EXHIBIT NO. __(EDH-2) DOCKET UE-200115 COLSTRIP UNIT 4 SALE WITNESS: EZRA D. HAUSMAN, PH.D.

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

In the Matter of the Application of

PUGET SOUND ENERGY,

For an Order Authorizing the Sale of All of Puget Sound Energy's Interests in Colstrip Unit 4 and Certain of Puget Sound Energy's Interests in the Colstrip Transmission System Docket UE-200115

EXHIBIT EDH-2 TO THE

PREFILED DIRECT TESTIMONY OF

EZRA D. HAUSMAN, PH.D.

ON BEHALF OF THE SIERRA CLUB

October 2, 2020

EZRA HAUSMAN CONSULTING

Ezra D. Hausman, Ph.D.

Curriculum Vitae



I am an independent consultant in energy and environmental economics.

I have worked for over two decades as an energy market expert with a focus on market design and market restructuring, planning and ratemaking, energy efficiency programs, environmental regulation, and pricing of energy, capacity, transmission, losses and

other electricity-related services. I have performed market analysis, provided expert testimony, led workshops and working groups, and provided other support in both regulated and restructured electricity markets for clients including federal and state agencies, offices of consumer advocate, legislative bodies, cities and towns, non-governmental organizations, foundations, industry associations, and resource developers.

I hold a Ph.D. in atmospheric science from Harvard University, an S.M. in applied physics from Harvard University, an M.S. in water resource engineering from Tufts University, and a B.A. in psychology from Wesleyan University.

PROFESSIONAL EXPERIENCE

Ezra Hausman Consulting, Newton, MA. President, March 2014 – Present.

I provide research, analysis, expert testimony, and policy support services in regulatory, litigation, and stakeholder processes covering a wide range of electric sector and electriciuty market issues. The focus of my consulting work includes:

- Ratemaking and regulatory proceedings
- Wholesale market design and analysis for electricity, generating capacity, and related services
- Demand-side management/energy efficiency program design and cost/benefit analysis
- Utility role in developing electric vehicles infrastructure
- Interaction of air quality and environmental regulations with electricity markets
- Analysis and implementation of greenhouse gas rules
- Clean Air Act enforcement support
- Long-term electric power system planning
- Consumer and environmental protection
- Market power and market concentration analysis in electricity markets.

Synapse Energy Economics Inc., Cambridge, MA.

Chief Operating Officer, March 2011 – February 2014; Vice President, July 2009 – February 2014; Senior Associate, 2005-2009.

- Conducted research, wrote reports, and presented expert testimony pertaining to consumer, environmental, and public policy implications of electricity industry regulation. Provided expert support and representation in planning, greenhouse gas mitigation, and other stakeholder processes.
- As Vice President and Chief Operating Officer, I was also responsible for day-to-day operations of the company, quality assurance, client service, and professional development of staff.

Charles River Associates (CRA), Cambridge, MA. Senior Associate, 2004-2005 *CRA acquired Tabors Caramanis & Associates in October 2004.*

Tabors Caramanis & Associates, Cambridge, MA. Senior Associate, 1998-2004 As a member of the modeling group, developed and maintained dispatch modeling capability in support of electricity market consulting practice.

Performed modeling and analysis of electricity and natural gas markets, generation and transmission systems.

Global Risk Prediction Network, Inc., Greenland, NH. Vice President, 1997-1998 Developed private sector applications of climate forecast science in partnership with researchers at Columbia University.

Hub Data, Inc., Cambridge, MA. Financial Software Consultant, 1986-1987, 1993-1997 Responsible for design, implementation and support of analytic and communications modules for bond portfolio management software.

Abt Associates, Inc., Cambridge, MA. Environmental Policy Analyst, 1990-1991 Quantitative risk analysis to support federal environmental policy-making.

Massachusetts Water Resources Authority, Charlestown, MA. Analyst, 1988-1990 Applied and evaluated demand forecasting techniques for the Eastern Massachusetts service area; assessed yield/reliability relationship for the eastern Massachusetts water supply system.

Somerville High School, Somerville, MA. Math Teacher, 1986-1987 Courses included trigonometry, computer programming, and basic math.

EDUCATION

Ph.D., Earth and Planetary Sciences. Harvard University, Cambridge, MA, 1997

S.M., Applied Physics. Harvard University, Cambridge, MA, 1993

M.S., Civil Engineering. Tufts University, Medford, MA, 1990

B.A., Wesleyan University, Psychology. Middletown, CT, 1985

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FELLOWSHIPS, AWARDS AND AFFILIATIONS

UCAR Visiting Scientist Postdoctoral Fellowship, 1997 Postdoctoral Research Fellowship, Harvard University, 1997 Certificate of Distinction in Teaching, Harvard University, 1997 Graduate Research Fellowship, Harvard University, 1991-1997 Invited Participant, UCAR Global Change Institute, 1993 House Tutor, Leverett House, Harvard University, 1991-1993 Graduate Research Fellowship, Massachusetts Water Resources Authority, 1989-1990 *Teaching Fellowships:*

Harvard University: *Principles of Measurement and Modeling in Atmospheric Chemistry; Hydrology; Introduction to Environmental Science and Public Policy; The Atmosphere.*

Wesleyan University: *Introduction to Computer Programming; Psychological Statistics; Playwriting and Production.*

Community Service

Vice President of Finance, Congregation Dorshei Tzedek, 2018 - Ongoing *Academic Mentor and Athletic Coach,* SquashBusters Boston, 2014 - Ongoing *Judge,* Cleantech Open innovation competitions, 2015-2016 *President,* Burr Elementary School Parent Teacher Organization, 2005-2007

EXPERT TESTIMONY AND SERVICES

Before the Public Utility Commission of Oregon (Case No. UE 374) – 2020-Ongoing Expert witness on behalf of the Sierra Club in Pacific Power General Rate Case.

Before the Pennsylvania Public Utility Commission (Docket No. R-2020-3017206) – 2020ongoing

Expert witness on behalf of the Clean Energy Council regarding Philadelphia Gas Works' general rate increase request.

Before the Public Service Commission of the District of Columbia (Formal Case No. 1154) – 2020

Expert witness on behalf of the Sierra Club regarding Washington Gas Light's PROJECT*pipes* II filing.

Before the New Jersey Board of Public Utilities (Docket No. EO18020190) – 2018-ongoing

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Atlantic City Electric's proposed Voluntary Program for Plug-In Vehicle Charging.

Before the New Jersey Board of Public Utilities (Docket. Nos. ER18070688 and GR18070689) – 2019

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Public Service Electric & Gas' 2018 PSE&G Green Programs Cost Recovery Filing. Settled prior to filing of intervener testimony.

Before the New Jersey Board of Public Utilities (Docket No. G018030350) – 2018

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the South Jersey Gas' Energy Efficiency Programs IV filing. Settled prior to filing of intervener testimony.

Before the New Jersey Board of Public Utilities (Docket No. GO18030355) – 2018 Expert witness on behalf of the New Jersey Division of rate Counsel regarding the New Jersey Natural Gas Company's SAVEGREEN energy efficiency and renewable energy programs. Case was settled prior to filing of intervener testimony.

Before the New Jersey Board of Public Utilities (Docket No. EO18101111) – 2018-ongoing Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Public Service Electric & Gas' proposed *Clean Energy Future - Electric Vehicle and Energy Storage* program.

Before the New Jersey Board of Public Utilities (Docket Nos. GO18101112 and EO16101113) – 2018-ongoing

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the Public Service Electric & Gas' proposed *Clean Energy Future - Energy Efficiency* program.

New Jersey Board of Public Utilities – 2020-Ongoing

Expert participation is stakeholder process regarding conversion to high-efficiency street lights on behalf of Rate Counsel.

New Jersey Board of Public Utilities – 2019-Ongoing

Expert participation is stakeholder process regarding transportation electrification policies on behalf of Rate Counsel.

New Jersey Division of Rate Counsel – 2016-Ongoing

General policy and stakeholder participation support on matters related to energy efficiency, renewable energy, and electrification of transportation in New Jersey.

Before the Washington Utilities and Transportation Commission – 2020-Ongoing

Expert witness on behalf of the Sierra Club regarding potential sale of ownership sale in Colstrip generating unit.

Before the Utah Public Service Commission (Docket No. 18-035-36) – 2020

Expert witness on behalf of the Sierra Club in Rocky Mountain Power depreciation case.

PacifiCorp Multi-State Protocols Stakeholder Process – 2019-Ongoing

Participation on behalf of Sierra Club in stakeholder process to establish protocols for allocation of resource costs ad benefits among PacifiCorp states.

Advisory Consulting for Natural Resources Defense Council – 2019-2020

Provide advisory and technical support to analysis team.

Memphis Light, Gas and Water – Power Supply Alternatives Study (2019-Ongoing) Expert support for Sierra Club participation in Power Supply Advisory Team.

Before the Washington Utilities and Transportation Commission (Dockets UE-190334 and UG-190335) – 2019

Expert witness on behalf of the Sierra Club in Avista Energy rate case.

Before the Public Service Commission of South Carolina (Docket No. 2018-319-E) – 2019 Expert witness on behalf of the Sierra Club in Duke Energy Carolinas rate case.

Before the Public Service Commission of South Carolina (Docket No. 2018-318-E) – 2019 Expert witness on behalf of the Sierra Club in Duke Energy Progress rate case.

Before the Virginia State Corporation Commission (Case No. PUR-2018-00065) – 2018 Expert witness on behalf of the Sierra Club in Dominion Power IRP proceeding.

Before the Missouri Public Service Commission (Case No. EO-2018-0038) – 2018 Expert services in support of Sierra Club's participation in integrated resource planning process.

Before the Florida Public Service Commission (Docket No. 20170225-EI) – 2017-2018 Expert witness on behalf of the Sierra Club in FPL Determination of Need proceeding.

Before the North Carolina Utilities Commission (Docket No. E-7, SUB 1146) – 2017-2018 Expert witness on behalf of the Sierra Club in Duke Energy Carolinas rate case.

Before the New Jersey Board of Public Utilities (Docket No. ER17080869) – 2017 Expert witness on behalf of the New Jersey Division of rate Counsel regarding Public Service Electric and Gas Company's proposed Energy Efficiency 2017 Program.

Before the New Jersey Board of Public Utilities (Docket No. EO17030196) – 2017 Expert witness on behalf of the New Jersey Division of rate Counsel regarding Rockland Electric Company's proposed Low Income Audit and Install Energy Efficiency Program.

Before the New Jersey Board of Public Utilities (Docket No. GO15050504) – 2017 Expert witness on behalf of the New Jersey Division of rate Counsel regarding Elizabethtown Gas Company's Petition to Extend the Term of Energy Efficiency Programs. Settled prior to filing of intervener testimony.

Before the North Carolina Utilities Commission (Docket No. E-2, SUB 1142) – 2017 Expert witness on behalf of the Sierra Club in Duke Energy Progress rate case.

Before the Idaho Public Utilities Commission (Case No. AVU-E-17-01) – 2017 Expert witness on behalf of the Sierra Club in Avista Corporation rate case.

Before the Iowa Utilities Board (Docket No. RPU-2017-0002) –- 2017 Expert witness on behalf of the Sierra Club for Interstate Power and Light petition for ratemaking principles for proposed 500 MW wind project.

Before the Washington Utilities and Transportation Commission (Dockets UE-170033 and UG-170034) – 2017

Expert witness on behalf of the Sierra Club in Puget Sound Energy (PSE) rate case.

Clean Power Plan Modeling in PJM and MISO – 2016-2017

Participation on behalf of the Sustainable FERC Project in ISO initiative to model scenarios for state compliance with federal greenhouse gas mitigation rules.

California ISO/PacifiCorp Market Integration – 2015-2017

Technical support to Sierra Club in stakeholder review and participation in all relevant proceedings in California.

Before the New Jersey Board of Public Utilities (Docket No. GO14121412) – 2015

Expert witness on behalf of the New Jersey Division of rate Counsel regarding the New Jersey Natural Gas Company's petition for approval of its Extension of Energy - Efficiency Programs. Case was settled prior to filing of intervener testimony.

Before the New Jersey Board of Public Utilities (Docket No. GR15010090) – 2015

Expert witness on behalf of the New Jersey Division of rate Counsel regarding South Jersey Gas Company's petition for for Approval to Continue its Energy Efficiency Programs and Energy Efficiency Tracker. Case was settled prior to filing of intervener testimony.

United States Department of Justice – US District Court for the Eastern District of Missouri (Civil Action No. 4:11-CV-00077) – 2013-2019

Expert witness on behalf of the United States Department of Justice on successful prosecution of clean air act case.

Before the Missouri Public Service Commission (Case No. EO-2015-0084) – 2014-2015 Expert services in support of Sierra Club's participation in integrated resource planning process.

Before the Missouri Public Service Commission (File No. ER-2014-0258) – 2014-2015 Expert witness on behalf of the Sierra Club in Ameren Missouri rate case.

Before the Arizona Corporation Commission (Docket No. E-01345A-11-0224) – 2014 Expert witness on behalf of the Sierra Club regarding Arizona Public Service petition for rate treatment for acquisition of an additional ownership share of the Four Corners generating units.

Before the Missouri Public Service Comission (Docket No. ET-2014-0085) – 2013

Testimony on behalf of the Missouri Solar Energy Industries Association regarding Union Electric (d/b/a Ameren Missouri) motion to suspend payment of solar rebates.

Before the Missouri Public Service Comission (Docket No. ET-2014-0059 and ET-2014-0071) – 2013

Testimony on behalf of the Missouri Solar Energy Industries Association regarding Kansas City Power and Light Company's motions to suspend payment of solar rebates.

Eastern Interconnect Planning Collaborative (EIPC) – 2012-2013

Expert support on behalf of coalition of NGO stakeholders in transmission and resource planning process, including development and review of modeling assumptions and interim results, and development of comments.

Puget Sound Energy (PSE) – 2012-2013

Expert participant in PSE's 2013 IRP stakeholder process on behalf of the Sierra Club.

Before the Washington Utilities and Transportation Commission (Docket Nos. UE-111048 and UG-111049) – 2011

Testimony on behalf of the Sierra Club regarding the cost of operating the Colstrip power plant and other power procurement issues.

Before the Kansas Corporation Commission (Docket No. 11-KCPE-581-PRE) - 2011

Presented written and live testimony on behalf of the Sierra Club regarding Kansas City Power and Light request for predetermination of ratemaking principles.

Vermont Department of Public Service - 2011

Provided scenario analysis of the costs and benefits of various electric energy resource scenarios in support of the state Comprehensive Energy Plan.

Massachusetts Department of Energy Resources – 2009-2011

Served as expert analyst and modeling coordinator for analysis related to implementation of the Massachusetts Global Warming Solutions Act.

Iowa Office of Consumer Advocate – 2010-2011

Assisted Consumer Advocate in evaluating a proposed power purchase agreement for the output of the Duane Arnold nuclear power station.

Before the Missouri Public Service Commission (Docket No. EW-2010-0187) – 2010

Expert participant on behalf of the Sierra Club in stakeholder process to develop a "demand side investment mechanism" in Missouri.

Before the Louisiana Public Service Commission (Docket No. R-28271 Subdocket B) – 2009-2010

Expert participant on behalf of the Sierra Club in Renewable Portfolio Standard Task Force considering RPS for Louisiana.

Joint Fiscal Committee of the Vermont Legislature – 2008-2010

Serving as lead expert advising the Legislature on economic issues related to the possible recertification of the Vermont Yankee nuclear power plant.

Town of Littleton, NH – 2006-2010

Serving as expert witness on the value of the Moore hydroelectric facility.

Before the Nevada Public Service Commission (Docket No. 08-05014) – August 2008

Presented prefiled and live testimony on behalf of Nevadans for Clean Affordable Reliable Energy regarding the proposed Ely Energy Center and resource planning practices in Nevada.

Before the Mississippi Public Service Commission (Docket No. 2008-AD-158) – July 2008

Presented written and live testimony on behalf of the Sierra Club regarding the resource plans filed by Entergy Mississippi and Mississippi Power Company.

Kansas House of Representatives - Committee on Energy and Utilities – February 2008

Presented testimony on behalf of the Climate and Energy Project of the Land Institute of Kansas on a proposed bill regarding permitting of power plants. Focus was on the risks and costs associated with new coal plants and on their contribute to global climate change.

Before the Vermont Public Service Board (Docket No. 7250) – 2006-2008

Prepared report and testimony in support of the application of Deerfield Wind, LLC. For a Certificate of Public Good for a proposed wind power facility.

Before the Iowa Utilities Board (Docket No. GCU-07-1) – October, 2007 – January 2008 Presented wrtten and live testimony on behalf of the Iowa Office of Consumer Advocate regarding the science of global climate change and the contribution of new coal plants to atmospheric CO₂.

Before the Nevada Public Service Commission (Docket No. 07-06049) – October 2007 Presented prefiled direct testimony on behalf of Nevadans for Clean Affordable Reliable Energy regarding treatment of carbon emissions costs and coal plant capital costs in utility resource planning.

Before the Massachusetts General Court, Joint Committee on Economic Development and Emerging Technologies – July 2007

Presented written and live testimony on climate change science and the potential benefits of a revenue-neutral carbon tax in Massachusetts.

Town of Rockingham, VT – 2006-2007

Served as expert witness on the value of the Bellows Falls hydroelectric facility.

Before the South Dakota Public Utilities Commission (Case No EL05-22) – June 2006 Minnesota Public Utilities Commission (Docket TR-05-1275) – December 2006

Submitted prefiled and live testimony on the contribution of the proposed Big Stone II coalfired generator to atmospheric CO₂, global climate change and the environment of South Dakota and Minnesota, respectively.

Before the Arkansas Public Service Commission (Docket No. 06-070-U) – October 2006 Submitted prefiled direct testimony on behalf of the Arkansas Commission General Staff on inclusion of new wind and gas-fired generation resources in utility rate base.

Federal Energy Regulatory Commission (Docket Nos. ER055-1410-000 and EL05-148-000) – May-Sept 2006

- Participant in settlement hearings on proposed capacity market structure (the Reliability Pricing Model, or RPM) on behalf of State Consumer Advocates in Pennsylvania, Ohio and the District of Columbia
- Invited participant on technical conference panel on PJM's proposed Variable Resource Requirement (VRR) curve
- Filed Pre- and post-conference comments and affidavits with FERC
- Participated in numerous training and design conferences at PJM on RPM implementation.

Before the Illinois Pollution Control Board (Docket No. R2006-025) – June-Aug 2006

Prefile and live testimony presented on behalf of the Illinois EPA regarding the costs and benefits of proposed mercury emissions rule for Illinois power plants.

Long Island Sound LNG Task Force – January 2006

Presentation of study on the need for and alternatives to the proposed Broadwater LNG storage and regasification facility in Long Island Sound.

Before the Iowa Utilities Board (Docket No. SPU-05-15) – November 2005

Presented written and live testimony on whether Interstate Power and Light's should be permitted to sell the Duane Arnold Energy Center nuclear facility to FPLE Duane Arnold, Inc., a subsidiary of Florida Power and Light.

PUBLICATIONS AND REPORTS

- Hausman, E., Review of AltaGas' Climate Business Plan and Renewable Natural Gas Study. Technical report prepared on behalf of the Sierra Club, June 2020.
- Hausman, E., The Worst of Both Worlds: Why the Ohio Legislature's OVEC Bailout Bill would Harm Consumers, Impede Competition, Increase Pollution, and Impair the Health and Welfare of Ohioans for Decades. White paper produced on behalf of The Sierra Club, June 2017.
- Hausman, E., Risks and Opportunities for PacifiCorp State Level Findings: Utah, Produced on behalf of the Sierra Club, October 2014.
- Hausman, E., Risks and Opportunities for PacifiCorp State Level Findings: Oregon, Produced on behalf of the Sierra Club, October 2014.
- Hausman, E., Risks and Opportunities for PacifiCorp in a Carbon Constrained Economy, Produced on behalf of the Sierra Club, October 2014.
- Luckow, P., E. Stanton, B. Biewald, J. Fisher, F. Ackerman, E. Hausman, 2013 Carbon Dioxide Price Forecast, Synapse Energy Economics, November 2013.
- Stanton, E., T. Comings, K. Takahashi, P. Knight, T. Vitolo, E. Hausman, Economic Impacts of the NRDC Carbon Standard: Background Report prepared for the Natural Resources Defense Council, Synapse Energy Economics for NRDC, June 2013
- Comings T., P. Knight, E. Hausman, Midwest Generation's Illinois Coal Plants: Too Expensive to Compete? (Report Update) Synapse Energy Economics for Sierra Club, April 2013
- Stanton E., F. Ackerman, T. Comings, P. Knight, T. Vitolo, E. Hausman, Will LNG Exports Benefit the United States Economy? Synapse Energy Economics for Sierra Club, January 2013
- Chang M., D. White, E. Hausman, Risks to Ratepayers: An Examination of the Proposed William States Lee III Nuclear Generation Station, and the Implications of "Early Cost Recovery" Legislation, Synapse Energy Economics for Consumers Against Rate Hikes, December 2012
- Wilson R., P. Luckow, B. Biewald, F. Ackerman, and E.D. Hausman, 2012 Carbon Dioxide Price Forecast, Synapse Energy Economics, October 2012.

- Fagan B., M. Chang, P. Knight, M. Schultz, T. Comings, E.D. Hausman, and R. Wilson, The Potential Rate Effects of Wind Energy and Transmission in the Midwest ISO Region. Synapse Energy Economics for Energy Future Coalition, May 2012.
- Hausman, E.D., T. Comings, "Midwest Generation's Illinois Coal Plants: Too Expensive to Compete? Synapse Energy Economics for Sierra Club, April 2012.
- Hausman, E.D., T. Comings, and G. Keith, Maximizing Benefits: Recommendations for Meeting Long-Term Demand for Standard Offer Service in Maryland. Synapse Energy Economics for Sierra Club, January 2012.
- Keith G., B. Biewald, E.D. Hausman, K. Takahashi, T. Vitolo, T. Comings, and P. Knight, Toward a Sustainable Future for the U.S. Power Sector: Beyond Business as Usual 2011 Synpase Energy Economics for Civil Society Institute, November 2011.
- Chang M., D. White, E.D. Hausman, N. Hughes, and B. Biewald, Big Risks, Better Alternatives: An Examination of Two Nuclear Energy Projects in the U.S. Synpase Energy Economics for Union of Concerned Scientists, October 2011.
- Hausman E.D., T. Comings, K. Takahashi, R. Wilson, and W. Steinhurst, Electricity Scenario Analysis for the Vermont Comprehensive Energy Plan 2011. Synapse Energy Economics for Vermont Department of Public Service, September 2011.
- Wittenstein M., E.D. Hausman, Incenting the Old, Preventing the New: Flaws in Capacity Market Design, and Recommendations for Improvement. Synapse Energy Economics for American Public Power Association, June 2011.
- Johnston L., E.D. Hausman, B. Biewald, R. Wilson, and D. White. 2011 Carbon Dioxide Price Forecast. Synapse Energy Economics White Paper, February 2011.
- Hausman E.D., V. Sabodash, N. Hughes, and J. I. Fisher, Economic Impact Analysis of New Mexico's Greenhouse Gas Emissions Rule. Synapse Energy Economics for New Energy Economy, February 2011.
- Hausman E.D., J. Fisher, L. Mancinelli, and B. Biewald. Productive and Unproductive Costs of CO2 Cap-and-Trade: Impacts on Electricity Consumers and Producers. Synapse Energy Economics for National Association of Regulatory Utility Commissioners, National Association of State Utility Consumer Advocates, National Rural Electric Cooperative Association, and American Public Power Association, July 2009.
- Peterson P., E. Hausman, R. Fagan, and V. Sabodash, Report to the Ohio Office of Consumer Counsel, on the value of continued participation in RTOs. Filed under Ohio PUC Case No. 09-90-EL-COI, May 2009.
- Schlissel D., L. Johnston, B. Biewald, D. White, E. Hausman, C. James, and J. Fisher, Synapse 2008 CO2 Price Forecasts. July 2008.

- Hausman E.D., J. Fisher and B. Biewald, Analysis of Indirect Emissions Benefits of Wind, Landfill Gas, and Municipal Solid Waste Generation. Synapse Energy Economics Report to the Air Pollution Prevention and Control Division, National Risk Management Research Laboratory, U.S. Environmental Protection Agency, July 2008.
- Hausman E.D. and C. James, Cap and Trade CO2 Regulation: Efficient Mitigation or a Give-away? Synapse Enegy Ecomics presentation to the ELCON Spring Workshop, June 2008.
- Hausman E.D., R. Hornby and A. Smith, Bilateral Contracting in Deregulated Electricity Markets. Synapse Energy Economics for the American Public Power Association, April 2008.
- Hausman E.D., R. Fagan, D. White, K. Takahashi and A. Napoleon, LMP Electricity Markets: Market Operations, Market Power and Value for Consumers. Synapse Energy Economics for the American Public Power Association's Electricity Market Reform Initiative (EMRI) symposium, "Assessing Restructured Electricity Markets" in Washington, DC, February 2007.
- Hausman E.D. and K. Takahashi, The Proposed Broadwater LNG Import Terminal Response to Draft Environmental Impact Statement and Update of Synapse Analysis. Synapse Energy Economics for the Connecticut Fund for the Environment and Save The Sound, January 2007.
- Hausman E.D., K. Takahashi, D. Schlissel and B. Biewald, The Proposed Broadwater LNG Import Terminal: An Analysis and Assessment of Alternatives. Synapse Energy Economics for the Connecticut Fund for the Environment and Save The Sound, March 2006.
- Hausman E.D., P. Peterson, D. White and B. Biewald, RPM 2006: Windfall Profits for Existing Base Load Units in PJM: An Update of Two Case Studies. Synapse Energy Economics for the Pennsylvania Office of Consumer Advocate and the Illinois Citizens Utility Board, February 2006.
- Hausman E.D., K. Takahashi, and B. Biewald, The Glebe Mountain Wind Energy Project: Assessment of Project Benefits for Vermont and the New England Region. Synapse Energy Economics for Glebe Mountain Wind Energy, LLC., February 2006.
- Hausman E.D., K. Takahashi, and B. Biewald, The Deerfield Wind Project: Assessment of the Need for Power and the Economic and Environmental Attributes of the Project. Synapse Energy Economics for Deerfield Wind, LLC., January 2006.
- Hausman E.D., P. Peterson, D. White and B. Biewald, An RPM Case Study: Higher Costs for Consumers, Windfall Profits for Exelon. Synapse Energy Economics for the Illinois Citizens Utility Board, October 2005.
- Hausman E.D. and G. Keith, Calculating Displaced Emissions from Energy Efficiency and Renewable Energy Initiatives. Synapse Energy Economics for EPA website 2005
- Rudkevich A., E.D. Hausman, R.D. Tabors, J. Bagnal and C Kopel, Loss Hedging Rights: A Final Piece in the LMP Puzzle. Hawaii International Conference on System Sciences, Hawaii, January, 2005 (accepted).

- Hausman E.D. and R.D. Tabors, The Role of Demand Underscheduling in the California Energy Crisis. Hawaii International Conference on System Sciences, Hawaii, January 2004.
- Hausman E.D. and M.B. McElroy, The reorganization of the global carbon cycle at the last glacial termination. Global Biogeochemical Cycles, 13(2), 371-381, 1999.
- Norton F.L., E.D. Hausman and M.B. McElroy, Hydrospheric transports, the oxygen isotope record, and tropical sea surface temperatures during the last glacial maximum. Paleoceanography, 12, 15-22, 1997.
- Hausman E.D. and M.B. McElroy, Variations in the oceanic carbon cycle over glacial transitions: a time-dependent box model simulation. Presented at the spring meeting of the American Geophysical Union, San Francisco, 1996.

PRESENTATIONS AND WORKSHOPS

American Public Power Association: Invited expert participant in APPA's roundtable discussion of the current state of the RTO-operated electricity markets. October 2013.

California Long-Term Resource Adequacy Summit (Sponsored by the California ISO and the California Public Utility Commission): Panelist on "Applying Alternative Models to the California Market Construct." February 26, 2013.

ELCON 2011 Fall Workshop: "Do RTOs Need a Capacity Market?" October 2011.

Harvard Electricity Policy Group: Presentation on state action to ensure reliability in the face of capacity market failure. February 2011.

NASUCA 2010 Annual Conference: "Addressing Climate Change while Protecting Consumers." November 2010.

NASUCA Consumer Protection Committee: Briefing on the Synapse report entitled, "Productive and Unproductive Costs of CO₂ Cap-and-Trade." September 2009.

NARUC 2009 Summer Meeting: Invited speaker on topic: "Productive and Unproductive Costs of CO2 Cap-and-Trade." July, 2009.

NASUCA 2008 Mid-Year Meeting: Invited speaker on the topic, "Protecting Consumers in a Warming World, Part II: Deregulated Markets." June 2008.

Center for Climate Strategies: Facilitator and expert analyst on state-level policy options for mitigating greenhouse gas emissions. Serve as facilitator/expert for the Electricity Supply (ES) and Residential, Commercial and Industrial (RCI) Policy Working Groups in the states of Colorado and South Carolina. 2007-2008.

NASUCA 2007 Mid-Year Meeting: Invited speaker on the topic, "Protecting Consumers in a Warming World" June 2007.

ASHRAE Workshop on estimating greenhouse gas emissions from buildings in the design *phase:* Participant expert on estimating displaced emissions associated with energy efficiency in building design. Also hired by ASHRAE to document and produce a report on the workshop. April, 2007.

C.V. of Ezra D. Hausman, Ph.D.

Assessing Restructured Electricity Markets An American Public Power Association Symposium: Invited speaker on the history and effectiveness of Locational Marginal Pricing (LMP) in northeastern United States electricity markets, February, 2007.

ASPO-USA 2006 National Conference: Invited speaker and panelist on the future role of LNG in the U.S. natural gas market, October, 2006.

Market Design Working Group: Participant in FERC-sponsored settlement process for designing capacity market structure for PJM on behalf of coalition of state utility consumer advocates, July-August 2006.

NASUCA 2006 Mid-Year Meeting: Invited speaker on the topic, "How Can Consumer Advocates Deal with Soaring Energy Prices?" June 2006.

Soundwaters Forum, Stamford, CT: Participated in a debate on the need for proposed Broadwater LNG terminal in Long Island Sound, June 2006.

Energy Modeling Forum: Participant in coordinated academic exercise focused on modeling US and world natural gas markets, December 2004.

Massachusetts Institute of Technology (MIT): Guest lecturer in Technology and Policy Program on electricity market structure, the LMP pricing system and risk hedging with FTRs. 2002-2005.

LMP: The Ultimate Hands-On Seminar. Two-day seminar held at various sites to explore concepts of LMP pricing and congestion risk hedging, including lecture and market simulation exercises. Custom seminars held for FERC staff, ERCOT staff, and various industry groups. 2003-2004.

Learning to Live with Locational Marginal Pricing: Fundamentals and Hands-On Simulation. Day-long seminar including on-line mock electricity market and congestion rights auction, December 2002.

LMP in California. Led a series of seminars on the introduction of LMP in the California electricity market, including on-line market simulation exercise. 2002.

Resume updated September 2020