

August 2013

Resume of: Alan J. Krupnick

Education:

University of Maryland, Ph.D., Economics, June 1980 (Dissertation Title: *The Optimal Control of Pollution with Endogenous Labor Supply*)

University of Maryland, M.A., Economics, 1972-1974

Columbia University, Graduate School of Business, International Business, 1969-1970

Pennsylvania State University, B.S., Finance, With Distinction, 1965-1969

Professional Experience:

- 2010-Present Director, Center for Energy Economics and Policy, Resources for the Future
- 1998-Present Director of Research, Resources for the Future
- 1990-Present Senior Fellow, Resources for the Future
- 1980-1990 Fellow, Resources for the Future
- 1993-1994 Senior Economist, Council of Economic Advisers; on leave from Resources for the Future
- 2011-13 Consultant: U.S. EPA, World Bank
- 2010 Consultant: State of California, U.S. EPA, World Bank
- 2009 Consultant: World Bank, U.S. EPA
- 2008 Consultant: U.S. EPA, Health Canada
- 2007 Consultant: OECD; U.S. EPA; Department of Environment, Food and Rural Affairs, State of Texas
- 2006 Consultant: World Bank
- 2005 Consultant: World Bank, U.S. EPA
- 2004 Consultant: United Nations Compensation Committee, U.S. EPA, European Union
- 2003 Consultant: U.S. EPA, Inter-American Development Bank, Environment Canada, Charles River Associates, OECD
- 2002 Consultant: U.S. EPA
- 2001 Consultant: U.S. EPA, Health Canada
- 2000 Consultant: European Community, Environment Directorate.
- 1999 Consultant: World Bank.
- 1998 Consultant: World Bank, Europe and Central Asia Division; PacifiCorp, Great Lakes Commission; Canadian Energy Research Institute.
- 1997 Consultant: World Health Organization; World Bank, Industry and Energy Division and Europe and Central Asia Division; Environment Canada; Industry Canada.

- 1996 Consultant: USAID; Harvard Institute for International Development; World Bank, Latin America Division; Environment Canada; Health Canada, Industry Canada
- 1995 Consultant: Ontario Hydro; World Bank, Latin America Division; American Petroleum Institute, Southern Appalachian Management Initiative
- 1993 Consultant: World Bank, Asia Division; Office of Technology Assessment
- 1990-1992 Consultant, World Bank Latin America Region, Public Economics Division (Country Department), World Development Report
- 1989-1990 Consultant, World Bank, Environment Department, Asia Region, Infrastructure and Urban Development Department; NERA; U.S. Department of Energy; Geomet, Inc.
- 1987-1988 Consultant, Office of Technology Assessment, U.S. Congress
- 1987-1988 Consultant, Viking Systems, Inc.; Exeter Assoc.
- 1980-1982 Consultant, University of Missouri, State of Maryland
- 1977-1980 Faculty Research Associate, Bureau of Business & Economic Research, University of Maryland
- 1976-1977 Instructor, University of Maryland: International Economics, Macroeconomics, and Microeconomics
- 1976-1976 Consultant, National Commission on Water Quality
- 1974-1976 Autonomous Teaching Assistant, University of Maryland
- 1972-1974 Research Assistant, Bureau of Business & Economic Research, University of Maryland
- 1970-1972 Research Assistant, The Federal Reserve Bank of Philadelphia
- 1970-1970 Research Analyst, City University of New York, Faculty Senate

LEADERSHIP

Leadership: Founder of the Center for Energy Economics and Policy at Resources for the Future in 2010 and its Director since then. Developed deep agenda around the sustainable development of shale gas. Successful in securing outside funding to implement. Built new institution for performing energy-related research in China with Chinese institutional and academic partners (The Center for Energy Economics and Policy in China (CEEPIC)). Successful in enlisting RFF scholars (and others) to work on elements of this agenda. Built multi-disciplinary teams (in addition to economics (RFF's core), this included lawyers, engineers, and natural scientists). Worked on many of these projects as Senior Fellow. Center gained international reputation and high visibility in academic, stakeholder and media circles for our work on the risks and regulation of shale gas development.

PUBLICATIONS

“Using Ecological Production Theory to Define and Select Environmental Commodities for Nonmarket Valuation,” with James Boyd, *Agricultural and Resource Economics Review* (forthcoming).

“The truth, the whole truth and nothing but the truth: a multi-country test of an oath script,” (with Fredrik Carlsson, Mitesh Kataria, Elina Lampi, Åsa Löfgren, Ping Qin, Susie Chung, and Thomas Sterner), *Journal of Economic Behavior & Organization* (forthcoming).

“A Fair Share: Perceptions of Climate Justice in the US and China” (with Fredrik Carlsson, Mitesh Kataria, Elina Lampi, Åsa Löfgren, Ping Qin, Susie Chung and Thomas Sterner). *Resource and Energy Economics* (forthcoming).

Assessing the Extent of Altruism in the Valuation of Community Drinking Water Quality Improvements," (with Victor Adamowicz, Diane Dupont and Jing Zhang) *Water Resources Research* (forthcoming).

“Paying for Mitigation: A Multiple Country Study,” (with Fredrik Carlsson, Mitesh Kataria, Elina Lampi, Åsa Lofgren, Ping Qin, Susie Chung, Thomas Sterner, *Land Economics*, (forthcoming). See also RFF Discussion Paper 10-33 | June 2010.

Pathways to Dialogue: What the Experts Say about the Environmental Risks of Shale Gas Development: Overview of Key Findings and Full Report with Hal Gordon and Sheila Olmstead, Resources for the Future, February, 2013.

The State of State Shale Gas Regulation: Executive Summary, Report, and State-by-State Tables, with Nathan Richardson, Madeline Gottlieb and Hannah Wiseman, Resources for the Future, June, 2013.

Managing the Risks of Shale Gas: Key Findings and Further Research, with entire project team, Resources for the Future, June, 2013

“Shale gas development impacts on surface water quality in Pennsylvania,” with Sheila M. Olmstead, Lucija A. Muehlenbachs, Jih-Shyang Shih, and Ziyan Chu, *Proceedings of the National Academy of Sciences* Vol. 110, No. 13, pp. 4962-4967, March 2013.

“The willingness to pay for mortality risk reductions in Mongolia,” (with Sandra Hoffmann, Ping Qin, Burmaajav Badrakh, Suvd Batbaatar, Enkhjargal Altangere and Lodoysamba Sereeter), *Resource and Energy Economics*, November 2012.

The True Costs of Electric Power: AN Inventory of Methodologies to Support Future Decisionmaking, (with Dallas Burtraw), REN21, June, 2012.

What Is the Best Policy Instrument for Reducing CO2 Emissions?, in Fiscal Policy to Mitigate Climate Change, A Guide to Policymakers, Ruud de Mooij, Ian W.H. Parry, and Michael Keen, Eds, International Monetary Fund, 2012

Valuing the impacts of climate change on terrestrial ecosystem services, (with David McLaughlin) for collection of papers on Improving the Assessment and Valuation of Climate Change Impacts for Policy and Regulatory Analyses, April 2012.

The Future of an AERE Flagship Journal: Considering the Issues, (with Todd Gerarden), AERE

Newsletter, Spring, 2012.

“Valuation of Cancer and Microbial Disease Risk Reductions in Municipal Drinking Water: An Analysis of Risk Context Using Multiple Valuation methods.” With Victor Adamowicz, Diane Dupont and Jing Zhang, *Journal of Environmental Economics and Management* Volume 61, issue 2 (March, 2011).

“Do U.S. Shale Gas Resources Provide a Bridge to a Low-Carbon Future?” with Stephen P. A. Brown and Margaret A. Walls, *Issue Brief*, Resources for the Future (April, 2011).

“Valuing the Risks of Death from Terrorist Attacks,” with Lisa A. Robinson,^a James K. Hammitt,^b Joseph E. Aldy,^c and Jennifer Baxter^e, *Journal of Homeland Security and Emergency Management* Vol. 7, No. 1, Art. 14, 2010..

“Differences in water consumption choices in Canada: the role of socio-demographics, experiences, and perceptions of health risks” (with Diane Dupont, W. L. (Vic) Adamowicz) *Journal of Water and Health*, Vol 8 No 4 pp 671–686, 2010.

“Climate Economics and Policy,” with Joseph Aldy, Richard Newell and Ian Parry, *Journal of Economic Literature* 48(4): 903-34, 2010.

Toward a New National Energy Policy: Assessing the Options, with Ian Parry, Margaret Walls, Tony Knowles and Kristin Hayes. Resources for the Future, Washington, D.C. 2010 (November).

“How U.S. and Chinese Citizens Feel About Reducing Mortality Risks,” in *Issues of the Day*, Ian Parry and Felicia Day, eds. RFF, Washington, DC, 2010 (November).

Economics, Energy and GHG Implications of LNG Trucks, Backgrounder to the report: *Toward a New National Energy Policy*. 2010 (September).

Hidden Costs of Energy: Unpriced Consequences of Energy Production and Use. Washington, DC: National Research Council, 2010 (one of many authors) (June).

Sharing the Load: A Multi-country Survey of the Willingness to Pay for Slowing Climate Change, with Thomas Sterner, RFF *Issue Brief* (December, 2009)

“Critique of the Regulatory Impact Analysis for the Clean Air Mercury Rule: An Economist’s Perspective,” in *Reforming Regulatory Impact Analysis* (co-edited by Winston Harrington, Richard Morgenstern and Lisa Heinzerling), RFF Press, 2009.

Introduction to the Frontiers of Environmental and Resource Economics, with Joseph Aldy, *Journal of Environmental Economics and Management*, [Volume 57, Issue 1](#), January 2009, Pages 1-4.

“A Framework for Estimating the Ancillary Human Health Benefits of Improved Air Quality Resulting from Climate Change Mitigation,” with Michelle L. Bell, Devra L. Davis, Luis A. Cifuentes and George D. Thurston, *Environmental Health*, 7:41, July 2008 Related Discussion Paper: [01-61](#)

The Integrated Science Assessment for Oxides of Nitrogen and Sulfur - Ecological Criteria: Valuation of the Environmental Effects of N and S. with Juha Siikamaki, December 2008, EPA/600/R-08/082F,

“The Willingness to Pay for Mortality Risk Reductions in Shanghai and Chongqing, China” with Sandra Hoffmann, Bjorn Larsen, Xizhe Peng, Cheng Gangcai, with Ran Tao, Chen Yan and Michael McWilliams in *The Costs of Pollution in China*, The World Bank, forthcoming.

“Are Decisionmakers at Home on the Range?” (with Richard Morgenstern and Peter Nelson) *Journal of Risk Research* (2008).

“Valuing Benefits from Ecosystem Improvements using Stated Preference Methods: An Example from Reducing Acidification in the Adirondacks Park.” 2008. With David A. Evans, H. Spencer Banzhaf, Dallas Burtraw and Juha Siikamäki *Saving Biological Diversity: Balancing Protection of Endangered Species and Ecosystems* Robert A. Askins, Glenn D. Dreyer, Gerald R. Visgilio, New York: Springer.

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“Mortality-Risk Valuation and Age; Stated Preference Evidence.” 2008. *Review of Environmental Economics and Policy* **1** (2), 261-282.

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“Eliciting from Large Heterogeneous Expert Panels: Using Multiple Uncertainty Measures to Characterize Information Quality in Decision Analysis.” (with Sandra Hoffmann, Paul Fischbeck and Michael McWilliams). 2007. *Decision Analysis* **4**(2), 91-109 (June).

“Using Expert Elicitation to Link Foodborne Illness in the U.S. to Food.” 2007. Sandra Hoffmann, Paul Fischbeck, Alan Krupnick, Mike McWilliams *Journal of Food Protection* **70**(5) pp. 1220-1229 (May).

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“How People Value What Nature Provides,” (with Juha V. Siikamäki) *Resources*, Spring 2007 (165).

“Rising to the Challenge: Integrating Social Science into NSF Environmental Observatories,” Shalini Vajjhala, Alan J. Krupnick, Ellie McCormick, Morgan Grove, Patricia McDowell, Charles Redman, Leonard A. Shabman, and Mitchell Small, *RFF Report* September 2007.

“Regional Air Quality: Local and Interstate Impacts of NO_x and SO₂ Emissions on Ozone and Fine Particulate Matter in the Eastern United States,” 2007. With Michelle S. Bergin, Jihh-Shyang Shih, James W. Boylan, James G. Wilkinson, M. Talat Odman, and Armistead G. Russell *Environmental Science and Technology* Vol. 41, No. 13., 4677-4689.

“Age, Health, and the Willingness to Pay for Mortality Risk Reductions: A Contingent Valuation Survey in Japan” (with Kenshi Itaoka, Aya Saito, Makoto Akai, Maureen Cropper, Anna Alberini, and Nathalie Simon). 2007. *Environmental Economics and Policy Studies* **8**(3) 211-237.

“Air Quality Management Approaches and Evidence of Effectiveness,” (With Bart Croes, Jurgen Schneider, Anthony Hedley, Stephanie Gower and Lorraine Craig) in *Air Pollution and Public Health: A Guidance Document for Risk Managers*, NERAM, Institute for Risk Research, Waterloo (May, 2007)

“Willingness to Pay for Mortality Risk Reductions from Electric Power Generation,” (with Kenshi Itaoka, Aya Saito, Wiktor Adamowicz, and Taketoshi Taniguchi). 2006. *Environment and Resource Economics* **33**, (3) 371-398 (March).

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“Valuation of Natural Resource Improvements in the Adirondacks” (with Spencer Banzhaf, Dallas Burtraw, David Evans) *Land Economics* **82**(3) 445-464 (August) 2006.

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“Demonstrating Emissions Trading in Taiyuan, China (with Richard Morgenstern, Robert Anderson, Ruth Bell, and Xuehua Zhang). 2005. *The RFF Reader in Environmental and Resource Policy*, 2nd Edition, Wallace E. Oates, Editor, RFF Press (note: this is an updated version of an article that originally appeared in *Resources*).

“How Much Will People Pay for Longevity?” 2005. *The RFF Reader in Environmental and Resource Policy*, 2nd Edition, Wallace E. Oates, Editor, RFF Press (note: this is an updated version of an article that originally appeared in *Resources*).

“The Interstate Transport of Air Pollution: A Regulatory Dilemma” (with Jhih-Shyang Shih). 2005. *The RFF Reader in Environmental and Resource Policy*, 2nd Edition, Wallace E. Oates, Editor, RFF Press.

"Economics of Pollution Trading for SO₂ and NO_x." (with Dallas Burtraw, David A. Evans, Karen Palmer, and Russell Toth). 2005. *Annual Review of Environment and Resources*, Volume 30, 253-289, November.

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“Forever Wild, But Do We Care? How New Yorkers Value Natural Resource Improvement” (with H. Spencer Banzhaf, Dallas Burtraw, David Evans) *Resources* Summer 2005 (158)

“Best Things First: Rethinking Priority-Setting for Food Safety Policy,” (with Peter Nelson) in *Toward Safer Food: Perspectives on Risk and Priority-Setting*, Sandra A. Hoffmann and Michael R. Taylor, eds. (Resources for the Future, Washington, DC) 2005.

“Emissions Trading to Improve Air Quality in an Industrial City in the People’s Republic of China,” (with Richard D. Morgenstern, Piya Abeygunawardena, Robert Anderson, Ruth Greenspan Bell, and Jeremy Schreifels) in *China’s Environment: The Challenges of Sustainable Development*, Kris Day, ed., M.E. Sharpe, publisher, 2005.

“The Value Of Good Quality Drinking Water To Canadians And The Role Of Risk Perceptions: A Preliminary Analysis” Adamowicz, W., Dupont, D.P. and Krupnick, A. 2004. in *Journal of Toxicology and Environmental Health. Part A: Current Issues*. 67(20-22): 1825-1844.

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“The Ancillary Carbon Benefits of SO₂ Reductions from a Small Boiler Policy in Taiyuan, PRC” (with Richard Morgenstern and Xuehua Zhang) *Journal of Environment and Development Economics*, 2004.

“Focus on Meeting the Fine Particulates Standard,” in *New Approaches on Energy and the Environment: Policy Advice for the President*, Richard D. Morgenstern and Paul R. Portney, eds. (Resources for the Future, Washington, DC) 2004.

“Regional Air Quality Management,” (with Jhih-Shyang Shih) in *New Approaches on Energy and the Environment: Policy Advice for the President*, Richard D. Morgenstern and Paul R. Portney, eds. (Resources for the Future, Washington, DC) 2004.

“Performance Standards for Food Safety,” (with Sandra Hoffmann) in *New Approaches on Energy and the Environment: Policy Advice for the President*, Richard D. Morgenstern and Paul R. Portney, eds. (Resources for the Future, Washington, DC) 2004.

Valuing Health Outcomes: Policy Choices and Technical Issues, RFF Report, March 2004.

“Valuing Risk to Health: Children Are Not Little Adults,” (with Sandra Hoffmann) *Resources* 154, Summer 2004.

“Does the Value of Statistical Life Vary with Age and Health Status? Evidence from the U.S. and Canada,” (with Anna Alberini, Maureen Cropper and Nathalie Simon) *Journal of Environmental Economics and Management* **48** (1), pp. 769-792, 2004.

Valuing Health Outcomes, RFF Report, 2004.

“Demonstrating Emissions Trading in Taiyuan,” (with Richard D. Morgenstern, Ruth Greenspan Bell, Bob Anderson and Xuehua Zhang) *Resources* **148**, Summer 2003.

“Valuing Health Outcomes: Will OMB’s Draft Guidance Improve Agencies’ Analyses?” *Inside EPA’s Risk Policy Report: Guest Perspective*, June 2003.

“The Ancillary Carbon Benefits of SO₂ Reductions from a Small Boiler Policy in Taiyuan, PRC,” (with Richard D. Morgenstern and Xuehua Zhang) *Journal of Environment and Development Economics*, 2003.

“Trading Cases: Is Trading Credits in Created Markets a Better Way to Reduce Pollution and Protect Natural Resources?” (with Dallas Burtraw, Karen Palmer, Richard Newell, Margaret Walls, Virginia

McConnell, James Boyd, and James Sanchirico) Lead article in *Environmental Science and Technology*, **37** (11), pp. 217-23, June 2003.

“Ancillary Benefits of Reduced Air Pollution in the U.S. from Moderate Greenhouse Gas Mitigation Policies in the Electricity Sector,” (with Dallas Burtraw and Michael A. Toman) *Journal of Environmental Economics and Management* **4**, pp. 650-673, 2003.

“Valuing Risks to Life and Health: Alternative Approaches to Valuing the Health Benefits of New Government Regulations,” *Resources* 150, Spring 2003.

“Exhausting Options: Assessing SIP-Conformity Interactions,” (with Winston Harrington and Peter Nelson, plus Arn Howitt, John Mackler, and Sarah Siwick) *RFF Report*, March 2003.

“A Consistent Framework for Comparison, Refinement,” *Environmental Forum*, **20** (2), pg. 44 March/April 2003.

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“The Future of Cost-Benefit Analysis at EPA,” (with Richard D. Morgenstern) *The Annual Review of Public Health* **23**, pp. 427-48, 2002.

“The Value of Reducing Risk of Death: A Policy Perspective,” *Journal of Policy Analysis and Management* **21** (2) pp. 275-278, 2002.

“Benefits Transfer and the Value of Food Safety,” *Proceedings of a Workshop on Valuing The Health Benefits of Food Safety*, sponsored by U.S. EPA, USDA, CDC, FDA, and FSIS, University of Maryland, September 14, 2000 (forthcoming).

“Age, Health and the Willingness to Pay for Mortality Risk Reductions: A Contingent Valuation Survey of Ontario Residents,” (with Maureen Cropper, Anna Alberini, Nathalie Simon, Bernie O’Brien, and Ronald Goeree) *Journal of Risk and Uncertainty* **24** (2), pp. 161-175, March 2002.

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“How Much Will People Pay for Longevity?” *Resources* **142**, Winter 2001.

“Overcoming Public Aversion to Congestion Pricing,” (with Winston Harrington and Anna Alberini) *Transportation Research Part A* **35**, pp. 87-105, 2001.

“Measuring the Value of Health Improvements from Clean-up in the Great Lakes Region,” (with Dallas Burtraw) in *Revealing the Economic Value of Protecting the Great Lakes*, Jay Coggins, ed., National Oceanic and Atmospheric Administration and Northeast-Midwest Institute, 2001.

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“The Ancillary Health Benefits and Costs of GHG Mitigation: Scope, Scale and Credibility,” (with Devra Davis and George Thurston) in *The Ancillary Benefits and Costs of Greenhouse Gas Mitigation*, OECD/RFF/WRI/CI, Paris, 2000.

“The Social Costs of Chronic Heart and Lung Disease,” (with Maureen Cropper) in *Valuing Environmental Benefits: Selected Essays of Maureen Cropper*, Maureen Cropper, ed. (Edward Elgar; United Kingdom) 2000.

“Cost of Illness and WTP Estimates of the Benefits of Improved Air Quality in Taiwan,” (with Anna Alberini) *Land Economics* **76** (1) February 2000.

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“Transboundary Airshed Management as an Approach to Transboundary Water Cooperation: The Case of the Chesapeake Bay,” (with David Austin and Virginia McConnell) in *Conflict and Cooperation on Transboundary Water Resources*, R. Just and S. Netanyahu, eds. (Kluwer, Boston) 1998.

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“Air Pollution and Acute Respiratory Illness; Evidence from Taiwan and Los Angeles,” (with Anna Alberini) *American Journal of Agricultural Economics* **79**, December 1997.

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"Using Cost-Benefit Analysis to Prioritize Environmental Problems in Developing Countries," in Joel Darmstadter, ed., *Global Development and the Environment*, Resources for the Future, Washington, DC, 1992.

"The Effect of Information on Health Risk Valuation," (with Maureen Cropper) *Journal of Risk and Uncertainty*, vol. 5, pp. 29-48, 1992.

"Controlling Urban Air Pollution: A Benefit Cost Assessment," (with Paul R. Portney) *Science*, vol. 252, April 26, pp. 522-28, 1991.

"Transportation and Urban Air Pollution in Developed and Developing Countries," *Transportation Research Record*, p. 1312, *Energy and Environmental Issues*, 1991.

The Economics of a Waterborne Disease Outbreak (with Walter O. Spofford, Jr. and Winston Harrington) Resources for the Future, Washington, DC, 1991.

"The Benefits of Curbing Acid Rain," (with Winston Harrington and Sari Radin) in Richard Ottinger, ed., *Environmental Costs of Electricity*, Oceana Publications, New York, 1990.

"Ambient Ozone and Acute Health Effects: Evidence from Daily Data" (with Winston Harrington and Bart Ostro) *Journal of Environmental Economics and Management* 18, 1990, pp. 1-18.

"To Live and Breathe in L.A." (with Paul Portney, David Harrison, and Hadi Dowlatabadi) *Issues in Science & Technology*, vol. 4, no. 4, 1989.

"The Benefits and Costs of Superfund Cleanups: An Information Assessment," Project IV (with Paul Portney) in *Coalition on Superfund Research Report*, for Coalition on Superfund and Center for Hazardous Waste Management, Chicago, Ill., September 1989.

"The Economic Losses from a Waterborne Disease Outbreak" (with Walter O. Spofford, Jr. and Winston Harrington) *Journal of Urban Economics*, vol. 25, no. 1, January 1989.

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"Reducing Bay Nutrients: An Economic Perspective," *Maryland Law Review*, vol. 47, no. 2, Winter 1988.

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"Agricultural Policy and the Benefits of Ozone Control" (with Raymond Kopp) *Journal of the American Agricultural Economics Association*, vol. 69, no. 5, December 1987.

"Costs of Alternative Policies for the Control of Nitrogen Dioxide in Baltimore," *Journal of Environmental Economics and Management* 13 (2) (June 1986): 189-97

"Sources of Uncertainty in Economic Analyses of Management Strategies for Controlling Groundwater Contamination" (with Walter O. Spofford, Jr.) *Journal of the American Agricultural Economics Association, Proceedings*, December 1986, pp. 1234-1239.

Rules In The Making: A Statistical Analysis Of Regulatory Agency Behavior (with Wesley Magat and Winston Harrington) Resources for the Future, Washington, DC, 1986.

."Managing the Chesapeake Bay Cleanup: A Modeling Approach," in *The Economics of Chesapeake Bay Management*, prepared by Mark E. Jacoby, A Maryland Sea Grant Publication, University of Maryland, College Park, 1986.

"Short-Term Nitrogen Dioxide Exposure and Acute Respiratory Disease in Children" (with Winston Harrington) *Journal of the Air Pollution Control Association* 35, 1985, pp. 1061-1067.

"Evaluation of Nonpoint Source Pollution Control Policies" (with Henry Peskin and Winston Harrington), *Journal of Soil and Water Conservation* 40, 1985, pp. 27-32.

"The Chesapeake Bay Cleanup," *Resources*, no. 79, Winter 1985. (Reprinted in *Renewable Resources Journal*, vol. 3, no. 2, Spring 1985.)

"Synergistic Effects on Rat Lungs of Mixtures of Oxidant Pollutants and Respirable Aerosols: A Comment" (with Robert Frank) *American Review of Respiratory Disease* 129, May 1984.

"On Marketable Air-Pollution Permits: The Case for a System of Pollution Offsets" (with Wallace E. Oates and Eric Van De Verg) *Journal of Environmental Economics and Management* 10, 1983, pp. 233-247.

"Revealed Rules for Regulatory Decisions: An Empirical Analysis of EPA Rulemaking Behavior" (with Wesley Magat and Winston Harrington) in *International Comparisons in Implementing Laws*, Paul Downing and Kenneth Hanf, eds., Kluwer-Nijhoff, 1983.

Directory of Environmental Asset Data Bases and Valuation Studies (with David Yardas, Henry M. Peskin, and Winston Harrington) Resources for the Future, Washington, DC, November 1982.

"On Marketable Air Pollution Permits" (with Wallace E. Oates and Eric Van De Verg) in *Buying A Better Environment: Cost-Effective Regulation Through Permit Trading*, Erhard F. Joeres and Martin H. David, eds., Land Economics Monograph No. 6, University of Wisconsin Sea Grant, 1982.

"Stationary Source Pollution Policy and Prospects for Reform" (with Winston Harrington) in *Environmental Regulation and the U.S. Economy*, Henry Peskin, Paul R. Portney, and Allen V. Kneese, eds., Resources for the Future, Washington, DC, 1981.

"Setting Regulatory Priorities" (with Anthony Fisher and Allen R. Ferguson) in *Attacking Regulatory Problems: An Agenda for Research in the 1980s*, Allen R. Ferguson, ed., Ballinger, Cambridge, MA, 1981.

"Variable Rate Mortgages: Boon or Bane?" *Business Review*, The Federal Reserve Bank of Philadelphia, September 1972.

"SDRs: Super-Duper Reserve?" *Business Review*, The Federal Reserve Bank of Philadelphia, July 1971.

CONFERENCE PAPERS

Sector Effects of the Shale Gas Revolution in the United States, Alan J. Krupnick, Zhongmin Wang, Yushuang Wang, Conference on Shale Gas Development in China, NDRC and Energy Foundation organizers. Beijing, November 2012. See also RFF Discussion Paper 13-21, July 2013

A Retrospective Review of Shale Gas Development in the United States: What Led to the Boom? Zhongmin Wang, Alan J. Krupnick, Conference on Shale Gas Development in China, NDRC and Energy Foundation organizers. Beijing, November 2012. See also RFF Discussion Paper 13-12 | April 2013

The truth, the whole truth and nothing but the truth: a multi-country test of an oath script, (with Fredrik Carlsson, Mitesh Kataria, Alan Krupnick, Elina Lampi, Åsa Löfgren, Ping Qin, Susie Chung, and Thomas Sterner), paper delivered at the World Congress of Environmental and Resource Economists, Montreal, Canada, July, 2010..

People's perception of fair burden-sharing: A study in the US and China, (with Fredrik Carlsson, Mitesh Kataria, Alan Krupnick, Elina Lampi, Åsa Löfgren, Ping Qin, Susie Chung and Thomas Sterner). Paper to be delivered at the AERE Summer Meeting, Seattle, 2011.

The Willingness to Pay for Mortality Risk Reductions in China (with Sandy Hoffmann and Ping Qin. paper delivered at the World Congress of Environmental and Resource Economists, Montreal, Canada, July, 2010..

"The Definition and Choice of Environmental Commodities for Non-Market Valuation." James Boyd and Alan Krupnick, paper delivered at the EAERE meetings in Amsterdam, June, 2009

"Altruism and the WTP for Improved Drinking Water," Alan Krupnick, Jing Zhang, Victor Adamowicz, and Diane Dupont, EAERE Annual Conference, June 30, 2008.

"Willingness to Pay to Reduce Community Health Risks from Municipal Drinking Water: A Stated Preference Study," for presentation at the 3rd World Congress of Environmental and Resource Economics (with Diane Dupont and Victor Adamowicz), Kyoto, Japan, July 2006.

"Is There Altruism in the Values of Drinking Water Risk Reductions?" for presentation at the 3rd World Congress of Environmental and Resource Economics (with Jing Zhang, Victor Adamowicz, and Diane Dupont) Kyoto, Japan, July 2006.

"Mortality Risk Valuation in Six Countries: Exploring Benefit Transfer Approaches," for presentation at the 3rd World Congress of Environmental and Resource Economics (with Soma Battacharaya, Anna Alberini, Marcella Veronesi) Kyoto, Japan, July 2006.

"Morbidity Valuation with Cessation Lag: Choice Experiments for Public and Private goods in Japan," for presentation at the 3rd World Congress of Environmental and Resource Economics (with Kenshi Itaoka, Aya Saito, Makoto Akai, and Wiktor Adamowicz) Kyoto, Japan, July 2006.

"Parental Decision-Making and Children's Health," Conference: US EPA NCER/NCEE Workshop Morbidity and Mortality: How Do We Value the Risk of Illness and Death? (with Sandra Hoffman) US EPA NCER/NCEE, Washington, DC, 2005.

"Valuing Health Risks from Drinking Water," (with Victor Adamowicz and Diane Dupont) Paper presented at the Association of Environmental and Resource Economists (AERE) Session of the Allied Social Science Associations (ASSA) Annual Meeting, San Diego, CA, January 3, 2004.

"Economic Uncertainties in Valuing Reductions in Children's Environmental Health Risks," (with Sandra Hoffmann, and Victor Adamowicz) Paper presented at the annual meeting of the American Agricultural Economics Association (AAEA), Montreal, Canada, July 27-30, 2003.

"Effects of Urban Density on Vehicle Use and Ownership," (with Margaret Walls and Winston Harrington) Paper presented at the ASSA Annual Meeting, Atlanta, GA, January 5-7, 2002.

"Mortality Risk Valuation: A Survey of U.S. Residents," (with Anna Alberini) Paper prepared for presentation to the CORILA Conference on Economic Valuation of Environmental Goods, Venice, May 11, 2001.

"Mortality Risk Valuation: A Survey of U.S. Residents," Paper prepared for presentation at The National Bureau of Economic Research Summer Workshop, July 2001.

Benefits Transfer and the Value of Food Safety, presentation at Valuing the Health Benefits of Food Safety, sponsored by USDA, CDC, FDA, FSIS, EPA, University of Maryland, September 14, 2000.

The Ancillary Benefits and Costs of Climate Change: A Conceptual Framework (with Dallas Burtraw and Anil Markandya) at the ICC/RFF/OECD Expert Workshop on the Ancillary Benefits and Costs of Greenhouse Gas Mitigation Strategies, Resources for the Future, Washington, DC, March 27-29, 2000.

The Ancillary Health Benefits and Costs of GHG Mitigation: Scope, Scale and Credibility (with Devra Davis and George Thurston) at the ICC/RFF/OECD Expert Workshop on the Ancillary Benefits and Costs of Greenhouse Gas Mitigation Strategies, Resources for the Future, Washington, DC, March 27-29, 2000.

What Are Older People Willing to Pay to Reduce Their Mortality Risks? (with Maureen Cropper, Anna Alberini, and Nathalie Simon) Paper presented at the ASSA Annual Meeting, Boston, MA, January 7-9, 2000. Also presented at Harvard School of Public Health, University of Pennsylvania, and the North Carolina State Economics Seminar Series, Raleigh, NC.

Incentives to Reduce NOx Emissions with Joint Benefits, (with Virginia McConnell) Paper given at the AERE Economics Incentive Workshop, Cambridge, MA, July 19-20, 1999.

“Mortality Risk Valuation: Evidence from a Contingent Valuation Survey,” (forthcoming) (with Maureen Cropper, Anna Alberini, Nathalie Simon, Kenshi Itaoka) Proceedings of an Expert Workshop on Mortality Risk Valuation, U.S. EPA, March, 1999.

“A New Paradigm for Mortality Valuation,” (with Maureen Cropper, Anna Alberini, Bob Belli, and Nathalie Simon) Paper presented at the International Conference on Probabilistic Safety Assessment and Management PSAM IV, Grand Hyatt Hotel, New York City, September 13-18, 1998. Paper also presented at the World Congress of Environmental and Resource Economists, Venice, Italy, June 1998.

“Mortality and Stated Preference Methods: An Exploratory Study,” (with Maureen Cropper, Anna Alberini, Bob Belli, and Nathalie Simon) Paper presented at the Southern Economics Association Annual Meeting, Atlanta, GA, November 1997.

“The Costs and Benefits of Title IV: An Integrated Assessment with the Total Analysis Framework,” (with Dallas Burtraw) Paper presented at the Air and Waste Management Specialty Conference: Acid Rain and Electric Utilities II, Phoenix, AZ, January 1997.

“Mobile Sources and Air Pollution Policy: International Experience and Recommendations for Bogota, Colombia,” (with Virginia McConnell and Eduardo Uribe Utero) presented at Environmental and Natural Resource Issues in Colombia, Hosted by the Colombian Department of State Planning, Bogota. September 1996.

“The Social Costs of Electricity: Do the Numbers Add Up?” (with Dallas Burtraw) presented at the ASSA Annual Meeting, San Francisco, CA, January 1996.

“The Social Benefits of Social Costing Research,” (with Dallas Burtraw and Karen Palmer) presented at the Workshop on the External Costs of Energy, sponsored by the European Commission and the OECD, Brussels, January 30-31, 1995.

“Valuing Health Effects of Air Pollution in Developing Countries: The Case of Taiwan,” (with Anna Alberini and Maureen Cropper) presented at the ASSA Annual Meeting, Washington, DC, January 1995.

"Air Quality and the Value of Health in Taiwan," (with Anna Alberini, Maureen Cropper, and Winston Harrington) presented at a meeting of the Eastern Economics Association, Boston, MA, March 1994.

"Airborne Health Damages and Environmental Priority Setting in Central and Eastern Europe," (with Kenneth Harrison, Eric Nickell, and Michael A. Toman) presented at the ASSA Annual Meeting, Boston, MA, January 1994.

"Electric Utility Planning in the Presence of Externalities," (with Dallas Burtraw and Karen Palmer) presented at the Conference on Market Approaches to Environmental Protection, sponsored by Stanford University, December 1993.

"Social Costing of a Mid-Atlantic Electric Utility: Implications for Electricity Supply, Energy Demand, and Air Emissions," (with Karen Palmer, Hadi Dowlatabadi, and Stuart Siegel) presented at the Southern Economics Association Annual Meeting, New Orleans, LA, November 1993.

"Toward an Integrated Theory of International Trade and Environmental Policies," (with Arvind Panagariya, Karen Palmer, and Wallace E. Oates) presented at the ASSA Annual Meeting, Anaheim, CA, January 5-7, 1993. Also issued as RFF Discussion Paper QE93-07, "Toward an Integrated Theory of Open Economy Environmental and Trade Policy," Washington, DC, June 1993.

"The Social Costs of Fuel Cycles: Lessons Learned," presented at the AERE Sessions of the annual meeting of the ASSA, Anaheim, CA, January 5-7, 1993. Resources for the Future Discussion Paper QE93-04, Washington, DC, January 1993.

"Benefit Transfer and Social Costing," in Benefit Transfer: Procedures, Problems, and Research Needs, Proceedings of the 1992 AERE Workshop, Snowbird, UT, June 3-5, 1992.

"Incentive Policies for Industrial Pollution Control in China," presented at the annual meeting of the ASSA, New Orleans, LA, January 2-5, 1992.

Annual Conference of the National Association of Regulatory Utility Commissions, Williamsburg, VA, December 1991. Resources for the Future Discussion Paper QE92-15 (with Dallas Burtraw), Washington, DC, April 1992.

"Transportation and Air Pollution in Urban Areas of Developed and Developing Countries," presented at the 70th Annual Meeting of the Transportation Research Board, Washington, DC, January 13-17, 1991.

"Air Pollution in Urban Areas of Developing Countries: Problems and Solutions," presented at Environment and Development, a United Nations University Conference, Helsinki, Finland, September 3-7, 1990. Resources for the Future Discussion Paper QE91-14, Washington, DC, October 1991.

"The Cost-effectiveness of Methanol Vehicles" (with Margaret Walls) presented at the ASSA annual meeting, Washington, DC, December 26-28, 1990.

"The Effect of Information on Health Risk Valuations" (with Maureen Cropper) presented at the annual meeting of the Allied Social Science Associations, Atlanta, GA, December 28-30, 1989; Resources for the Future Discussion Paper QE90-13.

"The Social Costs of Chronic Heart and Lung Disease" (with Maureen Cropper) presented at AERE Workshop, May 1989; Resources for the Future Discussion Paper QE89-16.

"Tradable Nutrient Permits and the Chesapeake Bay Compact," presented at the annual meeting of the Allied Social Science Associations, New York, NY, December 28-30, 1988; Resources for the Future Discussion Paper QE89-07.

"Uncertainties in Estimates of the Cost and Benefits of Groundwater Remediation: Results of a Cost-Benefit Analysis" (with Walter O. Spofford, Jr. and Eric F. Wood) presented at the Water Resources Research Conference, December 1988; Resources for the Future Discussion Paper QE89-15.

"Economics and Nutrient Management in the Chesapeake Bay," presented at the Annual Conference on the Economics of Chesapeake Bay Management, Baltimore, MD, May 23-25, 1988.

"The Temporal and Spatial Control of Ambient Ozone," presented at the Annual Meeting of the Air Pollution Control Association, Dallas, TX, June 20-24, 1988.

"Reducing Bay Nutrients: An Economic Perspective," presented at the Symposium on the Chesapeake Bay, Maryland School Of Law, Baltimore, MD, October 14, 1987.

"Agricultural Policy and the Benefits of Ozone Control," presented at the Annual Meeting of the American Agricultural Economics Association, East Lansing, MI, August 2-5, 1987.

"Air Pollution and Environmental Policy: The Case of the National Ambient Air Quality Standards for Photochemical Oxidants," presented at the American Economics Association Conference, New Orleans, LA, December 28-30, 1986.

"Air Pollution and Acute Health Effects: New Evidence," (with Winston Harrington) presented at the Environmental Law Institute-Environmental Protection Agency Joint Seminar Series, November 20, 1986.

"Estimating the Uncertainties in the Benefits of Management Strategies for Controlling Groundwater Contamination," presented at the Annual Meeting of the Society for Risk Analysis, Boston, MA, November 10, 1986.

"Lung Function as a Risk Factor for Acute Respiratory Disease: An Epidemiological Study," (with Winston Harrington) presented at the Air Pollution Control Association Conference, Detroit, MI, June 1985.

"Managing the Chesapeake Bay Clean-Up: A Modeling Approach," presented at the Eighth Biennial International Estuarine Research Conference, Durham, NH, July 1985.

"Air Pollution and Acute Respiratory Disease in Children: A Micro-epidemiological Analysis," (with Winston Harrington) presented at the annual meeting of the Allied Social Science Associations, Dallas, TX, December 1984.

"What Makes EPA Run? An Empirical Analysis of EPA Rulemaking Behavior," presented to the Conference on Implementation of Environmental Regulation: International Comparisons, Berlin, Germany, October 1981.

"Equity and Efficiency in the Promulgation of Federal Regulations: The Case of EPA's Effluent Discharge Standards" (with Winston Harrington) presented at the American Economic Association Conference, Denver, CO, September 1980.

"On the Design of a Market for Air Pollution Rights: The Spatial Problem" (with Wallace Oates) presented at the Western Economics Association Conference, San Diego, CA, June 1980.

"Regulatory Rulemaking in Theory and Practice: The Case of EPA's Effluent Guidelines" (with Wesley A. Magat and Winston Harrington) presented at Western Economic Association Conference, San Diego, CA, June 1980.

"An Economic-Environmental Planning Manual for Counties, States, and Metropolitan Areas" (with J.H. Cumberland) BBER Working Paper #1, presented at the Regional Science Association Meetings, November 11, 1977.

TESTIMONY

Testimony on the Performance of the Clean Air Act, before the House Subcommittee on Energy and Air Quality, Committee on Energy and Commerce, May 1, 2002.

Testimony on the Proposed NAAQS for Ozone and PM (Panel I), before the Subcommittee on Clean Air, Wetlands, Private Property, and Nuclear Safety, Senate Committee on Environment and Public Works, April 24, 1997.

Testimony on Implementation of the Proposed NAAQS for Ozone and PM (Panel II), before the Subcommittee on Clean Air, Wetlands, Private Property, and Nuclear Safety, Senate Committee on Environment and Public Works, April 24, 1997.

Testimony on Implementation and Enforcement of the Clean Air Act, before the Subcommittee on Health and the Environment and the Subcommittee on Oversight, House Commerce Committee, November 9, 1995.

Testimony on Regulatory Reform bills in Congress, provided to the U.S. Senate Governmental Affairs Committee, March 8, 1995.

RECENT PRESENTATIONS

FY2013 presentations on shale gas research and issues given at the following meetings, workshops, conferences:

Aspen Institute, Aspen, CO

Union of Concerned Scientists workshop and event, UCLA, Los Angeles, CA

Association of Environmental and Resource Economists Annual Meeting, Banff, Alberta, CA

Joint Global Change Research Institute workshop. Cambridge, Maryland

Meetings with U.S. House and Senate staff, Washington, DC

International Energy Agency Shale Gas conference, Paris

International Council for Clean Transportation, Washington, DC

Filmed for Rational Middle Series, Greg Kallenberg, Producer

World Bank Seminar, Washington, DC

International Monetary Fund seminar, Washington, DC

Department of Energy talk, Washington, DC

University of Chicago, Harris School, Seminar, Chicago, IL

American Trucking Association Conference, Arlington, VA

National Development Research Council and Energy Foundation, Shale Gas conference, Beijing

American Public Health Association conference, San Francisco

Baker Forum on Natural Gas and Electricity, Knoxville

Baker Institute event, Newseum, Washington, DC

Bipartisan Policy Commission, Washington, DC

Several panels organized by the National Journal, Washington, DC

New Zealand Ministry for the Environment, French Embassy, UK Embassy, Washington, DC

American Institute for Contemporary German Studies event, Washington, DC

CERES AND BSR event at Corporate Social Responsibility conference, San Francisco,

JPMorgan meeting, New York

National Academy of Sciences Shale Gas Risks public meeting, Washington, DC

Issues in Valuing Chesapeake Bay Resources, presented at Chesapeake Bay Valuation workshop, USEPA, Washington, DC, October 2011.

(with Ian Parry), What Is the Best Policy Instrument for Reducing CO2 Emissions? Presented at Fiscal Policy to Mitigate Climate Change, IMF, March 2012.

The Social Costs of Energy, various Portuguese cities, for U.S. State Department. September 2011.

Banzhaf, et al, VALUATION OF BIOLOGICAL ENDPOINTS IN THE SOUTHERN APPALACHIAN MOUNTAIN REGION, presented at the AERE Spring conference, June, 2011

The [Value](#) of Life: Priceless; The Value of Reducing Death Risks: Not, before an Institute of Medicine Panel on valuation of energy externalities, October 2011.

Valuing TMDL Implementation in the Chesapeake Bay Region, NOAA workshop on Elwah River dam removal. Asheville, NC. June 6, 2012

The Future of JEEM, Spring meeting of AERE, Asheville, NC, June 4-5, 2012

Distinguished Speaker Series, Colorado Mountain College, US Energy Policy Options, Breckenridge, CO (March, 2010)

Who Speaks for the Household? Differences in Spouses' Willingness to Pay and How These are Resolved in a Couple, (Sandy Hoffmann presenting, with Vic Adamowicz, W133 Annual Meeting, Tucson, AZ, February 2010.

Household Bargaining and Stated Preference Surveys: Parental Valuation of Risk and IQ loss and ADHD, (Sandy Hoffmann presenting, with Vic Adamowicz) Society for Risk Assessment Annual Meeting, Baltimore, MD., December 2009.

The Implications of Behavioral Economics for Stated Preference Research, at *New Ideas for Risk Regulation*, SRA-RFF Conference, RFF Conference Center, June 2009.

Abundant Shale Gas Resources: Implications for Natural Gas Price Stability, NCEP Workshop, May 2009. (with Steve Brown)

Valuation of Ecosystem Services, presentation (with Jim Boyd) at the USEPA presentation, July 2009

U.S. Energy Policy Options: preliminary results. Presented to the Executive Office of the President, OEOB, December 2009. (with RFF team).

Incorporating Equity Concerns in Benefit-Cost Analysis, presented at a USEPA Symposium Strengthening Environmental Justice Research and Decisionmaking (Maureen Cropper presenting), March 2010.

The Role of Altruism in the Valuation of Community Drinking Water Risk Reductions, Jing Zhang, Wiktor Adamowicz, Alan Krupnick and Diane Dupont (Krupnick presenting), EAERE Conference, Gothenberg, Sweden (June, 2008).

The Value of Life: Priceless; Reducing death risks: Not. An Application to China Joint Departmental Symposium | University of New Hampshire, December, 2009

The Value of Life: Priceless; Reducing death risks: Not. An Application to China, Penn State University, Dean's lecture Series, September 26, 2008

Critique of the Clean Air Mercury Rule RIA, Workshop on Reforming Cost-Benefit Analysis | June 15, 2008

WTP for Reducing Hazardous Air Pollutants, EPA Toxic Benefits Workshop

April 28, 2009, Arlington, VA.

Acceptable Risk from Flooding and the Value of Statistical Life, Conference on Acceptable Risk, US Army Corps of Engineers and other agencies, Alexandria, Va., March 2008.

Valuing Mortality Risk Reductions for Homeland Security Meeting, DHS, February 2008.

Mortality Risk Valuation in China, World Bank Economics Seminar Series, February, 2008.

Frontiers of Environmental Economics: Chair of session, AEA Meetings, New Orleans, January 2008

Value of Statistical Life and Age, Society for Risk Analysis Annual Meeting, Austin, TX December 11, 2007

IOM Recommendations for Valuing Health in Regulatory Cost-Effectiveness Analysis (with Lisa Robinson and Wilhelmine Miller) Society for Risk Analysis Annual Meeting, Austin, TX December 11, 2007

WTP for Mortality Risk Reductions in China (with Sandra Hoffmann) Society for Risk Analysis Annual Meeting, Austin, TX December 10, 2007.

Economic and Health Issues in Regulating Mercury Air Emissions, Virginia Mercury Symposium, Secretary for Natural Resources, State of Virginia, Newport News, VA. November 27, 2007.

Mortality Risk Valuation in China, Alan Krupnick, Seminar Tsinghua University, Beijing, October 31, 2007

RFF and The Environment For Development Program, Beijing University. Beijing Center for Environmental Economics, Beijing University, Beijing, October 30, 2007.

Mortality Risk Valuation in China, at Linking Issues to Motivate Chinese Climate Policies, Cicero & ECON, Oslo, Norway, August 30, 2007

Progress Report on SAMI Project, (With Juha Siikamaki and Shalini Vajhalla), Valuing Ecosystem Services, USEPA, NCEE, Crystal City, Alexandria, VA, April 24, 2007

Discussant for paper on Altruism and the WTP of Parents for Health Improvements, American Economic Association Meetings, AERE, Chicago, January 5, 2007

Willingness to Pay for Mortality Risk Reductions in Shanghai and Chongqing, China by Alan Krupnick at World Bank/SEPA Conference for a Green China | March 2, 2007

Cost-Benefit Analysis for Air Pollution Control in China, Alan Krupnick, World Bank/SEPA Conference for a Green China | March 2, 2007

The Willingness to Pay for Reducing Death by Crime: Tapping into the Environmental Economics Literature, before the International Workshop on Cost-Benefit Analysis of Criminal Justice, Urban Institute, January 2007.

“Ecosystem Services and Monetary Valuation,” RFF Workshop on Ecosystem Services, RFF, Washington, DC, February 2006.

“The Generational Divide in Environmental Policy: Should Seniors’ Lives be Discounted?” Forum on Science, Ethics and Policy, University of Washington, Seattle, Washington, April, 2006.

“Are Decisionmakers at Home on the Range?” Conference on Cost-Benefit Analysis, University of Washington, Seattle, Washington, April, 2006.

“Comments on Proposed OMB Risk Assessment Bulletin Conference: National Academy of Sciences NAS, Washington, DC, April, 2006.

”Using Expert Elicitation to Attribute Pathogen-specific Foodborne Illness to Food Consumption in the U.S.” Poster Session at Priority setting of foodborne and zoonotic pathogens, European Union MED-VET-NET Network of Excellence and the US Food Safety Research Consortium, Berlin, July 2006.

“Valuing Food Safety,” Priority setting of foodborne and zoonotic pathogens, European Union MED-VET-NET Network of Excellence and the US Food Safety Research Consortium, Berlin, July 2006.

”Mortality and Morbidity Benefits of Drinking Water Improvements,” U.S. EPA NCER/NCEE Workshop Morbidity and Mortality: How Do We Value the Risk of Illness and Death? USEPA, L’Enfant Plaza, Washington, D.C., May, 2006.

”Parental Decision-Making and Children’s Health” U.S. EPA NCER/NCEE Workshop Morbidity and Mortality: How Do We Value the Risk of Illness and Death? U.S. EPA, Washington, DC (with Sandra Hoffmann), May 2006.

”Experience with Web-Based Surveys,” U.S. EPA NCER/NCEE Workshop Morbidity and Mortality: How Do We Value the Risk of Illness and Death? U.S. EPA, L-Enfant Plaza, Washington, DC, May 2006.

“Social Science Integration into CLEANER (NSF Observatory),” CLEANER All-Hands Meeting Arlington, VA, March 2006.

:Mortality Risk valuation in China: Results from a Stated Preference Survey ,” First Joint Seminar of the Economics Department and China Department, World Bank, Washington, DC, March 2006 (with Sandra Hoffmann)

“Using Expert Elicitation to Attribute Foodborne Illness to Specific Foods,” Society for Risk Analysis 2005 Annual Meeting (given by Sandra Hoffmann) Tampa, Florida, November 2005.

“What’s Uncertainty Have to Do With It? NRC Committee on Models in the Regulatory Decision Process National Research Council, Washington, D.C., November 2005 (with Dallas Burtraw and Richard Morgenstern)

“Performance Standards For Food Quality: What can be Learned from EPA?” USDA Meeting, USDA, Washington, D.C. November 2005. (with Sandra Hoffmann).

“Urban Air Pollution, Health and Policy Instruments,” plenary session presentation at *Energy Week 2005*, World Bank, Washington, DC.

“Emissions Trading in Taiyuan, China,” presentation to NERAM IV, Mexico City, February 2005.

“Challenges for Air Pollution Control in Developing Countries,” presentation to NERAM IV, Mexico City, February 2005.

“Air Pollution and Cost-Benefit Analysis,” presentation to staff of the U.S. House of Representatives, December 2004.

“Valuation of Improvements to the Adirondacks Ecosystem,” Resources for the Future Seminar Series, April, 2004. Also, NCEE Seminar Series, May 2004. Also, presentation for U.S. EPA, March 2004 (with Dallas Burtraw, Spencer Banzhaf and David Evans).

“Economics at the Council of Economic Advisors,” at the annual meeting of the Allied Social Science Associations, San Diego, CA, January 2004.

“Health, Environment, and Urban Air Quality,” workshop on Environment and Development Economics, Institute for Policy Dialogue. Columbia University, December 2003.

“Can Experience with Environmental Performance Standards Inform Food Safety Regulation?” (with Sandra Hoffmann) at a USDA Workshop, December 2003.

“The Senior Discount,” at the RTI Research Fellows Seminar Series, Research Triangle Park, NC, November 2003.

“Cost-Benefit Analysis and Health Valuation,” seminar at the George Washington University School of Public Health, November 2003.

“Regulatory Impact Analyses and Health Valuation.” (with Richard Morgenstern) seminar to members of a delegation from South Korea hosted by U.S. AID, October 2003.

“Market-Based Innovations” at a conference *Clearing the Path to Clean Air: Strategic and Technological Innovations for Ozone SIP Development*, March 12 – 14, 2003, Arlington, VA.

Use of Short-Term and Long-Term Mortality Risk Studies in Policy Analysis, Health Effects Institute Annual Conference in Boulder, CO., May 2003.

“Use of Cost-Benefit Analysis,” to workshop hosted by Swedish EPA, Stockholm, Sweden. 2003.

“Children’s Health Valuation” (with Sandra Hoffmann and Vic Adamowicz) at the EPA, NCEE Workshop on Children’s Health Valuation, 2003.

“State of the Art in Estimating the Value of Statistical Life” and “An Evaluation of the Cost-benefit Analysis Performed by the Canadian Government in Support of Their National Ambient Air Quality Standards for Ozone and PM_{2.5},” at the International Conference on Health, Environment, and Economics, sponsored by the Air and Waste Management Association, Ottawa, Ontario, Canada, November 18-20. 2002.

The WTP for Delayed Mortality Risk Reductions (with Maureen Cropper, Anna Alberini, and Nathalie Simon) for presentation to the Second World Congress of Environmental and Natural Resource Economists, Monterey, CA, June 29, 2002.

Ancillary Carbon Reductions from SO₂ Reductions in China: Results of a Survey (with Richard Morgenstern) prepared for the US EPA, June 2002, for presentation to the Second World Congress of Environmental and Natural Resource Economists, Monterey, CA, June 29, 2002.

Source-Receptor Relationships for Ozone and PM_{2.5} in the Eastern U.S. (with Ted Russell, Michelle Bergin and Jih-Shyang Shih) for presentation to the Second World Congress of Environmental and Natural Resource Economists, Monterey, CA, June 29, 2002.

“The Effect of Risk and Individual Characteristics on the Willingness to Pay for Mortality Risk Reductions,” presented at Economic Valuation of Health for Environmental Policy: Assessing Alternative Approaches, University of Central Florida, March 18-19, 2002. Sponsored by the U.S. EPA.

“Power Plants and Clean Air: Proposed Reforms of the Clean Air Act,” SAIS Energy/Environment Seminar Series, Washington, DC, March 2002.

“Approaches to Estimating the Value of Statistical Life,” Department of Transportation Briefing, February 21, 2002.

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Gave RFF Wednesday Seminar Series talk: Mortality Risk Valuation in the Context of Air Pollution, March 2001 (with Anna Alberini).

“Age, Health and the Willingness to Pay for Mortality Risk Reductions,” (With Maureen L. Cropper) presented at Harvard School of Public Health (February, 2001).

“Age, Health and the Willingness to Pay for Mortality Risk Reductions,” presented at The Measurement and Economic Valuation of the Health Effects of Air Pollution, A symposium sponsored by the UK Department of the Environment, Transportation, and Regions, London, February 19-20, 2001.

“Age, Health and the Willingness to Pay for Mortality Risk Reductions,” invited paper presented to the MacMaster University School of Public Health, Ontario, Canada, December 2000.

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“Methods for estimating ancillary benefits of climate change mitigation,” given at *Methods Development for Estimating Ancillary Benefits of Climate Mitigation*, sponsored by various Canadian government agencies: Calgary, Canada, May 3-4, 1999.

“Mortality risk valuation in adults,” at *EPA-NSF Health Valuation Workshop*, Arlington, VA, March 15-16, 1999.

“Environmental Effects of Electric Vehicles Charged at Night,” at Transportation Research Board *Annual Conference*, Washington, DC, January 1999.

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“Incentives for Mobile Source Pollution Control,” presented before the National Advisory Council on Environmental Policy and Technology, of the EPA Office of Reinvention, Sheraton Hotel, Washington, DC, September, 1998.

“Research Needs for Cost-Benefit Analysis of Air Quality Standards,” presented at the Annual Meeting of the American Association of Agricultural Economics, Salt Lake City, UT, August 3, 1998.

“Environmental Economics,” lectures given at the World Bank’s Environmental Economics for Development Policy Course, July 8, 1998.

“Chesapeake Bay and Control of NO_x Emissions: A Policy Analysis,” presented at the Duke-RTI Environmental and Resource Economics Seminar Series, RTI, NC, June 4, 1998.

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“The Social Costs of Transportation,” presentation at the Annual Meeting of the Transportation research Board, Washington, DC, January 15, 1998.

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“Evaluation of CMAQ Projects,” (with Farrell and Harrington) RFF Discussion Paper 98-18.

“Intel’s XL Permit: A Framework for Evaluation,” (with James Boyd and Janice Mazurek) RFF Discussion Paper 98-11

“Public Support for Congestion Fee Policies for Motor Vehicles: Survey Results,” working paper (with Winston Harrington and Anna Alberini) RFF Discussion Paper 98-27.

“Energy, Transportation and Environment: Policy Options for Environmental Improvements,” (with Winston Harrington) paper for the World Bank.

“Mobile Sources and Air Pollution Policy: International Experience and Recommendations for Bogota, Colombia,” (with Virginia McConnell and Eduardo Uribe Utero).

“Examining the Relationships Between Urban Density, Transit Availability, and Vehicle Travel: Results from a Nested Logit Model of Vehicle Choice,” (with Winston Harrington and Margaret Walls) Paper presented at the Australian Economics Association, September 1998.

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“Estimating the Demand for Vehicle-Miles-Traveled Using Household Survey Data: Results from the 1990 Nationwide Personal transportation Survey,” (with Margaret Walls and Carter Hood) RFF Discussion Paper ENR 93-25, September 1993.

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“The External Costs of Nuclear Power: Ex Ante Damages and Lay Risks,” (with Anil Markandya and Eric Nickell) RFF Discussion Paper QE93-28, September 1993.

"Bridging the Gap between State and Federal Social Costing," (with Dallas Burtraw) RFF Discussion Paper QE93-19, September 1993.

"Some Simple Analytics of Social Costing in a Regulated Industry," (with Dallas Burtraw, Winston Harrington, and A. Myrick Freeman III) RFF Discussion Paper QE93-13, April 1993; revised November 1993.

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"Modeling Issues in Vehicle Transportation and Environment," report to Public Economics Division, World Bank, January 1992.

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"Emissions Trading in the Electric Utility Industry," (with Douglas Bohi, Dallas Burtraw, and Charles Stalton) Report to Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, February 1990; RFF Discussion Paper QE90-15, March 1990.

"Ethanol Fuel & Non-Market Benefits: Is a Subsidy Justified?" RFF Discussion Paper ENR89-07, August 1989.

"Air Pollution in Beijing, China: A Case Study," World Bank Desk Report, July 1989.

"A Health Benefit Analysis of Reductions in Photochemical Oxidants in the Northeastern United States," Final Report to the U.S. Environmental Protection Agency, December 1988.

"Preliminary Analysis of the Benefits of Alternative Strategies for the Control of Photochemical Oxidants," for U.S. Environmental Protection Agency, September 1986.

"The Benefits of Preventing an Outbreak of Giardiasis Due to Drinking Water Contamination," (with Walter O. Spofford, Jr. and Winston Harrington) for the U.S. Environmental Protection Agency, June 1985.

"Maternal Work Status and Childhood Illness: Evidence from CHESS," (with Winston Harrington) RFF Discussion Paper QE85-06, October 1984.

"Respirable Particulates and Acute Respiratory Disease in Children," (with Winston Harrington) for U.S. Environmental Protection Agency, October 1984; RFF Discussion Paper QE85-02.

"Benefits Analysis of Alternative National Ambient Air Quality Standards for Photochemical Oxidants: Phase I Report," for U.S. Environmental Protection Agency, September 1984.

"Air Pollution and Lung Function in Children," (with Winston Harrington) for U.S. Environmental Protection Agency, July 1984; RFF Discussion Paper QE84-12.

"Assessment of Nonpoint Source Pollution Control Policies," (with Henry Peskin and Winston Harrington) Report prepared for the Office of Policy, Planning, and Evaluation, U.S. Environmental Protection Agency, March 1984.

"Acute Respiratory Disease and Exposure to NO₂: Construction of Exposure-Response Functions Using CHESS Data from Chattanooga, Tennessee," (with Winston Harrington) Report prepared for Office of Policy and Resource Management, U.S. Environmental Protection Agency, October 1983.

"Assessment of the Chattanooga Acute Respiratory Disease Survey," (with Winston Harrington) Report prepared for Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, April 15, 1983.

"Cost per Exposure Reduction Analysis of Alternative NO₂ NAAQS," (with Winston Harrington) Report prepared for Office of Air Quality Planning and Standards, U.S. Environmental Protection Agency, Research Triangle Park, NC, August 3, 1982.

"Appendix to Chapter VI of the NO₂ Regulatory Impact Analysis: Deriving Damage Functions for the Effects of NO₂: An Evaluation of Selected Studies," (with Winston Harrington) August 1982.

"Federal Regulation: A Statistical Analysis," (with Winston Harrington, Wesley Magat, and Henry M. Peskin) May 1982.

"Simulating Alternative Air Pollution Control Policies: Nitrogen Oxides in the Baltimore Air Quality Control Region," Report to the Department of Economic and Community Development, State of Maryland, December 1981.

"Innovative Technology Compliance Extensions: A Qualitative Economic Analysis of Section 301(k) of the 1977 Clean Water Act Amendments," (with David R. Yardas) prepared for THE U.S. Environmental Protection Agency, January 1981.

BOOK REVIEWS AND OTHER PRODUCTS

Blog posts on *Common Resources*. In 2013:

- GASLAND II: NOT TRUTHLAND, POSTED BY ALAN KRUPNICK ON JULY 10, 2013
- FRACKING ON FEDERAL LANDS: STEWARDS, NOT REGULATORS, POSTED BY NATHAN RICHARDSON AND ALAN KRUPNICK ON MAY 22, 2013
- SHALE GAS PRIORITIES? I'D LIKE TO USE A LIFELINE., POSTED BY ALAN J. KRUPNICK AND HAL GORDON ON FEBRUARY 8, 2013
- PROMISED LAND, POSTED BY ALAN J. KRUPNICK ON JANUARY 15, 2013
- IS THE NATURAL GAS REVOLUTION REAL?, POSTED BY ALAN J. KRUPNICK ON DECEMBER 13, 2012

Regulation of Mercury Emissions (with Dallas Burtraw) RFF website.

In *Nature*, review of W. Beckerman, *Small Is Stupid: Blowing the Whistle on the Greens*, Duckworth Press, London, 1995.

In *Environment International*, review of A.L. Nichols, *Targeting Economic Incentives for Environmental Protection*, The MIT Press, Cambridge, MA, 1984.

RECOGNITION

Elected President, Association of Environmental and Resource Economists (AERE), Term: 2013-14.

Elected as an AERE Fellow by the Association of Environmental and Resource Economists (AERE) (2011)

Appointed to the Site Selection Committee for the 2010 World Congress of Environmental and Resource Economics.

Award from the NAS Board of Environmental Studies and Toxicology for Outstanding Service on the Committee on Estimating Mortality Risk Reduction Benefits from Decreasing Tropospheric Ozone Exposure (2009)

Elected member of the Board of the Association of Environmental and Resource Economists (AERE). 2005-07.

Appointed to Editorial Board, *Land Economics*, 2001-4

Award for Exceptional Leadership and Subcommittee Co-Chair and Outstanding Contributions as a member of the FACA Subcommittee for Ozone, PM and Regional Haze Implementation Programs, Presented by U.S. EPA, September 1995-December 1997.

Winner of an Oak Ridge National Laboratory Significant R&D Accomplishment Award for the U.S. DOE-EU Fuel Cycle Externalities Study, 1993-4.

REVIEWS, COMMITTEE SERVICE, OTHER

Reviewer for:

American Economic Review
Review of Economics and Statistics
American Journal of Agricultural Economics
Journal of Environmental Economics and Management
Journal of Applied Policy and Management
Land Economics
Journal of Risk and Uncertainty
Environment and Resource Economics
Contemporary Policy Issues
Marine Resource Economics
Environmental Science and Technology
Operations Research
Journal of the Air Pollution Control Association
Journal of Industrial Economics
Journal of Regional Studies
Oxford University Press
Journal of Forestry
National Science Foundation

Reviewer of Erb Institute for Global Sustainable Enterprise, Stephen M. Ross School of Business and School of Natural Resources and Environment, University of Michigan, Tom Lyons, Director.

Member, USEPA, Science Advisory Board Expert Elicitation subcommittee (2009).

Member, National Academy of Sciences, National Research Council Committee on the External Costs of Energy, 2008-09.

Member, National Academy of Sciences, National Research Council Committee on the Mortality Benefits of Reducing Ambient Ozone Concentrations, 2007-08.

Member, U.S. EPA Expert Panel on Environmental Models, 2004-5.

Consultant to the National Academy of Science's Institute of Medicine Committee to Evaluate Measures of Health Benefits for Environmental Health and Safety Regulations, 2004-5.

Member, National Academy of Sciences, National Research Council Committee on Transportation Policy and the Environment., 2003-4.

Co-Chair, Interagency Steering Committee on Valuing Health Outcomes, 2002-3.

Invited to serve on the Advisory Committee to the Center for Environmental and Resource Policy, North Carolina State University, 2002

Member, CMAQ NAS Committee, 1999-2002

Member, STPP NAS Committee, 1999-2002

Member, Expert Panel on Reviewing the Canadian Proposed Ozone and PM Standards, Royal Society of Canada, 1999-2001

Co-Chair of the Workshop on the Convergence of Risk Assessment and Socioeconomic Analysis to Better Inform Chemical Risk Management Decisions, sponsored by U.S. EPA, OECD, and Health Canada, Arlington, VA, May 1-2, 2000.

Member, Subcommittee of the EPA Science Advisory Board for Review of the 812 Cost-Benefit Study, U.S. EPA (1998-99).

Co-chair of the Subcommittee for Development of Ozone, Particulate Matter and Regional Haze Implementation Programs, Clean Air Act Advisory Committee to U.S. EPA. 1995-7.

Member of the National Research Council's Review Team for the Federal Highway Cost Allocation Study, 1995-7.

Member of the National Research Council's Committee on Research and Peer Review at the Environmental Protection Agency, 1994-7.

Member of Scientific Advisory Board, Maryland Power Plant Research Program, State of Maryland, 1986-90.

Testimony, Senate Governmental Affairs Committee, House Marine Fisheries Committee, House Committee on Science, Space, and Technology.

Member of U.S. Department of Energy Environmental Costing Task Force. 1994-5.

Member of the New York State Managing Board for the Environmental Costing Study. 1995-6.