

June 2009

Resume of: Karen L. Palmer

Education:

Ph.D., Economics, Boston College, January 1990.

Dissertation: "A New Test for Cross-Subsidies in Regulated Industries with Application to a Local Telecommunications Monopoly."

B.A., Economics, magna cum laude, Brandeis University, May 1981. Phi Beta Kappa, 1981.

Areas of Specialization:

Environmental Regulation, Electricity Economics, Cap and Trade Design,
Public Utility Regulation, Renewable Sources of Electricity

Professional Experience:

- 2005 - Darius Gaskins Senior Fellow and Director of Electricity and Environment Program, Resources for the Future, Washington, DC
- 1998-2005 Senior Fellow, Quality of the Environment Division, Resources for the Future, Washington, DC
- 1989-1998 Fellow, Quality of the Environment Division, Resources for the Future, Washington, DC
- 1996-1997 Economist, Office of Economic Policy, Federal Energy Regulatory Commission, Washington, DC
- 1993-1994 Tutor, Environmental Economics Tutorial, Stanford in Washington, Washington, DC
- 1986-1989 Teaching Fellow, Statistics, Economics Department, Boston College
- 1987 Consultant, PMA Communications Inc., Boston, MA
- 1986 Consultant, Interindustry Service, Data Resources Inc., Lexington, MA
- 1986 Teaching Assistant, graduate Microeconomic Theory, Economics Department, Boston College
- 1981-1985 Economist, Interindustry Service, Data Resources Inc., Lexington, MA

JOURNAL PUBLICATIONS

“Energy Efficiency Economics and Policy” (with Kenneth Gillingham and Richard Newell), *Annual Review of Resources and Energy* (forthcoming).

“Collusion in Auctions for Emissions Permits: An Experimental Analysis” (with Dallas Burtraw, Jacob Goeree, Charles Holt, Erica Myers, William Shobe), *Journal of Policy Analysis and Management* (forthcoming).

“Compensation Rules for Climate Policy in the Electricity Sector” (with Dallas Burtraw), *Journal of Policy Analysis and Management* 27(4), 819-847.

“Economic and Energy Impacts from Participation in the Regional Greenhouse Gas Initiative: A Case Study of the State of Maryland” (with Matthias Ruth, Steven Gabriel, Dallas Burtraw, Anthony Paul, Yihsu Chen, Benjamin Hobbs, Daraius Irani, Jeffrey Michael, Kim Ross, Russell Conklin, Julia Miller), *Energy Policy*, 2008, 36:2279-2289.

“Air Emissions of Ammonia and Methane from Livestock Operations: Valuation and Policy Options” (with Dallas Burtraw, Juha Siikamaki and Jih-Shyang Shih), *Journal of the Air and Waste Management Association*, 2009, 58: 1117-1129.

“Modeling the Effects of Changes in New Source Review on National SO₂ and NO_x Emissions from Electricity-Generating Units” (with David Evans, Benjamin Hobbs and Craig Oren), *Environmental Science and Technology*, 2008, 42 (2): 347–353.

“Simple Rules for Targetting CO₂ Allowance Allocation to Compensate Firms” (with Dallas Burtraw and Danny Kahn), *Climate Policy*, 2006, 6:477 - 493.

“The Benefits and Costs of Reducing Emissions from the Electricity Sector,” (with Dallas Burtraw and Jih-Shyang Shih), *Journal of Environmental Management*, 2007, 83:115 - 130.

“CO₂ Allowance Allocation in the Regional Greenhouse Gas Initiative and the Effect on Electricity Investors,” (with Dallas Burtraw and Danny Kahn), 2006, *The Electricity Journal*, March.

“Cost-Effectiveness of Renewable Electricity Policies,” (with Dallas Burtraw), 2005, *Energy Economics*, Vol 27 (November).

“Retrospective Review of Energy Efficiency Policies,” (with Richard Newell and Kenny Gillingham), *Annual Review of Environment and Resources*, 2006, 31: 161-192.

“The Environmental Impacts of Electricity Restructuring: Looking Back and Looking Forward,” (with Dallas Burtraw), 2005. *Environment & Energy Law & Policy Journal*, Vol 1. No. 1.

“Economics of Pollution Trading for SO₂ and NO_x,” (with Dallas Burtraw, David A. Evans, Alan Krupnick, and Russell Toth) 2005. *Annual Review of Environment and Resources*, forthcoming. See also RFF Discussion Paper 05-05 (January).

“Efficient Emission Fees in the U.S. Electric Sector,” (with Spencer Banzhaf and Dallas Burtraw), *Resource and Energy Economics*, Vol. 26, No. 3 (September 2004).

“Trading Cases: Is Trading Credits in Created Markets a Better Way to Reduce Pollution and Protect Natural Resources?,” (with Jim Boyd, Dallas Burtraw, Alan Krupnick, Virginia McConnell, Jim Sanchirico, and Margaret Walls), *Environmental Science and Technology*, Vol. 79, No. 3 (June 2003).

“Dealing with Electronic Waste: Modeling the Costs and Environmental Benefits of Computer Monitor Disposal,” (with Molly Macauley and Jhih-Shyang Shih), *Journal of Environmental Management*, (May 2003).

“Ancillary Benefits of Reduced Air Pollution in the U.S. from Moderate Greenhouse Gas Mitigation Policies in the Electricity Sector,” (with Dallas Burtraw, Alan Krupnick, Anthony Paul, Mike Toman, Cary Bloyd), *Journal of Environmental Economics and Management*, (May 2003).

“The Determinants of Household Recycling: A Material Specific Analysis of Unit Pricing and Recycling Program Attributes,” (with Robin Jenkins, Salvador Martinez and Michael Podolsky), *Journal of Environmental Economics and Management*, (February 2003).

“The Effect on Asset Values of the Allocation of Carbon Dioxide Emission Allowances,” (with Dallas Burtraw, Ranjit Bharvirkar and Anthony Paul), *The Electricity Journal*, (June 2002).

“Implementing Electricity Restructuring: Polices, Potholes and Prospects,” (with Timothy Brennan and Salvador Martinez), *Environmental and Resource Economics*, (June 2002).

“Cost Effective Reduction of NOx Emissions from Electricity Generation,” (with Dallas Burtraw, Ranjit Bharvirkar and Anthony Paul), *Journal of the Air and Waste Management Association*, Vol. 51, 1476-1489 (October 2001)

“SO₂ Control by Electric Utilities: What are the Gains from Trade?,” (with Dallas Burtraw, Curtis Carlson and Maureen Cropper), *Journal of Political Economy*, Vol. 108, No. 6, 1292-1326. (December 2000).

“Upstream Pollution, Downstream Waste Disposal and the Design of Comprehensive Environmental Policies,” (with Margaret Walls), *Journal of Environmental Economics and Management* (February 2001).

“Renewables From Another Angle,” (with Dallas Burtraw, James McVeigh, and Joel Darmstadter), 2000. *Electric Perspectives*, Vol. 25, No. 2, 10-20. See: “Winner, Loser, or Innocent Victim: Has Renewable Energy Performed As Expected?”

“Winner, Loser, or Innocent Victim: Has Renewable Energy Performed As Expected?” (with Dallas Burtraw, James McVeigh, and Joel Darmstadter), *Solar Energy*, Vol. 68, No. 3, 237-255. (2000). Published also as Renewable Energy Policy Project Research Report No. 7, and Resources for the Future Discussion Paper 99-28 (March).

“Assessing the Impact of Electricity Restructuring on the Environment in Maryland,” (with Diane Brown, Matt Kahal, Dallas Burtraw, Julie Ross and Mark Garrison) *EM*, (August 1998).

“Electricity Restructuring: Environmental Impacts,” *Forum for Applied Research and Public Policy*, 11, (Fall 1997).

“Environmental Regulation and Innovation: A Panel Data Study,” (with Adam Jaffe) *Review of Economics and Statistics*, 79, (1997).

“The Cost of Reducing Municipal Solid Waste,” (with Hilary Sigman and Margaret Walls) *Journal of Environmental Economics and Management*, 34, (June 1997).

“Optimal Policies for Solid Waste Disposal: Taxes, Subsidies and Standards,” (with Margaret Walls) *Journal of Public Economics* (August 1997).

“‘Second-Best’ Adjustments to Externality Estimates in Electricity Planning with Competition,” (with Dallas Burtraw and Alan Krupnick) *Land Economics*, 73, (May 1997).

“Electricity Restructuring and Regional Air Pollution,” (with Dallas Burtraw) *Resource and Energy Economics*, 19 (March 1997).

"How Should An Accumulative Toxic Substance Be Banned?" (with Mike Toman) *Environmental and Resource Economics*, 9, (January 1997).

“The Efficiency of Wholesale versus Retail Competition in Electricity,” (with Doug Bohi) *The Electricity Journal*, (October 1996).

“Tightening Environmental Standards: The Benefit-Cost or the No-Cost Paradigm?” (with Wallace Oates and Paul Portney) *Journal of Economic Perspectives*, 9 (1995), pp. 119-132.

“Social Costing of Electricity in Maryland: Effects on Pollution, Investment and Prices,” (with Alan Krupnick, Hadi Dowlatabadi and Stuart Siegel) *The Energy Journal*, 16, (1995), pp. 1-26.

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"Electricity Fuel Contracting: Relationships with Coal and Gas Suppliers" (with Peter Fox-Penner, David Simpson, and Michael Toman), *Energy Policy*, 27 (1993), pp. 1045-1054.

"Implementing Social Costing in the Electric Utility Industry" (with Hadi Dowlatabadi), *Energy and Environment*, 4 (1993), pp. 197-220.

"How Reliably Can Climate Change and Mitigation Policy Impacts on Electric Utilities be Assessed?" (with Hadi Dowlatabadi, Robert Hahn, Raymond J. Kopp, and Diane DeWitt), *Utility Policy*, 1 (July 1993), pp. 261-268.

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"Structural Change in the United States: Changing Input-Output Coefficients" (with Stanley J. Feldman), *Business Economics*, 20 (1985), pp. 39-54.

BOOKS AND MONOGRAPHS

Alternating Currents: Electricity Markets and Public Policy, (with Timothy J. Brennan and Salvador A. Martinez), Washington, DC RFF Press, 2002.

A Shock to the System: Restructuring America's Electricity Industry, (with Timothy J. Brennan, Raymond J. Kopp, Vito Stagliano, Alan J. Krupnick and Dallas Burtraw), Washington, DC, Resources for the Future, 1996.

Using Economic Incentives to Regulate Toxic Substances (with Molly Macauley and Michael Bowes), Washington, DC, Resources for the Future, 1993.

Power Plant Fuel Supply Contracts: The Changing Nature of Long-Term Relationships (with Michael Toman, David Simpson, and Peter Fox-Penner), Arlington, Va., Public Utility Reports, 1992.

OTHER PUBLICATIONS AND REPORTS

Compliance Responsibility And Allowance Allocation In A CO2 Emissions Cap-and-Trade Program For The Electricity Sector In California (with Dallas Burtraw and Anthony Paul), Report to the California Energy Commission, September 30, 2008.

The Role of Energy Efficiency Spending in Maryland's Implementation of the Regional Greenhouse Gas Initiative, A Study Commissioned by the Maryland Department of the Environment and conducted by the Center for Integrative Environmental Research (CIER), (with Ruth, Matthias, Kimberly Ross, Nathan Hultman, Joanna Mauer, Ivan Dario Valencia, Nicolai Herman, Anthony Paul, Erica Myers, Benjamin Hobbs, Daraius Irani, Jeffrey Michael and Yihsu Chen.) University of Maryland, October 2008.

Assessing U.S. Climate Policy Options (with Raymond J. Kopp, William A. Pizer, Daniel Hall, Richard D. Morgenstern, Juha V. Siikamaki, Joseph E. Aldy, Ian W.H. Parry, Dallas Burtraw, Mun Ho, Evan M. Hernstadt, Joseph Maher) RFF report, November 2007.

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“Air Emissions of Ammonia and Methane from Livestock Operations: Valuation and Policy Options” (with Jhih-Shyang Shih, Dallas Burtraw and Juha V. Siikamaki), in *Agricultural Air Quality: State of the Science*, Conference Proceedings, June 2006.

Reducing Emissions from the Electricity Sector: The Costs and Benefits Nationwide and in the Empire State (with Dallas Burtraw and Jhih-Shyang Shih) New York State Energy Research and Development Authority Final Report 05-02 (May 2005).

“Renewable Sources of Electricity: Safe Bet or Tilting at Windmills?” (with Joel Darmstadter), *Resources* 156 (2005).

Book Review of “The Economics of Hydroelectric Power” by Brian K. Edwards, in *The Journal of Energy and Development* 30: 2, Spring 2005.

“Environmental Regulation of Electric Power Generation” (with Dallas Burtraw), in *New Approaches on Energy and the Environment: Policy Advice for the President*, Richard D. Morgenstern and Paul R. Portney, eds., (2004).

“Experimental Federalism,” (with Winston Harrington and Margaret Walls), in *New Approaches on Energy and the Environment: Policy Advice for the President*, Richard D. Morgenstern and Paul R. Portney, eds., (2004).

“Finding a Cost-Effective Policy to Promote Renewable Energy Sources,” (with Dallas Burtraw), *Resources* 154, (2004).

“SO₂ Cap and Trade Program in the United States: A Look at a Living Legend,” (with Dallas Burtraw), chapter in *Choosing Environmental Policy: Comparing Instruments and Outcomes in the United States and Europe*, Winston Harrington and Richard Morgenstern, eds. Washington, DC: Resources for the Future (2004).

Electricity, Renewables and Climate Change: Searching for a Cost-Effective Policy (with Dallas Burtraw), RFF Report, May (2004).

“Toward an Integrated Theory of Open Economy Environmental and Trade Policy,” (with Arvind Panagariya, Wallace Oates and Alan J. Krupnick) in *Environmental Policy and Fiscal Federalism: Selected Essays of Wallace E. Oates*, Wallace E. Oates, ed. (2004).

“A Comparison of the Effects of the Distribution of Emission Allowances for Sulfur Dioxide, Nitrogen Oxides and Carbon Dioxide,” (with Dallas Burtraw), Research Report to the EPA National Center for Environmental Research (May 2, 2003).

“Putting a Prod in Product Stewardship,” (with Margaret Walls), op-ed in *Waste News*, March 31, 2003.

Electricity Restructuring, Environmental Policy and Emissions (with Dallas Burtraw, Ranjit Bharvirkar and Anthony Paul), RFF Report, December (2002).

The Product Stewardship Movement: Understanding Costs, Effectiveness and The Role for Policy (with Margaret Walls), RFF Report, November (2002).

“Capping Emissions: How Low Should We Go?” (with Spencer Banzhaf and Dallas Burtraw), *Public Utilities Fortnightly*, December (2002).

“Proposed Regulation of Multiple Pollutants in the Electricity Sector is Historic: But is it Sensible?” (with Spencer Banzhaf and Dallas Burtraw), *Resources* 148 (2002).

“The Environment and the Information Age: The Cost of Coping with Used Computer Monitors,” (with Molly Macauley, Jih-Shyang Shih, Sarah Cline and Heather Holsinger), *Resources* 145 (2001).

"Electricity Restructuring: Consequences and Opportunities for the Environment," (with Dallas Burtraw and Martin Heintzelman), chapter in *International Yearbook of Environmental and Resource Economics, 2001/2002*, Henk Folmer and Tom Tietenberg (eds), Cheltenham, UK: Edward Elgar, (2001).

"Electricity Restructuring: Shortcut or Detour on the Road to Achieving Greenhouse Gas Reductions?," chapter in *Climate Change Economics and Policy: An RFF Anthology*, Michael Toman (ed), Washington, DC: Resources for the Future, (2001).

"Recycling," (with Jhih-Shyang Shih and Garrick Louis), chapter in *Encyclopedia of Global Change*, Oxford University Press, (November/December 2000).

"Winner, Lower or Innocent Victim: Has Renewable Energy Performed as Expected?" (with James McVeigh, Dallas Burtraw and Karen Palmer), *Resources* 135 (1999).

"On the Way to Retail Competition," (with Amy Ando), *Resources* 132 (1998).

"Not Enough Anarchy in the U.K.?" (with Timothy Brennan), letter to the editor, *Regulation*, Winter 1998.

"Air Quality and Electricity: What Competition May Mean," (with Dallas Burtraw and Alan Krupnick), *Resources* 123 (1996).

On The Relative Efficiency Implications of Wholesale and Retail Competition in Electricity, report to the National Renewable Energy Lab and U.S. Department of Energy (December 1995) (with Douglas Bohi).

"The Social Benefits of Social Costing Research," *Proceedings of the First EC/OECD/IEA Workshop on Energy Externalities: The External Costs of Energy, Brussels*, January 30 - 31, 1995, (with Alan Krupnick and Dallas Burtraw).

Social Costing of Electricity in Maryland: Implications for Electricity Supply Energy Demand and Air Emissions, report to the Maryland Department of Natural Resources Power Plant Research Program (September 1994) (with Alan Krupnick, Hadi Dowlatabadi and Stuart Siegel).

"The Use of Externality Estimates in the Calculation of Adders by State PUC Regulators," in *Fuel Cycle Externalities: Analytical Methods and Issues, Report No. 2 on the External Costs and Benefits of Fuel Cycles: A Study By the U.S. Department of Energy and The Commission of the European Communities*, (Oak Ridge, TN: Oak Ridge National Laboratory, July 1994) (with Dallas Burtraw and Alan Krupnick).

"The Social Costing Debate: Issues and Resolutions," in *Social Costs of Energy: Present Status and Future Trends* (Proceedings of an International Conference, September 8 - 11, 1992) (New York: Springer-Verlag, 1994) (with Alan Krupnick, Dallas Burtraw, A. Myrick Freeman, III, Winston Harrington, and Hadi Dowlatabadi).

"Environmental Policy as Industrial Policy" (with David Simpson), *Resources*, no. 112 (Summer 1993), Resources for the Future, Washington, DC.

"Economic Tools to Implement Sunsetting," in *First Binational Meeting on Sunsetting Hazards Chemicals in the Great Lakes Basin: Proceedings of a workshop held 23-24 September 1992 in Traverse City, Michigan*. Washington, DC, George Washington University, 1993.

"Social Costing of Electricity and the Benefits of Demand Side Management," in Charles Stalon, ed., *Regulatory Responses to Continuously Changing Industry Structures*. East Lansing, Mich., Institute of Public Utilities, Graduate School of Business Administration, Michigan State University, 1993.

"Incentive-Based Approaches to Regulating Toxic Substances" (with Molly Macauley), *Resources*, no. 108 (Summer 1992), Resources for the Future, Washington, DC.

"Environmental Costing and Electric Utilities' Planning and Investment" (with Alan J. Krupnick), *Resources*, no. 105 (Fall 1991), Resources for the Future, Washington, DC, pp. 1-5.

WORKING PAPERS

“A Partial Adjustment Model of U.S. Electricity Demand by Region, Season and Sector,” (with Anthony Paul and Erica Myers), RFF Discussion Paper 08-50, 2009.

“A Symmetric Safety Valve” (with Dallas Burtraw and Danny Kahn), RFF Discussion Paper 09-06, 2009.

“Compensation for Electricity Consumers under a US CO₂ Emissions Cap,” (with Anthony Paul and Dallas Burtraw), RFF Discussion Paper 08-25, 2008.

“Green Corridors: Linking Interregional Transmission Expansion and Renewable Energy Policies,” (with Shalini Vajjhala, Anthony Paul and Rich Sweeney), RFF Discussion Paper 08-06, 2008.

“US Climate Policy Developments,” (with Toshi Arimura, Alan Krupnick and Dallas Burtraw), RFF Discussion Paper 07-45, 2007.

“Summary of the Workshop to Support Implementing the 25% Public Benefit Allocation in the Regional Greenhouse Gas Initiative,” (with Dallas Burtraw), RFF Discussion Paper 06-45, 2006.

“The Impact of Long-term Generation Contracts on the Valuation of Electricity Generating Assets under the Regional Greenhouse Gas Initiative,” (with Dallas Burtraw and Nathan Wilson), RFF Discussion Paper 05-37, 2005.

“Allocation of CO₂ Emissions Allowances in the Regional Greenhouse Gas Cap-and-Trade Program,” (with Dallas Burtraw and Daniel Kahn), RFF Discussion Paper 05-25, 2005.

“The Effect of Allowance Allocation on the Cost and Efficiency of Carbon Emission Trading,” (with Dallas Burtraw, Ranjit Bharvirkar and Anthony Paul), RFF Discussion Paper 01-30, 2001.

“Modeling the Costs and Environmental Benefits of Disposal Options for End-of-Life Electronic Equipment: The Case of Used Computer Monitors,” (with Molly Macauley, Jih-Shyang Shih, Sarah Cline, and Heather Holsinger), RFF Discussion Paper 01-27, 2001.

“Restructuring and Cost of Reducing NO_x Emissions in Electricity Generation,” (with Dallas Burtraw, Ranjit Bharvirkar and Anthony Paul), RFF Discussion Paper 01-10, 2001.

“Simulation Results of Alternative Schemes for Allocating NO_x Emission Allowances,” (with Dallas Burtraw and Anthony Paul), mimeo, 1999.

“The Opportunity for Short Run Carbon Mitigation in the Electricity Sector,” (with Dallas Burtraw and Anthony Paul), 1999, for Presentation at the Air & Waste Management Association Conference in Tucson in January.

“Extended Product Responsibility: An Economic Assessment of Alternative Policies,” (with Margaret Walls), RFF Discussion Paper 99-12, 1998.

“Getting on the Map: The Political Economy of State-Level Electricity Restructuring,” (with Amy Ando), RFF Discussion Paper 98-19REV, 1998.

"Materials Use and Solid Waste: An Evaluation of Policies" (with Margaret Walls), Resources for the Future, 1995, Washington, DC.

"Environmental Regulation and International Competitiveness: Thinking About the Porter Hypothesis" (with Wallace E. Oates and Paul R. Portney), Discussion Paper 94-02, Resources for the Future, Washington, DC, November 1993.

"Toward an Analysis of the Use of 'Brown Labeling' as a Regulatory Policy for Toxic Substances," Resources for the Future, Washington, DC.

PROFESSIONAL ACTIVITIES

Member, RGGI Advisory Group, New York State Energy Research and Development Authority, 2008 - present

Participant, Stanford Energy Modeling Forum 25, Energy Demand and Efficiency, 2008 – present.

Member, National Research Council Panel on the Future of Electricity from Renewables, 2007 – present.

Member, Environmental Advisory Council, New York Independent System Operator, 2004 – present.

Member, National Research Council Committee on Changes in New Source Review Programs for Stationary Sources of Air Pollutants, 2004 – 2006.

Participant, Center for Advancement of Energy Markets, Default Provider Forum, 2002 - 2004.

Alternate Participant, National Electronics Products Stewardship Initiative, 2001 - 2004.

Participant, Stanford Energy Modeling Forum 17, Prices and Emissions in a Restructured Electricity Market, 1998- 2001.

Member, National Regulatory Research Institute Research Advisory Committee, 1998 - 2001 .

Participant, Center for Clean Air Policy Restructuring and Air Quality Dialogue, 1998 - 2001.

Lecturer, Course on Environmental Economics, U.S. Energy Information Administration, November, 1998.

Participant, Consumer Energy Council of America Research Foundation, Forum on Electricity Restructuring, 1996 -1998.

Participant, Stanford Energy Modeling Forum 15, A Competitive Electricity Industry, 1996-1998.

Reviewer, National Energy Modeling System, Energy Information Administration, 1997.

Secretary, Association of Environmental and Resource Economists, 1994-1999.

Secretary/Treasurer, Telecommunications Policy Research Conference, 1993-1996.

Chairperson, Organizing Committee of the 21st Annual Telecommunications Policy Research Conference, 1993.

Member, Organizing Committee of the 19th and 20th Annual Telecommunications Policy Research Conferences, 1991-1992.

Consultant to U.S. Energy Information Administration, Louisiana State University Center for Energy Studies, New York Power Pool, Florida Power and Light Company, Hawaii Natural Energy Institute, U.S. Energy Information Administration and Maryland Department of Natural Resources.

Referee for The National Science Foundation, *BE Journals in Economic Analysis and Policy*, *Contemporary Economic Policy*, *Energy Economics*, *Environment and Development*, *The Energy Journal*, *The RAND Journal of Economics*, *Resource and Energy Economics*, *Economic Inquiry*, *The Journal of Industrial Economics*, *The Journal of Regulatory Economics*, *Journal of Public Economics*, *Journal of Environmental Economics and Management*; *Land Economics*; and *Journal of Economic Management and Strategy*.