than 580 tons per hour. Assuming a 100 tpy significance level (rather than the current zero level for GHGs), any change resulting in just 10 additional minutes of utilization over the course of a year at such a source would be enough to result in an increase of 100 tons and potentially subject the change to PSD. By contrast, for NO_x, the same change would require approximately 36 additional hours of operation assuming that the hypothetical source had a low-Nox burner, and 90 additional hours of operation assuming that the source also employed a selective catalytic reduction add-on control device.

Currently, EPA estimates that EPA, state, and local permitting authorities issue approximately 200-300 PSD permits nationally each year for construction of new major sources and major modifications at existing major sources. Under existing major source thresholds, EPA estimated in the ANPRM that if CO₂ became a regulated NSR pollutant (either as an individual GHG or as a group of GHGs), the number of PSD permits required to be issued each year would increase by more than a factor of 10 (i.e. more than 2000-3000 permits per year), unless action were taken to limit the scope of the PSD program under one or more of the legal theories described below. The additional permits would generally be issued to smaller industrial sources, as well as large office and residential buildings, hotels, large retail establishments, and similar facilities. This is because these facilities consist primarily of equipment that combusts fuels of various kinds and release their exhaust gases through a stack or vent.

EPA cautioned that the estimate was uncertain because emissions information on these smaller sources has not been collected and the estimate was based on actual emissions, and thus excluded a potentially very large number of sources that would be major if they operated at their full potential-to-emit (PTE) (i.e. they emitted at a level that reflects the maximum capacity to emit under their physical and operational design). Such sources could be defined as major sources if they did not have enforceable limitations on their PTE. Sources with PTE exceeding the major source threshold can become minor sources by taking legally and practically enforceable limits on their PTE, by, for example, agreeing to operate only part of the year, or only so many hours per day, or by employing control devices. In any event, the estimate shows that the PSD program has the potential to dramatically expand the number of sources required to obtain PSD permits unless action is taken to limit the scope of the program.

Since the *Massachusetts v. EPA* decision, a number of challenges to draft PSD permits have been filed, asserting that the permitting agency should have included BACT emissions limits for CO₂ in the draft permits. The outcome of these proceedings could also affect several other permits awaiting issuance by EPA and state regulatory agencies, and may have significant implications for the entire PSD program.¹⁶

In *Friends of the Chattahoochee, Inc. and Sierra Club v. Dr. Carol Couch, Director, Environmental Protection Division, Georgia Dept. of Natural Resources*,¹⁷ the petitioners challenged the issuance of a permit for a coal-fired power plant on the grounds that the permit did not contain BACT for CO₂. The petition argued that CO₂ was an air

pollutant “subject to regulation” because 40 CFR Part 75 imposed mandatory CO₂ emissions monitoring on certain sources. However, an administrative law judge ruled that because EPA has not promulgated a NAAQS for CO₂ and CO₂ emissions were not “controlled or limited” under the CAA, CO₂ was not a “regulated NSR pollutant. In June 2008, a state court reversed and remanded the matter to the ALJ. The court found that the ALJ had erred as a matter of law when ruling that BACT was limited to air pollutants for which there were numerical limitations. The court noted that the 40 CFR 52.21(b)(50)(i)-(iii) defined a “regulated NSR pollutant” as pollutants for which standards had been promulgated but that the catch-all provision of 52.21(b)(50)(iv) applied to “any pollutant that otherwise is subject to regulation under the Act”. Since CO₂ was subject to regulation under the CAA, the court held that a PSD permit could not be issued with a CO₂ emission limitation based on a BACT analysis¹⁸

The Kansas Department of Health and Environment (“KDHE”) rejected permit filed by the Sunflower Electric Power Corp. to build two 700-megawatt electrical generators on the basis that the proposed \$3.6 billion dollar plant near Holcomb emit an additional ten-to-fourteen million tons of CO₂ each year.

E. Non-Attainment New Source Review (NNSR)

The other pre-construction permit program is non-attainment new source review (NNSR). If EPA established a GHG NAAQS with the country in non-attainment, the NNSR permitting program would be triggered nationally.

Like the PSD program, the NNSR program would apply to new and modified major stationary sources but contains significantly different requirements. The major source threshold begins at 100 tpy but may be significantly lower depending on the non-attainment classification.

A key difference is the requirement that the emissions increases from the new or modified source in a non-attainment area must be offset by reductions in existing emissions from the same non-attainment area or a contributing upwind non-attainment area of equal or higher non-attainment classification. The offsetting emissions reductions must be at least equal to the proposed increase and must be consistent with a SIP that assures the non-attainment area is making reasonable progress toward attainment.

Another key difference is that instead of BACT, sources subject to NNSR must comply with the Lowest Achievable Emission Rate (LAER), which is the most stringent emission limitation that is contained in any SIP for that type of source, or achieved in practice for sources of the same type as the proposed source. LAER does not allow for consideration of costs or of the other factors that BACT does. While LAER and offsets are likely of greatest significance for GHG regulation under NNSR, there are additional requirements for NNSR that would also apply such as an alternatives analysis requirement and the prohibition against permit issuance if the SIP is not being adequately implemented.

F. Title V Permit Program

Title V requires permitting for several types of sources subject to CAA requirements including all sources that are required to have PSD permits. Presently there

are generally not any applicable requirements for control of GHGs that would be included in Title V permits but regulation of GHGs under any of the approaches described above, including PSD, could give rise to applicable requirements that would be included. . However, the addition of GHG sources to the program would trigger permitting requirements for numerous sources that are not currently subject to Title V because their emissions of other pollutants are too small.

The Title V cutoff would bring in even more sources than PSD because the 100 tpy (rather than 250 tpy) cutoff applies to all source categories, not just the ones specified in the PSD provisions. For example, while a 100 tpy CO₂ source would usually have relatively small criteria pollutant emissions that would not by themselves have subjected the source to title V, once subjected to title V for CO₂ emissions, the source would then need to include any SIP rules (e.g., generally applicable opacity limitations that exist in several SIPs) that apply to the source.

In the ANPRM, EPA estimated that more than 550,000 additional sources would require Title V permits if GHG became regulated as compared to the current universe of about 15,000-16,000 Title V sources.

G. Indirect Source Review

In the early years of the CAA, EPA contemplated imposing standards on developments that attracted high numbers of vehicles under its “indirect source review” authority.¹⁹ Because this effort was perceived as potentially stifling growth during an economically-changed era, Congress prevented EPA from devoting resources to this effort.

Now, though, some states with large component of transportation-related GHG emissions are dusting off this strategy. A recent example is the Indirect Source Review rule promulgated by the San Joaquin Valley Air Pollution Control District in 2005.²⁰ The agency’s jurisdiction encompasses the southern half of California’s Central Valley that suffers some of the highest concentrations of ground-level ozone and particulate matter in the nation.

The goal of the rule is to achieve “emissions reductions from the construction and use of development projects through design features and on-site measures.” It requires developers who build 50 houses or more to offset air emissions. The developers can either pay a mitigation fee to the district for the purchase of off-site emission reductions, or can incorporate into their projects elements that will minimize traffic-related emissions such as incorporating traffic controls to reduce congestion, siting new homes and businesses near public transit, adding bicycle lanes, or building walkable shopping. The California Building Industry Association (“CBIA”) filed suit challenging the regulation this past arguing that local air districts do not have authority under the CAA to regulate of “indirect sources” of air pollution such as tailpipe emissions from construction equipment and motor vehicles related to home construction.²¹ The CBIA also argued that instead of reducing emissions, the rule would actually exacerbate air quality in the San Joaquin Valley’s because residents will not be able to afford homes close to their jobs and have to commute longer distances. The Superior Court of Fresno County upheld the rule.²²

III. Conclusion

While it is unlikely that any further action on the ANPRM will be taken prior to the end of the Bush Administration, property owners and their lenders should use this time to evaluate the operations of their buildings to identify steps they might be able to take to minimize the impact of any such regulation.

¹ 127 S. Ct. 1438 (2007)

² The data provided here come from the Intergovernmental Panel on Climate Change (IPCC)

³ The production and consumption of these substances are being controlled and phased out under the Montreal Protocol on Substances that Deplete the Ozone Layer, and under Title VI of the CAA because they deplete stratospheric O₃, which protects against harmful ultraviolet B (UVB) radiation. Therefore, the climate change research and policy community typically does not focus on these substances .

Black carbon causes a warming effect by absorbing incoming sunlight in the atmosphere (whereas GHGs cause warming by trapping outgoing, infrared heat), and by darkening bright surfaces such as snow and ice, which reduces reflectivity and increases absorption of sunlight at the surface. Some recent research published after the IPCC Fourth Assessment Report, has suggested that black carbon may play a larger role in warming than previously thought. Like other aerosols, black carbon can also alter the reflectivity and lifetime of clouds, which in turn can have an additional climate effect. How black carbon and other aerosols alter cloud properties is a key source of uncertainty in climate change science. Given these reasons, there is considerably more uncertainty associated with black carbon's warming effect compared to the estimated warming effect of the six long-lived GHGs. Black carbon is also co-emitted with organic carbon, which tends to have a cooling effect on climate because it reflects and scatters incoming sunlight. The ratio of black carbon to organic carbon varies by fuel type and by combustion efficiency. Black carbon is a subcomponent of particulate matter (PM), which is regulated as a NAAQS pollutant under the CAA. Diesel vehicles are estimated to be the largest source of black carbon in the U.S., but these emissions are expected to decline substantially over the coming decades due to recently promulgated EPA regulations targeting PM_{2.5} emissions from on-road and off-road diesel vehicles (the Highway Diesel Rule and the Clean Air Nonroad Diesel Rule, the Locomotive and Marine Compression Ignition Rule).

⁴ 42 U.S.C. § 7521(a)(1))

⁵ In 1998, Jonathan Z. Cannon, then EPA's General Counsel, prepared a legal opinion concluding that "CO emissions are within the scope of EPA's authority to regulate," even as he recognized that EPA had so far declined to exercise that authority.

⁶ *Massachusetts v. EPA*, 415 F.3d 50 (D.C. Cir. 2005)

⁷ 127 S. Ct. 1438 (2007)

⁸ *Id.* at 1462. The Court stated that "there is no reason to think the two agencies cannot both administer their obligations and yet avoid inconsistency." *Id.*

⁹ *Id.* at 1460.

¹⁰ *Id.* at 1463.

¹¹ 73 FR 44353 (July 30, 2008)

¹² In addition, all non-attainment areas would have to meet requirements "general conformity" and "transportation conformity" requirements under section 176(c). The transportation conformity requires metropolitan planning organizations and the U.S. Department of Transportation may only to approve or fund transportation plans, programs and projects that conform to an approved SIP for a NAAQS

¹³ 42 U.S.C. § 7475.

¹⁴ 43 FR 26388, 26397 (June 19, 1978); Gerald E. Emison, Director, Office of Air Quality Planning and Standards, Implementation of North County Resource Recovery PSD Remand (Sept. 22, 1987)

¹⁵ See briefs filed before the Environmental Appeal Board on behalf of specific EPA offices in challenges to the PSD permits for Deseret Power Electric Cooperative (PSD Appeal No. 07-03) and Christian County Generation LLC (PSD Appeal No. 07-01), as well as the Response to Public Comments on Draft Air Pollution Control Prevention of Significant Deterioration (PSD) Permit to Construct [for Deseret Power Electric Cooperative], Permit No. PSD-OU-0002-04.00 (August 30, 2007), at 5-6, available at <http://www.epa.gov/region8/air/permitting/deseret.html>. EPA has not previously interpreted the BACT requirement to apply to air pollutants that are only subject to requirements to monitor and report emissions.

See, 67 FR 80186, 80240 (Dec. 31, 2002); 61FR 38250, 38310 (July 31, 1996); In Re Kawaihae Cogeneration Project 7 E.A.D. 107, 132 (EAB 1997); Inter-power of New York, 5 E.A.D. 130, 151 (EAB 1994); Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources (April 10, 1998) (emphasis added); Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, entitled Definition of Regulated Air Pollutant for Purposes of Title V, at 5 (April 26, 1993).

¹⁶ See briefs filed before the Environmental Appeal Board on behalf of specific EPA offices in challenges to the PSD permits for Deseret Power Electric Cooperative (PSD Appeal No. 07-03) and Christian County Generation LLC (PSD Appeal No. 07-01), as well as the Response to Public Comments on Draft Air Pollution Control Prevention of Significant Deterioration (PSD) Permit to Construct [for Deseret Power Electric Cooperative], Permit No. PSD-OU-0002-04.00 (August 30, 2007), at 5-6, available at <http://www.epa.gov/region8/air/permitting/deseret.html>. EPA has not previously interpreted the BACT requirement to apply to air pollutants that are only subject to requirements to monitor and report emissions. See, 67 FR 80186, 80240 (Dec. 31, 2002); 61FR 38250, 38310 (July 31, 1996); In Re Kawaihae Cogeneration Project 7 E.A.D. 107, 132 (EAB 1997); Inter-power of New York, 5 E.A.D. 130, 151 (EAB 1994); Memorandum from Jonathan Z. Cannon, General Counsel to Carol M. Browner, Administrator, entitled EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources (April 10, 1998) (emphasis added); Memorandum from Lydia N. Wegman, Deputy Director, Office of Air Quality Planning and Standards, entitled Definition of Regulated Air Pollutant for Purposes of Title V, at 5 (April 26, 1993).

¹⁷ 2007 Ga. Env. Lexis 60 (12/18/07)

¹⁸ *Friends of the Chattahoochee, Inc. and Sierra Club v. Dr. Carol Couch, Director, Environmental Protection Division, Georgia Dept. of Natural Resources*, No. 2008-CV-146398 (Sup. Ct. Fulton Cty. 6/30/08).

¹⁹ "Proposed Amendments to Parking Management Regulations", 39 F.R. 30440 (August 22, 1974); See also 39 F.R. 25292 (July 9, 1974); 39 F.R. 7270 (February 25, 1974); 39 FR 1848 (January 15, 1974); 38 FR 18985 (July 16, 1973); 38 FR 6290 (March 8, 1973); and 36 FR 15486 (August 14, 1971)

²⁰ SJVUAPCD Rule 9510

²¹ *California Building Industry Association v. San Joaquin Valley Unified Air Pollution Control District*, No. 06 CE CG 02100 (Superior Court of California, County of Fresno Central Division).

²² Tentative Decision, 02/25/08)