

**Summary Minutes of the  
U.S. Environmental Protection Agency  
Science Advisory Board  
Biogenic Carbon Emissions Panel  
Teleconference  
May 23, 2012**

Biogenic Carbon Emissions

Panel Members:

Dr. Madhu Khanna, Chair  
Dr. Robert Abt  
Dr. Morton Barlaz  
Dr. Richard Birdsey  
Dr. Marilyn Buford  
Dr. Mark Harmon  
Dr. Jason Hill  
Dr. Lydia Olander  
Dr. Steven Rose  
Dr. Roger Sedjo  
Dr. Ken Skog  
Dr. Tristram West  
Dr. Peter Woodbury

Purpose: The Science Advisory Board (SAB) Biogenic Carbon Emissions Panel discussed its draft SAB report, dated 5-9-12, on EPA's *Accounting Framework for biogenic CO<sub>2</sub> Emissions from Stationary Sources (Sept. 2011)*.

Designated Federal Officer: Dr. Holly Stallworth, Designated Federal Officer

Other EPA Staff: Jennifer Jenkins, Sara Ohrel

Public: Joel Visser (Sidley Austin), Rubab Bhangu (ICF), Ann Claussen (Lathan and Watkins), Paula Hamel (Dominion Resources Services), Rafe Christopherson (POET), Pete Epanchi (University of California, Berkeley), Stephanie Batchelor (Biotechnology Industry Organization), Ruben Lubowski (Environmental Defense Fund), Nancy Clark (American Forest and Paper Association), Sherry Brown (Weyerheuser), Stan Lancey (American Forest and Paper Association), Dawn Reeves (Inside EPA), Marilyn Worth (New York State Department of Environmental Conservation), Will Space (Massachusetts Department of Environmental Conservation), Tiffany Stecker (Climate Wire), Chip Murray (National Alliance of Forest Owners), Dave Ailor (Oilseed Processors Association), Gregg Morris (Green Power Institute), Mary Booth (Partnership for Policy Integrity), Mike Jostrum (Plum Creek Timber Co.), Chris Farley (U.S. Forest Service), Eric Meyers (Duke Energy), Mike Van Brunt (Covant Energy), Dave Tenny (National Alliance of Forest Owners), Steven Wallender (U.S. Department of Agriculture), Joshua Martin (Environmental Paper Network)

Meeting Materials and Meeting Webpage:

The materials listed below may be found on the meeting webpage at:

<http://yosemite.epa.gov/sab/sabproduct.nsf/a84bfee16cc358ad85256ccd006b0b4b/5c204e242bfc6ab0852579ca0054c372!OpenDocument&Date=2012-05-23>

- Agenda
- Federal Register Notice
- Agency Charge
- Draft Report of 5-9-12
- List of public speakers
- Agency Review Document
- Disposition of Comments - Revised
- Disposition of Panelists' Comments
- Public Comments (written):
  - Solid Waste Association of North America (SWANA)
  - American Forest and Paper Association
  - American Forest and Paper Association presentation by Nancy Clark
  - Bill Stewart, University of California - Berkeley
  - Biotechnology Industry Organization
  - Covanta Energy
  - Delaware Solid Waste Management Authority
  - Environmental Defense Fund, Ruben Lubowski,
  - Green Power Institute
  - Jeffrey Morris, Sound Resource Management
  - National Alliance of Forest Owners
  - National Council for Air and Stream Improvement, Reid Miner
  - Peter Becker
  - ReCommunity Inc.
  - The Wilderness Society, Ann Ingerson
  - Waste Management Inc.

Meeting Summary

The discussion followed the plan presented in the meeting agenda.

**WEDNESDAY, MAY 23, 2012**

Dr. Stallworth convened the meeting and explained that the Science Advisory Board operates under the Federal Advisory Committee Act. Dr. Madhu Khanna reviewed the agenda.

Dr. Jennifer Jenkins from EPA's Office of Air and Radiation thanked the Panel for their valuable feedback on the draft *Framework*. Dr. Jenkins said the May 9, 2012 draft was clear and readable. She offered a correction to the Advisory to the effect that the Framework was intended to apply to biogenic emissions only from municipal solid waste and not the fossil fuel portion.

Dr. Khanna described the purpose of the meeting as an opportunity to resolve remaining comments from panelists on the May 9, 2012 draft Advisory. Dr. Khanna listed the subgroups that met via phone to discuss and revise various parts of the report. In describing the "Disposition of Comments" posted at the above URL, Dr. Khanna divided remaining issues into 5 areas: temperature/time horizon, categorical approaches, Intergovernmental Panel on Climate Change (IPCC), alternatives to the *Framework* and system boundaries.

#### *Public Comments*

Jeff Morris of the Sound Resource Management Group said BAFs need to be reported in two parts: as the difference of two components (business and usual) and the replacement/displacement caused by managing waste. Mr. Morris said feedstock specific BAFs would be inaccurate because of the heterogeneity of facilities, e.g. landfill gas efficiencies. Mr. Morris said BAFs need to be feedstock, facility and treatment specific. Dr. Khanna pointed out that a default BAF would not preclude a facility coming forward and demonstrating a lower BAF.

Nancy Clark of the American Forest & Paper Association asked the Panel to designate mill residues (e.g. spent pulping liquor, bark, sawmill residues, pulp and paper residuals) as its own category. Ms. Clark cited very high residue decay rates in the southeast and said it's impractical to account for the many factors affecting residue decay rates.

Joshua Martin of the Environmental Paper Network read a statement authored by Peter Becker asking the Panel to commit to a problem-solving process that seeks to incorporate the best available information.

Reid Miner of the National Council for Air and Stream Improvement urged the Panel to reconsider the use of a reference point baseline. Such a baseline, according to Mr. Miner, was used by the World Resources Institute World Business Council for Sustainable Development. Mr. Miner said the importance of using large spatial scales should be explained in the Executive Summary and the body of the report.

Gregg Morris of the Green Power Institute said the Framework had overemphasized sequestration while underplaying the phenomena of avoided methane associated with the use of some biogenic feedstocks. Mr. Morris said the *Framework* discussed the possibility of negative BAFs but the Panel was not asked any questions about it. Mr. Morris said negative BAFs should be implemented with potential implications for offsets. Dynamic modeling is needed to capture all effects in their own respective time frames. Mr. Morris said forests are never clear cut for bioenergy and noted the benefits of forest treatments in terms of reducing fire, disease and regeneration time.

Dave Tenny of the National Alliance of Forest Owners spoke about the potential impacts of the SAB's recommendations on the ability of forest biomass to play a role in America's energy future

as envisioned by President Obama. Mr. Tenny warned the Panel against recommended systems that are too complex. The Panel's recommendation for using an anticipated future baseline analysis for forest-derived roundwood would be, in Mr. Tenny's opinion, a recommendation that is too complex to implement.

### *Panel Discussion*

Dr. Khanna directed the Panel's attention to the revised "Disposition of Comments" posted at the meeting webpage. With respect to temperature effects, panelists discussed the use of the simplified graph from Cherubini to show the effect that biogenic emissions have on climate over time. Dr. Harmon mentioned a couple of articles he would like to cite in the draft Advisory concerning temporal effects, i.e. Meinshausen et al. (2009) which demonstrates that cumulative emissions up to 2050 are a robust indicator of the probability that 21<sup>st</sup> century warming will overshoot an increase of 2° C and O'Hare et al (2009) which shows that early emissions from market-mediated land use change will have created more global warming by any time in the future than later discharges due to the slow decay of atmospheric CO<sub>2</sub>.

With respect to the Panel's response to the charge questions about the adequacy of the Intergovernmental Panel on Climate Change (IPCC) approach, panelists expressed support for keeping the draft text as written. Dr. Khanna noted that a lot of feedstocks would probably end up having a BAF equal to 0 under the proposed *Framework*.

Panelists discussed their recommendations for default feedstock-specific BAFs and certification. After some discussion, panelists decided to drop their recommendation for EPA to evaluate certification approaches. Panelists noted that certification would pose many of the same problems that plague the calculation of a BAF. Dr. Khanna noted that facilities would have the option of demonstrating a lower BAF. Dr. Hill noted that feedstock specific BAFs should be differentiated according to prior land use and panelists agreed that some mention should be made of this.

On the subject of system boundaries, Dr. Khanna noted that if the goal is to reduce GHGs, then one would need to consider the whole system. Dr. Hill noted that EPA's artificial construct does not reflect the full life cycle emissions associated with the use of bioenergy. Another panelist noted that the BAF could not serve as a measure of full greenhouse gas accounting. Panelists decided not to include Dr. Hill's matrix of factors that are included and excluded in EPA's *Framework* (attached to the Disposition of Comments).

Returning to the subject of the Panel's recommendation for feedstock-specific BAFs, one panelist wondered how disaggregated the categories need to be and whether mill waste should be included with logging residues.

Panelists agreed not to include a recommendation to EPA to consider albedo effects but that some mention should be made of the reduced risk of fire associated with thinning and other forest treatments.

Before adjourning, Dr. Stallworth recapped the follow-up writing and editing assignments for those panelists who volunteered to make further edits to the Advisory (Drs. Rose, Harmon, Skog and West).

Holly Stallworth, Ph.D. /s/  
Designated Federal Officer

Certified as Accurate:

Madhu Khanna, Ph.D. /s/  
Chair, SAB Biogenic Carbon Emissions Panel

**NOTE AND DISCLAIMER:** The minutes of this public meeting reflect diverse ideas and suggestions offered by committee members during the course of deliberations within the meeting. Such ideas, suggestions, and deliberations do not necessarily reflect definitive consensus advice from the panel members. The reader is cautioned to not rely on the minutes to represent final, approved, consensus advice and recommendations offered to the Agency. Such advice and recommendations may be found in the final advisories, commentaries, letters, or reports prepared and transmitted to the EPA Administrator following the public meetings