

Background Document
U.S. Environmental Protection Agency
Workshop on Estimating Benefits of Reducing
Hazardous Air Pollutants (HAPs)

April 30 and May 1, 2009
Washington Marriott, Salon F & H
1221 22nd Street NW, Washington, DC, 20037

Background/Introduction

In June 2000, the U.S. Environmental Protection Agency (EPA) and its Science Advisory Board (SAB) hosted a two-day meeting: "SAB/EPA Workshop on the Benefits of Reductions in Exposure to Hazardous Air Pollutants." The goal was to "convene experts from different disciplines and different backgrounds to discuss ideas for dose response assessment methods for HAPs that are appropriate for use in assessing benefits associated with HAP emission control measures."

The workshop generated thoughtful discussion on approaches to estimating human health benefits from reductions in air toxics exposure, but no consensus was reached on methods that could be implemented in the near term for a broad selection of air toxics. One principle point of discussion was whether the criteria air quality model of estimating benefits was practical for air toxics. Specifically, air toxics benefits analyses are inhibited by the relative lack of data relating exposures to health effects, uncertainties in extrapolating to low doses, and a limited ability to place a value on very small changes in risk.

Eight years later, EPA confronts many of the same technical challenges identified in the 2000 workshop. However, the Agency has also made progress. The recent completion of a draft case study of the monetized benefits of reductions in cancer from exposure to benzene in Houston and the derivation of a chronic non-cancer dose-response curve suitable for use in a benefits analysis both mark significant advancements in our ability to quantify the benefits of reducing emissions of HAPs.

The benzene case study was reviewed by the SAB in May 2008. In their consensus letter to the Administrator, SAB members were impressed with the work that went into the case study and agreed with the methodology of the report, but they were not optimistic that this approach could be repeated on a national scale or extended to many of the other HAPs. They urged EPA to consider alternative approaches, including looking at "more integrated multi-pollutant approaches." As a result of these recommendations, EPA is developing a "roadmap" of options for advancing air toxics benefits assessment and expects to solicit advice from outside experts in the field. Given the challenge ahead and the request for expert assistance, it seems appropriate and timely to organize a follow-up workshop on the future of air toxics benefits assessment.

U.S. EPA Sponsors & Participants

Office of Air and Radiation (OAR)
Office of Policy Analysis and Review (OPAR)
Office of Air Quality Planning and Standards (OAQPS)
Office of Transportation and Air Quality (OTAQ)

Office of Policy, Economics, and Innovation (OPEI)
National Center for Environmental Economics (NCEE)

Office of Research and Development (ORD)
National Center for Environmental Assessment (NCEA)

Purpose and Expected Outcomes of the Workshop

The workshop will convene experts from different disciplines and backgrounds to discuss how best to move forward on air toxics benefits assessment, both in the near term and in the longer term. Prior to the workshop, participants would receive:

- Brief background/summary of the 2000 Workshop
- EPA's draft roadmap, detailing options for near-term benefits assessment approaches and longer-term research needs.
- White papers from outside experts, commissioned by EPA on the following benefits issues:
 - Alternatives to pollutant-by-pollutant dose-response estimation
 - Innovative approaches to air toxics benefits
 - Valuing reductions in high individual mortality risks

During the workshop, participants would discuss the various issues presented both by the draft roadmap and the various presentations. To synthesize the ideas from the workshop, EPA would then expect to:

- Develop a workshop summary documenting: (1) summary of the roadmap and white papers from the 2008 workshop; (2) participants' views on other issues raised by the roadmap and white papers, including areas of consensus; and (3) suggestions and priorities for future research and analysis on data and methods for toxics-related benefits analysis.

Request an SAB advisory. Based on input from the workshop and continued work internally, EPA will refine its roadmap for future air toxics benefits assessments. EPA would then request the SAB to review the roadmap and provide advice on the proposed approach.

Final Agenda

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April 30, 2009	Day 1	
7:15 am – 8:15 am	On-site Registration Opens	
8:15 am – 8:20 am	Welcome and Introductions	EPA/OAR (Jenny Craig)
8:20 am – 8:30 am	OAR Perspectives on Benefits Assessment for Air Toxics	EPA/OAR (Rob Brenner)
8:30 am – 8:45 am	Background on Estimating Air Toxics Benefits	EPA/OAR (Bryan Hubbell)
<i>EPA Moderators for Morning Presentations and Panel Discussions: Rich Cook (OTAQ)/Bob Sonawane (ORD)</i>		
8:45 am – 9:10 am	Proposed Near-Term Approach: Focus on Limited Number of HAPs	EPA/OAR (Ted Palma)
9:10 am – 9:30 am	Perspectives on HAPs Toxicity, Dose-response, and Uncertainty	Discussants: David Eastmond John Vandenberg
9:30 am – 10:30 am	Lessons Learned from Recent Research – Panel Discussion <ul style="list-style-type: none"> • Section 812 Benzene Case Study: An Urban-Scale HAP Benefits Analysis • EPA Lead NAAQS RIA: Human Health Benefits Assessment • Estimating Non-cancer Effects: The Example of Acrolein • The Cost of the Neurobehavioral Effects of Toluene Exposure 	Moderator/Introductions: EPA Henry Roman Tracey Woodruff Vernon Benignus
10:30 am – 10:45 am	Break	
10:45 am – 11:45 am	Lessons Learned from Recent Research – Panel Discussion, continued <ul style="list-style-type: none"> • NAS' Science and Decisions Report – Implications for Toxics Benefits • The Impact of TRI on Population Scale & Composition • Evaluating Efficiency-Equality Tradeoffs in Health Benefits Analysis: Application to Air Toxics 	Lauren Zeise Randall Walsh Spencer Banzhaf Jonathan Levy
11:45 am – 1:00 pm	Break for lunch "on your own"	
<i>EPA Moderators for White Paper Presentations and Panel Discussions: Daniel Axelrad (OPEI)/Sarah Mazur (ORD)</i>		
1:00 pm – 1:20 pm	Presentation of White Papers: Valuing Large Reductions in Individual Mortality Risks	Kip Viscusi
1:20 pm – 2:00 pm	Discussant Views Invited Participants Discussion	Discussants: Spencer Banzhaf Adam Finkel Michael Hanemann

2:00 pm – 2:20 pm	Presentation of White Papers: WTP for Reducing Hazardous Air Pollutants	Alan Krupnick Maureen Cropper
2:20 pm – 3:00 pm	Discussant Views Invited Participants Discussion	Discussants: Kate Adams Ted Gayer Gary Ginsberg
3:00 pm – 3:20 pm	Break	
3:20 pm – 3:40 pm	Presentation of White Papers: Alternatives to Pollutant-by-Pollutant Dose-Response Estimation	Dale Hattis
3:40 pm – 4:15 pm	Discussant Views Invited Participants Discussion	Discussants: Bernard Goldstein Deborah Rice
4:15 pm – 4:30 pm	Observer Comments	
4:40 pm – 5:00 pm	Summary of Major Points from the Day	EPA/OAR (Jenny Craig)
5:00 pm	Adjourn for the Day	
May 1, 2009	Day 2	
8:15 am – 8:30 am	Welcome/Brief Summary of Previous Day	EPA/ORD (Maureen Gwinn)
<i>EPA Moderators for Roadmap Presentations and Panel Discussions: Bob Fegley (ORD)/Gloria Helfand (OAR)</i>		
8:30 am – 9:15 am	Proposed Near-Term Options for Benefits Assessment	EPA/OAR (Dave Guinnup)
9:15 am – 10:15 am	Strengths/Weaknesses of Roadmap - Invited Participants' Discussion	Discussants: Stuart Batterman Maureen Cropper Lorenz Rhomberg
10:15 am – 10:30 am	Break	
10:30 am – 11:00 am	Considerations for Longer-Term Approaches to Air Toxics Benefits Assessment	EPA/OTAQ (Kathryn Sargeant)
11:00 am – 11:45 am	Other Perspectives on Longer-Term Approaches to Air Toxics Benefits Assessment - Invited Participants' Discussion	Discussants: Trudy Cameron Cliff Weisel Ron White
11:45 am – 12:00 pm	Observer Comments	
12:00 am – 1:00 pm	Wrap-Up and Next Steps	EPA/OAR (Jenny Craig)
1:00 pm	Adjourn	