

July 8, 1997

EPA-SAB-COUNCIL-LTR-97-008

Honorable Carol M. Browner  
Administrator  
U.S. Environmental Protection Agency  
401 M Street, SW  
Washington, DC 20460

RE: Review of the Draft Retrospective Study Report to Congress Entitled "The Benefits and Costs of the Clean Air Act, 1970 to 1990" by the Advisory Council on Clean Air Compliance Analysis (Council)

Dear Ms. Browner:

Pursuant to requirements of the Clean Air Act Amendments (CAAA) of 1990, Section 812 (CAAA-1990, Pub. Law 101-549, November 15, 1990, 104 Stat. 2399), the Advisory Council on Clean Air Compliance Analysis ("the Council") has reviewed the Agency's Retrospective Study Report to Congress entitled "The Benefits and Costs of the Clean Air Act, 1970 to 1990." Most recently, in the process of closure on this review, the Council has reviewed several drafts and excerpts of the Agency's Retrospective Study Report to Congress in a series of public teleconferences following the November 7 and 8, 1996 face-to-face meeting of the Council. Specifically, the Council met March 14, 19 and 26, 1997, May 15 and June 30, 1997 in order to reach closure on the Retrospective Study. In the course of these public discussions with the Agency staff, we have reviewed the data and methods used by the Agency for this analysis as well as the findings obtained. Because we were consulted regarding the design of much of the analysis, it has been possible to avoid much needless delay and controversy.

The Council finds that the Retrospective Study Report to Congress by the Agency is a serious, careful study and employs sound methods along with the best data available. While we do not necessarily endorse all details of this study's findings, we believe that as a general matter that they are consistent with the weight of available evidence. Several major issues that arose in the course of our work, however, deserve your attention. The Council believes that further research is warranted to address the causal relationship between mortality and particulate matter (PM). In addition, emerging evidence on ecosystem evaluation supports the need for more studies in this area.

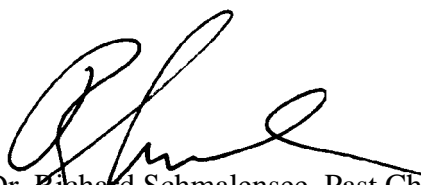
Finally, the Council believes that, in the future, the Agency should focus more attention on the ages of persons whose lives are extended by reducing exposure to air pollution. The Retrospective Study provides estimates of the numbers of statistical lives saved by age for reduced PM and lead. These estimates show that the vast majority (in the range of 80%) of the

statistical lives saved are for persons age 65 and over and that the average number of life years saved is 14 or less (six years for individuals over age 84). The value of a statistical life used in the Retrospective Study (\$4.8 million) is based on a set of studies of workers and others with a substantially lower age (in the range of 40 years) and higher remaining life expectancy (in the range of 35 years). We continue to believe that it is important here and in general to measure the value of a statistical life for persons of different ages, values that are likely to differ substantially, and to apply those values to the number of statistical lives saved at each age.

During the course of the Council review of the draft Retrospective Study Report to Congress, it became evident that the task was far more complex and difficult than envisioned by the Congress, the Agency, or the Council. The Retrospective Study Report to Congress identifies numerous areas where: 1) quantitative data on exposure-response relationships are incomplete or non-existing; 2) usable literature on valuation of known effects is either sparse or non-existent; 3) current exposures create the potential for important adverse effects, but current knowledge is inconclusive; and 4) there are large uncertainties with many of the costs and benefits tabulated in the Retrospective Study Report to Congress.

Over the course of the past five years of this review, the lessons learned by EPA staff and the Council have made it possible to study the post-1990 costs and benefits of the Clean Air Act (the Prospective Study) in a more timely and efficient fashion. However, it must be recognized that the Prospective Study Report to Congress faces additional challenges. We believe that in order to inform decision-makers, the Prospective Study must, to the extent scientifically and technically feasible, provide cost/benefit on a provision-specific basis, as Section 812 of the Clean Air Act (CAA) appears to contemplate. This will require considerably greater investment in computation than currently appears to be contemplated. In addition, a focused research program aimed at the knowledge gaps that are identified in the Retrospective Study as limiting factors in the performance of benefit-cost studies will make it possible to greatly improve the accuracy and reliability of the ongoing and future Prospective studies for guiding policy formulation and operational programs in EPA.

We thank the Agency for the opportunity to have participated in the Retrospective Study Report to Congress, and we look forward to productive and efficient dialogue on the upcoming Prospective Study Report to Congress. We hope that EPA and the Congress will mobilize the resources needed to generate the data to mount more thorough and satisfactory analyses of air pollution costs and benefits in future projects of this kind.



Dr. Richard Schmalensee, Past Chair  
Advisory Council on Clean Air  
Compliance Analysis

Sincerely,

Dr. Maureen L. Cropper, Chair  
Advisory Council on Clean Air  
Compliance Analysis

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