

## Melissa Whited, Principal Associate

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### PROFESSIONAL EXPERIENCE

**Synapse Energy Economics**, Cambridge MA. *Principal Associate*, 2017 – present, *Senior Associate*, 2015 – 2017, *Associate*, 2012 – 2015

Consult and provide analysis of rate design proposals, alternative regulation, and other topics including distributed energy resources and electric vehicles. Develop expert witness testimony in public utility commission proceedings. Author reports on topics at the intersection of utility regulation, customer protection, and environmental impacts.

**University of Wisconsin - Madison**, Department of Agricultural and Applied Economics, Madison, WI. *Teaching Assistant – Environmental Economics*, 2011 – 2012

Developed teaching materials and led discussions on cost-benefit analysis, carbon taxes and cap-and-trade programs, management of renewable and non-renewable resources, and other topics.

**Public Service Commission of Wisconsin, Water Division**, Madison, WI. *Program and Policy Analyst - Intern*, Summer 2009

Researched water conservation programs nationwide to develop a proposal for Wisconsin's state conservation program. Developed spreadsheet model to calculate avoided costs of water conservation in terms of energy savings and avoided emissions.

**Synapse Energy Economics**, Cambridge, MA. *Communications Manager*, 2005 – 2008

Developed technical proposals for state and federal agencies, environmental and public interest groups, and businesses. Edited reports on energy efficiency, integrated resource planning, greenhouse gas regulations, renewable resources, and other topics.

### EDUCATION

**University of Wisconsin**, Madison, WI

Master of Arts in Agricultural and Applied Economics, 2012

Certificate in Energy Analysis and Policy

National Science Foundation Fellow

**University of Wisconsin**, Madison, WI

Master of Science in Environment and Resources, 2010

Certificate in Humans and the Global Environment (CHANGE)

Nelson Distinguished Fellowship

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**Southwestern University**, Georgetown, TX

Bachelor of Arts in International Studies, *Magna cum laude*, 2003.

## **ADDITIONAL SKILLS**

- Econometric Modeling – Linear and nonlinear modeling including time-series, panel data, logit, probit, and discrete choice regression analysis
- Nonmarket Valuation Methods for Environmental Goods – Hedonic valuation, travel cost method, and contingent valuation
- Cost-Benefit Analysis
- Input-Output Modeling for Regional Economic Analysis

## **FELLOWSHIPS AND AWARDS**

- Winner, M. Jarvin Emerson Student Paper Competition, *Journal of Regional Analysis and Policy*, 2010
- Fellowship, National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT), University of Wisconsin – Madison, 2009
- Nelson Distinguished Fellowship, University of Wisconsin – Madison, 2008

## **PUBLICATIONS**

Hopkins, A. S., K. Takahashi, D. Glick, M. Whited. 2018. *Decarbonization of Heating Energy Use in California Buildings: Technology, Markets, Impacts, and Policy Solutions*. Synapse Energy Economics for the Natural Resources Defense Council.

Whited, M., J. Kallay, D. Bhandari, B. Havumaki. 2018. *Driving Transportation Electrification Forward in Pennsylvania: Considerations for Effective Transportation Electrification Ratemaking*. Synapse Energy Economics for Natural Resources Defense Council.

Woolf, T., J. Hall, M. Whited. 2018. *Earnings Adjustment Mechanisms to Support New York REV Goals: Outcome-Based, Program-Based, and Action-Based Options*. Synapse Energy Economics for Advanced Energy Economy Institute.

Whited, M., A. Allison, R. Wilson. 2018. *Driving Transportation Electrification Forward in New York: Considerations for Effective Transportation Electrification Rate Design*. Synapse Energy Economics on behalf of the Natural Resources Defense Council.

Allison, A. and M. Whited. 2018. "Electric Vehicles Still Not Crashing the Grid: Updates from California." Synapse Energy Economics on behalf of the Natural Resources Defense Council.

Fisher, J., M. Whited, T. Woolf, D. Goldberg. 2018. *Utility Investments for Market Transformation: How Utilities Can Help Achieve Energy Policy Goals*. Synapse Energy Economics for Energy Foundation.

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Whited, M., T. Woolf. 2018. *Electricity Prices in the Tennessee Valley: Are customers being treated fairly?* Synapse Energy Economics for the Southern Alliance for Clean Energy.

Woolf, T., A. Hopkins, M. Whited, K. Takahashi, A. Napoleon. 2018. *Review of New Brunswick Power's 2018/2019 Rate Case Application*. In the Matter of the New Brunswick Power Corporation and Section 103(1) of the Electricity Act Matter No. 375. Synapse Energy Economics for the New Brunswick Energy and Utilities Board Staff.

Whited, M., T. Vitolo. 2017. Reply comments in District of Columbia Public Service Commission Formal Case No. 1130: *Reply Comments of the Office of the People's Counsel for the District of Columbia Regarding Pepco's Comments on the Office of the People's Counsel's Value of Solar Study*. Synapse Energy Economics. July 24, 2017.

Whited, M., A. Horowitz, T. Vitolo, W. Ong, T. Woolf. 2017. *Distributed Solar in the District of Columbia: Policy Options, Potential, Value of Solar, and Cost-Shifting*. Synapse Energy Economics for the Office of the People's Counsel for the District of Columbia.

Whited, M., E. Malone, T. Vitolo. 2016. *Rate Impacts on Customers of Maryland's Electric Cooperatives: Impacts on SMECO and Choptank Customers*. Synapse Energy Economics for Maryland Public Service Commission.

Woolf, T., M. Whited, P. Knight, T. Vitolo, K. Takahashi. 2016. *Show Me the Numbers: A Framework for Balanced Distributed Solar Policies*. Synapse Energy Economics for Consumers Union.

Whited, M., T. Woolf, J. Daniel. 2016. *Caught in a Fix: The Problem with Fixed Charges for Electricity*. Synapse Energy Economics for Consumers Union.

Lowry, M. N., T. Woolf, M. Whited, M. Makos. 2016. *Performance-Based Regulation in a High Distributed Energy Resources Future*. Pacific Economics Group Research and Synapse Energy Economics for Lawrence Berkley National Laboratory.

Woolf, T., M. Whited, A. Napoleon. 2015-2016. *Comments and Reply Comments in the New York Public Service Commission Case 14-M-0101: Reforming the Energy Vision*. Comments related to Staff's (a) a benefit-costs analysis framework white paper, (b) ratemaking and utility business models white paper, and (c) Distributed System Implementation Plan guide. Synapse Energy Economics on behalf of Natural Resources Defense Council and Pace Energy and Climate Center.

Luckow, P., B. Fagan, S. Fields, M. Whited. 2015. *Technical and Institutional Barriers to the Expansion of Wind and Solar Energy*. Synapse Energy Economics for Citizens' Climate Lobby.

Wilson, R., M. Whited, S. Jackson, B. Biewald, E. A. Stanton. 2015. *Best Practices in Planning for Clean Power Plan Compliance*. Synapse Energy Economics for the National Association of State Utility Consumer Advocates.

Whited, M., T. Woolf, A. Napoleon. 2015. *Utility Performance Incentive Mechanisms: A Handbook for Regulators*. Synapse Energy Economics for the Western Interstate Energy Board.

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Stanton, E. A., S. Jackson, B. Biewald, M. Whited. 2014. *Final Report: Implications of EPA's Proposed "Clean Power Plan."* Synapse Energy Economics for the National Association of State Utility Consumer Advocates.

Peterson, P., S. Fields, M. Whited. 2014. *Balancing Market Opportunities in the West: How participation in an expanded balancing market could save customers hundreds of millions of dollars.* Synapse Energy Economics for the Western Grid Group.

Woolf, T., M. Whited, E. Malone, T. Vitolo, R. Hornby. 2014. *Benefit-Cost Analysis for Distributed Energy Resources: A Framework for Accounting for All Relevant Costs and Benefits.* Synapse Energy Economics for the Advanced Energy Economy Institute.

Peterson, P., M. Whited, S. Fields. 2014. *Synapse Comments on FAST Proposals in ERCOT.* Synapse Energy Economics for Sierra Club.

Hornby, R., N. Brockway, M. Whited, S. Fields. 2014. *Time-Varying Rates in the District of Columbia.* Synapse Energy Economics for the Office of the People's Counsel for the District of Columbia, submitted to Public Service Commission of the District of Columbia in Formal Case No. 1114.

Peterson, P., M. Whited, S. Fields. 2014. *Demonstrating Resource Adequacy in ERCOT: Revisiting the ERCOT Capacity, Demand and Reserves Forecasts.* Synapse Energy Economics for Sierra Club – Lone Star Chapter.

Stanton, E. A., M. Whited, F. Ackerman. 2014. *Estimating the Cost of Saved Energy in Utility Efficiency Programs.* Synapse Energy Economics for the U.S Environmental Protection Agency.

Ackerman, F., M. Whited, P. Knight. 2014. "Would banning atrazine benefit farmers?" *International Journal of Occupational and Environmental Health* 20 (1): 61–70.

Ackerman, F., M. Whited, P. Knight. 2013. *Atrazine: Consider the Alternatives.* Synapse Energy Economics for Natural Resources Defense Council (NRDC).

Whited, M., F. Ackerman, S. Jackson. 2013. *Water Constraints on Energy Production: Altering our Current Collision Course.* Synapse Energy Economics for Civil Society Institute.

Whited, M. 2013. *Water Constraints on Energy Production: Altering our Current Collision Course – Policy Brief.* Synapse Energy Economics for Civil Society Institute.

Hurley, D., P. Peterson, M. Whited. 2013. *Demand Response as a Power System Resource: Program Designs, Performance, and Lessons Learned in the United States.* Synapse Energy Economics for Regulatory Assistance Project.

Whited, M., D. White, S. Jackson, P. Knight, E.A. Stanton. 2013. *Declining Markets for Montana Coal.* Synapse Energy Economics for Northern Plains Resource Council.

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Woolf, T., M. Whited, T. Vitolo, K. Takahashi, D. White. 2012. *Indian Point Energy Center Replacement Analysis: A Plan for Replacing the Nuclear Plant with Clean, Sustainable, Energy Resources*. Synapse Energy Economics for National Resources Defense Council and Riverkeeper.

Whited, M., K. Charipar, G. Brown. *Demand Response Potential in Wisconsin*. Nelson Institute for Environmental Studies, Energy Analysis & Policy Capstone for the Wisconsin Public Service Commission.

Whited, M. 2010. "Economic Impacts of Irrigation Water Transfers in Uvalde County, Texas." *Journal of Regional Analysis and Policy* 40 (2): 160–170.

Grabow, M., M. Hahn and M. Whited. 2010. *Valuing Bicycling's Economic and Health Impacts in Wisconsin*. Nelson Institute for Environmental Studies, Center for Sustainability and the Global Environment (SAGE) for State Representative Spencer Black.

Whited, M., D. Bernhardt, R. Deitchman, C. Fuchsteiner, M. Kirby, M. Krueger, S. Locke, M. Mcmillen, H. Moussavi, T. Robinson, E. Schmitz, Z. Schuster, R. Smail, E. Stone, S. Van Egeren, H. Yoshida, Z. Zopp. 2009. *Implementing the Great Lakes Compact: Wisconsin Conservation and Efficiency Measures Report*. Department of Urban and Regional Planning, University of Wisconsin-Madison, Extension Report 2009-01.

Whited, M. 2009. *2009 Wisconsin Water Fact Sheet*. Public Service Commission of Wisconsin.

Whited, M. 2003. *Gender, Water, and Trade*. International Gender and Trade Network Washington, DC.

## TESTIMONY

**Maine Public Utilities Commission (Docket No. 2018-00171):** Direct testimony of Melissa Whited regarding utility incentives for non-wires alternatives. On behalf of Maine Office of the Public Advocate. December 17, 2018.

**Rhode Island Public Utilities Commission (Docket No. 4780):** Direct testimony of Tim Woolf and Melissa Whited regarding National Grid's Power Sector Transformation proposals. On behalf of the Rhode Island Division of Public Utilities and Carriers. April 28, 2018.

**Rhode Island Public Utilities Commission (Docket No. 4770):** Direct testimony of Tim Woolf and Melissa Whited regarding National Grid's proposed performance incentive mechanisms, benefit-cost analyses, and request for recovery of costs for its Advanced Metering Functionality study and distributed energy resources enablement investments. On behalf of the Rhode Island Division of Public Utilities and Carriers. April 6, 2018.

**Rhode Island Public Utilities Commission (Docket No. 4783):** Direct testimony of Tim Woolf and Melissa Whited regarding National Grid's Advanced Metering Functionality Pilot. On behalf of the Rhode Island Division of Public Utilities and Carriers. February 22, 2018.

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**Virginia State Corporation Commission (Case No. PUR-2017-00044):** Direct testimony of Melissa Whited regarding Rappahannock Electric Cooperative's proposed increases to fixed charges for residential customers and small business customers. On behalf of Sierra Club. September 19, 2017.

**California Public Utilities Commission (Application 17-01-020, 17-01-021, and 17-01-022):** Joint opening testimony with Max Baumhefner and Katherine Stainken on fast charging infrastructure and rates; joint opening testimony with Max Baumhefner and Joel Espino on medium and heavy-duty and fleet charging infrastructure and commercial EV rates; joint opening testimony with Max Baumhefner and Chris King on residential charging infrastructure and rates. Rebuttal testimony on public fast charging rate design, commercial EV rate design, and residential EV rate design. On behalf of Natural Resources Defense Council, the Greenlining Institute, Plug In America, the Coalition of California Utility Employees, Sierra Club, and the Environmental Defense Fund. July 25, August 1, August 7, and September 5, 2017.

**New York Public Service Commission (Case 17-E-0238):** Direct and rebuttal testimony of Tim Woolf and Melissa Whited regarding Earnings Adjustment Mechanisms proposed by National Grid. On behalf of Advanced Energy Economy Institute. August 25 and September 15, 2017.

**Utah Public Service Commission (Docket No. 14-035-114):** Direct testimony of Melissa Whited regarding PacifiCorp's proposed rates for customers with distributed generation. On behalf of Utah Clean Energy. June 8, 2017.

**Texas Public Utilities Commission (SOAH Docket No. 473-17-1764, PUC Docket No. 46449):** Cross-rebuttal testimony evaluating Southwestern Electric Power Company's proposed revisions to its Distributed Renewable Generation tariff. On behalf of Sierra Club and Dr. Lawrence Brough. May 19, 2017.

**Massachusetts Department of Public Utilities (Docket No. 17-05):** Direct and surrebuttal testimony of Tim Woolf and Melissa Whited regarding performance-based regulation, the monthly minimum reliability contribution, storage pilots, and rate design in Eversource's petition for approval of rate increases and a performance-based ratemaking mechanism. On behalf of Sunrun and the Energy Freedom Coalition of America, LLC. April 28, 2017 and May 26, 2017.

**Public Utilities Commission of Hawaii (Docket No. 2015-0170):** Direct testimony regarding Hawaiian Electric Light Company's proposed performance incentive mechanisms. On behalf of the Division of Consumer Advocacy. April 28, 2017.

**Massachusetts Department of Public Utilities (Docket No. 15-155):** Joint direct and rebuttal testimony with T. Woolf regarding National Grid's rate design proposal. On behalf of Energy Freedom Coalition of America, LLC. March 18, 2016 and April 28, 2016.

**Federal Energy Regulatory Commission (Docket No. EC13-93-000):** Affidavit regarding potential market power resulting from the acquisition of Ameren generation by Dynegy. On behalf of Sierra Club. August 16, 2013.

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**Wisconsin Senate Committee on Clean Energy:** Joint testimony with M. Grabow regarding the importance of clean transportation to Wisconsin's public health and economy. February 2010.

## **TESTIMONY ASSISTANCE**

**Colorado Public Utilities Commission (Proceeding No. 16AL-0048E):** Answer testimony of Tim Woolf regarding Public Service Company of Colorado's rate design proposal. On behalf of Energy Outreach Colorado. June 6, 2016.

**Nevada Public Utilities Commission (Docket Nos. 15-07041 and 15-07042):** Direct testimony on NV Energy's application for approval of a cost of service study and net metering tariffs. On behalf of The Alliance for Solar Choice. October 27, 2015.

**Missouri Public Service Commission (Case No. ER-2014-0370):** Direct and surrebuttal testimony on the topic of Kansas City Power and Light's rate design proposal. On behalf of Sierra Club. April 16, 2015 and June 5, 2015.

**Wisconsin Public Service Commission (Docket No. 05-UR-107):** Direct and surrebuttal testimony of Rick Hornby regarding Wisconsin Electric Power Company rate case. On behalf of The Alliance for Solar Choice. August 28, 2014 and September 22, 2014.

**Maine Public Utilities Commission (Docket No. 2013-00519):** Direct testimony of Richard Hornby and Martin R. Cohen on GridSolar's smart grid coordinator petition. On behalf of the Maine Office of the Public Advocate. August 28, 2014.

**Maine Public Utilities Commission (Docket No. 2013-00168):** Direct and surrebuttal testimony of Tim Woolf regarding Central Maine Power's request for an alternative rate plan. December 12, 2013 and March 21, 2014.

**Massachusetts Department of Public Utilities (Docket No. 14-04):** Comments of Massachusetts Department of Energy Resources on investigation into time varying rates. On behalf of the Massachusetts Department of Energy Resources. March 10, 2014.

**State of Nevada, Public Utilities Commission of Nevada (Docket No. 13-07021):** Direct testimony of Frank Ackerman regarding the proposed merger of NV Energy, Inc. and MidAmerican Energy Holdings Company. On behalf of the Sierra Club. October 24, 2013.

## **PRESENTATIONS**

Whited, M. 2018. "Smart Non-Residential Rate Design: Designing for the Future." Presentation to the NARUC Annual Meeting, Orlando, FL. November 11.

Whited, M. 2016. "Energy Policy for the Future: Trends and Overview." Presentation to the National Conference of State Legislators' Capitol Forum, Washington, DC, December 8.

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Whited, M. 2016. "Ratemaking for the Future: Trends and Considerations." Presentation to the Midwest Governors' Association, St. Paul, MN, July 14.

Whited, M. 2016. "Performance Based Regulation." Presentation to the NARUC Rate Design Subcommittee. September 12.

Whited, M. 2016. "Demand Charges: Impacts and Alternatives (A Skeptic's View)." EUCI 2<sup>nd</sup> Annual Residential Demand Charges Summit, Phoenix, AZ, June 7.

Whited, M. 2016. "Performance Incentive Mechanisms." Presentation to the National Governors Association, Wisconsin Workshop, Madison WI, March 29.

Whited, M., T. Woolf. 2016. "Caught in a Fix: The Problem with Fixed Charges for Electricity." Webinar presentation sponsored by Consumers Union, February.

Whited, M. 2015. "Performance Incentive Mechanisms." Presentation to the National Governors Association, Learning Lab on New Utility Business Models & the Electricity Market Structures of the Future, Boston, MA, July 28.

Whited, M. 2015. "Rate Design: Options for Addressing NEM Impacts." Presentation to the Utah Net Energy Metering Workgroup, Workshop 4, Salt Lake City, UT, July 8.

Whited, M. 2015. "Performance Incentive Mechanisms." Presentation to the e21 Initiative, St. Paul, MN, May 29.

Whited, M., F. Ackerman. 2013. "Water Constraints on Energy Production: Altering our Current Collision Course." Webinar presentation sponsored by Civil Society Institute, September 12.

Whited, M., G. Brown, K. Charipar. 2011. "Electricity Demand Response Programs and Potential in Wisconsin." Presentation to the Wisconsin Public Service Commission, April.

Whited, M. 2010. "Economic Impact of Irrigation Water Transfers in Uvalde County, Texas." Presentation at the Mid-Continent Regional Science Association's 41st Annual Conference/IMPLAN National User's 8th Biennial Conference in St. Louis, MO, June

Whited, M., M. Grabow, M. Hahn. 2009. "Valuing Bicycling's Economic and Health Impacts in Wisconsin." Presentation before the Governor's Coordinating Council on Bicycling, December.

Whited, M., D. Sheard. 2009. "Water Conservation Initiatives in Wisconsin." Presentation before the Waukesha County Water Conservation Coalition Municipal Water Conservation Subgroup, July.

*Resume dated December 2018*