



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON D.C. 20460

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

October 3, 2011

MEMORANDUM

SUBJECT: Formation of Science Advisory Board (SAB) Biogenic Carbon Emissions Panel

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EPA's Office of Atmospheric Programs (OAP) has requested SAB review of its accounting framework for biogenic CO₂ emissions from stationary sources. Biogenic CO₂ emissions are defined as CO₂ emissions directly resulting from the combustion, decomposition, or processing of biologically based materials other than fossil fuels, peat, and mineral sources of carbon through combustion, digestion, fermentation, or decomposition processes. The report addresses the biogenic CO₂ that is emitted from stationary sources through a variety of energy-related and industrial processes. This report and accounting framework were developed for the policy context where it has been determined that a stationary source emitting biogenic CO₂ requires a means for "adjusting" its total onsite biogenic emissions estimate on the basis of information about growth of the feedstock and/or avoidance of biogenic emissions and more generally the carbon cycle. In September 2011, EPA OAP submitted its draft paper, "An Accounting Framework for Biogenic CO₂ Emissions from Stationary Sources," to the SAB for review.

This memorandum addresses the set of determinations that were necessary for forming the SAB Biogenic Carbon Emissions Panel.

- (A) The type of review body that will be used to conduct the review, and the nature of the review;
- (B) The types of expertise needed to address the general charge;

- (C) Financial conflict of interest considerations, including identification of parties who are potentially interested in or may be affected by the topic to be reviewed;
- (D) How regulations concerning “appearance of a lack of impartiality,” pursuant to 5 C.F.R. § 2635.502 apply to members of the Committee; and
- (E) How individuals were selected for the Committee.

DETERMINATIONS:

- (A) The type of review body that will be used to conduct the review, and the nature of this review.

An ad hoc SAB Panel has been formed to provide advice to EPA on an accounting framework for biogenic CO₂ emissions from stationary sources. Specifically, the Panel will provide advice through the chartered SAB to EPA on key scientific and technical factors that should be considered when constructing a framework for accounting for the impact of utilizing biologically based feedstocks at stationary sources.

- (B) The types of expertise needed to address the general charge.

The SAB Staff Office announced to the public through a *Federal Register* notice published on April 27, 2011 (76 FR 23587-23588) that it was soliciting nominations of nationally and internationally recognized scientists in the following areas:

- Forestry, agriculture, and land-use change, specifically the effects of land management practices on the terrestrial biosphere;
- Inventory, measurement and carbon accounting methodologies for national greenhouse gas inventories, or other relevant emissions and sequestration quantification guidelines in use;
- Land use economics, ecological relationships between land use and climate change and/or estimates of biomass supply and demand;
- Environmental science and climate change, particularly with a multidisciplinary perspective;
- Engineering, particularly with respect to the design and operation of solid-fuel-fired boilers and related air pollution control systems for the power and industrial sectors, including pulp and paper applications; and
- Design and implementation of regulatory programs at local, state and federal scales, with specific reference to developing and/or implementing monitoring and accounting approaches for agriculture, land use, land-use change and forestry.

- (C) Financial conflict of interest considerations, including identification of parties who are potentially interested in or may be affected by the topic to be reviewed.

(a) Identification of parties who are potentially interested in or may be affected by the topic to be reviewed: The principal interested and affected parties for this topic are: 1) federal, state, and local government agencies, elected officials, and non-government organizations involved in the implementation of Title V and the Prevention of Significant Deterioration portions of the Clean air Act; and 2) private companies and landowners who may be affected by policies or regulations developed by EPA pursuant to biogenic carbon emissions.

(b) Conflict of interest considerations: For Financial Conflict of Interest (COI) issues, the basic 18 U.S.C. § 208 provision states that: “An employee is prohibited from participating *personally or substantially* in an official capacity in any *particular matter* in which he, to his knowledge, or any person whose interests are imputed to him under this statute has a *financial interest*, if the particular matter will have a direct and predictable effect on that interest [emphasis added].” For a conflict of interest to be present, all elements in the above provision must be present. If an element is missing the issue does not involve a formal conflict of interest; however, the general provisions in the appearance of impartiality guidelines must still apply and need to be considered.

(i) Does the general charge to the Biogenic Carbon Emissions panel involve a particular matter? A “particular matter” refers to matters that “...will involve deliberation, decision, or action that is focused upon the interest of specific people, or a discrete and identifiable class of people.” It does not refer to “...consideration or adoption of broad policy options directed to the interests of a large and diverse group of people.” [5 C.F.R. § 2640.103 (a)(1)]. A particular matter of general applicability means a particular matter that is focused on the interests of a discrete and identifiable class of persons, but does not involve specific parties [5 C.F.R. § 2640.102(m)].

The activity of the Biogenic Carbon Emissions Panel in addressing the charge to provide advice on accounting for biogenic CO₂ emissions from stationary sources will qualify as a *particular matter of general applicability* because the resulting advice will be part of a deliberation, and under certain circumstances the advice could involve the interests of a discrete and identifiable class of people but does not involve specific parties. That group of parties constitutes electric utilities burning biomass fuels, wood products manufacturing, pulp and paper manufacturing, municipal solid waste combustion, animal production manure management operations, sewage treatment facilities, solid waste landfills, ethanol manufacturing and any other industries that burn agricultural or forest biomass residues, use fermentation processes, or produce biogas from anaerobic digestion of waste materials.

(ii) Will there be personal and substantial participation on the part of the Committee members? Participating personally means direct participation in this review. Participating substantially refers to involvement that is of significance to the matter under consideration. [5 C.F.R. § 2640.103(a)(2)]. For this review, the SAB Staff Office has determined that the *SAB Panel members will be participating personally in the matter*. Panel members will be providing the Agency with advice and recommendations on accounting for biogenic CO₂ emissions from stationary sources. *Therefore, participation in this review will also be substantial.*

(iii) Will there be a direct and predictable effect on SAB Biogenic Carbon Emissions Panel members' financial interest? A direct effect on a participant's financial interest exists if "...a close causal link exists between any decision or action to be taken in the matter and any expected effect of the matter on the financial interest. ...A particular matter does not have a direct effect ...if the chain of causation is attenuated or is contingent upon the occurrence of events that are speculative or that are independent of, and unrelated to, the matter. A particular matter that has an effect on a financial interest only as a consequence of its effects on the general economy is not considered to have a direct effect." [5 C.F.R. § 2640.103(a)(i)] A predictable effect exists if, "...there is an actual, as opposed to speculative, possibility that the matter will affect the financial interest." [[5 C.F.R. § 2640.103(a)(ii)]

(D) How regulations concerning "appearance of a lack of impartiality," pursuant to 5 C.F.R. § 2635.502, apply to members of the Committee

The Code of Federal Regulations at 5 C.F.R. § 2635.502(a) states that: "Where an employee knows that a particular matter involving specific parties is likely to have a direct and predictable effect on the financial interest of a member of his household, or knows that a person with whom he has a covered relationship is or represents a party to such matter, and where the person determines that the circumstances would cause a reasonable person with knowledge of the relevant facts to question his impartiality in the matter, the employee should not participate in the matter unless he has informed the agency designee of the appearance problem and has received authorization from the agency designee." Further, § 2635.502(a)(2) states that, "An employee who is concerned that circumstances other than those specifically described in this section would raise a question regarding his impartiality should use the process described in this section to determine whether he should or should not participate in a particular matter."

Candidates for the Committee were evaluated against the 5 C.F.R. 2635(a)(2) general requirements for considering an appearance of a lack of impartiality. Information used in this evaluation has come from information provided by potential advisory committee members (including, but not limited to, EPA 3110-48 confidential financial disclosure forms) and public comment as well as their responses to the following supplemental questions (included on the EPA 3110-48 confidential financial disclosure form):

1. Do you know of any reason that you might be unable to provide impartial advice on the matter to come before the panel/committee/subcommittee or any reason that your impartiality in the matter might be questioned?
2. Have you had any previous involvement with the review document(s) under consideration including authorship, collaboration with the authors, or previous peer review functions? If so, please identify and describe that involvement.
3. Have you served on previous advisory panels, committees or subcommittees that have addressed the topic under consideration? If so, please identify those activities.
4. Have you made any public statements (written or oral) on the issue that would indicate to an observer that you have taken a position on the issue under consideration? If so, please

identify those statements.

(E) How individuals were selected for the Panel

The SAB Staff Office identified 81 experts to be considered for the Panel. On June 23, 2011, the SAB Staff Office posted a notice on the SAB Web site inviting public comments on the candidates by July 15, 2011. The SAB Staff Office received comments on this list of candidates from the following members of the public:

Robert L. Alverts, Society of American Foresters
George B. Bacon, Idaho Department of Lands
Shannon Binns, Green Press Initiative
Frank R. Caponi, County Sanitation Districts of Los Angeles County
Caroline Choi, Progress Energy
Clean Air Task Force, et. al.¹
Robert E. Cleaves, Biomass Power Association
Roger A. Dziengeleski, Society of American Foresters
Fred Earnes, Hunton & Williams, on behalf of Coalition for Biomass Generation
Brent Erickson, Biotechnology Industry Association
Pamela F. Faggert, Dominion Power
Cynthia A. Finley, National Association of Clean Water Agencies
Richard Furman, Idaho Department of Lands
Karl M. Glasener, American Society of Agronomy
Michael T. Goergen, Society of American Foresters
Thomas W. Hertel, Purdue University
Morris D. Huffman, Woody Biomass Utilization Partnership
Stephen Kaffka, University of California, Davis, CA
Carter Lee Kelly, Waste Management Inc.
Darrel L. Kenops, National Association of Forest Service Retirees
Thomas R. Kuhn, Edison Electric Institute
Ronald W. Larson, American Solar Energy Society Fellow
William R. Lazenby, Southeastern Society of American Foresters
Joshua H. Levine, American Renewables, LLC
Charles W. Lorenz, Society of American Foresters
Alan A. Lucier, National Council for Air and Stream Improvement, Inc.
Angela D. Marconi, Delaware Solid Waste Authority
William McDow, Environmental Defense Fund
Bruce J. Parker, National Solid Wastes Management Association
Steven G. Pueppke, Michigan State University
Steve Raper, Georgia Department of Natural Resources
Tim Rials, Southeastern Regional Sungrant Center, University of Tennessee
Gary Schneider, Society of American Foresters
Ernie Shea, 25 x 25 Alliance

¹ / Unsigned letter from Clean Air Task Force, Environment Northeast, Environmental Working Group, Friends of the Earth, National Resources Defense Council, Southern Environmental Law Center, Union of Concerned Scientists, The Wilderness Society

J. Frank Smith, Georgia State Properties Commission
Ronald H. Strube, Veolia Environmental Services
David P. Tenny, National Alliance of Forest Owners
David G. Victor, University of California, San Diego
B. Todd Watermolen, Veolia Environmental Services
Tim White, National Association of University Forest Resources Programs
Harold Wimmer, American Lung Association of the Upper Midwest
Stephen E. Woock, Weyerhaeuser
Chuck Woodside, KAAPA Ethanol, LLC

The SAB Staff Office Director makes the final decision about who serves on the Biogenic Carbon Emissions Panel, based on all relevant information. This includes a review of the member's confidential financial disclosure form (EPA Form 3110-48), public comments and information gathered by SAB staff. A balanced SAB Panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the general charge. Specific criteria to be used in evaluating an individual committee member include: (a) scientific and/or technical expertise, knowledge, and experience; (b) availability and willingness to serve; (c) absence of financial conflicts of interest; (d) absence of an appearance of a lack of impartiality; (e) skills working in committees, subcommittees and advisory panels; and (f) for the committee as a whole, diversity of scientific expertise and viewpoints.

On the basis of the above-specified criteria, the membership of the Biogenic Carbon Emissions Panel is as follows:

Dr. Madhu Khanna (Chair), University of Illinois at Urbana-Champaign, Department of Agricultural and Consumer Economics, Urbana, IL
Dr. Robert Abt, North Carolina State University, Department of Forestry and Environmental Resources, Raleigh, NC
Dr. Morton Barlaz, North Carolina State University, Department of Civil, Construction and Environmental Engineering, Raleigh, NC
Dr. Richard Birdsey, U.S. Forest Service, Northern Global Change Research Program, Newtown, Square, PA
Dr. Marilyn Buford, U.S. Forest Service, Silviculture Research, Arlington, VA
Dr. Mark Harmon, Oregon State University, College of Forestry, Corvallis, OR
Dr. Jason Hill, University of Minnesota, College of Food, Agricultural and Natural Resource Sciences, St. Paul, MN
Dr. Stephen Kelley, North Carolina State University, Department of Forest Biomaterials, Raleigh, NC
Dr. Richard Nelson, Kansas State University, Center for Sustainable Energy, Manhattan, KS
Dr. Lydia Olander, Duke University, Nicholas Institute for Environmental Policy Solutions, Durham, NC
Dr. John Reilly, Massachusetts Institute of Technology, Program on the Science and Policy of Global Change Center for Environmental Policy Research, Cambridge, MA

Dr. Charles Rice, Kansas State University, Department of Agronomy, Manhattan, KS

Dr. Steven Rose, Electric Power Research Institute, Palo Alto, CA

Dr. Daniel Schrag, Harvard University, Department of Earth and Planetary Sciences, Cambridge, MA

Dr. Roger Sedjo, Resources for the Future, Washington, D.C.

Dr. Ken Skog, U.S. Forest Service, Forest Products Laboratory, Madison, WI

Dr. Tristram West, University of Maryland, Joint Global Change Research Institute, College Park, MD

Dr. Peter Woodbury, Cornell University, Department of Soil and Crop Sciences, Ithaca, NY

Concurred,

/Signed/

10-3-11

Vanessa Vu, Ph.D.
Staff Director
EPA Science Advisory Board (1400F)

Date