

DAVID NICHOLS
Energy Researcher and Analyst

1070 Beacon Street
Boston, MA 02446 USA
Tel. (617) 277-7950
Fax. (617) 266-8303
Email: d.nichols@earthlink.net

Education

Ph.D. Political Science, Massachusetts Institute of Technology
A.B. Government, Clark University

Experience

2002- Independent energy researcher

1978-2002 Vice President and Senior Researcher, Tellus Institute for Resource and Environmental Strategies

1974-1978 Associate Professor, State University of New York at Albany.
Allen Center, then Graduate School of Public Affairs.

1973-1974 Assistant Professor, Department of History and Political Science, Rensselaer Polytechnic Institute.

1973 New York Civil Service Public Administration Intern, Department of Environmental Conservation, Albany.

Testimony*

Rate Design & Cost Allocation

Before: Maryland Public Service Commission, docket 7456 (1981); Nevada Public Service Commission, docket 94-7001 (1995); New Hampshire Public Utilities Commission, docket DR 86-122 (1986); New York Public Service Commission, cases 91-E-1185 (1991), 27461 (1979); Ontario Energy Board, H.R. 24 submission (1996); Rhode Island Public Utilities Commission, docket 2036 (1992), docket 1888 (1987); South Carolina Public Service Commission, docket 86-188-E (1986); Utah Public Service Commission, docket 01-035-01 (2001).

Energy & Demand Forecasting

Before: Arizona Corporation Commission, docket U-1345-85-156 (1986); Kansas Corporation Commission, dockets 142,098-U (1985), 142,099-U (1985), 142,100-U (1985); Massachusetts Department of Public Utilities, docket 1656 (1985); Missouri Public Service Commission, docket ER-85-128 (1985); Nevada Public Service Commission, docket 81-660 (1982); Oklahoma Corporation Commission, cause 26669 (1980); Vermont Public Service Board, docket 4622 (1982).

Energy Efficiency & Renewable Energy

Before: Colorado Public Utilities Commission, dockets 99A-377EG (1999), 00A-008E (2000); Connecticut Department of Public Utility Control, dockets 85-10-22 (1986), 82-07-01 (1982), 81-06-02/04 (1981); Connecticut Power Facility Evaluation Council, docket F-80 (1980); Delaware Public Service Commission, docket 94-83 (1995); Federal Energy Regulatory Commission, dockets ER82-481 (1982), ER81-179 (1981); Maine Public Utilities Commission, dockets 91-213 (1992), 82-112 (1984), U.3238 (1981); Massachusetts Department of Public Utilities, dockets 84-49/50 (1985), 84-84 (1985), 84-140 (1985); New Jersey Board of Public Utilities, dockets GR01040280 (2001), EX99050347 (2000 and 1999), EE98060402 (1998), EX94120585U (1998), ER97020101 (1997), 829-764 (1983), 8012-914C (1982), 822-116 (1982); New Jersey Senate, Energy & Environment Committee (1983); New York Energy Master Planning Board (1981); New York Public Service Commission, case 28223 (1983); North Carolina Utilities Commission, docket E-100 (1990); Ohio Public Utilities Commission, cases 91-700-EL-FOR (1993), 92-708-EL-FOR (1992), 88-170-EL-AIR (1989); Ontario Energy Board, EBROs 497 (1998), 495 (1997), 487 (1994); Pennsylvania Public Utility Commission, docket R-80011069 (1980); Rhode Island Public Utilities Commission, docket 1440 (1982); Utah Public Service Commission, docket 01-035-01 (2001); Vermont Public Service Board, dockets 5330 (1990), 5270 (1988), 5248 (1988); Virginia State Corporation Commission, docket PUE 800076 (1981); Wisconsin Public Service Commission, AP7 (1995), docket 05-CE-117 et al. (2002).

Other Energy and Environmental Analysis

Before: Connecticut Siting Council, docket 74 (1987); Federal Energy Regulatory Commission, dockets ER85-106-000 (1986), ER85-646-000/ER85-647-000 (1986); New York Public Service Commission, case 28025 (1982); Texas Public Utility Commission, dockets 2606 (1979), 2572 (1979).

*Testimony listed was defended before agencies noted. Testimony filed but not heard is located in subsequent sections.

Tellus Publications

- 2001 *An Economic Analysis of Achievable New Demand-Side Management Opportunities in Utah.* Prepared for the System Benefits Charge Stakeholder Advisory Group to the Utah Public Service Commission. Study 00-076. May. Principal author.
- 2000 *Reducing Peak Demands Through Customer-Side Initiatives.* Report to Citizens Utility Board, Chicago. Study 00-061. September. Senior author.
- 1999 *Regulatory Incentives for Demand-Side Management.* Report to West Kootenay Power DSM Committee. Study 98-211.
- 1999 *Funding for Energy-Related Public Benefits: Needs and Opportunities With and Without Restructuring.* Report to the Colorado Governor=s Office of Energy Management. Senior Author. Study 98-002/C2.
- 1999 *Support for Energy-Related Public Benefits: Funding Approaches and Related Options.* Report to the American Council for an Energy-Efficient Economy. Study 99-017. Senior author.
- 1999 *Development of Climate Change Program Performance Indicators.* Report to the Global Environmental Facility. Senior author. Study 98-222.
- 1998 *Institutional Conservation Program Process Evaluation Report.* Report to the Ohio Department of Development, Office of Energy Efficiency. Study 95-247. Co-author.
- 1998 *Energy Efficiency in Colorado: Progress and Potential.* Report to the Governor=s Office of Energy Conservation. Study 98-002/C1.
- 1998 *Gas Energy Efficiency Technologies: Cost-Effectiveness Screening.* Report to the Massachusetts Division of Energy Resources. Study 96-180/C. Senior author.
- 1998 *Home Weatherization Assistance Program Process Evaluation Report.* Report to the Ohio Department of Development, Office of Energy Efficiency. Study 95-247/PE. Co-author.
- 1998 *Home Weatherization Assistance Program Environmental Impact Analysis.* Report to the Ohio Office of Energy Efficiency. Study 95-247/EN. Co-author.
- 1998 *Home Weatherization Assistance Program in Ohio: Economic Impact Evaluation.* Report to the Ohio Office of Energy Efficiency. Study 95-247/EC. Co-author.
- 1998 *Costs and Benefits of the Consumers Gas Company's Natural Gas Vehicle Program.* Study 98-001E. Co-author.
- 1998 *High Efficiency Boilers: Economic and Achievable Potential.* Report to the Consumers' Gas Company of Ontario, Ltd. Study 98-001C/8. Co-author.

- 1997 *Sustainable Electricity for New England: Regulatory and Other Governmental Tools to Support Environmentally Sustainable Technologies in the Context of Electric Industry Restructuring.* The R/EST Project. Report to the New England Governors' Conference. Study 95-310. Co-author.
- 1997 *Demand-Based Controller for Water Heating Systems: Economic and Achievable Potential in Apartments in Consumers' Area.* Study 98-001C/7. Co-author.
- 1996 *Market-Oriented Demand-Side Management: An Assessment of Consumers' Gas DSM After Two Years.* Study 96-001.
- 1996 *Action Plan.* Report to the Technology Group, Massachusetts Industrial Services Program. Study 95-222. Project Manager.
- 1996 *Gasco Proposed Demand-Side Management Plan.* Study 93-271. Co-author.
- 1995 *Testimony of David Nichols, N.J. Board of Public Utilities.* Pre-filed testimony on demand-side management issues in a Public Service Electric & Gas Co. matter that was settled. Prepared for the Division of the Ratepayer Advocate. Study 95-101.
- 1995 *Industrial Demand-Side Management in a Transitional Era.* Report to Wisconsin's Environmental Decade. Study 94-146. Principal investigator.
- 1995 *Testimony of David Nichols, Nevada Public Service Commission.* Pre-filed testimony on DSM issues in a Nevada Power Company matter that was settled. Prepared for the Office of Consumer Advocate. Study 94-193C/T-2.
- 1994 *Evaluation of Pacific Gas & Electric Company's Interruptible Bidding Program.* Report to the Advisory and Compliance Division, California Public Utilities Commission. Study 93-136. Project Manager.
- 1994 *Report to the Staff of the Arkansas Public Service Commission Concerning SWEPCO's Proposed Promotional Practices.* Study 92-153C. Co-author.
- 1994 *Reviews of Metropolitan Edison Co., Pennsylvania Power & Light Co. and Pennsylvania Electric Company's 1995 Demand Side Management Filing.* Prepared for the Pennsylvania Office of Consumer Advocate. Study 94-071. Co-author.
- 1994 *Review of Union Electric Company's Electric Utility Resource Planning Compliance Filings.* Prepared for the Missouri Office of Public Counsel. Study 93-254. Co-author.
- 1993 *Advertising Costs in Demand-Side Management Programs.* Report to Corporation Commission Staff, Phoenix, Arizona. Study 93-103. Principal investigator.
- 1993 *IRP Concepts and Approaches.* Report to Hydro-Quebec and the Public Interest Groups and

- Associations. Study 92-155. Co-author.
- 1993 *Proposed Rules Governing Integrated Resource Planning for Electric and Natural Gas Utilities Regulated by the State of Kansas.* Study 92-105. Co-author.
- 1993 *GASCO, Inc. Integrated Resource Plan Report*, before the Public Utilities Commission of Hawaii. Docket No. 7261. Study 92-181. Co-author.
- 1992 *Evaluation of Public Service Electric & Gas Demand-Side Management Resource Plans*, Docket No. EX-90040304. Report to the N.J. Rate Counsel Division, Department of Public Advocate. Study 92-055. Principal investigator.
- 1992 *Evaluation of Atlantic Electric Demand-Side Management Resource Plan*, Docket No. EX-90040304. Report to the N.J. Rate Counsel Division. Study 92-055B. Principal investigator.
- 1991 *Comments of Pennsylvania Office of Consumer Advocate on the Pennsylvania Power and Light Company Demand-Side Management 1991 Plan.* Study 90-201D. Principal investigator.
- 1991 *Improved Energy Efficiency Through Building Standards: An Opportunity for Long Island.* Report to Long Island Power Authority. Study 90-028/BC. Co-author.
- 1991 *Long Island Power Authority Comments on the LILCO 1991-92 and 1990 Long Range Electric Conservation and Load Management Plan.* Study 90-028. Principal investigator.
- 1990 *Conservation and Capacity Optimization Alternatives to the PGT/PG&E Gas Pipeline Project.* Report to the California Public Utilities Commission. Study 90-003. Co-author.
- 1990 *Savings from the Smart Money Program: An Audit of the 125 MegaWatt Demand Reduction.* Report to Wisconsin Electric Power Company and the Wisconsin Public Service Commission. Study 89-127. Principal investigator.
- 1989 *The Role of Hydro-Quebec Power in a Least-Cost Energy Resource Plan for Vermont.* Analysis for Public Service Board Docket No. 5330. Tellus study 89-78 and Vermont Department of Public Service Technical Report No. 16. Co-author.
- 1989 *Demand-Side Management Alternatives for the Cincinnati Gas & Electric Company.* Report to Ohio Office of Consumers' Counsel. Study 89-115. Project manager.
- 1989 *Review of 1990 Integrated Demand-Side Management Plans Filed in New York Public Service Commission Case No. 28223.* Prepared for the Pace University Center for Environmental Legal Studies. Study 89-182. Principal investigator.
- 1989 *Alternatives to the Coley Creek Pumped Storage Facility.* Report to the Jocassee Watershed Coalition. Study 88-075. Co-author.

- 1988 *Toward a Conservation/Load Management Power Plant for the Centerior Energy Corporation Service Area.* Study 88-38D/1. Co-author.
- 1988 *Review of the Smart Money Program.* Report to Wisconsin Electric Power Company; Public Service Commission of Wisconsin; Wisconsin's Environmental Decade. Study 87-87. Principal investigator.
- 1988 *An Evaluation of Central Maine Power Company's Proposed Purchase of Power from Hydro Quebec.* Study 87-30. Co-author.
- 1988 *Commercial Sector Electricity Savings in Arizona: New Programs for Economic Efficiency in Energy Use.* Study 87-112. Project manager.
- 1988 *Proposed Revisions to the Rhode Island Residential Building Code: An Analysis of Costs and Benefits to New Home Buyers.* Study 87-116/B. Principal investigator.
- 1988 *1988 Annual Report to the Governor and the General Assembly.* Prepared for the Connecticut Energy Advisory Board. Study 87-097. Author.
- 1987 *Hull Action Plan for Demand Management and Energy Conservation.* Report to Hull Municipal Light. Study 86-88. Principal investigator.
- 1987 *Life-Cycle Space Conditioning Costs to Rhode Island Consumers.* Report to the Governor's Office of Energy Assistance. Study 87-116/A. Principal investigator.
- 1987 *Direct Testimony of David Nichols, Nevada Public Service Commission.* Pre-filed testimony on gas rate design and planning in a Southwest Gas Co. rate case that was settled. Prepared for the Office of Consumer Advocate. Study 87-34.
- 1987 *The New England Power Pool and New England's Electricity Future: Issues and Directions.* Study 86-83A/1. Co-author.
- 1987 *Review of the Committee for Energy Awareness Study of the New England Power Supply Situation.* Study 86-83A/2. Co-author.
- 1987 *The Merits of Completing Unit 2 of the Limerick Nuclear Power Station in the Light of Alternatives Available at Midyear 1987.* Study 87-20. Co-author.
- 1986 *Kansas City Power and Light Company's 1985 Peak Load Forecasts and Models: Review and Critique.* Study 86-13/A. Principal investigator.
- 1985 *Audit-Related Issues in the Weatherized Homes in Portland Program.* Study 85-41. Principal investigator.
- 1985 *Generating Plant Operating Performance Standards, Report No. 1: Survey of Existing Standards.* Study 85-22/1. Co-author.

List of Tellus publications prior to 1985 available upon request.

Other Publications

- 2001 ALoad Response: New, or Déjà Vu?@ in *Electricity Journal*, vol. 14, no. 4, May. Co-author.
- 2001 AThe Role of Regulators in Promoting Energy Efficiency and Renewable Technologies,@ in *Pace Environmental Law Review*, Vol. 18, No. 2.
- 2000 *Measuring Results from Climate Change Programs: Performance Indicators for GEF*. Monitoring and Evaluation Working Paper 4. Co-author.
- 2000 *Best Practices Guide: Integrated Resource Planning for Electricity*. US Agency for International Development and the Institute of International Education, Washington, DC. June. Co-author.
- 2000 Paper, AWhat=s A Policy Maker To Do?@ Western Regional Air Partnership Air Pollution Prevention Forum, Scoping of Energy Efficiency. San Francisco, CA, 31 May.
- 2000 Paper, AState Renewable Energy Policies.@ Spring 2000 Conference of the National Pollution Prevention Roundtable. March.
- 1999 Paper, AThe Environmental Benefits of Low-Income Weatherization,@ in *Evaluation in Transition: Working in a Competitive Energy Industry Environment*. Proceedings of the 1999 International Energy Program Evaluation Conference, pp. 427-434. Co-author.
- 1999 Paper, AAuditing Performance in a AStandard Offer@ Efficiency Program,@ in *Evaluation in Transition: Working in a Competitive Energy Industry Environment*. Proceedings of the 1999 International Energy Program Evaluation Conference, pp. 649-656. Co-author.
- 1998 *Incentive Rate Regulation and Integrated Resource Planning*. Pre-filed testimony on behalf of The Regroupement national des Conseils régionaux de l=environnement du Québec. Co-author.
- 1998 *Incentives for DSM Performance by Consumers= Gas Company*. Pre-filed testimony on behalf of Enbridge Consumers Gas; Ontario Energy Board EBRO 497-01, Exh. C., Appendix D.
- 1997 Paper, "Industrial Eco-Efficiency and Total Cost Assessment: An Opportunity for Utilities." Presented at the Association of Energy Services Professionals Conference, Boca Raton, Florida. December.
- 1996 Article, "Gas Utility Portfolio of Market-Oriented DSM," in *Strategies*, Vol. 7, No. 3.
- 1995 Paper, "Bidding for Interruptibility," in *Fourth International Energy Efficiency and DSM*

Conference. Bala Cynwyd, PA: SRC International, pp. 539-544.

- 1995 Paper, "Industrial Demand-Side Management in Transition," in *Partnerships, Productivity, and the Environment*, Proceedings of the ACEEE 1995 Summer Study on Energy Efficiency in Industry, Volume II, pp. 197-208.
- 1993 *Economic Opportunities Through Energy Efficiency and the Energy Policy Act of 1992*. Jefferson City, Missouri: Environmental Improvement and Energy Resources Authority. A report to the Missouri legislature pursuant to House Concurrent Resolution 16. Study 93-166. Co-author.
- 1992 Paper, "Bidding for Performance: The Large Commercial Gas Conservation Program at Wisconsin Gas Company," in *Implementation of Demand-Side Management*, Proceedings of the National DSM Implementation Conference, pp. 84-90. Bala Cynwyd, PA: Synergic Resources Corporation, 1992. Principal author.
- 1991 Paper, "Gas Substitution in Electric Utility DSM," in *Proceedings: 5th National Demand-Side Management Conference*. Palo Alto, CA: Electric Power Research Institute, Report EPRI CU-7394, pp. 231-234.
- 1990 Paper, "Tracking Results in Demand-Side Management Programs," in *Demand-Side Management Conference*. Toronto: Canadian Electrical Association, pp. 344-356.
- 1990 Paper, "Tracking Activity and Results in DSM Programs," in *Proceedings, ACEEE 1990 Summer Study on Energy Efficiency in Buildings*, pp. 6.109-6.118. Principal author.
- 1990 Article, "The Conservation Utility: A New Institutional Approach," in *UNEP Industry and Environment Review*, Volume 13, No. 2. Co-author.
- 1989 Paper, "Wisconsin's Conservation Competition Pilot Program," in *Proceedings: ECNE National Conference on Utility DSM Programs*. Palo Alto, CA: Electric Power Research Institute, Report EPRI CU-6598, Vol. 1.
- 1989 Article, "Conservation Utilities: New Force on the Demand Side," in *The Electricity Journal*, Volume 2, Number 8. Co-author.
- 1985 Paper, "Evaluation of the Massachusetts Energy Conservation Service," in *Proceedings: The Second National Conference on Energy Conservation Program Evaluation*, Argonne National Laboratory, Chicago.

List of publications prior to 1985 available upon request.

Other Professional Activity

- 2002 Lead instructor, U.S. Agency for International Development (USAID) training courses in Electric Resource Planning and DSM. Bangalore and Jaipur, India.
- 1999 Lead instructor, USAID training course in Electric Resource Planning at Tellus Institute, Boston.
- 1998 Presentation to the Advisory Committee on Resource Planning of The Quebec Energy Board, Montreal.
- 1998 Panelist, Pollution Prevention & Energy Efficiency Training Session, Pollution Prevention Roundtable Conference, Cincinnati.
- 1996-2002 Consultant to the New Jersey Division of the Ratepayer Advocate for:
- comments on draft electricity & gas restructuring legislation;
 - advice to Consumer Protection Task Force (restructuring issues);
 - evaluation of off-tariff rate agreements;
 - evaluation of gas and electric utilities= DSM cost recovery; and
 - development of policies and programs for public benefits funding of energy efficiency and renewable energy.
- 1996 Consultant to the Kentucky Attorney GeneralCtechnical assistance on DSM cost recovery.
- 1995-1998 Consultant to Massachusetts Division of Energy Resources for development of policy, program and cost-effectiveness frameworks for gas utility demand-side management.
- 1995 Consultant to Nevada Office of Advocate for Customers of Public Utilities for assessment of Sierra Pacific Power integrated resource plan, Docket 95-5001.
- 1994-1999 Consultant to Enbridge Consumers Gas (Ontario) for development and implementation of DSM programs.
- 1994-1998 Consultant to TGC (The Gas Company, Hawaii) for development of gas DSM programs.
- 1992-1995 Technical agent to the commissioners, D.C. Public Service Commission, Formal Cases No. 917 and No. 917, Phase II.
- 1993-1994 Consultant to the Staff of the Arkansas Public Service Commission for review of the integrated resource plans of three electric utilities.
- 1993 Technical agent to the commissioners, D.C. Public Service Commission, Formal Case No. 929.
- 1992-1993 Consultant to Ohio Office of Consumers' Counsel for training of staff and assessment of utility integrated resource plans.

- 1990-1993 Consultant to Long Island Power Authority for implementation of conservation programs and participation in New York PSC cases 28223, 91-E-0382, and 92-E-0291.
- 1992 Consultant to Minnesota Office of Attorney General for assessment of Northern States Power integrated resource plan, Docket E-002/RP-91-682.
- 1990-1991 Consultant to Connecticut Municipal Electric Energy Co-operative. Commercial customer surveys, end-use data base development, and DSM option screening.
- 1990 Presenter, "Evaluating Residential Conservation Programs," Workshop at "Affordable Comfort IV" Conference, Philadelphia.
- 1990 Consultant to Wisconsin Gas Company for preparation and implementation of DSM bid.
- 1989 Presenter, "New Ways to Deliver Energy Efficiency," Panel at "Making Housing More Affordable Through Energy Efficiency" Conference, Alliance to Save Energy, Washington, D.C.
- 1988-1990 Independent representative on three-party panel administering Madison (Wisconsin) Gas & Electric Company conservation competition pilot program.
- 1989 Presenter, "Roundtable on Natural Gas Issues," 42nd Annual Symposium, New England Conference of Public Utilities Commissioners, Hartford.
- 1987 Advisor to Hull (Massachusetts) Municipal Light Plant in developing its Action Plan of demand-side programs for energy efficiency.
- 1987 Advisor to the Governor's Office of Energy Assistance, Rhode Island: utility rate design and conservation programs; electric resistance heating task force.
- Other professional activity prior to 1985 available upon request.

07/02