Richard Morgenstern

Resources for the Future 1616 P Street, NW, Washington, DC 20036

Professional Preparation

Oberlin College, Economics, High Honors and Comfort Starr Prize, A.B., 1966 University of Michigan, Economics, NSF/NDEA Fellowships, Ph.D., 1970 Columbia University School of Business, Post-doctoral, 1977

Professional Experience

Senior Fellow, Resources for the Future	2000-present
Senior Economic Counselor to the Under Secretary for Global Affairs, U.S. Department	1999–2000
of State	
Visiting Scholar, Resources for the Future	1995–1999
Deputy Administrator (Acting), U.S. Environmental Protection Agency	1993–1995
Assistant Administrator for Policy, Planning and Evaluation (Acting), U.S. Environmental	1991–1993
Protection Agency	
Director, Office of Policy Analysis, U.S. Environmental Protection Agency	1982–1995
Director, Energy Program, The Urban Institute	1980–1982
Legislative Assistant to Senator J. Bennett Johnston	1979–1980
Deputy Assistant Administrator for Energy, Natural Resources, and the Environment,	1976–1979
Congressional Budget Office	
Associate Professor of Economics, Queens College, C.U.N.Y. (with tenure)	1971–1976
Assistant Professor/Instructor of Economics, American University	1969–1970

Appointments and Memberships

Member, Advisory Committee to the NYU Institute for Policy Integrity, NYU Law School	2012-present
Member, Roundtable Environmental Health Sciences, Research, and Medicine, National	2005-present
Academy of Science	
Member, Advisory Committee on Environmental Policy, Oberlin College	2003-2005
Member, Advisory Committee to Americans for Equitable Climate Solutions	2001-2005
Member, HEI Committee on Accountability	2002-2004
Member, Advisory Committee on Environmental Policy, Carnegie Mellon University	2000-2004
Member, Committee on Industrial Environmental Performance Metrics, National	1998-1999
Academy of Sciences	

Select Journal Articles

"The Initial Incidence of a Carbon Tax Across Income Groups," Roberton C. Williams III, Hal Gordon, Dallas Burtraw, Jared C. Carbone, and Richard D. Morgenstern, *National Tax Journal*, forthcoming.

"Identifying the Analytical Implications of Alternative Regulatory Philosophies," Art Fraas and Richard Morgenstern, *Journal of Benefit-Cost Analysis* (August 2014) Vol. 5, No. 1, 137–171.

The Impact on Japanese Industry of Alternative Carbon Mitigation Policies, Makoto Sugino, Toshi Arimura, Richard D. Morgenstern, Energy Policy (2013) Vol.62, Issue C, pp 1254-67.

"Climate Policy Design with Correlated Uncertainties in Offset Supply and Abatement, Cost," Harrison Fell, Dallas Burtraw, Richard D. Morgenstern, Karen L. Palmer, *Land Economics* (2012) Vol. 88, No. 3, 589-61i.

"Soft and Hard Price Collars in a Cap-and-Trade System: A Comparative Analysis," Harrison Fell, Dallas Burtraw, Richard D. Morgenstern, Karen Palmer, *Journal of Environmental Economics and Management*, (September 2012) Vol. 64 No. 2, 183-198.

"Did the Clean Air Act Amendments of 1990 really improve air quality?" Winston Harrington, Richard Morgenstern, Jhih-Shyang Shih, Michelle L. Bell, *Air Quality, Atmosphere & Health* (July 2012) Vol. 5, No. 4, 353-367. DOI: 10.1007/s11869-012-0176-5.

"The performance of industrial sector voluntary climate programs: Climate Wise and 1605(b)," William A. Pizer, Richard Morgenstern, Jhih-Shyang Shih, *Energy Policy* (December 2011) Vol. 39 No. 12, 7907-7916. doi: 10.1016/j.enpol.2011.09.040.

"Quantifying the human health benefits of air pollution policies: Review of recent studies and new directions in accountability research," Michelle Bell, Richard Morgenstern, and Winston Harrington, *Environmental Science and Policy* (April 2011) Vol. 14, No. 4, 357-368. DOI: 10.1016/j.envsci.2011.02.006.

"Alternative Approaches to in a Cap-and-Trade System," Harrison Fell and Richard D. Morgenstern, Environmental and Resource Economics (October 2010) Vol. 47, No. 2, 275-297.

"Understanding Bias in EIA Projections of Energy Demand," Carolyn Fischer, Richard Morgenstern, Evan Herrnstadt, *Resource and Energy Economics* (August 2009) Vol. 31, No. 3, 198-209.

"Ancillary human health benefits of improved air quality resulting from climate change mitigation," Michelle L Bell, Devra L Davis, Luis A Cifuentes, Alan J Krupnick, Richard D Morgenstern and George D Thurston, *Environmental Health* (July 2008) Vol. 7, No. 41, 1-18.

"The Near Term Impacts of Carbon Mitigation Policies on Manufacturing Industries," Richard D. Morgenstern, M. Ho, J.S. Shih, and X. Zhang, *Energy Policy* (November 2006) Vol. 32, No. 16, 1825-1841.

"Carbon Abatement Costs: Why the Wide Range of Estimates?" Carolyn Fischer and Richard Morgenstern, *Energy Journal* (2006) Vol.27 (2): 73–86, 2006.

"The Ancillary Carbon Benefits of SO2 Reductions from a Small-Boiler Policy in Taiyuan, PRC," Richard Morgenstern, Alan Krupnick and Xuehua Zhang, Journal of Environment and Development Economics (June 2004) Vol. 13 No. 2, 140-155. doi: 10.1177/1070496503260972.

"The Future of Cost-Benefit Analysis at EPA," Richard Morgenstern and Alan Krupnick, *The Annual Review of Public Health* (May 2002) Vol. 23.

"Jobs Versus the Environment: An Industry-Level Perspective," Richard D. Morgenstern, William A. Pizer, and Jhih-Shyang Shih, *Journal of Environmental Economics and Management* (May 2002) Vol. 43, No. 3, 412-43. DOI: 10.1006/jeem.2001.1191

"The Cost of Environmental Protection," William A. Pizer, Richard Morgenstern, and Jhih-Shyang Shih, *Review of Economics and Statistics* (November 2001) Vol. 83, No. 4, 732-738.

"On the Accuracy of Regulatory Cost Estimates," Winston Harrington, Richard D. Morgenstern, and Peter Nelson, *Journal of Policy Analysis and Management* (Spring 2000) Vol. 19, No. 2, 297-322.

"Comparative Risk Assessment: An International Comparison of Methodologies and Results," Richard D. Morgenstern, Jhih-Shyang Shih, and Stuart Sessions, *Journal of Hazardous Materials* (2000) Vol. 78, 19-39. DOI: 10.1016/S0304-3894(00)00215-6.

"Economics of When Flexibility in the Design of Greenhouse Gas Abatement Policies," Richard D. Morgenstern, Mike A. Toman, and John Anderson, *Annual Review of Energy and the Environment* (November 1999) Vol. 24, 431-460. DOI: 10.1146/annurev.energy.24.1.431

"Does the Provision of Free Technical Information Really Influence Firm Behavior?" Richard D. Morgenstern and Saadeh Al-Jurf, *Technological Forecasting and Social Change* (1999) Vol. 61, 13-24.

"The Rationale for Flexibility in the Design of Greenhouse Gas Abatement Policies: A Review of Economic Issues," Michael Toman, J. Anderson, and Richard Morgenstern, *Annual Review of Energy and the Environment* (1999) 24.

"Trends in the Conduct and Use of Economic Analysis in Environmental Decisionmaking at the Federal Level," Richard Morgenstern, *Human and Ecological Risk Assessment* (1998) Vol. 4, No. 4, 953–970.

"The Experience of the U.S. BTU Tax," Richard D. Morgenstern and Roger Dower, *International Journal of Global Energy Issues* (1998) Vol. 10, Nos. 2-4, 180-190.

"In Response to 'Clearing the Air,'" Richard D. Morgenstern and Robert Brenner, *Regulation* (December 1996), No. 4.

"Environmental Taxes: Dead or Alive," Richard D. Morgenstern, Environment (April 1996) Vol. 38, No. 3.

Select Books and Book Chapters

<u>Reforming Regulatory Impact Analysis</u>, Winston Harrington, Lisa Heinzerling, and Richard D. Morgenstern, editors, RFF Press, July 2009.

Reality Check: The Nature and Performance of Voluntary Environmental Programs in the United States, <u>Europe</u>, and Japan, Richard D. Morgenstern and William A. Pizer, Editors, RFF Press, 2007.

Economics Incentives versus Command and Control, Winston Harrington and Richard D. Morgenstern, The RFF Reader in Environmental and Resource Policy, 2nd Edition, Wallace E. Oates, ed., RFF Press, 2006, Chapter 11, pp. 66-71.

Reflections on Benefits and Costs of Climate Policy in the U.S., Richard Morgenstern, Emissions Trading and Climate Policy, Bernd Hans jurgens, editor, Cambridge, UK: Cambridge University Press, 2005.

<u>New Approaches on Energy and the Environment</u>, Richard D. Morgenstern and Paul R. Portney, editors, RFF Press, November 2004.

Stimulating Technology to Slow Climate Change, Raymond J. Kopp, Richard D. Morgenstern, Richard G. Newell, and William A. Pizer, New Approaches on Energy and the Environment: Policy Advice for the President, Richard D. Morgenstern and Paul R. Portney, eds., RFF Press, 2004, Chapter 2.

Emissions Trading to Improve Air Quality in an Industrial City in the People's Republic of China, Richard D. Morgenstern, Piya Abeygunawardena, Alan Krupnick, Robert Anderson, Ruth Greenspan Bell, and Jeremy Schreifels, China's Environment: The Challenges of Sustainable Development, Kristen A. Day, editor, M.E. Sharpe, 2005.

<u>Choosing Environmental Policy</u>, Winston Harrington, Richard D. Morgenstern, and Thomas Sterner Editors, RFF Press, July 2004.

Trichloroethylene in the United States: Embracing Market-Based Approaches?, Miranda Loh and Richard D. Morgenstern, Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe, Winston Harrington, Richard D. Morgenstern, and Thomas Sterner, eds., RFF Press, 2004, Chapter 11.

Lessons from the Case Studies, Winston Harrington, Richard D. Morgenstern, Thomas Sterner, and J. Clarence (Terry) Davies, <u>Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe</u>, Winston Harrington, Richard D. Morgenstern, and Thomas Sterner, eds., RFF Press, 2004, Chapter 12.

Reducing Cost Uncertainty and Encouraging Ratification of the Kyoto Protocol, Raymond J. Kopp, Richard Morgenstern, William Pizer, and Frédéric Ghersi, Global Warming in Asian-Pacific, R. Mendelsohn and D. Shaw eds., Cheltenham, U.K.: Edward Elgar Publishing, Ltd., 2002.

Reducing Carbon Emissions and Limiting Costs, Richard D. Morgenstern, <u>U.S. Policy on Climate Change:</u> <u>What Next?</u>, John A. Riggs, ed., Aspen, CO: The Aspen Institute, 2002.

The Benefits and Costs of the Clean Air Act, Richard D. Morgenstern, <u>Air Pollution in the 21st Century:</u> <u>Priority Issues and Policy</u>, T. Schneider, ed., Amsterdam, The Netherlands: Elsevier Science Publishers, 1998.

An Historical Perspective on the Role of Economic Analysis in Regulatory Decisionmaking, Richard D. Morgenstern, <u>Better Environmental Decisions: Strategies for Governments, Businesses and Communities</u>, Ken Sexton, ed., Washington, D.C.: Island Press, 1998.

Economic Analyses at EPA, Richard D. Morgenstern, Editor, RFF Press, 1997.

Environmental Regulation: U.S. Competitiveness, Benefits and Costs, Richard D. Morgenstern, The Convergence of U.S. National Security and the Global Environment, Dick Clark, ed., Aspen, CO: The Aspen Institute, 1997, Vol. 12, No.2.

Environmental Reform: Better Science and Economics, Richard D. Morgenstern, <u>Environmental Risks and</u> Rewards for Business, Herbert Enmarch-Williams, ed., London, U.K.: John Wiley and Sons, 1996.

National Environmental Goals: Implementing the Laws, Visions of the Future, and Research Priorities, Richard D. Morgenstern, National Forum on Science and Technology Goals, Washington, D.C.: National Academy of Sciences, 1996.

Myths about Economics and the Environment, Richard D. Morgenstern, <u>Environment Strategy America</u>, William K. Reilly, ed., London, U.K.: Campden Publishing, 1996.

Select Reports

"Accountability Analysis of Title IV of the 1990 Clean Air Act Amendments," Richard Morgenstern, Winston Harrington, Jhih-Shyang Shih, and Michelle Bell, Final Report submitted to the Health Effects Institute, Boston, Ma., January 2011.

Select Congressional Testimony

Competitiveness and Climate Policy: Avoiding Leakage of Jobs and Emissions, U.S. House of Representatives Committee on Energy and Commerce Subcommittee on Energy and Environment, March 18, 2009

The Impact of Potential Climate Mitigation Policies on Carbon-Intensive Industries and Possible Remediation Options, U.S. Helsinki Commission on Security and Cooperation in Europe, March 10, 2009

Climate Change: Competitiveness Concerns and Prospects for Engaging Developing Countries, U.S. House of Representatives Committee on Energy and Commerce, March 5, 2008

Testimony on Senate Amendment 866, Senate Committee on Energy and Natural Resources, September 20, 2005

Technology Incentives Alone Will Not Sufficiently Reduce Greenhouse Gas Emissions, Senate Committee on Energy and Natural Resources, April 14, 2005

Select Working Papers

"Tools for Assessing the Costs and Benefits of Green Growth: The U.S. and Mexico," Policy Research Working Paper WPS6242, The World Bank, October 2012. (Richard Morgenstern, Winston Harrington and Daniel Velez-Lopez).

"Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe," Washington, DC: Resources for the Future, 2004. Co-edited with Winston Harrington and Thomas Sterner (also includes three co-authored chapters).

Discussion Papers

The Initial Incidence of a Carbon Tax across Income Groups, Roberton C. Williams III, Hal Gordon, Dallas Burtraw, Jared Carbone, Richard D. Morgenstern, RFF Discussion Paper 14-24, August 2014.

Cheaper Fuels for the Light-Duty Fleet: Opportunities and Barriers, Arthur G. Fraas, Winston Harrington, Richard D. Morgenstern, RFF Discussion Paper 13-28-REV, January 2014.

Carbon Pricing with Output-Based Subsidies: Impact on U.S. Industries over Multiple Time Frames, Liwayway Adkins, Richard Garbaccio, Mun Ho, Eric Moore, Richard D. Morgenstern, RFF Discussion Paper 12-27, June 2012.

Reflections on the Conduct and Use of Regulatory Impact Analysis at the U.S. Environmental Protection Agency, Richard D. Morgenstern, RFF Discussion Paper 11-17, April 2011.

California Industry Impacts of a Statewide Carbon Pricing Policy with Output-Based Rebates, Richard D. Morgenstern, Eric Moore, RFF Discussion Paper 11-05, February 2011.

Managing Environmental, Health, and Safety Risks, P. Lynn Scarlett, Arthur G. Fraas, Richard D. Morgenstern, Timothy Murphy, RFF Discussion Paper 10-64, January 2011.

The Impact on U.S. Industries of Carbon Prices with Output-Based Rebates over Multiple Time Frames, Liwayway Adkins, Richard Garbaccio, Mun Ho, Eric Moore, Richard D. Morgenstern, RFF Discussion Paper 10-47, December 2010.

U.S. Industry and Cap and Trade: Designing Provisions to Maintain Domestic Competitiveness and Mitigate Emissions Leakage, Richard Morgenstern and Carolyn Fischer, Brookings Discussion Papers, November 2009.

Impact of Carbon Price Policies on U.S. Industry, Mun Ho, Richard D. Morgenstern, Jhih-Shyang Shih, RFF Discussion Paper 08-37, December 2008.

Understanding Errors in EIA Projections of Energy Demand, Carolyn Fischer, Evan M Herrnstadt, Richard D. Morgenstern, RFF Discussion Paper 07-54, November 2008.

The Performance of Voluntary Climate Programs: Climate Wise and 1605(b), William A. Pizer, Richard D. Morgenstern, Jhih-Shyang Shih, RFF Discussion Paper 08-13-REV, July 2008.

Are Decisionmakers at Home on the Range? Communicating Uncertainties in Cost-Benefit Analyses, Richard Morgenstern, Peter Nelson and Alan Krupnick.

Environmental Decentralization: Seeking the Proper Balance between National and State Authority, Stanley Laskowski, Richard D. Morgenstern, Allen Blackman, RFF Discussion Paper 05-42, October 2005.

Emissions Trading to Improve Air Quality in an Industrial City in the People's Republic of China, Richard D. Morgenstern, Piya Abegunawardena, Robert Anderson, Ruth Greenspan Bell, Alan J. Krupnick, Jeremy Schreifels, Cao Dong, Wang Jinan, Wang Jitian, Steiner Larsen, RFF Discussion Paper 04-16, April 2004.

Evaluating Regulatory Impact Analyses, Winston Harrington, Richard D. Morgenstern, RFF Discussion Paper 04-04, March 2004.

Air Pollution Control Policy Options for Metro Manila, Alan J. Krupnick, Richard D. Morgenstern, Carolyn Fischer, Jose Logarta, Bing Rufo, RFF Discussion Paper 03-30, December 2003.

Technology Adoption and Aggregate Energy Efficiency, William A. Pizer, Winston Harrington, Raymond J. Kopp, Richard D. Morgenstern, Jhih-Shyang Shih, RFF Discussion Paper 02-52, October 2002.

The Ancillary Carbon Benefits of SO2 Reductions from a Small-Boiler Policy in Taiyuan, PRC, Richard D. Morgenstern, Alan J. Krupnick, Xuehua Zhang, RFF Discussion Paper 02-54, September 2002.

The Near-Term Impacts of Carbon Mitigation Policies on Manufacturing Industries, Richard D. Morgenstern, Mun Ho, Jhih-Shyang Shih, Xuehua Zhang, RFF Discussion Paper 02-06, March 2002.

Workshop Report: Pollution Abatement Costs and Expenditures (PACE) Survey Design for 2000 and Beyond, Dallas Burtraw, Alan J. Krupnick, William A. Pizer, Richard D. Morgenstern, Jhih-Shyang Shih, RFF Discussion Paper 01-09, April 2001.

The Economics of When Flexibility in the Design of Greenhouse Gas Abatement Policies, Michael A. Toman, Richard D. Morgenstern, John W. Anderson, RFF Discussion Paper 99-38-REV, December 1998.

Are We Overstating the Real Economic Costs of Environmental Protection?, Richard D. Morgenstern, William A. Pizer, Jhih-Shyang Shih, RFF Discussion Paper 97-36-REV, May 1997.

Does the Provision of Free Technical Information Really Influence Firm Behavior?, Richard D. Morgenstern, RFF Discussion Paper 96-16, May 1996.

RFF Reports

Deficit Reduction and Carbon Taxes: Budgetary, Economic, and Distributional Impacts, Jared Carbone, Richard D. Morgenstern, Roberton C. Williams III, Dallas Burtraw, RFF Report, August 2013.

Reforming Institutions and Managing Extremes U.S. Policy Approaches for Adapting to a Changing Climate, Daniel F. Morris, Molly K. Macauley, Raymond J. Kopp, Richard D. Morgenstern, RFF Report, May 2011.

Feasibility Assessment of a Carbon Cap-and-Trade System for Mexico, Dallas Burtraw, Raymond J. Kopp, Richard D. Morgenstern, Daniel F. Morris, Elizabeth Topping, RFF Report, July 2010.

Reforming Regulatory Impact Analysis, Winston Harrington, Lisa Heinzerling, Richard D. Morgenstern, RFF Report, March 2009.

Assessing U.S. Climate Policy Options, Raymond J. Kopp, William A. Pizer, Daniel Hall, Richard D. Morgenstern, Juha V. Siikamäki, Joseph E. Aldy, Ian W.H. Parry, Karen L. Palmer, Dallas Burtraw, Mun Ho, Evan M Herrnstadt, Joseph Maher, RFF Report, November 2007.

Review of the Efficiency and Effectiveness of Colombia's Environmental Policies, Allen Blackman, Richard D. Morgenstern, Libardo Montealegre Murcia, Juan Carlos Garcia de Brigard, RFF Report, August 2006.

Institutional Analysis of Colombia's Autonomous Regional Corporations (CARs), Allen Blackman, Richard D. Morgenstern, Elizabeth Topping, RFF Report, June 2006.

Not a Sure Thing: Making Regulatory Choices under Uncertainty, Alan J. Krupnick, Richard D. Morgenstern, Michael B. Batz, Per-Kristian C Nelson, Dallas Burtraw, Jhih-Shyang Shih, Michael R. Williams, RFF Report, February 2006.

Assessment of Colombia's National Environmental System (SINA), Allen Blackman, Sandra A. Hoffmann, Richard D. Morgenstern, Elizabeth Topping, RFF Report, October 2005.

RFF Issue Briefs

Adapting to Climate Change: The Public Policy Response, Daniel F. Morris, Molly K. Macauley, Raymond J. Kopp, Richard D. Morgenstern, Tiffany Clements, Issue Brief 10-19, November 2010.

Competitiveness Impacts of Carbon Dioxide Pricing Policies on Manufacturing, Richard D. Morgenstern, Joseph E. Aldy, Evan M Herrnstadt, Mun Ho, William A. Pizer, Issue Brief CPF-7, November 2007.

Addressing Competitiveness Concerns in the Context of a Mandatory Policy for Reducing U.S. Greenhouse Gas Emissions, Richard D. Morgenstern, Issue Brief CPF-8, November 2007.

The Future of Sustainable Development: The Johannesburg Conference and What Happens Next, John W. Anderson, Richard D. Morgenstern, Issue Brief 03-06, August 2003.

The Distributional Impacts of Carbon Mitigation Policies, Richard D. Morgenstern, Dallas Burtraw, Lawrence H. Goulder, Mun Ho, Karen L. Palmer, William A. Pizer, James N. Sanchirico, Jhih-Shyang Shih, Issue Brief 02-03, March 2002.

Resources Magazine

Cutting Prices at the Pump: Opportunities for Natural Gas in the Light-Duty Fleet, Arthur G. Fraas, Winston Harrington, Richard D. Morgenstern, Resources, 2014 (185).

Getting to an Efficient Carbon Tax: How the Revenue is Used Matters, Jared Carbone, Richard D. Morgenstern, Roberton C. Williams III, Dallas Burtraw, Resources, 2014 (185).

Ensuring Competitiveness under a US Carbon Tax, Carolyn Fischer, Richard D. Morgenstern, Nathan Richardson, Resources, 2013 (182).

How Does Regulation Affect Employment? An Interview with Richard Morgenstern, Richard D. Morgenstern, Resources, 2012 (179).

Managing Environmental, Health, and Safety Risks: A Closer Look at how Three Federal Agencies Respond, P. Lynn Scarlett, Arthur G. Fraas, Richard D. Morgenstern, Timothy Murphy, Resources, Winter/Spring 2011 (177).

The Potential Impact on Energy-Intensive Trade-Exposed Industries of Clean Air Act Regulation of GHGs, Richard D. Morgenstern, Resources, Fall (176).

Climate Policy and Competition: U.S. Industry's Regulatory Dilemma, Carolyn Fischer, Richard D. Morgenstern, Resources, Winter/Spring 2009 (171).

Climate Change: Addressing Competitiveness Concerns, Richard D. Morgenstern, Resources, Spring 2008 (168).

How Well Do Voluntary Environmental Programs Really Work?, Richard D. Morgenstern, William A. Pizer, Resources, Winter 2007 (164).

Economic Incentives versus Command and Control: What's the best approach for solving environmental problems?, Winston Harrington, Richard D. Morgenstern, Resources, Fall/Winter 2004 (152).

Demonstrating Emissions Trading in Taiyuan, China, Richard D. Morgenstern, Robert Anderson, Ruth Greenspan Bell, Alan J. Krupnick, Xuehua Zhang, Resources, Summer 2002 (148).

At Buenos Aires and Beyond, John W. Anderson, Richard D. Morgenstern, Michael A. Toman, Resources, Winter 1999 (134).

Climate Change Policy After Kyoto, Raymond J. Kopp, Richard D. Morgenstern, Michael A. Toman, Resources, Winter 1998 (130).

Select Awards

Raymond Vernon Award of the Association of Public Policy Analysis and Management for 'best paper' (coauthor), "On the Accuracy of Regulatory Cost Estimates." 2000