

CHAMBER OF COMMERCE
OF THE
UNITED STATES OF AMERICA

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ENVIRONMENT, TECHNOLOGY &
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1615 H STREET, NW
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March 10, 2016

VIA ELECTRONIC MAIL

Dr. Holly Stallworth
Science Advisory Board Staff Office
Environmental Protection Agency
[stallworth.holly@epa.gov]

RE: Endorsement of American Chemistry Council Public Comments (March 7, 2016) Regarding the Science Advisory Board Economy-Wide Modeling Panel

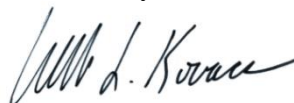
Dear Dr. Stallworth:

The U.S. Chamber of Commerce (“the Chamber”), the world’s largest business federation representing the interests of more than 3 million businesses of all sizes, sectors, and regions, as well as state and local chambers and industry associations, and dedicated to promoting, protecting, and defending America’s free enterprise system, offers the following comments regarding the Science Advisory Board (SAB) Economy-Wide Modeling Panel’s March 10, 2016, teleconference meeting.

The Chamber takes the position that whole economy modeling should be the standard modeling tool for Clean Air Act (CAA) regulations in order to more fully and accurately portray the effects of these far-reaching regulatory actions. The Chamber supports the attached comments submitted by the American Chemistry Council (ACC) on March 7, 2016, and echoes the concerns raised by the ACC with regard to the panel’s draft report on economy-wide modeling.

Thank you for the opportunity to participate in this proceeding. If you have any follow up questions, please contact me at (202) 463-5533 or by e-mail: wkovacs@uschamber.com.

Sincerely,



William L. Kovacs



March 7, 2016

Science Advisory Board
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1200 Pennsylvania Avenue, NW
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Via email to Stallworth.Holly@epa.gov

RE: Science Advisory Board Economy-Wide Modeling Panel

The American Chemistry Council (ACC) is very pleased to provide comments to the Science Advisory Board (SAB) Economy-Wide Modeling Panel. These written comments supplement the oral comments we will present to the Panel on March 10, 2016.

ACC has carefully reviewed the Panel's draft report on economy-wide modeling. The draft report makes clear that the Panel has spent substantial time and attention considering the use of economy-wide modeling in air regulations. The business of chemistry – which ACC represents – is an essential element of the US manufacturing sector supply chain. Regulations imposed on our industry can and do have significant impacts on our upstream suppliers and our downstream customers, and regulatory impacts on our industry can have ripple effects throughout the entire economy. It is critical that such impacts be identified and considered by regulators.

At the Panel's October 22, 2015 meeting, several questions on information sharing were posed to Bryan Zumwalt, ACC's representative. ACC provides the following brief responses to those questions:

- In some (but not all) cases, estimates of the economic impact that regulations may have on a detailed industry segment could require the use of proprietary business information. This is particularly the case when impacts of a regulation affect a narrowly defined industry (perhaps a 6-digit NAICS industry) in a small geographic area (i.e., county).
- At smaller industry aggregations and geographic areas, disclosure thresholds can become compromised. ACC acknowledges this potential trade off and recommends that EPA provide as much detail as possible without triggering non-disclosure requirements. This can be accomplished by broadening the industry aggregation and/or geographic area under consideration. Otherwise, EPA should be able to readily acquire such data via the Department of Labor, Census Bureau, and other government agencies or specific industry organizations in enough detail to populate models.

- In instances where additional information is required for more complete analysis of the chemical industry, ACC would be willing to assist EPA in identifying appropriate data sources and/or providing data directly to EPA, to the extent that doing so does not disclose confidential business information or violate copyrights of third-parties.

ACC has reviewed the Panel's draft report and makes the following points for your consideration.

- 1) It is imperative that the choice of analytical technique be tied to the regulatory objective. To the extent analysis is needed to inform a risk management decision, the risk management decision must be well understood to guide the choice of analytical technique. The Panel noted that alternatives to Computable General Equilibrium (CGE) modeling (linked engineering and Partial Equilibrium (PE) models) to capture cost effects may be preferred. For some analyses, older engineering and PE models may be preferable and more applicable. Draft answers to the charge questions provide some detail as to when CGE modeling may be most appropriate given the regulatory task. We recommend that the Panel list examples of typical regulatory decisions in EPA's Air Office (e.g., changes to a NAAQS standard, risk and technology reviews, etc.) that would or would not particularly benefit from the use of CGE modeling.
- 2) Regardless of which analytical technique is taken, the model results should be transparent and reproducible. The Panel should emphasize the need for transparency in the characterization of CGE models such that someone with minimal expertise in the field could understand the major elements of EPA's modeling approach. This is essential to promote transparency both in the Agency's regulatory analysis and public understanding of the Agency's approach. In particular, EPA should always provide qualitative and quantitative information about the most important model components, such as major cross-price effects and the identification of significant distortions in other markets. It should always be clear whether inputs are simulated, extrapolated, or based on actual data. It is also critical that all assumptions and uncertainties are clearly discussed so that stakeholders can understand the implications of EPA's choices. In addition, because these models are so complex, there is a need for sensitivity analysis as small changes in key parameters or structural assumptions can result in large differences in costs. In addition, there should be a requirement that modelers regularly update model parameters and inputs (i.e., prices, elasticities, etc.) as these naturally change over time.
- 3) Consistent with the Obama Administration's stated priorities, major regulations should be designed with retrospective review in mind, especially to determine if the regulation has achieved its objective. If a CGE model was used to support a major regulation, EPA should ensure that any subsequent retrospective review includes information that can be used to improve CGE modeling in the future. This does not necessarily mean that the entire model needs to be validated again (which is impossible as the Panel has noted), but it could necessitate verification that key model parameters were estimated relatively well. The Panel

should provide more specific guidance on how retrospective review could be used to improve CGE modeling.

- 4) There is a large difference between benefits from CGE modeling of air regulations and those using Value of Statistical Life (VSL) calculations. In the draft response to benefits Question 2 (B2), the Panel wrote, “A new breed of CGE models that can incorporate VSL information would be required to produce comparable benefit estimates from using the two methods.” We urge the panel to provide a specific elaboration on this statement, and to make a recommendation on how the Agency should address this issue in future rulemaking.
- 5) Significant effort could go into improving and expanding CGE models to generate a wider array of benefits and impacts than have been generated to date. ACC recommends that the Panel impose upon itself a fictional “budget constraint” when making recommendations as to the utility of improving CGE models. It is important that the Panel, and EPA, keep in mind the value this information may or may not have. A recommendation by the Panel based on the concept of “value of information” seems appropriate—the degree of analytical rigor should be proportional to the magnitude of the regulatory decision at hand.
- 6) Significant research is needed to improve CGE modeling. The Panel identified many areas in need of further research regarding the modeling of social costs as well as benefits.

Specific elements of the draft report could be further refined and, in some cases, be the appropriate subject of additional research. Related to social costs, these research areas include:

- Appropriate treatment of “transition costs”, including capital and labor market rigidities and stranded assets (p. 10-11)
- Inclusion of real-world rigidities with respect to compliance methods (p. 18)
- Consistent with the mandate in Executive Order 12866, making sure that regulatory action takes into account the cumulative costs of regulation.¹
- Inclusion of international competitiveness impacts from changes in relative prices and shifts in capital allocation² (p. 12, 17)
- Appropriate consideration of uncertainty (p. 14)
- Appropriate characterization of market structure (p. 17)
- Better methods to include higher resolution modeling (i.e., detailed level of industry, occupational, and regional details) (p. 16-17, 18, 27)
- Incorporating dynamic changes in matrices as current models are inherently static in nature (p. 8, 11,16)

¹ Executive Order 12866, at paragraph 11 (September 30, 1993). Available at https://www.whitehouse.gov/sites/default/files/omb/inforeg/eo12866/eo12866_10041993.pdf

² In some cases, a Heckscher-Ohlin-Samuelson trade scheme can be realistic as some regulated sector’s domestic output can fall to zero (e.g., TVs) and be entirely supplanted by imports. In addition, assuming perfect competition may be unrealistic as many regulated industrial sectors are oligopolies.

- Better capturing firms' and household expectations and anticipatory behavior (p. 9)
- Better inclusion of public finance implications (p. 17)

Related to social benefits, these research areas include:

- Appropriate characterization of shadow prices (p.35, 37)
 - Appropriate valuation of leisure time (p. 35, 42-45)
 - Incorporating hedonic valuation for benefits (40-41, 46-47)
 - Better characterization of emissions-impact relationships and related costs (p. 38)
 - Including consistent links between the tradeoff measures recovered for morbidity with the tradeoff measures for risk changes (p. 48)
 - Better methods to estimate demand for health care and health care expenditures in a world where consumers do not have perfect information and other rigidities exist. (p.51-52)
 - Better understanding of consumer preferences and how they change over time and in response to environmental quality changes and myriad other factors³. (p. 53)
 - Better understanding of productivity gains attributable to changes in environmental quality.⁴ (p. 55)
 - Better understanding of how to incorporate benefits across disparate geographies and local economies (i.e., labor markets) as well as distributional effects (p. 60-61)
- 7) ACC recognizes that CGE modeling is much further developed for social costs than it is for social benefits. Environmental benefits have typically not been included in equivalent variation (EV) measures. As the draft report notes, "CGE modelers are unlikely to be successful at producing precisely definitive estimates of policy benefits." (p. 36).

Throughout the set of draft responses to the charge questions on benefits, it appears that the current portfolio of tools and methods are simply inadequate to appropriately model monetary benefits from changes in environmental quality. There are a number of issues dealing with data availability, a paucity of literature on the use of CGE models, and the lack of off-the-shelf CGE models for analysis of benefits. It appears reasonable to conclude that CGE models may not be appropriate for modeling benefits. In addition, given the tremendous complexity and assumptions used to monetize benefits, sensitivity analysis is essential to understanding benefits from changes in environmental quality. The Panel may want to consider a series of workshops to further understand and resolve these challenges before finalizing a prescribed approach to economy-wide modeling.

³ Several authors note, "it would be helpful for EPA to assemble the available empirical evidence for preference changes reliably attributable to improvements in health status from air pollution control before proceeding further." (p. 53)

⁴ Several authors note, "the current state of the literature is such that there is not enough information about either the direct or indirect benefits that may exist" (p. 55) and "Given the shortcomings in current understanding of these issues, we do not advocate for the inclusion of productivity gains of the workforce in any CGE or partial equilibrium modeling, or in any cost-benefit analysis, at this time." (p. 55).

Appropriately accounting for societal costs may well provide similar modeling challenges. However, providing guidance to EPA on how to account for or develop a strategy to clearly articulate negative societal/social impacts would generate significant utility. Guidance to EPA for providing a dual track of incorporating impacts such as those resulting from unemployment (i.e. increased rates of alcoholism and drug abuse, crime, child neglect and mortality, etc.) would help ensure a persistent gap in EPA's regulatory analysis receives consideration.⁵ Similarly, accounting for societal benefits from higher rates of employment (i.e., tax base for schools, hospitals, roads, mental health, as well decreased mortality rates and improvements in child development, etc.) would further inform the regulatory impact analyses.

ACC would be happy to respond to additional questions from the Panel or provide additional relevant information. If there are questions about ACC's comments, please contact me at 202-249-6417, or at Nancy_Beck@americanchemistry.com.

Sincerely,
Nancy Beck, Ph.D., DABT
Senior Director
Regulatory & Technical Affairs

⁵ For example, EPA would gain a particular benefit from analyzing the social impacts happening throughout Appalachia as a result of recent air regulations. The human health impacts from the loss of jobs are reported to have real repercussions that have been discussed in the public forum, yet have never been accounted for in the Agency's impact analysis when developing the rules. *See, e.g.*, Coal Miners Struggle to Survive in an Industry Battered by Layoffs and Bankruptcy, New York Times July 17, 2015, available at http://www.nytimes.com/2015/07/18/business/energy-environment/coal-miners-struggle-to-survive-in-an-industry-battered-by-layoffs-and-bankruptcy.html?_r=1. *See also* Phoenix House, Fighting Addiction in Appalachia, available at <http://www.phoenixhouse.org/news-and-views/our-perspectives/addiction-in-appalachia/>.