



Institute for Policy Integrity
new york university school of law



SIERRA CLUB
FOUNDED 1892



Union of Concerned Scientists
Citizens and Scientists for Environmental Solutions

Steven Chu, Secretary
Department of Energy

Lisa Jackson, Administrator
Environmental Protection Agency

Raymond H. LaHood, Secretary
Department of Transportation

Gary Locke, Secretary
Department of Commerce

Peter Orszag, Director
Office of Management and Budget

Christina Romer, Chair
Council of Economic Advisors

Kenneth Lee Salazar, Secretary
Department of the Interior

Carol M. Browner, Assistant to the President
Office of Energy and Climate Change Policy

Lawrence H. Summers, Director
National Economic Council

Nancy Helen Sutley, Chair
Council on Environmental Quality

John Holdren, Director
Office of Science and Technology Policy

Richard G. Newell, Administrator
Energy Information Administration

Jane Lubchenco, Administrator
National Oceanic and Atmospheric Administration

Cass Sunstein, Administrator
Office of Information and Regulatory Affairs

February 12, 2010

Subject: Presentation of the Social Cost of Carbon in Rulemaking Actions

Dear Senior U.S. Government Officials:

We respectfully offer the following recommendations concerning how the social cost of carbon (SCC) is presented in rulemakings affecting greenhouse gas emissions, with the hope that they will help ensure more transparent and rigorous analysis. While the issues they address are immediately relevant to the EPA-NHTSA Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel

Economy Standards, the methodology for determining the SCC is also expected to be used in future rulemaking actions by other government agencies. We are therefore respectfully submitting these recommendations to a range of staff at relevant agencies.

The complexity of the Integrated Assessment Models used to estimate the SCC justifies paying special attention to how results are presented. In particular, these models are widely recognized to have limited ability to quantify the full range of damages from climate change and incorporate catastrophic risks. Moreover, the model outputs are sensitive to a range of underlying assumptions. For these reasons, agencies should include the following material in their presentation of the SCC. **This material should be presented in the preamble of proposed and final rulemaking actions, and should be discussed in explaining agency decisions.**

- **Climate impacts omitted from the models should be identified explicitly.** A table should be provided that lists, for each economic model, what impacts were not included in the model's estimate of monetized damages. Accompanying text should serve to explain and complement the table entries but not be a substitute for them.
- **SCC values should be presented as a distribution, rather than relying on simple point estimates such as means or medians.** Given the sensitivity of estimated climate impacts to the future emissions trajectory, and the potential for large-scale, irreversible tipping points in the climate system, it is crucial that damages be presented at the 95th and 99th percentiles. The 99th percentile is especially critical, given the models' inability to capture catastrophic risk — considered by many experts to be the most important factor in evaluating climate policy.
- **A comprehensive discussion of model assumptions and their implications should be provided.** Key assumptions used as inputs to the models, as well as the rationales behind them, should be fully explained — in particular, assumptions about global and inter-generational equity weights, discount rates, climate sensitivity, risk aversion, level of geographic disaggregation, and the form of the damage function. Sensitivity analyses should be performed wherever possible for assumptions that make a material difference in the agencies' estimates. The values of sensitivity parameters should reflect a reasonable range of judgment adopted in the published literature. Where sensitivity analyses cannot be performed directly, the agencies should present the relevant findings from the published literature, along with the estimated SCC values.
- **SCC estimates used in rulemaking actions should be presented and updated as part of an ongoing assessment grounded in science, economics, and other relevant disciplines.** Estimates of the SCC in future rulemakings should be updated to reflect the accumulation of new knowledge, following the pace at which climate science and economic modeling advances. As part of this ongoing assessment, experts from a broad range of disciplines in the natural and social sciences should provide external review of the SCC.

Thank you for consideration of these recommendations.

Sincerely,

Laurie T. Johnson, Ph.D.
Chief Economist
Climate Center
Natural Resources Defense Council

Dave Hamilton
Director
Global Warming and Energy Programs
Sierra Club

Nathaniel Keohane, Ph.D.
Director
Economic Policy and Analysis
Environmental Defense Fund

Michael A. Livermore
Executive Director
Institute for Policy Integrity
New York University School of Law

Joseph Mendelson III
Director
Global Warming Policy
National Wildlife Federation

Lance Pierce
Director
Climate and Energy Program
Union of Concerned Scientists