Comments on EPA Proposed Rule
Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act
Docket ID: EPA-HQ-OAR-2009-0171

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While the technical information submitted by EPA in support of this NPRM is probably adequate (using the quality of previously EPA submitted technical information on ozone standard setting as a baseline) to establish certain anthropogenic substances as greenhouse gases (GHGs) that contribute to Climate Change effects, there are two deficiencies in this NPRM that I would like to comment on.

1. Exclusion of Black Carbon as a GHG Exempts a Major Anthropogenic Climate Change Source

Work by Marc Jacobson and others have identified black carbon as a significant contributor to Arctic warming. Drew Shindell's recent paper in *Nature Geosciences* (Vol. 1 No. 2 pp-294-300, 22 March 2009) quantifies the relative effects of black carbon, and other GHGs, on recent Arctic warming as significant. Of the 1.48^0C rise in temperature observed from 1976-2007, 1.09^0C **(73%)** is attributed to aerosols of which black carbon is the largest component.

From the technical information submitted by EPA for this NPRM, it appears that black carbon was rejected for inclusion by EPA because: 1) EPA judged that there was a lack of data on its importance in forcing atmospheric warming; and 2) EPA considered black carbon as a "short-lived" species as compared to CO_2 or CH_4. As for the first argument, there is sufficient peer-reviewed scientific literature on the effects of black carbon for its inclusion in this rule making process. As for the second argument, EPA already regulates ozone (O_3) which has a life-time measured in minutes. Therefore, the "short-lived" argument is spurious in this context.

Excluding black carbon as a regulated GHG would be a critical mistake and would exempt a major anthropogenic source of Climate Change effects from regulation.

2. Regulating Only New Vehicle GHGs With Section 202(a) While Not Regulating Other GHG Sources is Arbitrary and Capricious Within the Clean Air Act Regulatory Framework

By deciding to regulate only new vehicle GHG emissions, EPA has made a judgment to regulate only one class of GHG emitters while leaving all other classes of emitters uncontrolled. It is important to recognize that EPA's definition of the size of this section 202(a) class is less than one-quarter of total US GHG emissions. "and accounted for 24 percent of total U.S. greenhouse gas emissions in 2006" (p. 14).

It appears that EPA made this judgment based on the following statement on page 13 of this NPRM. *"EPA is not proposing or taking action under any other provision* [besides Section 202 (a)] *of the Clean Air Act."* However, EPA is also proposing in this NPRM that two GHGs not produced by motor vehicles, and therefore not subject to section 202(a), be regulated as well, *"The other greenhouse gases that are the subject of this proposal (perfluorocarbons and sulfur hexafluoride) are not emitted by motor vehicles."* (p-12). By proposing the inclusion of GHGs that would be regulated by portions of the Clean Air Act other than 202(a), EPA expressly acknowledges that other portions of the Clean Air Act would be used to regulate those species. This appears to contradict the above claim and leads to the point that the use of section 202(a) to regulate only new vehicle GHG emissions is arbitrary and capricious.

Arbitrary and capricious is defined by Black's Legal Dictionary as: *"Characterization of a decision or action taken by an administrative agency or inferior court meaning willful and unreasonable action without consideration or in disregard of facts or without determining principle."*

There are two key points to this legal definition; disregard of facts, and without determining principle. Each will be addressed.

Disregard of Facts: Throughout this NPRM, EPA repeatedly states that CO_2 and five other gases are GHGs that contribute to health and welfare related Climate Change effects. Also, throughout this NPRM, EPA states that the production of these gases is from multiple sources, with new motor vehicle comprising only 24% of the US total. In addition, two of the four gases being proposed for regulation, perfluorocarbons and sulfur hexafluoride, are not emitted by section 202(a) new motor vehicles. Therefore, in proposing these regulations, EPA is disregarding two salient facts: 1) 76% of the anthropogenic GHGs eligible for regulation are not being regulated, and 2) one-third of the GHGs being proposed for regulation are not produced by the 202(a) class of new motor vehicles. Therefore, singling out GHG emissions from only new motor vehicles is arbitrary and capricious.

Without Determining Principle: Even if facts, such as those just discussed, were disregarded, EPA could still argue that the Agency was not being arbitrary and capricious if an overall determining principle that guided all air quality related actions other than section 202(a) of the Clean Air Act did not exist. However, that is not the case. Sections 108 (Title 42, Chapter 85, Subchapter I, Part A, Section 7408) and 109 (Section 7409) clearly establish the authority of the Administrator to establish national primary and secondary ambient air quality standards. Section 108 states in part;

"a list which includes each air pollutant-

> *(A) emissions of which, in his judgment, cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare;*
> *(B) the presence of which in the ambient air results from numerous or diverse mobile or stationary sources; "*

It is noteworthy that the section of 202(a) that the US Supreme Court used to rule that EPA had the authority to determine if GHGs were pollutants is identical to that in section 108. *"that judgment must relate to whether an air pollutant"cause[s], or contribute[s] to, air pollution which may reasonably be anticipated to endanger public health or welfare." §7601(a)(1)."* In fact, the legislative history of the CAA would show that the wording in section in 202(a) and similar sections came from a common original source, section 108.

In essence, then sections 108 and 109, along with specific regulatory sections such as 202(a) were included in the CAA so that the agency would be required to take a two-step approach to regulating source emissions. First, a pollutant would be identified and an ambient standard for that pollutant that provided for the health and welfare would be established. Second, the agency would determine the relative contribution of "numerous" mobile and stationary sources to meeting the ambient standard and would issue regulations under the authority of other CAA sections such as 202(a) to control the individual emissions that contributed to ambient air concentrations.

This approach is crucial for the regulation of air borne pollutants that are not emitted from any regulated sources but rather are the product of atmospheric chemical reactions. Ozone (O_3) a subject of EPA regulations since the first CAA in 1970, is such a pollutant. It is a product of atmospheric photochemical reactions involving two major classes of mobile and stationary source combustion emissions, non-methane hydrocarbons (NMHC) and oxides of nitrogen (NO_x).

GHGs act in a similar manner. CO_2 is not in itself a toxin or a carcinogen in current ambient concentrations of approximately 350-400 ppm. However, the interaction of CO_2 and other GHGs with atmospheric water vapor, hydroxyl radicals, and aerosols act to increase the amount of

energy captured by the atmosphere and reflected back to the surface of the earth which is what causes Climate Change effects.

Therefore, the determining principle in effect for EPA to regulate air-borne pollutants, especially those without a direct one-to-one relationship between specific smokestack or tailpipe emissions and the pollutant that causes health and welfare affects, starts with the determination of national ambient air quality standards, proceeds to the determination of relative contributions, stationary and mobile, to the pollutant, and finishes with the regulation of all sources that had been previously determined.

The action of starting with the regulation of one class of emitters that is proposed under this notice completely disregards the existing determining principle established by the Clean Air Act and is therefore arbitrary and capricious.