

Crosswalk between Second Half of Charge for Science Advisory Panel on Economy-Wide Modeling of the Benefits and Costs of Environmental Regulation and EPA White Papers/Memos

Section 3: Technical merits and challenges in the use economy-wide models to inform economic impacts analysis for an air regulation

Charge Question	White Paper/Memo	Relevant Sections
1. Relative to other tools EPA has at its disposal, to what extent are CGE models technically appropriate for shedding light on the economic impacts of an air regulation, aside from its welfare or efficiency implications? In particular, please consider [see charge for specific list].	Economy-Wide Modeling: Evaluating the Economic Impacts of Air Regulations	Entire paper
2. Could a CGE model shed light on the international competitiveness effects of air regulations? If so, what types of CGE models are needed to evaluate its effects? Does accounting for international competitiveness or emission leakage effects in a CGE model necessitate compromises in other modeling dimensions that may be important when evaluating the economic effects of air regulations? Are there other promising general equilibrium models or methods to assess international competitiveness effects of regulations?	Economy-Wide Modeling: Use of CGE Models to Evaluate the Competitiveness Impacts of Air Regulations	Entire memo
3. [With particular reference to outside organization studies,] what criteria should be used to evaluate the scientific defensibility of CGE models to evaluate economic impacts? What additional insights can economy-wide modeling provide of the overall impacts associated with a regulation, and in particular labor market impacts, compared to a partial equilibrium analysis? What are the advantages and challenges or drawbacks of using a CGE or other economy-wide modeling approach compared to a more detailed partial equilibrium approach to evaluate these types of economic impacts?	Economy-Wide Modeling: Evaluating the Economic Impacts of Air Regulations	Sections 3-5
4. What types of labor impacts can be credibly identified and assessed by a CGE model in the presence of full employment assumptions? How should these effects be interpreted?	Economy-Wide Modeling: Evaluating the Economic Impacts of Air Regulations	Section 4 and 5.1
5. Are there ways to credibly loosen the full employment assumption to evaluate policy actions during recessions? Are there ways to credibly relax the instantaneous adjustment assumptions in a CGE model in order to examine transition costs in capital or labor markets such that it provides valuable information compared to partial equilibrium analysis or other modeling approaches?	Economy-Wide Modeling: Evaluating the Economic Impacts of Air Regulations	Sections 5.1 and 5.2
6. Are there other economy-wide modeling approaches that EPA could consider in conjunction with CGE models to evaluate the short run implications of an air regulation? What are the advantages or disadvantages of these approaches?	Economy-Wide Modeling: Evaluating the Economic Impacts of Air Regulations	Sections 4, 5.1.5, and 5.3.5

Section 4: Considerations for generating directly comparable estimates of social costs, benefits, and economic impacts using economy-wide modeling

Charge Question	White Paper/Memo
<p>1. Compared to other modeling approaches at EPA’s disposal, what are the technical merits and challenges of using economy-wide models to evaluate the social costs, benefits, and/or economic impacts of relevant air regulations? What is the potential value added, relative to partial equilibrium approaches, of using economy-wide models in a regulatory setting? What criteria could be used to choose between different economy-wide models/frameworks? What features are particularly desirable from a technical or scientific standpoint? [See charge for complete set of sub-questions.]</p>	<p>Broad question that draws on all materials supplied to the SAB</p>
<p>2. What are the potential drawbacks of using economy-wide models to present the welfare implications of compliance costs when there is not a corresponding capability to incorporate benefits? [See charge for complete list of sub-questions.]</p>	<p>Broad question that draws on materials in social cost and benefits white papers</p>
<p>3. If the SAB advises that the use of economy-wide models may be technically appropriate in certain circumstances, are there particularly useful ways in which results from a CGE model could be presented to the public and policy makers? What information would be most useful to include when describing a CGE-based analysis of an air regulation to make it transparent to an outside reader in a way that allows for active engagement of the public in the rulemaking process?</p>	<p>Broad question that draws on all materials supplied to the SAB</p>
<p>4. Are certain types of uncertainty more of a concern when evaluating social costs, benefits, or economic impacts in an economy-wide framework? Are challenges or limitations related to these uncertainties more of a concern than for partial equilibrium approaches to estimation? [See charge for complete list of sub-questions.]</p>	<p>Economy-Wide Modeling: Uncertainty, Verification, and Validation</p>
<p>5. Bearing in mind current and future resource limitations, what should EPA prioritize as its longer term research goals with respect to improving the capabilities of economy-wide models to evaluate social costs, benefits, and/or economic impacts?</p>	<p>Broad question that draws on all materials supplied to the SAB</p>