



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

August 28, 2003

OFFICE OF
GENERAL COUNSEL

MEMORANDUM

SUBJECT: EPA's Authority to Impose Mandatory Controls to Address Global Climate Change under the Clean Air Act

FROM: Robert E. Fabricant
General Counsel

A handwritten signature in black ink, appearing to read "R. Fabricant", written over the printed name and title.

TO: Marianne L. Horinko
Acting Administrator

I. Introduction and Background

EPA was petitioned by the International Center for Technology Assessment (ICTA) and a number of other organizations to regulate motor vehicle emissions of carbon dioxide (CO₂) and other greenhouse gases (GHGs) under the Clean Air Act (CAA or Act). Relevant to the Agency's consideration of this petition is an April 10, 1998 memorandum regarding "EPA's Authority to Regulate Pollutants Emitted by Electric Power Generation Sources" from then-General Counsel Jonathan Z. Cannon to then-Administrator Carol M. Browner. In that memorandum, Mr. Cannon concludes that CO₂ is an "air pollutant" under the CAA and thus subject to regulation under the CAA to the extent the criteria of any of the Act's regulatory provisions are met.

I have reviewed Mr. Cannon's memorandum and the text and history of the CAA in the context of other congressional actions specifically addressing global climate change. Based on my review, I have determined that the CAA does not authorize EPA to regulate for global climate change purposes. Accordingly, CO₂ and other GHGs cannot be considered "air pollutants" subject to the CAA's regulatory provisions for any contribution anthropogenic GHG emissions may make to global climate change. This memorandum explains the reasons for my conclusions and formally withdraws Mr. Cannon's April 10, 1998 memorandum as no longer representing the views of EPA's General Counsel.¹ The legal positions set forth in this memorandum apply for purposes of deciding the ICTA petition and for all other relevant regulatory purposes under the CAA.

¹Gary S. Guzy, EPA's General Counsel following Mr. Cannon, also addressed EPA's authority to regulate CO₂. This memorandum will review and address his statements as well.

II. The Cannon Memorandum

Mr. Cannon's memorandum (Cannon memorandum) was prepared in response to a request from Congressman DeLay to Administrator Browner. At a Fiscal Year 1999 House Appropriations Committee hearing, Congressman DeLay questioned the Administrator about an EPA document stating, in part, that EPA currently has authority under the CAA to establish control requirements for emissions of nitrogen oxides, sulfur dioxide, CO₂ and mercury from electric power generation. He asked Administrator Browner whether she agreed with the statement, and in particular, whether she thought the CAA allows EPA to regulate emissions of CO₂. Administrator Browner agreed with the statement that the CAA grants EPA broad authority to address certain emissions, including those listed, and agreed to Congressman DeLay's request for a legal opinion on that point. The Cannon memorandum was prepared in response to that request.

The Cannon memorandum states that the CAA "provides that EPA may regulate a substance if it is (a) an 'air pollutant,' and (b) the Administrator makes certain findings regarding such pollutant (usually related to danger to public health, welfare, or the environment) under one or more of the Act's regulatory provisions." The memorandum further states that the CAA section 302(g) definition of "air pollutant" is "broad" and expressly "includes any physical, chemical, biological, or radioactive substance or matter that is emitted into or otherwise enters the ambient air." The memorandum notes that a substance can be an air pollutant even though it is naturally present in the air in some quantities, and that many pollutants already regulated by EPA are emitted from natural as well as anthropogenic sources (e.g., sulfur dioxide, particulate matter, and volatile organic compounds). It then concludes that emissions of nitrogen oxides, sulfur dioxide, CO₂, and mercury from electric power generation "are each a 'physical [and] chemical . . . substance which is emitted into . . . the ambient air,' and hence, . . . each is an air pollutant within the meaning of the Clean Air Act" (quoting from a portion of the statutory definition of air pollutant). As further support for its conclusion, the memorandum cites CAA section 103(g), which refers to CO₂ along with a number of substances already regulated as "air pollutants."

Turning to EPA's authority under the CAA, the Cannon memorandum states that "EPA's regulatory authority extends to air pollutants, which, as discussed above, are defined broadly under the Act . . ." The memorandum notes, however, that "a general statement of authority is distinct from an EPA determination that a particular air pollutant meets the specific criteria for EPA action under a particular provision of the Act." According to the memorandum, several CAA provisions potentially applicable to the four emissions of concern from utilities require "a determination by the Administrator regarding the air pollutants' actual or potential harmful effects on public health, welfare or the environment." The memorandum explains that EPA already regulates nitrogen oxides, sulfur dioxide and mercury based on determinations by EPA or Congress that those substances have negative effects on public health, welfare, or the environment. With respect to CO₂, the memorandum states that "[w]hile CO₂ emissions are within the scope of EPA's authority to regulate, the Administrator has made no determination to date to exercise that authority under the specific criteria provided under any provision of the Act."

III. Other Previous EPA General Counsel Statements

Gary S. Guzy succeeded Mr. Cannon as EPA's General Counsel and also addressed the issue of whether EPA may regulate CO₂ under the CAA. In congressional testimony and subsequent correspondence, Mr. Guzy agreed with his predecessor's conclusion that the CAA definition of "air pollutant" is broad and encompasses CO₂ even though it has natural as well as man-made sources.²

Mr. Guzy also agreed that CO₂ may be regulated under the CAA to the extent the criteria of any of the Act's regulatory provisions are met. In Mr. Guzy's view, "[g]iven the clarity of the statutory provisions defining 'air pollutant' and providing authority to regulate air pollutants, there is no statutory ambiguity"³ regarding whether EPA may regulate CO₂ under the CAA. He also stated that the absence of a CAA provision explicitly authorizing regulation to address climate change does not mean that EPA cannot regulate CO₂ under CAA provisions authorizing regulation of air pollutants generally, provided the applicable criteria for regulation are met: "Explicit mention of a pollutant in a statutory provision is not a necessary prerequisite to regulation under many CAA statutory provisions."⁴ At the same time, Mr. Guzy, like his predecessor, observed that EPA had not made any determinations under the specific provisions of the CAA to regulate CO₂.⁵

IV. Clean Air Act Authority to Address Global Climate Change

As part of the Agency's consideration of the ICTA petition and related public comments, I have reviewed the Cannon memorandum and Guzy statements regarding whether CO₂ is an "air pollutant" under the CAA and whether the CAA authorizes CO₂ regulation.⁶ I have considered

²Mr. Guzy testified before the Subcommittee on National Economic Growth, Natural Resources and Regulatory Affairs of the Committee on Government Reform, and the House Subcommittee on Energy and the Environment of the House Committee on Science on Oct. 6, 1999, and he responded to correspondence from one or both subcommittees on December 1, 1999, February 16, 2000, and July 11, 2000.

³Letter to the Subcommittee on National Economic Growth, Natural Resources and Regulatory Affairs of the Committee on Government Reform, and the House Subcommittee on Energy and the Environment of the House Committee on Science, December 1, 1999.

⁴Id.

⁵Id.; Mr. Guzy's Oct. 6, 1999 testimony, *supra* note 2.

⁶This memorandum uses the term "regulation" to refer to legally binding requirements promulgated by an agency under statutory authority. It does not include voluntary measures that emission sources may or may not undertake at their discretion.

the statutory definition of “air pollutant” and whether CO₂ and other GHGs, as such, fall within that definition. I have also considered the broader issue of whether the CAA’s general regulatory authorities are available to address global climate change in view of the unusually large economic and societal significance such regulation may have. Based on the analysis set forth below, I have concluded that the CAA does not authorize EPA to regulate GHGs to address global climate change. Although the Act specifically authorizes information development and “non-regulatory” measures related to global climate change, there is no indication that Congress intended EPA to regulate in this particular area. Indeed, as a matter of statutory structure, the CAA is conspicuously missing a functional regulatory regime for addressing global climate change such as exists for addressing another global atmospheric issue, stratospheric ozone depletion. In light of the Supreme Court’s decision in *Food and Drug Administration v. Brown & Williamson Tobacco Corp.*, 120 S.Ct 1291 (2000) (*Brown & Williamson*), it is clear that an administrative agency properly awaits congressional direction on a fundamental policy issue such as global climate change, instead of searching for new authority in an existing statute that was not designed or enacted to deal with that issue.

Issued before *Brown & Williamson* was decided, the Cannon memorandum assumed that if CO₂ were an “air pollutant” under the CAA, EPA would have authority to regulate it under the CAA to the extent the Act’s criteria for regulation were met. That assumption was based on the fact that various CAA provisions authorize regulation of any “air pollutant” if the Administrator finds, among other things, that the pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger “public health or welfare” or the environment. CAA section 302(h) specifies that the statute’s references to “welfare” include “effects on . . . climate.” The Cannon memorandum concluded that the CAA’s broad definitions confer commensurately broad regulatory authority, without considering the potential significance of the policy issues raised or any contrary indications of congressional intent.

Brown & Williamson has made clear the need for a more thorough inquiry, particularly where unusually significant policy questions are involved. Accordingly, I have examined the fundamental issue of whether the CAA authorizes regulation for global climate change purposes. As instructed by the Supreme Court’s opinion in *Brown & Williamson*, I have reviewed the CAA’s facially broad grants of authority in the context of the statute’s purpose, structure and history and other relevant congressional actions to determine whether such grants reach the global climate change issue. Based on my review, I have concluded that the CAA does not authorize regulation to address global climate change.

Three codified and uncodified provisions of the CAA expressly touch on matters related to global climate change. Specifically, uncodified section 821 of the CAA Amendments of 1990 requires measurement of CO₂ emissions from utilities subject to permitting under Title V of the Act. CAA section 602 directs EPA to determine the “global warming potential” of substances that deplete stratospheric ozone. CAA section 103(g) calls on EPA to develop “nonregulatory” measures for the prevention of multiple “air pollutants” and lists several air pollutants and CO₂ for

that purpose. None of these provisions authorizes regulation, and two of them expressly preclude their use for authorizing regulation (CAA sections 103(g) and 602).

All three provisions were enacted in 1990, when the CAA was last comprehensively amended. By that time, global climate change had become a prominent national and international issue. During the 1980s, scientific discussions about the possibility of global climate change led to growing public concern both in the U.S. and abroad. In response, the U.S. and other nations developed the United Nations Framework Convention on Climate Change (UNFCCC). President George H. W. Bush signed, and the U.S. Senate approved, the UNFCCC in 1992, and the UNFCCC took effect in 1994.

The UNFCCC established the “ultimate objective” of “stabiliz[ing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (Article 2 of the UNFCCC). All parties to the UNFCCC agreed on the need for further research to determine the level at which GHG concentrations should be stabilized, acknowledging that “there are many uncertainties in predictions of climate change, particularly with regard to the timing, magnitude and regional patterns thereof” (findings section of UNFCCC).

A central issue for the UNFCCC – whether binding emission limitations should be set – was also considered in the context of amending the CAA. A Senate committee included in its CAA amendment bill a provision requiring EPA to set CO₂ emission standards for motor vehicles. However, that provision was removed from the bill on which the full Senate voted, and the bill eventually enacted was silent with regard to motor vehicle CO₂ emission standards. Instead, Congress enacted the three provisions described above, calling on EPA to conduct research and collect information related to global climate change and develop “nonregulatory” strategies for reducing CO₂ emissions.

Only the research and development provision of the CAA – section 103 – specifically mentions CO₂, and the legislative history of that section indicates Congress was focused on seeking a sound scientific basis on which to make future decisions on global climate change. Representatives Roe and Smith, two of the principal authors of section 103 as amended, explained that EPA’s “science mandate” needed updating to deal with new, more complex issues, including “global warming.” Committee on Environment and Public Works, U.S. Senate, *A Legislative History of the Clean Air Act Amendments of 1990*, S. Rep. 103-38, Vol. II at 2776 and 2778 (1993). They expressed concern that EPA’s research budget had been too heavily focused on supporting existing regulatory actions when the Agency also needed to conduct long-term research to “enhance EPA’s ability to predict the need for future action.” *Id.* at 2777.

In providing EPA with expanded research and development authority, Congress did not provide commensurate regulatory authority. In section 103(g), Congress directed EPA to establish a “basic engineering research and technology program to develop, evaluate and demonstrate” strategies and technologies related to air emissions and specifically called for

improvements in such measures for preventing CO₂ as well as several specified air pollutants. But it expressly provided that nothing in the subsection “shall be construed to authorize the imposition on any person of air pollution control requirements.” As if to drive home the point, section 103(g) was revised in conference to include the term “nonregulatory” to describe the “strategies and technologies” the subsection was intended to promote, and this point was underscored in the conference report. H.R. Conf. Rep. No. 101-952 at 349 (1990). In its treatment of the global climate change issue in the CAA amendments, Congress made clear that it awaited further information before making decisions on the need for regulation.

Beyond Congress’ specific CAA references to CO₂ and global warming, another aspect of the Act cautions against construing its provisions to authorize regulation to address global climate change. The CAA provisions addressing stratospheric ozone depletion demonstrate that Congress has understood the need for specially tailored solutions to global atmospheric issues, and has expressly granted regulatory authority when it has concluded that controls may be needed as part of those solutions. The causes and effects of stratospheric ozone depletion are global in nature. Anthropogenic substances that deplete stratospheric ozone are emitted around the world and are very long-lived; their depleting effects and the consequences of those effects occur on a global scale. In the CAA prior to its amendment in 1990, Congress specifically addressed the problem in a separate portion of the statute (part B of title I) that recognized the global nature of the issue and called for negotiation of international agreements to ensure world-wide participation in research and any control of stratospheric ozone-depleting substances. In the 1990 CAA amendments, Congress again addressed the issue in a discrete portion of the statute (title VI) that similarly provides for coordination with the international community. Moreover, both incarnations of the CAA’s stratospheric ozone provisions contain express authorization for EPA to regulate as scientific information warrants. In light of this CAA treatment of stratospheric ozone depletion, it would be anomalous to conclude that Congress intended EPA to address global climate change under the CAA’s general regulatory provisions, with no provision recognizing the international dimension of the issue and any solution, and no express authorization to regulate.

EPA’s prior use of the CAA’s general regulatory provisions provides an important context. Since the inception of the Act, EPA has used these provisions to address air pollution problems that occur primarily at ground level or near the surface of the earth. For example, national ambient air quality standards (NAAQS) established under CAA section 109 address concentrations of substances in the ambient air, and the related public health and welfare problems. This has meant setting NAAQS for concentrations of ozone, carbon monoxide, particulate matter and other substances in the air near the surface of the earth, not higher in the atmosphere. Cf. *Hancock v. Train*, 426 U.S. 167, 169 n. 4 (1976) (noting in a general discussion of the NAAQS provisions of the CAA that EPA has “defined[d] ‘ambient air’ as ‘that portion of the atmosphere, external to buildings, to which the general public has access,’” citing 40 C.F.R. section 50.1(e) (emphasis added), which is still in effect). Concentrations of these substances generally vary from place to place as a result of differences in local or regional emissions and other factors (e.g., topography), although long range transport also contributes to local

concentrations in some cases. By contrast, CO₂ is fairly consistent in concentration throughout the *world's* atmosphere up to approximately the lower stratosphere. Atmospheric concentrations of CO₂ are much more like the kind of global phenomenon Congress addressed through adoption of the specific provisions of Title VI.

In assessing the availability of CAA authority to address global climate change, it is also useful to consider whether the NAAQS system – a key CAA regulatory mechanism – could be used to effectively address the issue. As discussed in the Agency's decision on the ICTA petition being issued concurrently with this memorandum, unique and basic aspects of the presence of key GHGs in the atmosphere make the NAAQS system fundamentally ill-suited to addressing global climate change. Many GHGs reside in the earth's atmosphere for very long periods of time. CO₂ in particular has a residence time of roughly 50-200 years. This long lifetime along with atmospheric dynamics means that CO₂ is well mixed throughout the atmosphere, up to approximately the lower stratosphere. The result is a vast global atmospheric pool of CO₂ that is fairly consistent in concentration everywhere along the surface of the earth and vertically throughout this area of mixing.

While atmospheric concentrations of CO₂ are fairly consistent globally, the potential for either adverse or beneficial effects in the U.S. from these concentrations depends on complicated interactions of many variables on the land, in the oceans, and in the atmosphere, occurring around the world and over long periods of time. Characterization and assessment of such effects and the relation of such effects to atmospheric concentration of CO₂ in the U.S. would present scientific issues of unprecedented complexity in the NAAQS context. The long-lived nature of the CO₂ global pool would also make it extremely difficult to evaluate the extent over time to which effects in the U.S. would be related to anthropogenic emissions in the U.S. Finally, the nature of the global pool would mean that any CO₂ standard that might be established would in effect be a worldwide ambient air quality standard, not a national standard – the entire world would be either in compliance or out of compliance.

Such a situation would be inconsistent with a basic underlying premise of the CAA regime for implementation of a NAAQS - that actions taken by individual states and by EPA can generally bring all areas of the U.S. into attainment of a NAAQS. The statutory NAAQS implementation regime is fundamentally inadequate when it comes to a substance like CO₂, which is emitted globally and has relatively homogenous concentrations around the world. A NAAQS for CO₂, unlike any pollutant for which a NAAQS has been established, could not be attained by any area of the U.S. until such a standard were attained by the entire world as a result of emission controls implemented in countries around the world. The limited flexibility provided in the Act to address the impacts of foreign pollution transported to the U.S. was not designed to address the challenges presented by long-lived global atmospheric pools such as exist for CO₂. The globally pervasive nature of CO₂ emissions and atmospheric concentrations presents a unique problem that fundamentally differs from the kind of environmental problem that the NAAQS system was intended to address and is capable of solving.

Other congressional actions confirm that Congress did not authorize regulation under the CAA to address global climate change. Starting in 1978, Congress passed several pieces of legislation specifically addressing global climate change. With the National Climate Program Act of 1978, 15 U.S.C. 2901 et seq., Congress established a “national climate program” to improve understanding of “climate processes, natural and man induced, and the social, economic, and political implications of climate change” through research, data collection, assessments, information dissemination, and international cooperation. In the Global Climate Protection Act of 1987, 22 U.S.C. 2651 note, Congress directed the Secretary of State to coordinate U.S. negotiations concerning climate change, and EPA to develop and propose to Congress a coordinated national policy on the issue. Three years later, Congress passed the Global Change Research Act of 1990, 15 U.S.C. 2931 et seq., establishing a Committee on Earth and Environmental Sciences to coordinate a 10-year research program. That statute was enacted one day after the CAA Amendments of 1990 was signed into law. Also in 1990, Congress passed Title XXIV of the Food and Agriculture Act, creating a Global Climate Change Program to research global climate agricultural issues (section 2401 of Pub.L. No. 101-624).

With these statutes Congress sought to develop a foundation for considering whether future legislative action was warranted and, if so, what that action should be. From federal agencies, it sought recommendations for national policy and further advances in scientific understanding and possible technological responses. It did not, however, authorize any federal agency to take any regulatory action in response to those recommendations and advances. In fact, Congress declined to adopt other legislative proposals, contemporaneous with the bills to amend the CAA in 1989 and 1990, to require GHG emissions reductions from stationary and mobile sources (see, e.g., S. 1224, 101st Cong. (1989); H.R. 5966, 101st Cong. (1990)).⁷ While Congress did not expressly preclude agencies from taking regulatory action under other statutes, its actions strongly indicate that when Congress was amending the CAA in 1990, it was awaiting further information before deciding *itself* whether regulation to address global climate change is warranted and, if so, what form it should take.

Since 1990, Congress has taken other actions consistent with the view that Congress did not authorize CAA regulation for global climate change purposes. In the 1992 Energy Policy Act, Congress called on the Secretary of Energy to assess various GHG control options and report back to Congress, and to establish a registry for reporting voluntary GHG reductions. Following ratification of the UNFCCC, nations party to the Convention negotiated the Kyoto Protocol calling for mandatory reductions in developed nations’ GHG emissions. While the Kyoto Protocol was being negotiated, the Senate in 1997 adopted by a 95-0 vote the Byrd-Hagel Resolution, which stated that the U.S. should not be a signatory to any protocol that would result in serious harm to the economy of the U.S. or that would mandate new commitments to limit or

⁷The fact that many of these bills were considered in the context of national energy policy, not air pollution policy, is further illustration that Congress did not consider the CAA a vehicle for global climate change regulation. See, e.g., S. 324, 101st Cong. (1989); H.R. 5521, 101st Cong. (1990).

reduce U.S. GHG emissions unless the Protocol also mandated new, specific, scheduled commitments to limit or reduce GHG emissions for developing countries within the same compliance period. Although the Clinton Administration signed the Kyoto Protocol, it did not submit it to the Senate for ratification out of concern that the Senate would reject the treaty. Congress also attached language to appropriations bills that until recently barred EPA from implementing the Kyoto Protocol without Senate ratification (see, e.g., the Knollenberg amendments to FY 1999 and 2000 VA-HUD and Independent Agencies Appropriations Acts).⁸ Since enactment of the 1990 CAA amendments, numerous bills to control GHGs emissions from mobile and stationary sources have failed to win passage (see, e.g., H.R. 2663, 102d Cong., 1st Sess. 137 *Cong. Rec.* H4611 (daily ed. 1991)).

As noted above, the Supreme Court has ruled that facially broad grants of authority must be interpreted in the context of the statute's purpose, structure and history and other relevant congressional actions. In *Brown & Williamson*, the Court reviewed an FDA assertion of authority to regulate tobacco products under the Food, Drug and Cosmetic Act (FDCA). That statute contains a broadly worded grant of authority for FDA to regulate "drugs" and "devices," terms which the statute also broadly defines. However, the FDCA does not specifically address tobacco products while other federal laws expressly govern the marketing of those products.

Notwithstanding the FDCA's facially broad grant of authority, the Supreme Court explained that "[i]n extraordinary cases, . . . there may be reason to hesitate before concluding that Congress has intended such an implicit delegation." *Brown & Williamson*, 120 S.Ct. at 1314. The Court noted that FDA was "assert[ing] jurisdiction to regulate an industry constituting a significant portion of the American economy," despite the fact that "tobacco has its own unique political history" that had led Congress to create a distinct regulatory scheme for tobacco products. *Id.* at 1315. The Court concluded that FDA's assertion of authority to regulate tobacco was "hardly an ordinary case." *Id.* The Court analyzed FDA's authority in light of the language, structure and history of the FDCA and other federal legislation and congressional action specifically addressing tobacco regulation, including failed legislative attempts to confer authority of the type FDA was asserting. Based on that analysis, the Court determined that Congress did not "intend[] to delegate a decision of such economic and political significance . . . in so cryptic a fashion." *Id.*

As discussed in the Agency's response to the ICTA petition, regulation to address global climate change would have even greater potential significance than the regulation of tobacco under FDCA. By far the most abundant anthropogenic GHG is CO₂, which is emitted whenever fossil fuels such as coal, oil, and natural gas are used to produce energy. The production and use of fossil fuel-based energy undergirds almost every aspect of the nation's economy. For example, approximately 75 percent of the electric power used in the U.S. is generated from fossil fuel, and the country's transportation sector is almost entirely dependent on oil. To the extent significant

⁸Since the President has made clear that the U.S. will not become a party to the Kyoto Protocol, there has been no continuing need for that restriction.

reductions in U.S. CO₂ emissions were mandated by EPA, power generation and transportation would have to undergo widespread and wholesale transformations, affecting every sector of the nation's economy and threatening its overall economic health.

In view of the unusually profound implications of global climate change regulation, it is unreasonable to believe that Congress intended "to delegate a decision of such . . . significance . . . in so cryptic a fashion." *Id.* An administrative agency properly awaits congressional direction before addressing a fundamental policy issue such as global climate change, instead of searching for authority in an existing statute that was not designed or enacted to deal with the issue. I therefore conclude the CAA does not authorize regulation to address global climate change.

Because the CAA does not authorize regulation to address climate change, it follows that CO₂ and other GHGs, as such, are not air pollutants under the CAA's regulatory provisions, including sections 108, 109, 111, 112 and 202. CAA authorization to regulate is generally based on a finding that an air pollutant causes or contributes to air pollution that may reasonably be anticipated to endanger public health or welfare. CAA section 302(g) defines "air pollutant" as "any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant[.]" The root of the definition indicates that for a substance to be an "air pollutant," it must be an "agent" of "air pollution." Because EPA lacks CAA regulatory authority to address global climate change, the term "air pollution" as used in the regulatory provisions cannot be interpreted to encompass global climate change. Thus, CO₂ and other GHGs are not "agents" of air pollution and do not satisfy the CAA section 302(g) definition of "air pollutant" for purposes of those provisions.⁹ The

⁹ In this opinion, I do not reach all of the possible legal grounds suggested in public comments on the petition for concluding that EPA may not issue regulations to address global climate change under the CAA. For example, I do not address whether the GHGs named in the petition are "air pollution agent[s] or combination of such agents" under CAA section 302(g) for regulatory purposes were they subject to regulation under the Act for global climate change purposes. As described previously, the Cannon memorandum interpreted "air pollutant" to mean "any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters ambient air" – in other words, virtually anything entering the ambient air regardless of whether it pollutes the air. In arriving at this interpretation, the Cannon memorandum failed to address, and effectively read out, the "air pollution agent" language at the core of the definition, thereby ignoring traditional rules of statutory construction. The CAA's legislative history confirms that "air pollution agent" is integral to the meaning of "air pollutant." The original definition of "air pollutant," added in 1977, included only the core of the definition in effect today – "any air pollutant agent or combination of such agents." In 1977 when Congress sought to address air pollution stemming from radioactive materials, the phrase "including any physical, chemical, biological, radioactive . . . substance or matter which is emitted into or otherwise enters ambient air" was added to the definition. While Congress did not explain the addition, its context made its purpose clear – to establish that virtually any type of substance,

Cannon memorandum and the statements of Mr. Guzy concerning the status of CO₂ as an air pollutant are withdrawn as inconsistent with the interpretation that the CAA does not confer regulatory authority to address global climate change.

Even though the CAA does not authorize regulation to address global climate change, the potential contribution of anthropogenic GHG emissions to global climate change is still properly the subject of research and other nonregulatory activities under the CAA. In particular, EPA may continue to develop, evaluate, and demonstrate nonregulatory strategies and technologies for preventing CO₂ and other GHG emissions under section 103(g). EPA's efforts in this regard answer Congress' consistent call for advances in our understanding of the global climate change issue.

As the discussion above makes clear, lack of authority under the CAA to impose regulation to address global climate change does not leave the federal government powerless to address the issue. The CAA and other federal statutes provide the federal government with ample authority to conduct the research necessary to better understand the nature, extent and effects of any human-induced global climate change and to develop technologies and nonregulatory strategies that will help achieve GHG emission reductions to the extent they prove necessary. Congress, of course, may decide that further efforts are necessary and pass specific legislation to that effect.

V. Conclusion

Based on the analysis above, I conclude that the CAA does not authorize regulation to address global climate change. In view of consistent congressional action to learn more about global climate change, the absence of express authority to regulate global climate change, no indication of congressional intent to provide such authority, and the far-reaching implications of regulation to address global climate change, I believe EPA cannot assert jurisdiction to regulate in this area. The Cannon memorandum and the statements by Mr. Guzy concerning this matter no longer represent the views of EPA's General Counsel.

cc: Jeffrey R. Holmstead, Assistant Administrator for Air and Radiation

including radioactive substances, *could be* an air pollution agent. If Congress had instead intended to establish that an air pollutant is any physical, biological, chemical or radioactive substance entering the air, however, it presumably would have dropped the "agent" language from the definition as moot. Similarly, a sentence added in 1990 concerning precursors would have been unnecessary had the definition already encompassed everything physical, chemical, biological or radioactive that enters the air. Thus, if global climate change were a form of "air pollution" for purposes of the CAA's regulatory provisions, CO₂ and other GHGs would still have to qualify as "air pollution agents" for them to be "air pollutants" for regulatory purposes.