EDWARD (TED) WEAVER

Ted Weaver has been a leader in sustainable energy for more than 40 years. He has helped utilities and energy service firms develop and manage over $6 billion (US$) of energy efficiency services and over 2 GW of electric generation. He has led and participated in dozens of public engagement processes to create consensus around energy policies, portfolio budgets, and energy resource selections. He has completed projects in over 40 states and provinces throughout North America and appeared as an expert more than 20 times before utility commissions.

Mr. Weaver is also a leader in clean tech innovation. He was the founding CEO of a methane monitoring firm; is a partner in a smart EV charging firm; has worked with multiple cleantech startup clients; and has helped utility clients create and manage innovation functions. He was a founder of the Colorado Cleantech Community networking group and has worked as a judge and mentor in multiple cleantech accelerators.

Mr. Weaver spent much of his professional career in Colorado, but relocated to British Columbia in 2021.

PROFESSIONAL EXPERIENCE

First Tracks Consulting Service, Inc. **Nederland, CO/Nelson, BC**
President ***2000 - present***
Founder of management consulting firm serving clients in the utility and energy technology industries. Specializing in strategic consulting services, including long-term planning, business-cycle planning, market analysis, techno-economic analysis, procurement, organizational development, regulatory support, and stakeholder engagement. Developed dozens of business plans, integrated resource plans, and energy efficiency plans, covering hundreds of energy efficiency programs, renewable energy systems, and new energy technologies.

LongPath Technologies **Boulder, CO**
Chief Executive Officer ***2017 - 2018***
Partner ***2017-present***
Co-founder of technology startup providing air quality services to the oil and gas industry. Company leverages Nobel-Prize winning laser technology developed at the University of Colorado and the National Institute of Standards and Technology to provide autonomous, wide-area methane monitoring using a service company business model. Serving customers throughout the natural gas value chain, including gas producers, gas processors, gas storage fields, LNG terminals, and other markets. Responsible for strategic direction, intellectual property, investor relations, business development, and strategic partnerships, as well as day-to-day operations.

Rolling Energy Resources **Boulder, CO**
Partner ***2021-present***
Minority partner in technology startup providing smart EV charging services.

Rocky Mountain Clean Tech Open **Denver, CO**
Boulder Regional Director ***2014 - 2019***
Judging Committee
Clean Tech Open is the world's largest cleantech business accelerator, targeting technologies in renewable energy, energy distribution and storage, energy efficiency, green buildings, information technology, transportation, agriculture, waste, and water.

Colorado Clean Tech Community **Denver, CO**
Board Member ***2014 - 2018***
Co-founder of membership organization providing networking and education to the Colorado clean tech community, including entrepreneurs, investors, service providers, government agencies, and universities.

PG&E Energy Services, Inc. **San Francisco, CA/Boulder, CO**
Director, Strategy & Planning (and other titles) ***1997 - 2000***
Reported directly to the CEO of retail service company selling electricity, natural gas, and other energy services to customers throughout the United States. Responsible for business planning, commodity market strategy, strategic alliances, and risk management.

Barakat & Chamberlin, Inc. **Oakland, CA/Boulder, CO**
Principal/Partner (and other titles) ***1988 - 1997***
Managed multimillion dollar practice within international management consulting firm providing sustainable energy services to utility and government clients. Specialized in business planning, new business creation, energy efficiency planning, integrated resource planning, and power supply procurement.

Burlington Electric Department **Burlington, VT**
Demand-Side Planner ***1987 - 1988***
Developed first integrated resource plan for municipal electric utility. Managed rate department.

Vermont Department of Public Service **Montpelier, VT**
Electricity Planner ***1985 - 1987***
Responsible for statewide energy planning. Primary author of 1997 State Electricity Plan.

Energy Systems Research Group (Now Tellus Institute) **Boston, MA**
Research Assistant ***1979 - 1985***
Contributed to projects involving resource planning, renewable energy, energy efficiency, and litigation support.

EDUCATIONAL RECORD

Massachusetts Institute of Technology, Bachelor of Science, 1984
Graduate courses in economics and statistics, University of Vermont, 1986-87

SELECTED PROJECT EXPERIENCE

Nicor Gas, Energy Efficiency Portfolio Management, 2010-Present
Helped gas utility client develop and manage energy efficiency portfolio delivering $600M (US$) in services including equipment rebates, household weatherization, new construction upgrades, comprehensive business upgrades, and online platforms. Key tasks included managing regulatory approvals from the Illinois Commerce Commission; participation in statewide stakeholder advisory group; managing procurement of service contractors; specification of information systems; and development of strategic planning, business planning, emerging technology, evaluation, and continuous improvement functions.

LongPath Technologies, Methane Monitoring Startup, 2014-Present
At various stages as founder, employee, consultant, and partner, helped created methane monitoring company now valued at over $60M (US$). Developed initial business model and business plan. Led creation of business entity. Developed initial intellectual property strategy. Developed initial revenue-producing customers. Ongoing role as minority partner and in business development.

Eversource, Hydrogen Power-to-Gas Preliminary Scoping Analysis, 2021
Preliminary analysis of the potential for carbon-free methane supply using renewable electrolyzer and carbon capture technologies.

Enbridge Gas, Energy Efficiency Business Model, 2021
Expert testimony to Ontario Energy Board outlining business model to provide fair, transparent compensation and incentives to Enbridge shareholders for delivering energy efficiency services that lower sales from core natural gas delivery business.

ComEd, Independent Bid Evaluator, 2012-2021
Acted as Independent Bid Evaluator to select contractors to implement over $350M (US$) of innovative energy efficiency programs. Developed requests for proposals. Provided independent, transparent evaluation of submitted bids. Managed stakeholder input process. Managed regulatory filings with Illinois Commerce Commission.

City of Boulder Colorado, Municipalization Strategy, 2012-2014
Provided strategic advice to city staff responsible for accelerating electricity decarbonization by creating new municipal electric utility through purchase of Xcel Energy distribution assets.

MidAmerican Energy, Energy Efficiency Portfolio Management, 2003-2009
Helped combined electric/gas utility client develop and manage energy efficiency portfolio delivering $700M (US$) in services including equipment rebates, household weatherization, new construction upgrades, and comprehensive business upgrades. Key tasks included managing regulatory approvals from the Iowa Utilities Board and Illinois Commerce Commission; managing stakeholder input processes; managing procurement of service contractors; specification of information systems; and development of strategic planning, business planning, and evaluation functions.

Texaco-Ovonics Hydrogen Systems, 2003
Market study for hydrogen storage startup client of hydrogen end uses including fuel cells and direct hydrogen combustion for transportation, power supply, buildings, and other markets.

New York Power Authority, Energy Procurement, 2001
Managed procurement process to select comprehensive portfolio of renewable, fossil, and financial resources necessary to serve NYPA customers after sale of Indian Point nuclear units.

SELECTED FIRST TRACKS AND BARAKAT & CHAMBERLIN CLIENTS

Alberta Power
Ameren Illinois
Ameren Missouri
American Electric Power
Arkansas Public Service Commission
Arizona Public Service
Atmos Energy
BC Hydro
Boulder County (CO)
Burlington Electric Department
Canadian Electrical Association
Cinergy
Chevron Energy Solutions
City Public Service (San Antonio, TX)
City Utilities (Springfield, MO)
City of Boulder, CO
Colorado Governor's Energy Office
Colorado Natural Gas
Colorado Public Utilities Commission
Colorado Springs Utilities
Commonwealth Edison
Consumers Energy
Delmarva Power
Detroit Edison
Electric Power Research Institute
Enbridge
Energy Conversion Devices
E Source
Eversource
Iowa Utilities Association
IPS Electric
Lower Colorado River Authority
Los Angeles Department of Water & Power
Midwest Gas
Midwest Power
MidAmerican Energy
National Grid
National Institutes of Standards and Technology
Nature Conservancy
Newfoundland & Labrador Hydro
New York Power Authority
Nicor Gas
North Shore Gas
Oklahoma Gas & Electric
Pacific Gas & Electric
Pennsylvania Public Utilities Commission
Peoples Gas
PSI/Energy
Public Service Company of Colorado
Public Service Company of New Mexico
Public Service Company of Oklahoma
PSEG
Salt River Project
SourceGas
Southwestern Electric Power Company
Southwestern Public Service
Southern California Edison
Southern California Gas

Georgia Power
Hawaii Department of Business, Economic Development & Tourism
Indiana & Michigan Power
Iowa Power
Texaco Ovonic Battery Systems
Texaco Ovonic Hydrogen Systems
Trane
University of Colorado
Vectren Retail

APPEARANCES BEFORE PUBLIC UTILITIES COMMISSIONS

Colorado Public Utilities Commission
Docket 91A-481EG (Direct Testimony)

Hawaii Public Utilities Commission
Docket 94-0206 (Direct Testimony)
Docket 7257 (Direct Testimony)

Illinois Commerce Commission
Docket 18-1688 Affidavit/Report
Docket 18-1135 Affidavit/RFP
Docket 13-0549 (Direct Testimony)
Docket 10-0568 (Direct Testimony; Rebuttal Testimony)
Docket 08-0108 (Direct Testimony)

Iowa Utilities Board
Docket EEP-08-2 (Direct Testimony; Rebuttal Testimony)
Docket EEP-03-1 (Direct Testimony)
Docket EEP-95-3 (Direct Testimony)
Docket ECR-94-1 (Direct Testimony)
Docket ECR-93-2 (Direct Testimony; Rebuttal Testimony)
Docket EEP-91-8/92-1 (Direct Testimony; Rebuttal Testimony)
Docket EEP-91-3 (Direct Testimony)
NOPR EEP-90-1 (Appearance)
Docket GCU-88-1 (Supplemental Rebuttal Testimony)

Ontario Energy Board
File EB-2021-0002 (Direct Evidence)

Vermont Public Service Board
Docket 5270 (Direct Testimony)
Docket 5177 (Direct Testimony)

SELECTED PUBLICATIONS

Accounting for Behavioral Persistence – A Protocol and a Call for Discussion." *International Energy Program Evaluation Conference*. August 2017.

Attribution Issues, the Net Versus Gross Savings Debate. E Source Focus Report EDRP-F-35. Boulder, CO. May 30, 2010.

"Where are CFLs Going; Where are They Taking Energy-Efficiency Programs?" *Proceedings of the AESP 20th Annual Energy Services Conference and Expo*. Tuscon, AZ. February 2010.

"Energy Efficiency Goals: Are They Attainable?" *ACEEE's 5th National Conference on Energy Efficiency as a Resource*. Chicago, IL. September 2009.

"Find the Low Hanging Fruit: Efficiency Supply Curves as a Means to Understanding and Targeting Efficiency Savings." *Proceedings of the AESP 19th Annual Energy Services Conference and Expo*. San Diego, CA. February 2009.

"Leveraging Customer Satisfaction through Energy Efficiency." *Proceedings of the ACEEE 2006 Summer Study on Energy Efficiency in Buildings*. Pacific Grove, CA. August 2006.

"A Competitive Bidding Program to Encourage Industrial Energy Efficiency." *Proceedings of the ACEEE 2005 Summer Study on Energy Efficiency in Industry*. West Point, NY. July 2005.

"New Sources of Value for Energy Efficiency." *6th Annual E Source Residential Services* Summit. Denver, CO. November 2003.

"New Risk Management Techniques for Electricity Markets." *Energy Services Journal*. Spring 1996.

"Appropriate Treatment of Freeriders in Impact Evaluation." *Proceedings of the ACEEE 1994 Summer Study on Energy Efficiency in Buildings Conference*. Pacific Grove, CA. August 1994.

"Dispatch from the Gas War Front: Issues in Calculating Fuel-Switching Cost-Effectiveness." *Proceedings of the ACEEE 1994 Summer Study on Energy Efficiency in Buildings Conference*. Pacific Grove, CA. August 1994.

"DSM as an Option for Relieving Distribution Capacity Constraints: The Labrador City Experience." *Proceedings of the DA/DSM Conference*. Orlando, FL. June 1994.

"Evaluation Under the Microscope of a Collaborative Process." *Proceedings of the 1993 Chicago Conference on DSM Program Evaluation*. Chicago, IL. August 1993.

"Lessons Learned from the Jasper Project." *Best Current Practices in Integrating DSM into T&D Planning: Proceedings from the Second Annual Workshop*. Electric Power Research Institute. August 1992.

"Environmental Impact of Residential Fuel Switching." *Proceedings of the ACEEE 1992 Summer Study on Energy Efficiency in Buildings Conference*. Pacific Grove, CA. August 1992.

"Direct Environmental Impacts of End-Use Technologies." *Proceedings of the DSMA and the Global Environment Conference*. April 1991.

End-Use Technical Assessment Guide (End-Use TAG), Volume 4: Fundamentals and Methods. Electric Power Research Institute. Palo Alto, CA. April 1991.

Environmental Impacts of End Use Technologies. Electric Power Research Institute (EPRI). Palo Alto, CA. January 1991.

Michigan Regulatory Incentives Study for Electric Utilities. Michigan Regulatory Incentives Study. April 1991.

Burlington Electric Department Long-Range Power Plan, 20-Year Plan. Burlington Electric Department. July 1988.

Long Range Electric Load Forecast and Analysis of Options and Costs. Vermont Department of Public Service. May 1987.

Vermont Twenty-Year Electric Plan, 1987 Revision. Vermont Department of Public Service. March 1987.