

Vita: ROBERT K. KAUFMANN

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EDUCATION

Ph.D. Energy Management & Policy, 1988
University of Pennsylvania.

M.A. Economics, 1984
University of New Hampshire.

B.S. Biology (Concentration: Ecology & Systematics), 1979 with honors
Cornell University.

PROFESSIONAL EXPERIENCE

Professor, Department of Geography and the Center for Energy & Environmental Studies,
Boston University, September 2003 - present.

Associate Professor, Department of Geography and the Center for Energy & Environmental
Studies, Boston University, September 1995 - 2003.

Assistant Professor, Department of Geography and the Center for Energy & Environmental
Studies, Boston University, September 1989 - 1995.

Senior Economist, Energy Department, Wharton Econometrics, September 1987 - August
1989.

Research Scientist, Complex Systems Research Center, University of New Hampshire,
February 1982 - August 1984.

Research Technician, Complex Systems Research Center University of New Hampshire,
September 1979 - January 1982.

BOOKS

R.K. Kaufmann and C.J. Cleveland. Under contract. *An Introduction to the Global
Environment: An Ecological Economic Perspective*. McGraw-Hill

C.A.S. Hall, C. Cleveland, and R. Kaufmann. 1986. *Energy and Resource Quality: The
Ecology of the Economic Process*, John Wiley & Sons, New York. Reprinted by
University Press of Colorado, Niwot CO. 1992.

J. Gever, R. Kaufmann, D. Skole, and C. Vorosmarty. 1986. *Beyond Oil: The Threat to
Food and Fuel in the Coming Decades*. Ballinger Press, Cambridge, Mass. Reprinted by
University Press of Colorado, Niwot Colorado. 1992.

 PEER REVIEW JOURNAL ARTICLES

Kaufmann, R.K. H. Kauppi, and J.H. Stock, Emission, concentrations, & temperature: a time series analysis. *Climatic Change*

Kaufmann, R.K. H. Kauppi, and J.H. Stock, The relationship between radiative forcing and temperature: what do statistical analyses of the instrumental temperature record measure? *Climatic Change*

Richmond, A. and R.K. Kaufmann, Is there a turning point in the relationship between income and energy use and/or carbon emissions? *Ecological Economics*.

Dees, S, P. Karadeloglou, R.K. Kaufmann, and M. Sanchez, Modelling the world oil market: assessment of a quarterly econometric model, *Energy Policy*

K.C. Seto and R.K. Kaufmann, 2005, Using logit models to classify land-use change from Landsat Thematic Mapper. *International Journal of Remote Sensing*. 26 (3): 563-577

Kaufmann, R.K. and C. Laskowski, 2005, Causes for an asymmetric relation between the price of crude oil and refined petroleum products, *Energy Policy* 33:1587-1596.

Wang, W, B. Anderson, R.K. Kaufmann, and R.B. Myneni, 2004, On the relation between the North Atlantic Oscillation and SSTs in the North Atlantic basin. *Journal of Climate*. 17 (24), 4752-4759.

Kaufmann, R.K, S. Dees, P. Karadeloglou, and M. Sanchez, 2004, Does Opec matter? an econometric analysis of oil prices *The Energy Journal* 25(4):67-90.

D'Arrigo, R.D., R.K, Kaufmann, N. Davi, G C. Jacoby, C. Laskowski, R.B. Myneni, Paolo Cherubini, 2004, Thresholds for warming-induced growth decline at northern treeline, *Global Biogeochemical Cycles* 18,GB3021,doi:10.1029/2004/GB002249.

Zhou, L. R.E. Dickinson, Y. Tian, J. Fang, R.K Kaufmann, and R.B. Myneni, Evidence for a significant urbanization effect on climate in China, *Proceeding National Academy of Sciences*, 2004, 101(26):9540-9541.

Kaufmann, R. K., R. D. D'Arrigo, C. Laskowski, R. B. Myneni, L. Zhou, and N. K. Davi 2004, The effect of growing season and summer greenness on northern forests, *Geophys. Res. Lett.*, 31, L09205, doi:10.1029/2004GL019608.

Kaufmann, R.K. 2004, The mechanisms for autonomous increases in energy efficiency: a cointegration analysis of the US energy/GDP ratio *The Energy Journal* 25(1) 121-144.

Kaufmann, R.K. Zhou, L, R.B. Myneni C.J. Tucker, D. Slayback, N.V. Shabanov, and J. Pinzon, 2003, The effect of vegetation on surface temperature: a statistical analysis of NDVI and climate data *Geophysical Research Letters* 30(2) 2137, doi: 10.1029/2003GL018251.

Kaufmann, R.K. and J.H. Stock, 2003, Testing hypotheses about the unknown carbon sink: a time series analysis *Global Biogeochemical Cycles* 17(2), 1072 doi:10.1029/2002GB001962.

Kaufmann, R.K. L. Zhou, C.J. Tucker, D. Slayback, N.V. Shabanov, and R.B. Myneni. 2003. Reply to comment by M. Lanfredi et al. to “Variations in northern vegetation activity inferred from satellite data of vegetation index during 1981 to 1999” by L. Zhou et al. *Journal of Geophysical Research*. 2002JD003287, 2003.

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Kaufmann, R.K. and K.C. Seto, 2001. Change detection, accuracy, and bias in a sequential analysis of Landsat imagery: a time series technique. *Agriculture, Ecosystems, & Environment*. **85**: 95-105.

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Kaufmann, R.K. L. Zhou, Y. Knyazikhin, N.V. Shabanov, R.B. Myneni, and C.J. Tucker. 2000. Effects of orbital drift and sensor changes on the time series of AVHRR vegetation index data *IEEE Transactions on Geoscience and Remote Sensing* **38**(6):2584-2597.

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Stern D. I. and R. K. Kaufmann. 1999. Econometric analysis of global climate change. *Environmental Modelling and Software* **14**: 597-605.

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Kaufmann, R.K. 1998. The impact of climate change on US agriculture: a response to Mendelsohn et al., 1994. *Ecological Economics* **26**:113-119.

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- Kaufmann, R.K. 1995. A model of the world oil market for Project LINK: Integrating economics, geology, and politics. *Economic Modelling*. **12**(2):165-178.
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- Kaufmann, R.K. 1994. The relation between marginal product and price in US energy markets: Implications for climate change policy. *Energy Economics* **16**(2):145-158.
- Kaufmann, R. K. 1994. An empirical analysis of the relation between expected energy prices and energy demand: Implications for carbon taxes and energy conservation. *Resource and Energy Economics* **16**:167-188.
- Kaufmann, R.K., W. Gruen, and R. Montesi. 1994. Drilling rates and expected oil prices: The own price elasticity of US oil supply. *Energy Sources* **16**:39-58.
- Kaufmann, R.K. 1993. An empirical exploration of the relation among diversity, stability, and performance in economic systems. *Structural Change and Economic Dynamics* **4**(2):299-313.
- Kaufmann, R.K., P. Pauly, and J. Sweitzer. 1993. The effects of NAFTA on the environment. *The Energy Journal* **14**:217-240.
- Kaufmann, R.K. and L.H. Thompson. 1993. Carbon taxes: Their benefits, liabilities. *Forum for Applied Research and Public Policy* **8**(3) 113-116.
- Kaufmann, R.K. B. Moore, S. Piccot, T. Lynch, and P.J. Chappell. 1992. Tracking the emission of carbon dioxide by nation, sector, and fuel: A trace gas accounting system (TGAS) *Journal of Energy Systems and Policy* **15**:189-210.
- Kaufmann, R. K. 1992. A Biophysical analysis of the energy/real GDP ratio: implications for substitution and technical change. *Ecological Economics* **6**(1) 35-56.
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- Kaufmann, R. K. 1991, Limits on the economic effectiveness of a carbon tax. *The Energy Journal*. **12**(4) 139-144.
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- Kaufmann, R. K. 1991. Oil production in the lower 48 states: Reconciling curve fitting and econometric models. *Resources and Energy* **13**:111-127.
- Cleveland, C.J. and R.K. Kaufmann. 1991. Forecasting ultimate oil recovery and its rate of production: Incorporating economic forces into the models of M. King Hubbert. *The Energy Journal*. **12**(2):17-46.

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Cleveland, C.J. R. Costanza, C.A.S. Hall, R. Kaufmann. 1984. Energy and the United States economy: A biophysical perspective. *Science* 225:890-897.

Kaufmann, R.K. and F. Harvey Pough, 1982, The effect of temperature upon the efficiency of assimilation of preformed water by the desert iguana, *Dipsosaurus dorsalis*. *J. Comparative Biochem. & Physiology* **72A**:221-224.

ARTICLES UNDER PEER REVIEW

Kaufmann, R.K., K.C. Seto, A. Schneider, L. Zhou and Z. Liu, Climate response to rapid urban growth: evidence of a human-induced precipitation deficit, *Journal of Climate*.

Kaufmann, R.K., A Bradford, L.H. Belanger, J. Mclaughlin, Y. Miki, Determinants of OPEC production: implications for OPEC behavior. *The Energy Journal*.

Kaufmann, R.K. A.K. Richmond, R.B. Myneni, Valuing environmental services, a shadow price or net primary production, *American Economic Review*.

Vera-Diaz, M.C. R.K. Kaufmann, D.C. Nepstad, and P. Schlesinger An Interdisciplinary Model of Soybean Yield in the Amazon Basin: The climatic, edaphic, and economic determinants, *Ecological Economics*

Richmond, A.K. and R.K. Kaufmann, Energy prices and turning points in the relationship between income and energy use/carbon emissions, *The Energy Journal*.

Kaufmann, R.K. Seasonal changes in atmospheric carbon dioxide: Longer growing seasons versus greener summers, *Global Change Biology*.

Wang, W. B. Anderson, N. Phillips, R.K. Kaufmann, and R. Myneni, Intraseasonal interactions between terrestrial vegetation and climate variability in Northern mid-latitudes, *Journal of Climate*.

Kaufmann, R.K. and D.I. Stern. The temporal relation between radiative forcing and surface temperature: a statistical evaluation of GCMs. *Climatic Change*.

Kaufmann, R.K. A statistical validation of four process-based models for the terrestrial biosphere *Global Biogeochemical Cycles*.

BOOK CHAPTERS

Seto, K.C. C.E. Woodcock, and R.K. Kaufmann, 2004, Changes in land cover and land use in the Pearl River Delta, China, In *Land Change Science*, G Gutman (ed.), Kluwer Academic Publishers.

Kaufmann, R.K. and B. Kuhl. In press. Energy and the macroeconomy. Encyclopedia of Life Support Science.

Cleveland, C.J, R.K. Kaufmann, and D. I Stern, 2004. Aggregation of Energy In *Encyclopedia of Energy Volume 1* Elsevier Press.

Seto, K.C. R.K. Kaufmann, and C.E. Woodcock, 2002. Monitoring land use change in the Pearl River Delta, China. In: *Linking People, Place, and Policy: A GIScience Approach*. S.J. Walsh and K.A. Crews-Meyer (ed.) Kluwer Academic Press. Boston.

Kaufmann, R.K. 2001. The Environment and Economic Wellbeing In. *Frontiers of Environmental Economics* H Folmer, H.L. Gabel, S. Gerking and A Rose (Ed). Edward Elgar. Cheltenham, UK

Cleveland, C.J. C.A.S. Hall, and R.K. Kaufmann. 2000. Meeting the Ecological Limits. In *Climatic Change: Socioeconomic dimensions and consequences of mitigation measures*. P. Pirila (ed.). Edita. Helsinki. pp. 67-123.

Kaufmann, R.K. and P. Pauly. 1998. International aspects of a carbon tax. In *LINK Proceedings*. Lawrence Klein and Bert Hickman (eds.) World Scientific Publishing Pte. Ltd. pp. 119-152.

R.K. Kaufmann 1997. La relacion entre la degrada ambiental el ingreso y el desarrollo sostenible. IN *Medio Ambiente en Latinoamerica: Desafios y propuestas* E. Calco, E. Figuerora, and J.R. Vargas (eds.) IIICE Centre Costa Rica.

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B. Moore and R.K. Kaufmann. 1992. The carbon cycle and the carbon dioxide problem. In *Global Climate Change: Implications, Challenges, and Mitigation Measures*. S.K. Mjumdar, L.S. Kalkstein, B. Yarnel, E.W. Miller, and L.M. Rosenfeld. (eds.). p117-144. Pennsylvania Academy of Science, Easton, PA.

R. Kaufmann. 1989. Will OPEC be able to raise prices by cutting production: A quantitative analysis. In *Competition, Profitability, and Policy in the Energy Industries*. International Association of Energy Economists. pp. 42-53.

J. Dowd, R. Dye, and R. Kaufmann. 1987. Do flexible functional forms generate accurate elasticities? In *The Changing World Energy Economy*. International Association of Energy Economists pp. 456-460.

C.A.S. Hall, R. Kaufmann, and C. Cleveland. 1984. Time series analysis of energy and the US economy. In: *Integration of Economy and Ecology -- An Outlook for the Eighties*. M. Jansson (Ed.) Wallenberg Symposium Series pp. 69 - 72.

R. Kaufmann, B. Moore, and M.M. Averner. 1983. Modelling gas exchange in a closed biological system. In: *State of the Art in Ecological Modelling*. W.K. Lauenroth, G.V. Skogerboe and M. Flug (Eds.). Amsterdam: Elsevier Scientific pp. 219 - 227.

R. Kaufmann and C.A.S. Hall. 1981. Energy return on investment for imported petroleum fuels. In: *Energy and Economic Modelling*. W.J. Mitsch, R.W. Bosserman, and J.M. Klopatek (Eds.). Amsterdam: Elsevier Scientific pp. 697-701.

PUBLISHED REPORTS AND CONFERENCE PROCEEDINGS

S. Piccot, T. Lynch, R. K. Kaufmann, C.J. Cleveland, and B. Moore. 1991. Project Summary: Analysis of historical radiatively important trace gases (RITG) emissions: Development of a trace gas accounting system (T-GAS) for 14 countries. EPA/600/S9-91-019. Air and Energy Engineering Research Laboratory.

S. Piccot, T. Lynch, R. K. Kaufmann, C.J. Cleveland, and B. Moore. 1991. Analysis of historical radiatively important trace gases (RITG) emissions: Development of a trace gas accounting system (T-GAS) for 14 countries. EPA -600/9-91-019. National Technical Information Service.

R. K. Kaufmann and I. Azary-Lee. 1991. A biophysical analysis of substitution: Does substitution save energy in the US forest products industry? In *Ecological Economics: Implications for Forest Management and Practice*. Dennis P. Bradley and P.O. Nilsson (Eds). The Swedish University of Agricultural Sciences. Garpenberg. pp. 111-123.

R. Kaufmann. 1989. A new model of the link between energy and economics. In *Proceedings, The Third National Conference of Microcomputer Applications in Energy*. Pages 3-9.

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B. Moore, R. Kaufmann, and C. Reinhold. 1981. Design and control strategies for a CELSS: integrating mechanistic paradigms and biological complexities. American Society of Mechanical Engineers.

TECHNICAL REPORTS

Kaufmann, R.K. 1994. The Outlook for the World Oil Market. Prepared for the World Project LINK Conference. The United Nations, NY.

Kaufmann, R.K. H.Y. Li, P. Pauly, K Seto, J. Sweitzer. 1993. A Preliminary analysis of international aspects of a carbon tax: the role of the world oil market. Prepared for the US Environmental Protection Agency.

Kaufmann, R.K. 1994. The Outlook for the World Oil Market. Prepared for the World Project LINK Conference. Beijing, The People's Republic of China.

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BOOK REVIEWS & LETTERS

R.K. Kaufmann, 2005, Book Review, Beyond Oil: The View From Hubbert's Peak,. By Kenneth S. Deffeyes. *Nature* **434**:960.

R.K. Kaufmann. 1996. Book Review: Managing the Global Commons: The Economics of Climate Change. By W.D. Nordhaus. *Ecological Economics* **19**:96.

R.K. Kaufmann. 1996. Book Review: This Fissured Land: An Ecological History of India By M. Gadgil and R. Guha. *Ecological Economics* **18**:260-261.

R.K. Kaufmann. 1993. Book Review: In the Servitude of Power: Energy and Civilization Through the Ages. By J.C. Debier, J.P. Delage, and D. Hemery. *Ecological Economics* **8**:313-314.

R. K. Kaufmann. 1993. Book Review: Beyond the Limits. By D. Meadows, D. Meadows, and J. Randers. *Natural Resources Forum* **17**(1):68-69.

R. K. Kaufmann. 1993. Book Review: Blueprint for a Green Planet. By D. Pearce, A. Makandya, and E. Barbier. *Ecological Economics* **7**:75-78.

C. Cleveland, R. Costanza, C.A.S. Hall and R. Kaufmann. 1985. Energy and Economic Activity. *Science*. **230**:738.

FUNDED RESEARCH

D. Nepstad (Principal investigator), Woods Hole Research Center, Robert Kaufmann (Co-investigator) Feedbacks among forestry, fire, and agriculture in Amazonia, Biocomplexity Program National Science Foundation, 9/1/04-8/31/09 \$249,996

D. Nepstad (Principal investigator), Woods Hole Research Center, Robert Kaufmann (Co-investigator) A Scientific Framework for Basin Wide Conservation Gordon and Betty Moore Foundation 6/1/03-5/31/06 \$157,999

R.K. Kaufmann (Principal investigator), R. Myneni (Co-Investigator) Monitoring recent changes in biospheric activity using tree rings and NDVI. With Roseanne D'Arrigo (Principal Investigator) Tree-Ring Laboratory, Lamont Doherty Earth Observatory. National Science Foundation (Ecological Rates of Change) Boston University portion \$149,300 9/1/02-8/31/04

Myneni, Ranga (Principal investigator), Boston University, R. Kaufmann ((Co-Investigator), The Greening Earth: Proposal for Monitoring the Pulse of Global Vegetation with Data from Multiple Satellites Since 1981 into the 21st Century. \$580,000 12/1/02-11/31/05

D. Nepstad (Principal investigator), Woods Hole Research Center, (Klink, Carlos , Universidade de Brasilia & Moutinho, Paulo S, Instituto de Pesquisa Ambiental), Robert Kaufmann (Co-investigator) Amazon Scenarios: Modeling Interactions Among Land Use, Fire and Climate. NASA. Boston University portion \$115,000 12/1/02-11/31/05

R.K. Kaufmann (Principal investigator), C. Woodcock, D. Dye, and K. Seto. Modelling and forecasting land use change in China based on socioeconomic drivers. NASA LCLUC-0002 (\$295,000) May 1, 1997 - April 31, 2000.

R.K. Kaufmann (Principal investigator) and S Gopal and L. Scuderi. The Impact of climate change on US agriculture. National Science Foundation Grant Number #95-23600. (\$155,623) September 1 1995 - August 31, 1998.

C.E. Woodcock, (Principal Investigator), F. El-Baz, C. Cleveland, M. Friedl, S. Gopal, R. Kaufmann, J. Key, D.Dye, R. Myneni, G. Salvucci, A. Strahler, Co-Investigators. Center for Excellence in Remote Sensing at Boston University. NASA (\$380,000) October 1, 1997 - September 30, 1998.

Peter Pauly (Principal Investigator) and R.K. Kaufmann (Co-Principal Investigator) Economic and environmental effects of carbon taxes: A multi-country study. US Environmental Protection Agency \$290,000 (Boston University (\$90,000). October 1, 1992 - August 31, 1994.

R.K. Kaufmann (Principal Investigator). Using Project LINK to assess the emissions of carbon dioxide. US Environmental Protection Agency \$27,755, March 1, 1992 - August 31, 1992.

R.K. Kaufmann (Principal Investigator). Analyzing Non-OPEC oil production. Japan National Oil Corporation. \$12,500. July 1, 1992 - August 31 1992.

R.K. Kaufmann (Principal Investigator) Using Project LINK to assess the emissions of carbon dioxide. US Environmental Protection Agency. \$15,000 September 1 1991 - February 28 1992.

R.K. Kaufmann (Principal Investigator). The effect of environmental policy on the oil and natural gas industry. Japan National Oil Corporation. \$15,000 September 1 1991 - January 31 1992.

R.K. Kaufmann (Principal Investigator) Analyzing the effect of policies to global climate change on economic activity and carbon emissions. US. Environmental Protection Agency. \$10,200 January 1 - August 31 1991.

R.K. Kaufmann (Principal Investigator). Analyzing the effect of policies to slow global warming and acid deposition on the oil and gas industry: Japan National Oil Company (Geography) \$15,000 September 1, 1990 - January 31 1991.

New Faculty Seed Grant. Boston University (\$2,000).

FELLOWSHIPS & AWARDS

Scientific American Fifty Most Important Papers Published in 2001. Zhou, L, C.J. Tucker, R.K. Kaufmann, D. Slayback, N.V. Shabanov, and R.B. Myneni. 2001. Variations in northern vegetation activity inferred from satellite data of vegetation index during 1981 to 1999. *Journal of Geophysical Research* 106:20069-20083.

Agronomy Journal Editors' Citation for Excellence in Manuscript review, 2000.

The International Association of Energy Economists Publication Award For The Best Paper Published in 1991. Forecasting ultimate oil recovery and its rate of production: Incorporating economic forces into the models of M. King Hubbert.

Chairman's Dissertation Award. University of Pennsylvania. Spring 1988.

University Fellow. University of Pennsylvania. 1984 - 1986.

National Wildlife Federation Publication Award. "Energy and the United States Economy: A Biophysical Perspective." *Science*, 225:890-898 (1984).

RESEARCH PANELS & WORKSHOPS

Land-Use/Land-Cover Change Steering Committee, NASA.

Project LINK Modelling Center. Built and maintain the model of the world oil market for Project LINK, the econometric model supported by the United Nations.

Intergovernmental Panel on Climate Change. Working Group I.

External drivers of deforestation and regrowth: Human dimensions of deforestation and regrowth in the Brazilian Amazon. Sponsored by the University of Florida, University of New Hampshire, Marathon Florida. February 20-23, 1997.

Assessing the role of human and natural capital in economic production. Sponsored by the MacArthur Foundation and held at the Center for Energy & Environmental Studies, Boston University.

Integrated Models of Global Climate Change: Coupling Social and Natural Sciences. Sponsored by the Potsdam Institute for Research on Climate Change Impacts. Potsdam, Germany.

Complex Ecological Economics Systems Dynamics Workshop. Sponsored by the Beijer Institute, International Institute for Ecological Economics, The Swedish Royal Academy of Sciences.

Stanford Energy Modelling Forum 12. Global Climate Change: Energy Sector Impacts of Greenhouse Gas Emission Control Strategies. September 1990 - June 1992.

Stanford Energy Modelling Forum 11. International Oil Supplies and Demands. September 1989 - September 1990.

INVITED LECTURES

World Oil Markets: Living Off the Past, Planning for the Future. World Project LINK Conference, Geneva Switzerland, October 2005.

Urban Myths of the Oil Market, Foundation for American Communications, Houston, September, 2005.

Why are oil prices so high? The World Bank, September 2005.

Do OTA Contacts reduce the use and by-products of toxic materials? Scientific Advisory Board—Office of technical Assistance, State of Massachusetts, Boston, MA July, 2005

Oil and the American Way of Life,: Don't Ask, Don't Tell. Fermi National Accelerator Laboratory, Chicago, IL, June 2005.

Modeling OPEC Production, World Project LINK Conference. Mexico City, May, 2005.

Changes in the Annual Cycle of Carbon Dioxide at Mauna Loa, University of Arizona, May 2005.

Urban Myths of the Oil Market, Foundation for American Communications, New Orleans, December 2004.

The Outlook for the World Oil Market. World Project LINK Conference. New York, November, 2004.

Oil and the American Way of Life,: Don't Ask, Don't Tell. Spokane Community College, Spokane, WA October 2004.

The Past, Present, and Future of oil prices, production, & demand. University of Maryland, College Park, MD. October, 2004.

The Past, Present, and Future for World Oil Prices. Brazilian Petroleum Institute, Rio de Janeiro, Brazil. July, 2004.

The effect of land use change on local climate in the Pearl River Delta, China, Rensselaer Polytechnic Institute, March, 2004.

The Outlook for the World Oil Market. World Project LINK Conference. New York, November, 2003.

The mechanisms for autonomous increases in energy efficiency: a cointegration analysis of the US energy/GDP ratio US Society for Ecological Economics Saratoga Springs, NY May, 2003.

Does Opec Matter? The European Central Bank, Frankfurt, May, 2003.

The Outlook for the World Oil Market. World Project LINK Conference. New York, April, 2003.

The effect of war on oil prices. IPEA & the Ministry of Finance, Rio de Janeiro, Brazil. March, 2003.

Monitoring and modeling land-use change in the Pearl River Delta, China, using satellite imagery and socioeconomic data. Harvard University, Cambridge. February, 2003

A model of the world oil market, European Central Bank, Frankfurt, November 2002.

The Outlook for the World Oil Market. World Project LINK Conference. Bologna, October, 2002.

The effect of radiative forcing on surface temperature: a statistical approach. School of Public Health, Boston University. April 2001.

The Outlook for the World Oil Market. World Project LINK Conference. New York, April, 2001.

Monitoring and modeling land-use change in the Pearl River Delta, China, using satellite imagery and socioeconomic data. University of Massachusetts, Boston. April, 2001.

A temperature driven biotic sink for carbon in the northern hemisphere. Harvard University. January 2001.

The economic, geological, and institutional determinants of US oil production. Yale University, December 2000.

The Outlook for the World Oil Market. World Project LINK Conference. Oslo, Norway, October, 2000.

An Alternative Model of the Relation Among the Economy, Energy, and Materials: Implications for Climate Change Policy: Harvard University. June 2000.

Statistical Analysis of the Global Carbon Cycle: Identifying Factors Responsible for Missing Carbon: Woods Hole Research Center, May 2000.

The Outlook for the World Oil Market. World Project LINK Conference. United Nations, New York, April, 2000.

Modelling Land Use Land Cover Change in the Pearl River Delta of China. NASA Principal investigators meeting. Virginia. April 2000.

Emissions, Concentrations, & Temperature: A Time Series Analysis (with Jim Stock). Harvard University. February 2000.

Identifying the date of change in land cover classes from a time series of Landsat images. Wageningen, Netherlands. December, 1999.

The Outlook for the World Oil Market. World Project LINK Conference. Athens, Greece, November, 1999.

Modelling Land Use Land Cover Change in the Pearl River Delta of China. NASA Principal investigators meeting. Virginia. May 1999.

The Outlook for the World Oil Market. World Project LINK Conference. United Nations, New York, May, 1999.

How much oil remains and why should you care? World Oil Forum, Denver. October 1998.

The Outlook for the World Oil Market. World Project LINK Conference. Brazil, September, 1998.

Modelling corn yield; Soil moisture versus precipitation. Community meeting on integrated assessment. Washington, DC July 1998.

Needed: A Truly Interdisciplinary Approach for Assessing Global Climate Change American Geophysical Union, Boston May 1998.

The Outlook for the World Oil Market. World Project LINK Conference. United Nations, New York, March, 1998.

Evidence for human influence on climate from hemispheric temperature relations World Project LINK Conference. Kuala Lumpur, Malaysia, September, 1997.

The Outlook for the World Oil Market. World Project LINK Conference. United Nations, New York, March 24, 1996.

The future of energy and economics; externalities, depletion, and global integration. Tufts University February 14, 1996.

Natural gas in the US: How far can technology stretch the resource base? International Association of Energy Economists. October 29, 1996.

The Outlook for the World Oil Market. World Project LINK Conference. University of Lausanne, Switzerland, September 30, 1996.

The role of human activity in global temperature: causal order in the historical record and coupled general circulation models. Plenary speaker. International Society of Ecological Economists, August 7, 1996.

The determinants of atmospheric concentrations of SO₂: reconsidering the environmental Kuznets curve. International Society of Ecological Economists, August 7, 1996.

The economic, engineering, and demographic determinants of the energy/GDP ratio: implications for carbon emissions. International Society of Ecological Economists, August 6, 1996.

Can technology reduce emissions of greenhouse gases? Incorporating technology innovation into the consideration of policy responses to human-induced climate change. Center for Global Change. February 9, 1996.

The relation among sustainability, income, and environmental degradation. Seminar on Sustainable development. University of Costa Rica. San Jose, Costa Rica. January 22, 1996.

The Outlook for the World Oil Market. World Project LINK Conference. September 25, 1995. University of Pretoria, South Africa.

The determinants of atmospheric SO₂ concentrations: reconsidering the environmental Kuznets curve. Environmental economics and policy seminar December 7, 1994. Harvard University.

Sustainability: Separating the wheat from the chaff. Sustainable development and environmental quality in the Hudson river valley. November 22, 1994, Garrison, New York.

The relation between marginal product and price in US energy markets. Political Economy of Global Energy. Brown Bag Luncheon Seminar. MIT. March 28, 1994.

The Outlook for the World Oil Market. World Project LINK Conference. March 10, 1994. The United Nations, NY.

The Outlook for the World Oil Market. World Project LINK Conference. September 13, 1993. Beijing, The People's Republic of China.

An Empirical Model of the World Oil Market. New England Chapter International Association for Ecological Economics. MIT. May 16, 1993.

Energy Supply, Economic Activity, and Social Change in the US and Former Soviet Union. Ecological Economics: Linking Economics and the Environment. University of Missouri at St. Louis. March 26, 1993.

An Empirical Model of the World Oil Market. Political Economy of Global Energy. Brown Bag Luncheon Seminar. MIT. March 24, 1993.

Integrating economic and physical models of climate change (Plenary Talk). Integrated Models of Global Climate Change: Coupling Social and Natural Sciences. The Potsdam Institute for Research on Climate Change Impacts. Potsdam, Germany. November 25, 1992.

A User's Guide to Carbon Taxes. University of New Hampshire, October 13, 1992. Durham NH.

An unexpected source of leakages from a unilateral carbon tax. World Project LINK Conference. Ankara, Turkey, September 17, 1992.

The economic cost of reduced yields of corn in Iowa due to climate change. International Society of Ecological Economists. August 6, 1992 Stockholm, Sweden.

The Outlook for the World Oil Market. World Project LINK Conference. September 24, 1991. Moscow, USSR.

Policies to increase US oil production: Likely to fail, damage the economy, and damage the environment. Pennsylvania Energy Office. September 5, 1991. Harrisburg, PA.

A Model of the World oil market for Project LINK. World Project LINK Conference. November 9, 1990 Manila, Philippines.

Tracking the emission of carbon dioxide by nation, sector, and fuel: A trace gas accounting system. International Society for Ecological Economics. May 23, 1990. Washington DC.

A Biophysical Analysis of the Energy/Real GDP Ratio in the "Big Five". International Society for Ecological Economics. May 23, 1990. Washington DC.

A Biophysical Analysis of Substitution: Does Substitution Save Energy in the US Forest Products Industry? Ecological Economics: Implications for Forest Management and Practice. April 4, 1990. St. Paul MN.

World Oil Markets: The Possibility for Another Oil Shock. Wharton International Forum. Wharton Business School, University of Pennsylvania. September 7, 1989.

A New Model of the Link Between Energy and Economics. Plenary Speaker. Third Annual Conference for Microcomputer Applications of Energy Use. November, 1988. Tucson AZ.

Do Flexible Functional Forms Generate Accurate Estimates of Energy Demand? Eighth Annual North American Conference of the International Association of Energy Economists. November, 1986. Boston, Mass.

US Carrying Capacity: What are the Limits? Global Tomorrow Coalition Meeting, June, 1983. Washington, D.C.

Modelling Gas Exchange in a Closed Biological System. Third International Conference on the State of the Art in Ecological Modelling. May 1982. Fort Collins, Colorado.

Net Energy Analysis of Importing Energy. International Symposium on Energy and Ecological Modelling. April 1981. International Society for Ecological Modelling. Louisville, Kentucky.

CONSULTING

ABSAR Corporation, Saudi Arabia, Analyzed the effect of changes in the price of crude oil on end-user prices in OECD nations.

European Central Bank. Built model of world oil market.

IPEA & Ministry of Finance (Brazil) Forecast of US invasion of Iraq on world oil Prices.

Arthur Andersen Consulting. Knowledgespace Consultant.

Nomura Research Institute. 1994. Review of world oil supply and demand models and estimation of energy demand models for newly industrialized economies in Asia.

Japan National Oil Corporation. Built model of world oil market.

Charles River Associates. 1993. Helped assess the effect of the BTU tax included in President Clinton's FY 94 Budget on the US oil production and drilling rates.

Chase Econometrics, Energy, Metals, & Materials. October 1984 - August 1987.

Micromosaics, 1984. Wrote computer program for Ecology Lab, an educational computer game that teaches the fundamental principles of ecology.

WGBH-NOVA, 1985. Wrote the teaching guide for Ecology Lab.

PEER REVIEW

Science	Nature
Ecological Economics	The International Journal of Forecasting
The Economic Journal	Resource and Energy Economics
The Energy Journal	Economic Modelling
Landscape Ecology	Agronomy Journal
Structural Change and Economic Dynamics	Ecological Applications
Energy: The International Journal	The Annals of Regional Science
Environment and Development Economics	Global and Planetary Change
Atmospheric Environment	Climatic Change
Review of Economics and Statistics	Environmental Management
The Journal of Environmental Economics and Management	
Journal of Geophysical Research (D) Atmospheres	

PROFESSIONAL SERVICE

Proposal Review

National Science Foundation, NASA, US EPA, US Department of Agriculture, Social Sciences and Humanities Research of Canada

Review Panels

NASA

Panel for LBA grants (September 1997)

Site visit LBA-Ecology mid tenure review panel February (2001)

Site visit LBA/LCLUCC assessment of Richard Bilburrow (UNC), Robert Walker (MSU) and Emilio Moran (IU) November 2001)

NSF

Site visit to Carnegie Mellon University to review renewal of NSF grant to the Carnegie Mellon Center for Integrated Study of the Human Dimensions of Global Change (CIS-HDGC) of \$8 million for five years (October 1999)

Review of NSF funding for IIASA (about \$5 Million) February 2001

Media Presentations

I have appeared on the national nightly news on NBC and CBS.

I have been quoted repeatedly in publication such as *The New York Times*, *National Geographic*, *Readers Digest* and many newspapers

I have written an Econoblog for *The Wall Street Journal* (with James Hamilton)

About wice a year, I appear on local TV to explain changes in oil prices.

Interviewed by Richard Kerr of *Science* regarding the outlook for world oil prices (Richard A. Kerr OPEC's second coming *Science* **281**:1129.)

Several TV appearances and print interviews for *Journal of Geophysical Research* paper (Zhou *et al.*, 2001).

Research is one of five projects chosen by Boston University to appear on the Boston University Science Coalition Research Website

(<http://www.bu.edu/research/Features/scicoalition02/warming.html>)

Print interviews for *Nature* paper (Kaufmann and Stern, 1997 (e.g. Financial Times of London)

International Society for Ecological Economics

Ran for President of the US chapter of the International Association of Ecological Economists in fall 2000 (Lost).

Helped organize 1996 ISEE meeting at Boston University

UNIVERSITY SERVICE

Director of Graduate Students, Center for Energy and Environmental Studies, Fall 2000 to present

Helped write internal review of the Center for Energy & Environmental Studies

Director, Center for Energy & Environmental Studies, Spring 2000.

Board of Directors, Boston University Children's Center. Spring 1992 - present

Director of Graduate Students, Center for Energy and Environmental Studies, Fall 1989 - Spring 1993.

Freshman and Transfer Summer Advisor, Summer 1990 - 1993.

Chair Search Committee, Department of Geography, Spring 1992

Freshman Friday Lectures, Spring 1992 and Spring 1993.

Center for Talented Youth Lectures, Fall 1992 and Fall 1993.