Jim Lazar is a consulting economist specializing in utility rate and resource analysis. In more than seventy appearances before regulatory bodies in the United States and abroad, he has provided expert assistance in the areas of revenue requirement, cost of capital, formation of new publicly owned utility systems, electric and gas utility integrated resource planning, cost of service and rate design, least cost and integrated resource planning, the appropriate regulatory treatment of excess capacity, subsidiary profits, and regulatory treatment of real estate transactions.

Technical Assistance: Jim Lazar has provided technical assistance to local, state, and federal public agencies, public interest groups, industry trade groups, and electric utilities. Expert testimony has been presented before the state regulatory commissions of Washington, Idaho, Montana, Hawaii, Illinois, Oregon, and Arizona, before the Federal Energy Regulatory Commission, Nuclear Regulatory Commission, Economic Regulatory Administration, Bonneville Power Administration, California Energy Commission, British Columbia Utilities Commission, and numerous local regulatory agencies. Internationally, Mr. Lazar has assisted clients in New Zealand, Ireland, Mozambique, Namibia, and Canada with utility rate and resource analysis.

Training: Jim Lazar has taught Energy Economics as a member of the faculty of Edmonds Community College, and previously served as a faculty member to the Western Consumer Utility Training Center in 1982. He was the lead author of a book on utility rate and resource issues, The People's Power Guide, published in 1982, and a handbook on electric utility cost of service analysis prepared for the Arizona Corporation Commission in 1993. He has presented papers at numerous conferences in the United States, as well as Canada, New Zealand, and Austria, and has taught courses utility resource and regulatory principles in The Philippines, India, China, Indonesia, Brazil, and for the regulatory Commission of Kyrgyzstan..

EDUCATION:

University of California, Los Angeles Shimer College, Mt. Carroll, Illinois

Western Washington University, Bellingham B.A. 1974 (Economics)
Graduate work: Western Washington University (Economics)

University of Washington (Public Administration)

EMPLOYMENT HISTORY

1979 to Present

Self-employed consulting economist, and community college faculty: Transportation studies; Utility rate and resource analysis, conservation program design and evaluation, transportation system analysis. Associate with the Regulatory Assistance Project since 1999.

1983-84

Research Director, Northwest Energy Coalition: Directed studies on energy resource cost-effectiveness, including nuclear, conservation, building codes, and unconventional resources;

1982

Research Associate, Metropolitan Development Council of Tacoma, Washington: Research Director, People's Organization for Washington Energy Resources

PUBLICATIONS AND RESEARCH [Excluding Regulatory Proceeding Testimony]

<u>Hawaii Energy Utility Regulation And Taxation</u>, prepared for Hawaii Energy Policy Project in conjunction with J. Carl Freedman, 2003

<u>Power Market Restructuring Issues: Integrated Monopoly</u> → <u>Single Buyer</u> → <u>Wholesale Market</u>, prepared for the Electricity Control Board of Namibia in conjunction with Nexant Corporation / U.S. Agency for International Development, 2003

History, Current Status, and Future of the Residential Exchange, Snohomish Public Utility District, 2003

Tools Available to BPA and WAPA to Develop Renewables, Western States Renewable Energy Summit, Reno, Nevada, 2003

The Role of Regulation, and Starting and Staffing a Regulatory Commission, prepared for the Central Electricity Commission of Mozambique in conjunction with Nexant Corporation / U.S. Agency for International Development, 2003

<u>Low-Income and Rural Electrification Assistance Programs for the Indonesia Social Electricity Development Fund, Prepared for the Institute of International Education / U.S. Agency for International Development, 2002</u>

<u>Convergence: Electricity and Natural Gas in Washington State</u>, Prepared for Washington State Office of Trade and Economic Development, 2001 (One of seven authors)

Improving State Electricity Taxation, Prepared for Regulatory Assistance Project, 2001 (with Cheryl Harrington)

<u>Lessons Learned from the California Energy Crisis</u>: Prepared for Regulatory Assistance Project / Energy Foundation China Sustainable Energy Program, 2001

<u>Consumer Protection and Customer Service in Emerging Utility Industry Structures</u>: Prepared for Regulatory Assistance Project (Brazil) / USAID, 2000

Electric Cost of Service Analysis: Prepared for City of Burbank, California Public Service Department, 2000

Tariff Analysis in a Regulatory Regime: Prepared for Administrative Staff College of India / USAID, 1999

Energy Efficiency Promotion Policies: Prepared for Administrative Staff College of India / USAID, 1999

<u>Demand Side Management in a Regulatory Environment</u>: Prepared for Institute of Financial Management and Research (Madras, India) / USAID, 1999

Consumer Advocacy in a Restructured Electric Utility Industry: Prepared for Administrative Staff College of India / USAID, 1999

Private Energy Utilities and Bellevue's Options for the Future: Prepared for City of Bellevue, Washington, 1998

Energy Sector Regulation Principles and Practice: Prepared for Philippines Department of Energy / USAID, 1997

Electric Rate Unbundling for a Competitive Market: Prepared for Washington Water Power Company / Idaho PUC, 1997

Retail Wheeling Pilot Proposal, Puget Sound Power and Light Company, Office of the Attorney General, State of Washington 1996

<u>Conservco:</u> An Option for Achieving Efficiency in a Competitive Utility Market Structure, Prepared for the Snohomish County Public Utility District, 1995

Making Integrated Resource Planning Better and Cheaper, British Columbia Energy Coalition, 1995

<u>Cost Elements and Study Organization For Embedded Cost of Service Analysis</u>, Briefing Paper to Arizona Corporation Commission, (Arizona Corporation Commission, July, 1992)

<u>Transmission and Distribution Cost Allocation in Embedded Cost of Service Analysis</u>, Briefing Paper to Arizona Corporation Commission, (Arizona Corporation Commission, July, 1992)

<u>Production Cost Allocation in Embedded Cost of Service Analysis</u>, Briefing Paper to Arizona Corporation Commission, (Arizona Corporation Commission, July, 1992)

<u>Utility Connection Charges and Credits: Stepping Up the Rate of Energy Efficiency Implementation</u>, (Second International Conference on Energy Consulting, Graz, Austria, 1991)

Electric Power Resource Evaluation for Improved Fish Migration, (Pacific States Marine Fisheries Commission, 1991)

Long-Term Financial Model Review: Prepared for Emerald People's Utility District, 1991

Unrecovered Costs of Serving New Residential Space Heat Loads, (Mason PUD #3, June, 1990)

<u>Direct Use of Natural Gas for Residential Space and Water Heat Compared to Gas-Fired Electric Generation for Hydro-firming; Thermodynamic, Economic, and Environmental Impacts, (Association of Northwest Gas Utilities, 1990)</u>

Model Energy Conservation and Power Planning Action Plan, (Northwest Conservation Act Coalition, 1990)

Ten Year Financial Plan Analysis for Startup, Oregon Trail Electric Cooperative, 1988

Impact of Operation of the Columbia Basin Irrigation Project on Northwest Electric Power Users, 1954-1986; (Natural Resources Defense Council, 1987)

WPPSS Preservation Costs and the BPA Residential and Small Farm Exchange (Mason County PUD, 1986)

WPPSS Nuclear Plants #1 and #3 in a Rapidly Changing Environment, (Snohomish County PUD, 1986)

WPPSS #1 and #3: Costs and Alternatives, (Northwest Conservation Act Coalition, 1984)

<u>Do or Die: The Seabrook Nuclear Generating Station and the Public Service Company of New Hampshire,</u> (Campaign for Ratepayer Rights, 1984)

Should Utility Conservation Efforts Continue During a Surplus, (Pacific Northwest Regional Economic Conference, 1984)

WPPSS Nuclear Plant #3: Where Now?, (Northwest Conservation Act Coalition, 1983)

A Ratepayer Perspective on Avoided Cost Pricing Under PURPA Section 210, (California Energy Commission, 1982)

<u>The People's Power Guide: A Manual of Electric Utility Policies for Consumer Activists,</u> (People's Organization for Washington Energy Resources, 1982)

Model Conservation and Electric Power Plan for the Pacific Northwest, (Northwest Conservation Act Coalition, 1982)

<u>Electricity Market Decontrol through Windfall Profits Taxation and Competitive Power Supply Contracting,</u> (PNW Regional Economic Conference, 1982)

Northwest Electric Load Shaping for Fish Enhancement, (Romer Associates/National Marine Fisheries Service, 1981)

Conserving Electricity in the Pacific Northwest, (Pacific Northwest Regional Economic Conference, 1980)

JIM LAZAR CONSULTING ECONOMIST RECENT CONSULTING CLIENTS [PARTIAL LISTING]

UTILITIES AND UTILITY ASSOCIATIONS

City of Burbank, California

Emerald People's Utility District [Eugene, OR]

Hawaiian Electric Company

Mason County Public Utility District #3 [Shelton, WA]

Salem Electric Cooperative [Salem, OR]

Snohomish County Public Utility District [Everett, WA]

Northwest Gas Association [Portland, OR]

PUBLIC AGENCIES

Arizona Corporation Commission

City of Bellevue, Washington

Environmental Protection Agency

Hawaii Department of Commerce and Consumer Affairs

Idaho Public Utilities Commission

Mount Rainier National Park

National Marine Fisheries Service

Office of the Attorney General, Washington

Pacific States Marine Fisheries Commission

Research Corporation of the University of Hawaii

Washington State Department of Community, Trade, and Economic

Development

Washington State Department of Wildlife

Washington Utilities and Transportation Commission

NONPROFIT ENTITIES

Association for the Advancement of Sustainable Energy Policy (Canada)

British Columbia Energy Coalition (Canada)

Citizen's Utility Board, (Illinois)

Columbia River Intertribal Fish Commission

EnergyWatch (New Zealand)

Institute of International Education

Montana Electricity Buying Cooperative

Natural Resources Defense Council

Nez Perce Indian Nation

Northwest Conservation Act Coalition

Regulatory Assistance Project

Squamish Indian Nation (Canada)

Time to Respect Earth's Ecosystems (Canada)

Yakima Indian Nation

EXPERT TESTIMONY AND ENERGY/UTILITY RESEARCH BY JIM LAZAR

| YEAR | | ORG | FORUM CASE ‡ | † TOPIC/TITLE |
|--------------|------------|-------------|-----------------------|--|
| 1979 | SKAG | NRC | | Alternatives to Skagit Nuclear Plant |
| 1979 | PGN | OPUC | UF-3518 | Review Increase Rate of Return |
| 1979 | PSD | WUTC | U-79-70 | Insulation Stds, Conservation Loan Prog Industry |
| | PSD | | 0-79-70 | Relocation of Skagit Plant |
| 1979 | PSD | NRC | | |
| 1979 | | WPPSS | | Critique of WPPSS Bond Statements |
| 1979 | Dab | SENATE | TT 00 10 | "Summary Data on Petrol Supply Demand & Price" |
| 1980 | PSD | WUTC | U-80-10 | Resource Alternatives, Error in Water Study Rate Study |
| 1980 | PSD | WUTC | U-78-05 | Rate Analysis and Service Fees |
| 1980 | IPC | IPUC | | Conservation Based Hook-up Charges |
| 1981 1981 | | GRAY | | Review of PURPA Rate Making Standards |
| 1981 | MDDGG | SCL | | "Giving Your Customers What They WantAnd Need" |
| | WPPSS | IPUC | TT 1000 1FF | Senate Report: Total Costs WNP's 1 Through 5 |
| 1981 | WWP | | U-1008-155 | Review WNP & Skagit as Relates to WWP |
| 1982 1982 | CEC | CEC | OII-2 | Recommendations and Conclusion on PURPA |
| | CEC | CEC | OII-2 | Ratepayer View on Avoided Cost (PURPA) |
| 1982 | WWP | WUTC | U-82-10 | Review WWP Costs Study |
| 1982 1983 | BPA | BPA | 02 0 67 | Low Density Discounts |
| | MTP | MPSC | 83.9.67 | Cost Effectiveness of Colstrip 3 to Ratepayer |
| 1983 | PPW | WUTC | U-83-57 | Colstrip & PP&L Review Blk Hills Colstrip Cost Exhibit |
| 1983 | PSD | WUTC | U-83-54 | Review Rate Design |
| 1983 | WPPSS | | 394 | Draft Cost Effectiveness Study of WNP 2&3 |
| 1983 | WPPSS | | | WNP3 Cost of Completion & Operation to NCAC |
| 1983 | WPPSS | THE COLUMN | 11 02 26 | "WNP 3, Where Now?" |
| 1983 | WWP | WUTC | U-83-26 | Cost of Colstrip 4, WWP Rate of Return, AFUDC, Power Supply Costs |
| 1983 | WWP | IPUC | U-1008-204 | WNP3 Cost |
| 1983 | WWP | IPUC | U-1008-185 | Review Colstrip 3&4 Costs, Rate of Return on WNP 3, Power Supply Costs |
| 1984 | PSD | WUTC | U-84-27/44 | CWIP |
| 1984 | PSD | WUTC | U-84-61 | Review Secondary Power Purchases & Sales WNP 1&3 Cost Alternatives |
| 1984 | WPPSS | NCAC | TT 0.4 0.0 | |
| 1984 1985 | WWP | WUTC | U-84-28 UE-44 | Power Supply Costs, Lobbying Costs, Kettle Falls Rates |
| 1985 | PGN WWP | OPUC | | Rate Design For Residential Users WNP3 Cost Rebuttal |
| 1985 | WWP | IPUC | U-1008-204 | |
| 1986 | AZP | WUTC ACC | U-85-36 U134585156 | Cost of Service Analysis, Rebuttal to Schoenbeck |
| 1986 | CGC | WUTC | U-86-100 | Cost of Service, Rate Design, Load/Resource Balance Revenue Requirements, Cost of Service |
| 1986 | PGN | OPUC | UE-48 | WPPSS Investments, Property Transfers |
| 1986 | PPW | WUTC | U-86-02 | Skagit, Pebble Springs, Cost of Service, Rate Design |
| 1986 | PSD | WUTC | U-85-53 | Conservation Program Cost of Service/Rate Design |
| 1986 | SNO | SNOPUD | 0-03-33 | WNP 1 & 3 In A Rapidly changing environment" |
| 1986 | WECO | WUTC | U-86-117 | Cost of Service, Rate Design |
| 1986 | WPPSS | WOIC | 0 00 117 | Power Cost of WNP 2 |
| 1986 | WWP | IPUC | U-1008-204 | Surrebuttal |
| 1987 | AZP | ACC | U-1345-85367 | Review AZP Cost of Service & Rate Design |
| 1987 | PSD | WUTC | U-86-131 | BPA Settlement Exchange Agreement |
| 1987 | PSD | WUTC | U-87-1262 | ECAC |
| 1987 | NIGAS | ICC | 87-0032 | Cost of Service |
| 1987 | SALEM | SALEM | | Cost of Service/Rate Design |
| 1987 | WDW | 9TH | 86-7704 | Cost Effectiveness of Third AC Intertie |
| 1988 | PP&L | WUTC | U-87-1513 | Residential Rate Design |
| 1988 | CWE | ICC | 87-0427 | Cost of Service/Rate Design |
| 1988 | WWP | WUTC | 87-1532-T | Gas Transportation Rates |
| 1988 | WWP | WUTC | 88-2380-T | Natural Gas General Rate Increase |
| 1988 | IP | ICC | 87-0695 | Cost of Service/Rate Design |
| 1988 | SALEM | SALEM | | Large Industrial Rate Study |
| 1988 | WWP | WUTC | 88-2363-P | Power Cost Adjustment |
| 1988 | PUGET | WUTC | 88-2010-T | Energy Cost Adjustment |
| 1989 | MASON | MASON | | Service Extension Policy Analysis |
| 1989 | PUGET | WUTC | 81-41-RE | Energy Cost Adjustment Reopening |
| 1989 | PUGET | WUTC | 89-2862-T | Energy Cost Adjustment |
| 1989 | PUGET | WUTC | 89-2688-T | General Rate Increase - WPPSS #3 - Cost of Service/Rate Design |
| 1989 | WWP | WUTC | U-89-3105-T | Interstate Cost Allocation/Excess Capacity |

| EXPERT TESTIMONY AND ENERGY/UTILITY RESEARCH BY JIM LAZAR | | | | | | | | |
|---|--------|-------|--------------|--|--|--|--|--|
| YEAR | | ORG | FORUM CASE # | TOPIC/TITLE | | | | |
| 1990 | WWP | WUTC | UG-900190 | General Rate Increase - Cost of Service/Rate Design | | | | |
| 1990 | IP | ICC | 90-0072 | General Rate Increase - Cost of Service/Rate Design | | | | |
| 1990 | WECO | WUTC | UG-900210 | Gas Transportation Rates | | | | |
| 1991 | PUGET | WUTC | UE-910689 | Least Cost Planning Performance | | | | |
| 1991 | WPPSS | MASON | | WNP 2 Revenues & Cost of Power | | | | |
| 1991 | WPPSS | MASON | | WNP 1&3 Issues & Concerns | | | | |
| 1991 | PUGET | WUTC | UE-901183 | Decoupling; Power Supply Cost Recovery | | | | |
| 1991 | GRANT | FERC | E-9569 | Cost Impact of Fish Bypass Systems | | | | |
| 1991 | AZP | ACC | U-1345-90007 | Cost of Service/Rate Design | | | | |
| 1992 | HECO | HPUC | 6998 | Cost of Service/Rate Design | | | | |
| 1992 | HELCO | HPUC | 6999 | Cost of Service/Rate Design | | | | |
| 1992 | KE | HPUC | 7003 | Cost of Service/Rate Design | | | | |
| 1992 | CGC | WUTC | UG-920062 | Gas Tracker | | | | |
| 1992 | PSD | WUTC | UE-920630 | Periodic Rate Adjustment Mechanism | | | | |
| 1993 | PSD | WUTC | UE-920499 | Cost of Service / Rate Design | | | | |
| 1993 | HECO | HPUC | 7310 | Avoided Costs of Generation | | | | |
| 1993 | BPA | BPA | WP-93 | Rate Design | | | | |
| 1994 | BCG | BCUC | IRP | Integrated Resource Planning / Decoupling | | | | |
| 1994 | WNG | WUTC | UG-931405 | Gas Revenue Requirements | | | | |
| 1995 | BCEC | BCUC | | Electric Utility Industry Structure | | | | |
| 1995 | MECO | HPUC | 94-0345 | Cost Allocation / Rate Design | | | | |
| 1995 | GASCO | HPUC | 94-0307 | Gas Supply; Cost of Service; Rate Design | | | | |
| 1996 | MECO | HPUC | 96-0040 | Cost Allocation / Rate Design | | | | |
| 1996 | BCG | BCUC | | Shareholder Incentives | | | | |
| 1996 | PSD | WUTC | UE-960299 | Special Contract | | | | |
| 1996 | PSD | WUTC | UE-960195 | Merger, Puget Sound Power and Light / Washington Natural GAs | | | | |
| 1997 | BCG | BCUC | | Southern Crossing Pipeline Economics | | | | |
| 1998 | MECO | HPUC | 97-0346 | Cost of Service and Rate Design | | | | |
| 1999 | PSD | WUTC | UE-990267 | Colstrip Sale and Accounting Treatment | | | | |
| 1999 | WPPSS | EFSEC | | WNP-4 Site Restoration Options | | | | |
| 1999 | PSD/WW | , | UE-991255 | Centralia Sale and Accounting Treatment | | | | |
| 2000 | Avista | | UE-991606 | Revenue Requirement; Rate Spread; Rate Design | | | | |
| 2000 | NWNG | WUTC | UG-000073 | Revenue Requirement; Rate Spread; Rate Design | | | | |
| 2000 | Sumas | EFSEC | 99-01 | Recommendations on Site Certification Application | | | | |
| 2000 | PSE | WUTC | UE-001952 | Industrial Market-Based Rates | | | | |
| 2001 | Sumas | EFSEC | 99-01 | Recommendations on Revised Application | | | | |
| 2002 | PSE | WUTC | UE-011411 | Merger Compliance Rate Filing | | | | |
| 2002 | PSE | WUTC | UE-011570 | General Rate Proceeding | | | | |
| 2003 | MH | MPUB | | Residential Rate Design | | | | |

Residential Rate Design

MH

2003

MPUB

ACRONYMS

ACC ARIZONA CORPORATION COMMISSION

ANGU ASSOCIATION OF NORTHWEST GAS UTILITIES

ARIZONA PUBLIC SERVICE COMPANY AZP BCEC British Columbia Energy Coalition BCG BRITISH COLUMBIA GAS UTILITIES LTD. BCUC BRITISH COLUMBIA UTILITIES COMMISSION

BEL City of Bellevue, Washington BONNEVILLE POWER ADMINISTRATION BPA

CBFWA COLUMBIA BASIN FISH AND WILDLIFE AUTHORITY

GRANT GRANT COUNTY PUBLIC UTILITY DISTRICT GRAYS HARBOR PUBLIC UTILITY DISTRICT GRAY

HAWAIIAN ELECTRIC COMPANY HECO HAWAII ELECTRIC LIGHT COMPANY HELCO HAWAII PUBLIC UTILITY COMMISSION HPUC ICC ILLINOIS COMMERCE COMMISSION

ILLINOIS POWER COMPANY ΙP

IPUC IDAHO PUBLIC UTILITIES COMMISSION

KE KAUAI ELECTRIC

MASON PUBLIC UTILITY DISTRICT #3 OF MASON COUNTY, WASHINGTON

MTP

PUBLIC UTILLITY
MONTANA POWER COMPANY
TITINOIS GAS NORTHERN ILLINOIS GAS COMPANY
NATIONAL MARINE FISHERIES SERVICE
ATOMIC SAFETY AND LICENSING BOARD/NUCLEAR REGULATORY COMMISSION
PUBLIC UTILITY COMMISSION OF OREGON NIGAS NMFS

OPUC PGN PORTLAND GENERAL ELECTRIC COMPANY PPW PACIFIC POWER AND LIGHT COMPANY PUGET SOUND POWER AND LIGHT COMPANY PSD

SALEM SALEM ELECTRIC COOPERATIVE SAUDER INDUSTRIES, LTD. [CANADA] SAUDER

SEATTLE CITY LIGHT SCL SENATE WASHINGTON STATE SENATE

SNOPUD SNOHOMISH COUNTY PUBLIC UTILITY DISTRICT

SMOROMISH COUNTY PUBLIC UTILITY DIS Sumas Energy Corporation THERMAL REDUCTION, INC. OREGON TRAILS ELECTRIC COOPERATIVE COLUMBIA RIVER INTERTRIBAL ELECTRIC Sumas THERM

TRAILS

COLUMBIA RIVER INTERTRIBAL FISH COMMISSION TRIBE

WDW WASHINGTON DEPARTMENT OF WILDLIFE WECO WASHINGTON NATURAL GAS COMPANY

WPPSS WASHINGTON PUBLIC POWER SUPPLY SYSTEM

WUTC WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

WWP WASHINGTON WATER POWER COMPANY

NOTE: LIST DOES NOT INCLUDE LITIGATION ASSISTANCE