



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**WASHINGTON D.C. 20460**

OFFICE OF THE ADMINISTRATOR  
SCIENCE ADVISORY BOARD

March 13, 2015

**MEMORANDIUM**

**SUBJECT:** Formation of the Economy-Wide Modeling Panel of the Science Advisory Board

**FROM:** Holly Stallworth, Ph. D. /s/  
Designated Federal Officer (DFO)  
EPA Science Advisory Board Staff Office (1400R)

**THRU:** Wanda Bright /s/  
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**TO:** Christopher S. Zarba  
Director and Deputy Ethics Official  
EPA Science Advisory Board Staff Office (1400R)

The National Center for Environmental Economics (NCEE) in the EPA's Office of Policy has asked the Science Advisory Board (SAB) to form a panel to examine the technical merits and challenges of using economy-wide models to evaluate the social costs, benefits and economic impacts associated with the EPA's air regulations.

The EPA has requested that the SAB provide advice on EPA's modeling and ability to measure full regulatory impacts and to make recommendations on the use of economy-wide modeling frameworks to characterize the social costs, benefits, and economic impacts of air regulations with the aim of improving benefit-cost and economic impact analyses used to inform decision-making at the agency.

This memorandum addresses the set of determinations that were used in forming the SAB Economy-Wide Modeling Panel including:

1. The type of review body that will be used to conduct the review, and the nature of the review;
2. The types of expertise needed to address the general charge;
3. Financial conflict of interest considerations, including identification of parties who are potentially interested in or may be affected by the topic to be reviewed;

4. How regulations concerning “appearance of a loss of impartiality” pursuant to 5 C.F.R. § 2635.502 apply to members of the Panel;
5. Other considerations that might affect the objectivity of members of the Panel; and
6. How individuals were selected for the Panel.

#### **DETERMINATIONS:**

1. The type of review body that will be used to conduct the review, and the nature of this review.

The SAB Economy-Wide Modeling Panel consists of subject matter experts selected to provide advice through the chartered SAB on the use of economy-wide models for EPA’s economic analyses. The chair of the Panel will be a member of the chartered SAB and the Panel’s report(s) will be reviewed by the chartered SAB before they are transmitted to the EPA Administrator.

2. The types of expertise needed to address the general charge.

On April 30, 2014, the EPA SAB Staff Office announced in a Federal Register Notice (79 FR 24425-24427) that it was soliciting expertise in the following areas: cost-benefit analysis; computable general equilibrium (CGE) modeling with experience in representing environmental and/or energy policy; the use of detailed sector models and linking CGE models to detailed sector models; non-CGE (macro) models for capturing general equilibrium effects of environmental policy; dynamic stochastic modeling in CGE and/or macro model contexts; representation of health improvements and other types of benefits in a CGE or non-CGE framework (e.g., use of state-dependent utility functions); transition dynamics in a general equilibrium framework (e.g., in labor or capital markets; spatial sorting models); interface of macro- and micro-economic modeling; quantifying and monetizing spatially differentiated mortality/morbidity/non-health welfare, non-use effects of air quality; and the representation of non-use or environmental preferences in the utility function. The SAB Staff Office also sought labor economists with a macroeconomic or general equilibrium perspective who have expertise in the short-and long-run implications of regulatory decisions for household labor market decisions (e.g., labor-leisure trade-offs); and expertise in the labor market implications of productivity improvements due to better health. The SAB Staff Office also sought expertise on risk and uncertainty to formally characterize uncertainty in CGE and non-CGE models including representation of the effects of uncertainty on behavior of economic agents.

3. Financial conflict of interest consideration, including identification of parties who are potentially interested in or may be affected by the topic reviewed.

- (a) Identification of parties (or class of parties) whose financial interests may be affected by the matter to be reviewed: Since economy-wide modeling is, by definition, an activity that seeks to measure economy-wide effects, *this Panel’s deliberations will not be focused on the interests of specific parties or a discrete and identifiable class of parties.*

- (b) Conflict of interest considerations: For Financial Conflict of Interest (COI) issues, the basic 18 U.S. Code § 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.
- (i) Does the general charge to the SAB Economy-Wide Modeling 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)]. *Economy-wide modeling seeks to measure effects on the entire economy rather than on a particular industry, sector or a discreet set of parties. As such, the charge to the SAB Economy-Wide Modeling Panel constitutes simply a matter, rather than a particular matter.*
- (ii) Will there be personal and substantial participation on the part of the panel 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)] *The charge to the Economy Wide Modeling Panel constitutes a matter, rather than a particular matter. When a charge is not a particular matter, then 18 U.S.C. 208 does not apply and a COI cannot arise.*
- (iii) Will there be a direct and predictable effect on panel members’ financial interests? 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 on the financial interest..... 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)(ii)]. *The charge to the Economy Wide Modeling Panel constitutes a matter, rather than a particular matter. When a charge is not a particular matter, then 18 U.S.C. 208 does not apply and a COI cannot arise.*

4. How regulations concerning “appearance of a loss of impartiality” pursuant to 5 C.F.R. § 2635.502 apply to members of the Panel.

The Code of Federal Regulations at 5 C.F.R. 2635(a)(2) describes general requirements for considering an appearance of a loss of impartiality for employees of the Executive Branch (including Special Government Employees) participating in a *particular matter involving specific parties*. *The SAB Staff Office has determined that the matter to be considered by the SAB Economy-Wide Modeling Panel is not a particular matter involving specific parties; i.e., this matter does not involve “any judicial or other proceeding, application, request for a ruling or other determination, contract, claim, controversy, investigation, charge, accusation, arrest or other particular matter involving a specific party or parties in which the United States is a party or has a direct and substantial interest” [5 C.F.R. 2637.102(a)(7)].*

5. Other considerations that might affect the objectivity of members of the Panel.

Members of SAB panels must be scientific and technical experts who are objective and open-minded, able to engage in deliberative discussions with scientists who may have disparate perspectives. To evaluate candidates, the SAB Staff Office considers information provided by the public in response to the invitation for public comment on the candidates, information provided by candidates (including on the EPA Form 3110-48), and information independently gathered by SAB staff.

As part of a determination that panel members are objective and open-minded on the topic of the review, and consistent with the agency's Peer Review Policy, the SAB Staff Office considers previous involvement in the matter before the Panel. This evaluation includes responses provided by candidates to the following supplemental questions contained in EPA Form 3110-48:

- (a) 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?
- (b) Have you had any current or 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.
- (c) Have you served on previous advisory panels, committees or subcommittees that have addressed the topic under consideration? If so, please identify those activities.
- (d) 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.

*The SAB Staff Office has determined that there is no reason to believe that the members selected for the Economy-Wide Modeling Panel would not be objective and open-minded and able to engage in deliberative discussions with scientists who may have disparate points of view on the matter before the Panel.*

6. How individuals were selected for the Panel.

On July 7, 2014, the SAB Staff Office posted a list of 51 candidates for the Economy-Wide Modeling Panel identified based on their expertise and willingness to be considered for the panel. This list was accompanied by a notice inviting public comments on the list of candidates, to be submitted by August 7, 2014. The SAB Staff Office received comments from the public on this list of candidates from the following persons:

- William L. Kovacs, U.S. Chamber of Commerce
- Glenn C. Blomquist, University of Kentucky

The SAB Staff Office Director makes the final decision about who serves on the Panel based on all of the relevant information, including a review of each candidate's confidential financial disclosure form (EPA Form 3110-48), the responses to the questions above, public comments, and information independently gathered by SAB Staff.

For the SAB Staff Office, a balanced committee or panel is characterized by candidates who possess the necessary domains of scientific knowledge, relevant 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 panel 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 loss of impartiality pursuant to 5 C.F.R. § 2635.502; (e) skills working on advisory committees and panels (including objectivity and open-mindedness); and (f) for the committee as a whole, diversity of scientific expertise and viewpoints.

On the basis of the above-specified criteria, the members of the SAB Economy-Wide Modeling Panel are as follows:

Economy-Wide Modeling Panel:

- Dr. Peter Wilcoxon, Syracuse University (CHAIR)
- Dr. Edward Balistreri, Colorado School of Mines
- Dr. Richard Belzer, Regulatory Checkbook
- Dr. Linda Bui, Brandeis University
- Dr. Jared Carbone, Colorado School of Mines
- Dr. Francisco de la Chesnaye, Electric Power Research Institute
- Dr. Karen Fisher-Vanden, Pennsylvania State University
- Dr. Alan Fox, U.S. International Trade Commission
- Dr. Don Fullerton, University of Illinois
- Dr. Thomas Hertel, Pursue University
- Dr. Edward Leamer, University of California, Los Angeles
- Dr. Gilbert Metcalf, Tufts University
- Dr. David Montgomery, NERA Consulting
- Dr. Nicholas Muller, Middlebury College
- Dr. Sergey Paltsev, Massachusetts Institute of Technology
- Dr. Richard L. Revesz, New York University
- Dr. Lorenz Rhomberg, Gradient, Inc.
- Dr. Adam Rose, University of Southern California
- Dr. Robert Shimer, University of Chicago
- Dr. V. Kerry Smith, Arizona State University (Emeritus)
- Dr. Ian Sue Wing, Boston University
- Dr. Mort D. Webster, Pennsylvania State University
- Dr. Robert C. Williams, University of Maryland

Concurred,

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Christopher S. Zarba  
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March 13, 2015

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Date