



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

OFFICE OF THE ADMINISTRATOR
SCIENCE ADVISORY BOARD

July 7, 2004

MEMORANDUM

SUBJECT: Illegal Competitive Advantage (ICA) Economic Benefit (EB) Advisory Panel of the U.S. EPA Science Advisory Board – Panel Formation Determination Memorandum

FROM: K. Jack Kooyoomjian, Ph.D. [Signed 7/7/04]
Designated Federal Officer (DFO)
Science Advisory Board Staff Office (1400F)

TO: Vanessa Vu, Ph.D.
Director
Science Advisory Board Staff Office (1400F)

THROUGH: Daniel Fort [Signed 7/7/04]
Ethics and FACA Policy Officer
Science Advisory Board Staff Office (1400F)

This memorandum addresses the set of determinations that are necessary to establish an SAB Advisory Panel to conduct an advisory regarding an Agency White Paper for identifying and calculating economic benefit that is an illegal competitive advantage that goes beyond avoided or delayed costs. In addition, it provides background information on this Panel's advisory activity and then addresses the following:

- (1) The charge to the ICA EB Advisory Panel;
- (2) The type of and name of Advisory Panel that will be used to conduct the advisory, identification of the Panel Chair; and types of expertise needed to address the charge;
- (3) Identification of parties who are potentially interested in or affected by the topic to be reviewed;
- (4) Whether the charge involves a "particular matter" and how conflict-of-interest regulations under 18 U.S.C. § 208 apply to members of the Advisory Panel;
- (5) How regulations concerning "appearance of lack of impartiality" under 5 C.F.R. §

- 2635.502 apply to members of the Advisory Panel;
- (6) How individuals were placed on the “short list” as candidates for the Advisory Panel; and solicitation of public comments on the Advisory Panel “short list” candidates; and
 - (7) How individuals were selected for the Advisory Panel.

A. Background

The EPA’s Office Enforcement and Compliance Assurance (OECA) has requested that the Science Advisory Board (SAB) conduct an advisory on EPA’s White Paper entitled “*Identifying and Calculating Economic Benefit that Goes Beyond Avoided and/or Delayed Costs.*” A “Widecast” Federal Register notice requesting nominations for the ICA EB Advisory Panel was published on August 6, 2003 (68 FR 46604). The OECA staff White Paper describes the cornerstone of EPA’s OECA civil penalty program, namely recapture of the economic benefit that a violator may have gained from illegal activity, whenever EPA can effectively measure that gain. The economic benefit component focuses on the violator’s economic gain from noncompliance, which may occur in three basic ways. It can: 1) delay necessary pollution control expenditures; 2) avoid necessary pollution control expenditures; or 3) gain an illegal competitive advantage (ICA) during the period of noncompliance. The White Paper and associated background materials can be found at the following URL (Uniform Resource Locator): <http://www.indecon.com>.

The SAB has been asked to offer advice to the Agency’s OECA regarding methodology issues in capturing economic benefits that go beyond the benefits application, that is to identify the economic benefit that goes beyond avoided and/or delayed costs. Specifically, the methodology issues of interest to the OECA have been expressed in the charge questions described below.

B. Charge to the SAB

The charge to the Advisory Panel has been developed based on discussions between the OECA and SAB Staff Office. Specific questions include the following:

- 1) Are there any categories of cases that would be useful for the Agency to consider in calculating the ICA economic benefit, other than those that are identified in the White Paper? Should any of these be combined?
- 2) How can the Agency more accurately characterize the types of cases that are described in the White Paper? Have any of the examples and counter-examples in the White Paper been misidentified with regard to whether they are amenable to the BEN model’s simplifying paradigm?
- 3) Are there any suggestions for modifying the described analytical approach to

calculate the economic benefits and;

- 4) The Agency's proposed approach strives to avoid any double-counting of the benefit by laying out all relevant cash flows stemming from the violations, as opposed to simply adding on the additional calculations to a BEN run. What additional measures (if any) should the Agency put in place to avoid such potential double-counting?

C. Determinations

(1) The type and name of ICA EB Advisory Panel that will be used to conduct the review, identification of the Panel Chair; and types of expertise needed to address the charge: The Panel of the Science Advisory Board, entitled, the "Illegal Competitive Advantage (ICA) Economic Benefit (EB) Advisory Panel," will conduct the advisory. The ICA EB Advisory Panel will be chaired by Dr. A. Myrick Freeman, who is a Member of the Chartered SAB. In the August 6, 2003 *Federal Register* notice cited above, EPA solicited nominations for a broad base of expertise to advise the Agency concerning the White Paper. Specifically, the Agency requested that the ICA EB Advisory Panel nominees should have expertise in one or more of the following areas: (a) Financial economics, which includes corporate finance, (b) Economic benefit recapture issues, (c) Business/commercial damages, which includes anti-trust law, torts and economics, (d) Business economics and competitive strategy, which includes aspects of statistical decision-making and game theory, as well as competitive effects of vertical integration, and quantitative economics, and (e) Industrial organization, in the context of environmental regulations and their enforcement, as well as environmental and regulatory economics, environmental ethics and sustainability in this context.

(2) Identification of parties who potentially are affected by and interested in the topic to be reviewed: Parties who potentially are affected by and interested in the topic are those individuals who, or organizations which, are subject to and follow the policies or decisions relating to EPA's enforcement and compliance program. Such parties would logically include the regulated community, public interest groups, those generally interested parties affected by or interested in the implications of methodology changes in the calculations of benefits attributed to purposeful non-compliance with Agency rules, and in some form any parties who might contemplate to conspire to take an illegal competitive advantage, and others. Anyone who has served as an expert witness concerning illegal competitive advantage, or anyone with a pending case before EPA on this particular matter could be construed to be a potentially affected party. Potentially affected or generally interested parties are those who are impacted by policies or decisions relating to the EPA's regulatory enforcement policy, including the members of the public.

(3) Whether the charge involves a “particular matter”¹ and how conflict-of-interest regulations under 18 U.S.C. § 208 apply to members of the panel: In consultation with the Alternate Agency Ethics Official, the SAB Ethics and FACA Policy Officer determined that the activity of the ICA EB Advisory Panel in addressing the charge does qualify as a particular matter, because the advice that will be provided will utilize specific situations and enforcement case studies and will likely discuss specific matters in the panel’s deliberative process. This advice will be considered by EPA in the development of a methodology for identifying and calculating economic benefit that goes beyond avoided and/or delayed costs. While the ICA EB Advisory Panel review does not focus on the interests of specific people (*i.e.*, it is not a “specific party matter”), it does arguably focus on the interest of discrete and identifiable classes of people, that is, those who may ultimately receive penalties or derive benefits from the implementation of this strategy.

The SAB Staff Office also must determine whether the following provision of 18 U.S.C. § 208 applies: “An employee is prohibiting from participating personally and substantially in an official capacity in any particular matter in which, to his knowledge, he 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.”

As a result of a review of the EPA Form 3110-48 provided by each prospective ICA EB Advisory Panel member, the Ethics and FACA Policy Officer, in consultation with the Alternate Agency Ethics Official, has determined that there is no financial conflict-of-interest presented for the ICA EB Advisory Panelists.

(4) How regulations concerning “appearance of lack of impartiality” under 5 C.F.R. § 2635.502 apply to members of the ICA EB Advisory Panel: The Code of Federal Regulations states that: “Where an employee knows that a particular matter involving specific parties is likely to have a direct and predictable effect on the financial interest of a member of his household, or knows that a person with whom he has a covered relationship is or represents a party to such matter, and where the person determines that the circumstances would cause a reasonable person with knowledge of the relevant facts to question his impartiality in the matter, the employee should not participate in the matter unless he has informed the agency designee of the appearance problem and received authorization from the agency designee.” Further, 5 C.F.R. § 2635.502(a) (2) states that, “An employee who is concerned that circumstances other than those specifically described in this section would raise a question regarding his impartiality should use the process described in this section to determine whether he should or should not participate in a particular matter.”

¹The term “particular matter” refers to matters that involve deliberation, decision, or action that is focused on the interests of specific people or a discrete and identifiable class of people. The term may include matters that do not involve formal parties and may extend to legislation or policy-making that is narrowly focused on the interests of a discrete and identifiable class of people. But the term does not cover 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).

Accordingly, to ascertain whether a candidate may have an appearance of a lack of impartiality, the following five (5) questions were posed to all candidates for the ICA EB Advisory Panel:

- (a) Do you know of any reason that you might be unable to provide impartial advice on the matter to come before the panel or any reason that your impartiality in the matter might be questioned?
- (b) Have you had any previous involvement with the review document(s) under consideration, including authorship, collaboration with the authors, or previous peer review functions? If so, please identify that involvement.
- (c) Have you served on previous advisory panels or committees 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? If so, please identify those statements.
- (e) Have you made any public statements 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, in consultation with the Alternate Agency Ethics Official, have determined that there is no appearance of a lack of impartiality on the part of the ICA EB Advisory Panel.

(5) How individuals were placed on the “short list” as candidates for the ICA EB Advisory Panel; and solicitation of public comments on ICA EB Advisory Panel “short list” candidates: Fifty-five candidates were identified from the public and EPA to be of interest to serve on the ICA EB Advisory Panel. Eleven (11) individuals were nominated for membership on the ICA EB Advisory Panel on the basis of their relevant expertise, willingness to serve and availability. On March 24, 2004, the SAB Staff Office posted a notice on the SAB Web site inviting public comments on the “short list” of 11 prospective candidates for the ICA EB Advisory Panel (Attachment 1). The SAB Staff Office received two comments on the short list candidates (Attachment 2).

(6) How individuals were selected for the ICA EB Advisory Panel: The SAB Staff Office Director makes the final decision about who will serve on the ICA EB Advisory Panel during the “Panel Selection” phase. Specific criteria to be used in evaluating an individual for inclusion on a panel include: (a) Scientific and/or technical expertise, knowledge, and experience (primary factors); (b) absence of financial conflicts of interest; (c) scientific credibility and impartiality; (d) availability and willingness to serve; (e) ability to work constructively and effectively in committees, and (e) a candidate’s prior involvement with the topic under consideration. For the EPA SAB, a balanced advisory panel is characterized by inclusion of candidates who possess the necessary domains of knowledge, the relevant scientific perspectives (which, among other factors, can be influenced by work history and affiliation), and the collective breadth of experience to adequately address the charge.

Attachment 3 provides the roster of the ICA EB Advisory Panel.

Approved,

Original Signed
Vanessa Vu, Ph.D.
Director
EPA Science Advisory Board Staff

7/7/04
Date

Attachment 1: Invitation for Comment on “Short List” of Potential Members for the Illegal Competitive Advantage Economic Benefit Advisory Panel of the EPA Science Advisory Board

Attachment 2: List of Public Commentors on ICA EB Advisory Panel “Short List”

Attachment 3: U.S. Environmental Protection Agency, Science Advisory Board, Illegal Competitive Advantage (ICA) Economic Benefit (EB) Advisory Panel

Attachment 1

Invitation for Comment on “Short List” of Potential Members for the Illegal Competitive Advantage Economic Benefit Advisory Panel of the EPA Science Advisory Board

The EPA Science Advisory Board (SAB) Staff Office is forming the SAB Illegal Competitive Advantage (ICA) Economic Benefit (EB) Advisory Panel (Panel). Nominations for technical experts to serve on this SAB Panel were requested in the Federal Register (68FR 46604) on August 6, 2003. The notice provided background information on the advisory, including document availability, the proposed charge, the process for submitting nominations, and expertise needed for consideration as a candidate for the Ad Hoc Panel. Pursuant to the Federal Register notice, any interested person or organization may nominate qualified individuals for membership on the Panel, and individuals should have expertise in one or more of the following areas:

1. Financial economics, which includes corporate finance,
2. Economic benefit recapture issues,
3. Business/commercial damages, which includes trust law, torts and economics,
4. Business economics and competitive strategy, which includes aspects of statistical decision-making and game theory, as well as competitive effects of vertical integration and quantitative economics, and
5. Industrial organization, in the context of environmental regulations, and their enforcement, as well as environmental and regulatory economics, environmental ethics and sustainability in this context.

The SAB Staff Office has reviewed the nominations and identified 11 candidates to serve as members of the *Ad Hoc* SAB ICA EB Advisory Panel. Brief biographical sketches (“biosketches”) on these expert consultant candidates are provided below. *We hereby invite comments from members of the public for relevant information, analysis or other documentation that the SAB Staff Office should consider in the selection of the Ad Hoc SAB ICA EB Advisory Panel.*

Any information furnished by the public in response to this web site posting will be combined with information already provided by the candidates, and gathered independently by the SAB Staff Office. Prior to final panel selection, the combined information will be reviewed and evaluated for any possible conflict of interest or a possible appearance of a lack of impartiality. The information will also be used to ensure appropriate balance and breadth of expertise needed to address the charge to the panel. The SAB Staff Office Director makes the final decision concerning who will serve on the SAB ICA EB Advisory Panel.

Please e-mail your comments no later than (21 days from the posting of this notice -

replace with date) to Dr. K. Jack Kooyoomjian, Designated Federal Officer, SAB ICA EB Advisory Panel, at: kooyoomjian.jack@epa.gov.

ILLEGAL COMPETITIVE ADVANTAGE ECONOMIC BENEFIT ADVISORY PANEL BIOSKETCHES

Dr. Dallas Burtraw:

Dr. Burtraw is a Senior Fellow at Resources for the Future. He recently served on the National Research Council, Committee on Air Quality Management in the United States and serves as a reviewer, National Energy Modeling System, Energy Information Administration, (1992-present). Dr. Burtraw's areas of expertise include: air pollution, cost-benefit analysis, electricity restructuring, regulatory design, and public finance. His research interests include the restructuring of the electric utility market, the social costs of environmental pollution, benefit-cost analyses of environmental regulation, and the design of incentive-based environmental policies. His current projects include the study of integrated approaches to pollutant control in the electricity sector and the valuation of natural resource improvements in the Adirondacks. Recently, Dr. Burtraw analyzed the cost-effectiveness of various designs for NO₂ emission trading in the eastern states and of the design for a carbon emission trading program in the electricity sector. He also investigated the effects on electric utilities of the sulfur dioxide emissions-permit trading program legislated under the 1990 Amendments to the Clean Air Act, and evaluated the benefits of emission reductions resulting from the 1990 Amendments. He holds a Ph.D. in Economics and a Master in Public Policy from the University of Michigan.

Dr. Mark Cohen:

Professor Cohen is Senior Associate Dean and Justin Potter Professor of American Competitive Business at the Owen Graduate School of Management at Vanderbilt University. He also serves as Co-Director of the Vanderbilt Center for Environmental Management Studies, and as Visiting Professor of Criminal Justice Economics at the University of York (UK). He recently served as Chairman of the American Statistical Association's Committee on Law and Justice Statistics and is currently a member of the Stakeholder Council of the Global Reporting Initiative. Prior to his position at Vanderbilt, he had served as senior economist with the U.S. Sentencing Commission. His work experiences include the Federal Trade Commission, the U.S. Environmental Protection Agency, the U.S. Department of the Treasury, and the U.S. Senate Banking Committee. He received his B.S.F.S. in International Economics from Georgetown University, and his M.A. and Ph.D. in Economics from Carnegie-Mellon University. Professor Cohen has published over 70 articles on diverse topics such as enforcement of government regulation, law and economics, white-collar and corporate crime, and environmental management. Some of his prior work related to the proposed panel include: the costs and benefits of oil spill enforcement policies; analysis of EPA's penalty policy; optimal penalties for corporate crime including environmental and antitrust offenses; the public's willingness-to-pay for crime control policies; why firms comply (and overcomply) with environmental regulations; does it "pay" to be green; and the effect of disclosure on environmental performance. Research grants over the past few years include "Measuring Public Perception of Appropriate Prison Sentences" (National Institute of Justice, 1999) and "Does It Pay to be Green? The Relationship between

Environmental and Financial Performance" (W. Alton Jones Foundation, 1996). In addition he has recently served as a consultant to two different research projects on corporate environmental performance: (1) University of Kansas, funded by EPA, and (2) University of Maryland, funded by NIJ.

Dr. A. Myrick Freeman:

Myrick Freeman III is Research Professor of Economics at Bowdoin College. In 2000 he retired from teaching after 35 years. Dr. Freeman received his Ph.D. in economics from the University of Washington in 1965. He has been on the faculty at Bowdoin since that time and has served as chair of the economics department and Director of the Environmental Studies Program there. He has also held appointments as Visiting College Professor at the University of Washington and Robert M. La Follette Distinguished Visiting Professor at the University of Wisconsin-Madison and as a Senior Fellow at Resources for the Future, a research organization in Washington, DC.

Dr. Freeman's principal research interests are in the areas of applied welfare economics, benefit-cost analysis, and risk management as applied to environmental and resource management issues. Much of his work has been devoted to the development of models and techniques for estimating the welfare effects of environmental changes such as the benefits of controlling pollution and the damages to natural resources due to releases of chemicals into the environment. He has authored or co-authored eight books including *Air and Water Pollution Control: A Benefit-Cost Assessment*, and *The Measurement of Environmental and Resource Values: Theory and Methods*, now in its second edition. He has also published more than 70 articles and papers in academic journals and edited collections. Dr. Freeman has been a member of the Board on Toxicology and Environmental Health Hazards of the National Academy of Sciences and has served as a member of the Advisory Council on Clean Air Compliance Analysis, the Clean Air Science Advisory Committee and the Environmental Economics Advisory Committee of the U.S. Environmental Protection Agency Science Advisory Board. Most recently, he chaired the EPA SAB Review Panel on UST/RCRA Benefits, Costs, and Impacts Assessment.

Dr. Jane V. Hall

Dr. Jane V. Hall is Professor of Economics in the College of Business and Economics and Co-Director of the Institute for Economic and Environmental Studies at California State University, Fullerton. Her current research areas are assessing the value of environmental protection, economics of air pollution policy, natural resource scarcity, and environmental resource scarcity and conflict. She has lectured and conducted research on the topics of energy, sustainability, resource scarcity and conflict, benefit assessment, economic performance and environmental regulation, economic incentives for environmental management and related topics. She has developed positions on air quality standards, fuel composition and taxation, energy policy as an Associate Staff Scientist with the Environmental Defense Fund and as a Special Advisor to the Chair of the California Air Resources Board, and Deputy Assistant for Environmental Protection to the Governor of California. She has also served as an economist with Unocal (Union Oil Company) to assess the impact of federal and state energy policies on the economy and the energy industry. She has published over 100 articles, books or book chapters, working papers and presentations on the above topics. She has served as a member of the Advisory Council on

Clean Air Compliance Analysis (COUNCIL), and its Health and Ecological Effects Subcommittee, the EPA's Children's Health Protection Advisory Committee, and a number of other advisory and scientific bodies. She has served as a reviewer for the National Science Foundation, California Air Resources Board Research Division, and for the following publications: *Contemporary Economics Policy*, *Ecological Economics*, *Environmental Science and Technology*, *the Journal of Economics and Environmental Management*, *the Journal of Environment and Development*, and *the National Science Foundation's Science Journal*. Dr. Hall received her B.A. in Economics from the University of Washington, her M.S. in Agricultural and Resource Economics and her Ph.D. in Energy and Resources from the University of California at Berkeley.

During the past five years, Dr. Hall has had research funding from the California Air Resources Board (A Pilot Study to Quantify Health Benefits of Incremental Improvements in Air Quality; Economic Valuation of Ozone-Related School Absences in the South Coast Air Basin; and Innovative Clean Air Technology Assessment), the W. Alton Jones Foundation (Growth for health: the Zero Emission Vehicle and California's Future Prosperity), Sea Grant/NOAA (Economic Valuation of the Rocky Intertidal Zone), and the U.S. Environmental Protection Agency and City of Houston (Valuation of Air Pollution and Health).

Dr. W. Michael Hanemann:

Dr. W. Michael Hanemann is Chancellor's Professor in the Department of Agricultural and Resource Economics and Goldman School of Public Policy at the University of California, Berkeley. He is Director of the California Climate Change Center at UC Berkeley. Dr. Hanemann's research interests include non-market valuation, environmental economics and policy, water pricing and management, demand modeling for market research and policy design, the economics of climate change, the economics of irreversibility and adaptive management, and welfare economics. Dr. Hanemann's recent publications have addressed the economic impact of climate change on US agriculture, fishery management under multiple uncertainty, non-market valuation using the contingent valuation method, the economic value of reducing asthma, and the economic theory of willingness to pay and willingness to accept.

Dr. Hanemann was educated at Oxford University (B.A.), the London School of Economics (M. Sc.), Harvard University, (M.A. in Public Finance and Decision Theory and Harvard University (Ph.D. in Economics). Last October, he was awarded an Honorary Ph.D by the Swedish University of Agricultural Sciences. Dr. Hanemann is a member of the California Bay-Delta Authority Drinking Water Advisory Committee. He served as Chair of the Organizing Committee for the Second World Congress of Environmental and Resource Economists, held in Monterey CA in June 2002. In the past 5 years, Dr. Hanemann has received research funding from the US EPA STAR Grant Program (economic value of childhood asthma, embedding in contingent valuation); NSF (price and non-price tools for water conservation), NOAA, MMS, the California State Water Resources Control Board and The California Department of Fish & Game (economic value of beach recreation in Southern California), and the California Energy Commission (climate change policy in California).

Dr. Catherine L. Kling:

Dr. Kling is a Professor of Economics at Iowa State University (ISU) and Head of the Resource and Environmental Policy Division of the Center for Agricultural and Rural Development at ISU. Prior to coming to Iowa State University in 1993, she was an Associate and Assistant Professor in the Department of Agricultural Economics at the University of California, Davis. She has taught graduate and undergraduate courses in environmental economics, microeconomic theory, and econometrics. Dr. Kling's research encompasses nonmarket valuation issues in environmental economics and economic incentives for pollution control related especially to agricultural problems. Her research has been published in a variety of economics journals including *The Review of Economics and Statistics*, *Journal of Public Economics*, *Journal of Environmental Economics and Management*, *American Journal of Agricultural Economics*, *Land Economics*, *Environmental and Resource Economics*, and *Ecological Economics*.

Dr. Kling has also served the profession and the public sector in a variety of capacities including her current membership on EPA's Environmental Economics Advisory Committee to the Science Advisory Board. Current and past service includes as a member of the board of directors and awards committee chair for the American Agricultural Economics Association, vice president and member of the board of directors of the Association of Environmental and Resource Economists, associate editor for the *American Journal of Agricultural Economics*, and the *Journal of Environmental Economics and Management*, as well as numerous *ad hoc* committees for the AAEA, AERE, and other professional associations. Dr. Kling's research support has been provided through grants from the Iowa Department of Natural Resources, the U.S. Environmental Protection Agency, the U.S. Department of Agriculture, the California Institute for Energy Efficiency, the Giannini Foundation, and the Sloan Foundation. Dr. Kling holds a B.A. in Business and Economics from the University of Iowa, and a Ph.D. in Economics from the University of Maryland.

Dr. Arik Levinson:

Dr. Levinson is an Associate Professor in the Economics Department of Georgetown University, where he teaches environmental economics, public finance, and microeconomics, and is Director of Undergraduate Economic Studies. He is a Faculty Research Fellow at the National Bureau of Economic Research, is on the Editorial Council of the *Journal of Environmental Economics and Management*, and is a member of the American Economic Association, the Association of Environmental and Resource Economists, and the Association for Public Policy Analysis and Management. Professor Levinson's research interests include the fields of public finance and environmental economics. He has studied the theoretical welfare consequences of states competing to attract manufacturers by enacting successively less stringent environmental standards (a "race to the bottom"), and measured empirically the effects of interstate differences in environmental standard stringency on manufacturer location decisions, trade, employment, and foreign direct investment. Recently, he has written theoretical and empirical papers on the relationship between countries' environmental quality and their incomes. He has studied the energy efficiency consequences of apartment leases that include monthly utility costs, and he has written about the relationship between individuals' willingness to pay for environmental quality, household income, and national income. His research has in part been funded by the National

Science Foundation, and by the Association for Public Policy Analysis and Management. Dr. Levinson holds a Ph.D. in Economics from Columbia University.

Dr. Clifford S. Russell:

Dr. Clifford S. Russell is Professor of Economics, Emeritus, Vanderbilt University; Research Associate, Bowdoin College. He joined the Vanderbilt faculty as professor of economics and director of the Institute for Public Policy Studies in January, 1986. Before coming to Vanderbilt, Dr. Russell was a Senior Fellow and director of the Environmental Quality Research Division at Resources for the Future in Washington, D.C. During his 17-year tenure there, he held several other leadership positions. He is the author and editor of 16 books and author or co-author of 68 articles in environmental economics. His major current interest is in the systematic examination of environmental labeling as a tool of environmental policy. Dr. Russell has served as a member of several National Academy of Science committees, and on the Environmental Studies Board. In 1992/93 he chaired an NAS panel evaluating the U.S. Department of Energy's proposed system for setting clean-up priorities at contaminated nuclear weapons and research facilities. He was President of the Association of Environmental and Resource Economists in 1993 and 1994. From December, 1996, to August, 1997, he held the Valfrid Paulsson visiting chair in environmental economics at the Beijer Institute, part of the Royal Swedish Academy of Sciences in Stockholm. In 2003 he held the Robert Sowell Distinguished Visiting Chair of Economics at Bates College. In the 1970s and '80s Dr. Russell was on the Executive Committee of the Board of the Environmental Defense Fund (now Environmental Defense). He also served on the board of the Tennessee Environmental Council. Dr. Russell received his B.A. in mathematics from Dartmouth College and his Ph.D. from Harvard University, where he was a Harvard Graduate Prize Fellow in Economics. From 1960 through 1963, he served as a commissioned officer in the U.S. Navy.

Dr. Michael A. Salinger:

Dr. Salinger is Professor of Economics and Chairman of the Finance and Economics Department at the Boston University School of Management. He served as an economist in the Bureau of Economics in the Antitrust Division with the United States Federal Trade Commission while on leave from Columbia University. At Columbia University, he served as Associate Professor of Economics and Finance. He also was a Visiting Associate Professor of Economics at MIT's Sloan School of Management. Dr. Salinger is on the Editorial Boards of the *Journal of Industrial Economics*, and *Review of Industrial Organization*. He has published on such topics as the relationship between market structure and corporate profitability, the competitive effects of business practices (including vertical mergers and bundling), the statistical properties of firm growth, antitrust policy, and the regulation of telecommunication prices. His recent research has been funded by the National Science Foundation and by Microsoft. He has served as a peer reviewer of the BEN model for the EPA. He received his B.A. in Economics from Yale University and his Ph.D. in Economics from Massachusetts Institute of Technology.

Dr. David Sunding:

David Sunding is a professor at the University of California at Berkeley in both the College of Natural Resources and the Boalt Hall School of Law. He received a B.A. in Economics from

Claremont McKenna College in 1983 and his Ph.D. in Agricultural and Resource Economics from the University of California at Berkeley in 1989. He specializes in environmental policy, natural resource economics, land use, and law and economics. Prior to his current position, Prof. Sunding served as a senior economist at the President's Council of Economic Advisers where he had responsibility for natural resource and environmental policy. He currently serves as member of the Science Advisory Board of the National Center for Housing and the Environment and is the co-director of UC Berkeley's Center for Sustainable Resource Development.

Professor Sunding is the author of over 50 journal articles and book chapters in the areas of environmental economics, natural resource economics, and law and economics. He has been commissioned to write over 30 technical reports and monographs for government and private interests. Recently, Professor Sunding's research has focused on the measurement of environmental compliance costs, environmental regulation and processes of urban growth and development, and the diffusion of conservation technology. Dr. Sunding has extensive litigation experience in the areas of compliance cost measurement, environmental remediation and cost allocation, antitrust and unfair competition, and agricultural and natural resource markets. He has performed economic and financial analysis relating to damage calculations, market determination, real property valuation, antitrust and price discrimination and has testified at deposition and trial. He has recently received grants and/or research funding from the U.S. Environmental Protection Agency, Food Systems Research Group, California Department of Food and Agriculture, California Department of Water Resources and U.S. Department of the Interior.

Attachment 2

List of Public Commentors on ICA EB Advisory Panel “Short List”

<u>Commenter</u>	<u>Date Received</u>	<u>Comment Transmitted On Behalf of</u>
James Conrad	April 16, 2004	American Chemistry Council
Mr. Steven B. Hellem, Executive Director CEEC (Forwarded by Mr. John Flatley, Director, CEEC)	April 16, 2004	Corporate Environmental Enforcement Council (CEEC)

Attachment 3

U.S. Environmental Protection Agency Science Advisory Board Illegal Competitive Advantage (ICA) Economic Benefit (EB) Advisory Panel

CHAIRMAN

Dr. A. Myrick Freeman, Research Professor, Department of Economics, Bowdoin College, Brunswick, ME

MEMBERS

Dr. Dallas Burtraw, Senior Fellow, Resources for the Future, Washington, DC

Dr. Mark Cohen, Senior Associate Dean & Justin Potter Professor of American Competitive Business, Owen Graduate School of Management, Vanderbilt University, Nashville, TN

Dr. Jane V. Hall, Professor, Department of Economics, California State University, Fullerton, CA

Dr. W. Michael Hanemann, Professor, Department of Agricultural & Resource Economics & Public Policy, University of California, Berkeley, CA

Dr. Catherine L. Kling, Professor, Department of Economics, Iowa State University, Ames, IA

Dr. Arik Levinson, Associate Professor, Economics Department, Georgetown University, Washington, DC

Dr. Clifford S. Russell, Professor of Economics (Retired Former Director of the Vanderbilt Institute for Public Policy Studies), Vanderbilt University, Alna, ME

Dr. Michael A. Salinger, Chairman, Finance & Economics Department, School of Management, Boston University, Boston, MA

Dr. David Sunding, Professor, Agricultural and Resource Economics, College of Natural Resources and Boalt Hall School of Law, University of California, Berkeley, CA

SCIENCE ADVISORY BOARD STAFF

Dr. K. Jack Kooyoomjian, Designated Federal Officer, US EPA Science Advisory Board (1400F), 1200 Pennsylvania Avenue, NW, Washington, DC 20460, Tel. (202)-343-9984, Fax (202)-233-0643 or 0645, Email: kooyoomjian.jack@epa.gov (Physical Delivery/Messenger Address: 1025 F Street, NW, Rm 3606, Washington, DC 20004, General Tel. (202)-343-9999)

