

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. 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 may also contribute to local concentrations in some cases. CO₂, by contrast, is fairly consistent in concentration throughout the *world's* atmosphere up to approximately the lower stratosphere. Problems associated with atmospheric concentrations of CO₂ are much more like the kind of global problem 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. Unique and basic aspects of the presence of key GHGs in the atmosphere make the NAAQS system fundamentally ill-suited to addressing these gases in relation to global climate change. Many GHGs reside in the earth's atmosphere for very long periods of time. CO₂, by far the most pervasive of anthropogenic GHGs, 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 exists 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 global 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 global 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. 101–624).

With these statutes, Congress sought to develop a foundation for considering whether future legislative action on global climate change 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 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)). 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 emissions. 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 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 barred EPA from implementing the Kyoto Protocol