

## Kenji Takahashi, Principal Associate

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### PROFESSIONAL EXPERIENCE

**Synapse Energy Economics Inc**, Cambridge, MA. *Principal Associate*, April 2023 – Present; *Senior Associate*, 2015–April 2023; *Associate*, 2004–2015.

Analyzes technologies, policies, and regulations associated with supply- and demand-side energy resources. Assesses the performance, costs, and potential of energy efficiency measures, renewable energy resources, and building decarbonization and electrification measures. Examines economic and environmental implications of clean energy policies and programs associated with energy efficiency, demand response, distributed generation, and renewable energy. Analyzes ratemaking issues such as standby rates and time of use rates for distributed generation, and decoupling rate mechanisms for energy efficiency measures. Investigates electricity and natural gas market price trends and fluctuations. Prepares expert testimony and reports for regulatory proceedings.

**Center for Energy and Environmental Policy**, University of Delaware, Newark, DE. *Research Associate*, 2002 – 2004.

Researched the market potential of distributed resources under different electric distribution rate designs (report prepared for Conectiv Power Delivery Company). Investigated the potential of the Clean Development Mechanisms (CDM) in Asian developing countries and the Japanese government's policy for CDM. Contributed to a market penetration study for photovoltaic technologies in comparison with the predicted oil production from the oil reservoirs in the Arctic National Wildlife Refuge (report prepared for Astropower, Inc.). Analyzed the installation of PV and generation-set options for the Assateague Beach Coastal Guard Station at the Assateague Island National Seashore in Maryland (report prepared for the U.S. National Park Service).

**Delaware Division of Public Advocate**, Wilmington, DE. *Research Intern*, 2003.

Researched and wrote reports on states' policies regarding (1) energy efficiency/load management programs in order to identify cost-effective programs for implementation in Delaware; (2) electric standard offer service/default service (rate designs) for those who do not choose alternative suppliers under the deregulation process; (3) electric universal service and system benefit charges for protecting consumers from risks associated with electricity restructuring; and (4) Contributions and Advances-in-Aid-of-Construction for water supply extensions.

**Resources for the Future**, Washington DC. *Research Intern*, 2002.

Investigated current and planned wind power capacity for the United States. Analyzed the EPA and EIA market models to estimate technical and economic potential of wind power in the United States.

Researched the status of renewable energy supply in Japan's electricity sector for the Economic and Social Research Institute, Cabinet Office, Government of Japan.

**Citizens' Alliance for Saving the Atmosphere and the Earth (CASA)**, Osaka, Japan. *Volunteer and Researcher*, 1999 – 2001.

Worked as a newsletter writer, editor, and event organizer. Wrote a report on the first experimental biomass energy facility in Japan and the photovoltaic system at Yagi Junior High School in Kyoto, Japan. Participated in a research project to investigate renewable energy potential and policies in Japan. Wrote a report on problems of nuclear power plants affecting communities in Fukui prefecture, Japan.

## EDUCATION

**University of Delaware, Center for Energy and Environmental Policy, Joseph R. Biden, Jr School of Public Policy and Administration**, Newark, DE

Master of Arts in Urban Affairs and Public Policy with a focus on Energy and Environmental Policy, 2003. Master's thesis: *Policies to Support Distributed Resources under Different Electricity Restructuring Models*. Courses in energy economics, energy and environmental policy, electricity policy and planning, political economy of environment, solar electric technology, cost-benefit and decision-making analyses, and geographic information system.

**Kansai University**, Osaka, Japan

Bachelor of Arts in Law with a concentration in Public Administration, 2000.

## ADDITIONAL EDUCATION

**Massachusetts Institute of Technology**, Cambridge, MA

Professional Education Course: Sustainable Infrastructure Systems: Planning and Operations, 2022.

## AWARDS AND SCHOLARSHIPS

- Director's Citation, Joseph R. Biden, Jr School of Public Policy and Administration, University of Delaware. May 2003.
- NEC scholarship for an environmental education leader-training program funded by one of the leading Japanese computer companies, NEC. November 2000.

## ADDITIONAL SKILLS

**Software:** MS Office, Minitab, Analytica, IMPLAN, AVOIDed Emissions and geneRation Tool (AVERT), CO-Benefits Risk Assessment (COBRA), RETScreen, BEopt™, REM/Rate™

**Language:** Japanese, Spanish, and Cantonese

## OTHER RELEVANT WORK

- Assisted NYSERDA with developing (a) a database of renewable heating and cooling (RH&C) technologies, (b) an Excel-based tool to analyze benefits and costs of RH&C, and (c) a state RH&C Policy Framework titled “Renewable Heating and Cooling Policy Framework: Options to Advance Industry Growth and Markets in New York.”
- Assisted U.S. EPA with its analysis for and preparation for technical support documents on energy efficiency associated with U.S. EPA’s Clean Power Plan under 111(d) regulation
- Assisted New Jersey Division of Rate Counsel with reviewing and commenting on various energy related proposals and documents in New Jersey including utility and the state energy efficiency programs and the state’s energy plans. 2009 to present.
- Assisted Nova Scotia Utility and Review Board with a review of energy efficiency potential and integrated resource planning for Nova Scotia Power’s jurisdiction. 2013
- Assisted the Hawaii Division of Consumer Advocacy in proceedings to develop and review IRPs for three electric companies and to review the state’s energy efficiency programs. 2012 to 2014.
- Assisted the Arkansas Public Service Commission staff with (a) reviewing and assessing utility integrated resource planning and energy efficiency program proposals and (b) drafting regulatory orders on comprehensive energy efficiency program designs and reporting methods. 2012 to 2013.
- Assessed on behalf of Sierra Club energy efficiency and demand response potential estimates by the Cadmus Group for Puget Sound Energy, September 2012.
- Assumed a general contractor role for renovating an existing multi-family house into an ultra-low energy use house equipped with state-of-art energy efficiency measures (such as R-7 windows, R-70 roof insulation, a 95 percent efficient energy recovery ventilation system, cold climate heat pumps) and a 5 kW solar photovoltaic system. December 2012.
- Assessed on behalf of Sierra Club energy efficiency goals proposed in the Los Angeles Department of Water and Power’s 2010 integrated resource plan.
- Assisted Nova Scotia Utility and Review Board with developing Community Based Feed-In Tariffs (COMFITs) for five different technologies: small wind projects, medium-sized wind projects, small hydro, small tidal, and biomass CHP projects. April 2011.
- Analyzed existing deep energy retrofit (DER) project data and analyzed potential energy savings from model partial DER projects (e.g., attic, above-grade wall, windows, basement wall) using REM/Rate building energy software and Synapse’s own spreadsheet building energy model developed for this research project. The results from the analysis were used to project energy savings from and to set incentive levels for partial DER projects as part of National Grid’s 2013-2015 efficiency program filing.
- Assisted several states, including Alaska, Colorado, Florida, Maryland, Massachusetts, and South Carolina with developing and analyzing their state climate change action plans; evaluated costs and benefits of demand and supply-side policy options, including quantifying expected greenhouse emission reductions. 2007 to 2010.

- Arranged meetings for Union Fenosa/Gas Natural, a Spanish electric and gas company, with Japanese and Korean organizations to study energy efficiency technologies, programs and policies in those countries; Visited Japanese organizations with the delegates of Union Fenosa, provided them technical and translation assistance on energy efficiency in Japan. July 26 to July 31, 2009.

## PUBLICATIONS

Hopkins, A. S., A. Napoleon, J. Litynski, K. Takahashi, J. Frost, S. Kwok. 2022. *Climate Policy for Maryland's Gas Utilities: Financial Implications*. Synapse Energy Economics for Maryland Office of the People's Counsel.

Kwok, S., K. Takahashi, J. Litynski, A. S. Hopkins. 2022. Memo: Massachusetts DPU Docket-2080: Proposed "Common Regulatory Framework." Synapse Energy Economics for Conservation Law Foundation.

Hopkins, A. S. S. Kwok, J. Litynski, A. Napoleon, K. Takahashi. 2022. Memo: Evaluation of Draft Consultant Reports in Massachusetts DPU Docket 20-80. Synapse Energy Economics for Conservation Law Foundation.

Takahashi, K., S. Kwok, J. Tabernero, F. Frost. 2022. *Toward Net Zero Emissions from Oregon Buildings*. Synapse Energy Economics for Sierra Club.

Takahashi, K., T. Woolf, B. Havumaki, D. White, D. Goldberg, S. Kwok, A. Takasugi. 2022. *Missed Opportunities - The Impacts of Recent Policies on Energy Efficiency Programs in Midwestern States*. Presented at the 2022 ACEEE Summer Study of Energy Efficiency in Buildings.

Hopkins A. S., P. Eash-Gates, J. Frost, S. Kwok, J. Litynski, K. Takahashi. "Decarbonization of Buildings." In *San Diego Regional Decarbonization Framework*, edited by SDG Policy Initiative, School of Global Policy and Strategy, University of California San Diego. March 2022.

Frost, J. S. Kwok, K. Takahashi, A.S. Hopkins, A. Napoleon. 2021. *New York Heat Pump Trajectory Analysis*. Synapse Energy Economics for NRDC.

Hopkins, A. S., A. Napoleon, K. Takahashi. 2021. *A Framework for Long-Term Gas Utility Planning in Colorado*. Synapse Energy Economics for the Colorado Energy Office.

Kallay, J., A. Napoleon, K. Takahashi, E. Sinclair, T. Woolf. 2021. *Opportunities for Evergy Kansas to Address Energy Equity Within its Integrated Resource Plan and Other Planning Processes*. Synapse Energy Economics for Union of Concerned Scientists.

Takahashi, K., T. Woolf, B. Havumaki, D. White, D. Goldberg, S. Kwok, A. Takasugi. 2021. *Missed Opportunities: The Impacts of Recent Policies on Energy Efficiency Programs in Midwestern States*. Synapse Energy Economics for the Midwest Energy Efficiency Alliance.

Takahashi, K., E. Sinclair, A. Napoleon, A.S. Hopkins, D. Goldberg. 2021. *Evaluation of EnergyWise Low-Income Energy Efficiency Program in Mississippi – Program Performance, Design, and Implications for*

*Low-Income Efficiency Programs*. Synapse Energy Economics for Sierra Club and Gulf Coast Community Foundation.

Wilson, R., I. Addleton, K. Takahashi, J. Litynski. 2021. *Clean, Affordable, and Reliable – A Plan for Duke Energy’s Future in the Carolinas*. Synapse Energy Economics for North Carolina Sustainable Energy Association, Carolinas Clean Energy Business Alliance, Southern Alliance for Clean Energy, Natural Resources Defense Council and the Sierra Club.

Eash-Gates, P., K. Takahashi, D. Goldberg, A.S. Hopkins, S. Kwok. 2021. *Boston Building Emissions Performance Standard: Technical Methods Overview*. Synapse Energy Economics for the City of Boston.

Shipley, J., Hopkins, A., Takahashi, K., & Farnsworth, D. 2021. *Renovating regulation to electrify buildings: A guide for the handy regulator*. Regulatory Assistance Project.

Goldberg, D., J. Frost, D. Hurley, K. Takahashi. 2020. *New England Electrification Load Forecast*. Synapse Energy Economics for E4TheFuture.

Camacho, J., K. Takahashi, A. S. Hopkins, D. White. 2020. *Assessment of Proposed Energize Eastside Project*. Synapse Energy Economics and MaxETA Energy for the City of Newcastle, WA.

Lane, C., K. Takahashi. 2020. *Rate and Bill Impact Analysis of Rhode Island Natural Gas Energy Efficiency Programs*. Synapse Energy Economics for National Grid.

Takahashi, K., A. S. Hopkins, D. White, S. Kwok, N. Garner. 2020. *Assessment of National Grid’s Long-Term Capacity Report – Natural gas capacity needs and alternatives*. Synapse Energy Economics for the Eastern Environmental Law Center.

Takahashi, K., J. Frost, D. Goldberg, A. S. Hopkins, K. Nishio, K. Nakano. 2020. *Survey of U.S. State and Local Building Decarbonization Policies and Programs*. Presented at the 2020 ACEEE Summer Study of Energy Efficiency in Buildings.

Hopkins, A. S., A. Napoleon, K. Takahashi. 2020. *Gas Regulation for a Decarbonized New York: Recommendations for Updating New York Gas Utility Regulation*. Synapse Energy Economics for Natural Resources Defense Council.

Takahashi, K., A. Napoleon. 2020. *Synapse Comments on EfficiencyOne Performance Alignment Study - M09096*. Questions and comments regarding the EfficiencyOne Performance Alignment Study filed on April 21, 2020. Synapse Energy Economics for the Nova Scotia Utility and Review Board.

Napoleon, A., J. Kallay, K. Takahashi. 2020. *Utility Energy Efficiency and Building Electrification Portfolios Through 2025: A Brief on the New York Public Service Commission’s Recent Order*. Synapse Energy Economics for the Natural Resources Defense Council.

Hopkins, A. S., K. Takahashi, Nadel, S. 2020. “Keep warm and carry on: Electrification and efficiency meet the ‘polar vortex’.” Proceedings of the 2020 ACEEE Summer Study of Energy Efficiency in Buildings.

Kallay, J., A. Hopkins, J. Frost, A. Napoleon, K. Takahashi, J. Slason, G. Freeman, D. Grover, B. Swanson. 2019. *Net Zero Energy Roadmap for the City of Burlington, Vermont*. Synapse Energy Economics and Resource Systems Group for Burlington Electric Department.

White, D., K. Takahashi, M. Whited, S. Kwok, D. Bhandari. 2019. *Memphis and Tennessee Valley Authority: Risk Analysis of Future TVA Rates for Memphis*. Synapse Energy Economics for Friends of the Earth.

Napoleon, A., T. Woolf, K. Takahashi, J. Kallay, B. Havumaki. 2019. *Comments in the New York Public Service Commission Case 18-M-0084: In the Matter of a Comprehensive Energy Efficiency Initiative*. Comments related to NY Utilities report regarding energy efficiency budgets and targets, collaboration, heat pump technology, and low- and moderate-income customers and requests for approval. Synapse Energy Economics on behalf of Natural Resources Defense Council.

Havumaki, B., J. Kallay, K. Takahashi, T. Woolf. 2019. *All-Electric Solid Oxide Fuel Cells as an Energy Efficiency Measure*. Synapse Energy Economics for Bloom Energy.

Takahashi, K., B. Havumaki, J. Kallay, T. Woolf. 2019. *Bloom Fuel Cells: A Cost-Effectiveness Brief*. Synapse Energy Economics for Bloom Energy.

Camp, E., B. Fagan, J. Frost, D. Glick, A. Hopkins, A. Napoleon, N. Peluso, K. Takahashi, D. White, R. Wilson, T. Woolf. (2019). *Phase 2 Report on Muskrat Falls Project Rate Mitigation: Newfoundland and Labrador Hydro Rate Mitigation Approaches: Options for Cost Savings and Revenue Opportunities through Export Market Sales, Energy Efficiency, In-Province Electrification and Rate Design Approaches After In-Service of the Muskrat Falls Project*. Synapse Energy Economics for Board of Commissioners of Public Utilities, Province of Newfoundland and Labrador.

Napoleon, A., D. Goldberg, K. Takahashi, T. Woolf. 2019. *An Assessment of Prince Edward Island Energy Corporations' 2018 - 2021 Energy Efficiency and Conservation Plan*. Synapse Energy Economics for Carr, Stevenson and MacKay as Counsel to the Island Regulatory and Appeals Commission.

Camp, E., B. Fagan, J. Frost, D. Glick, A. Hopkins, A. Napoleon, N. Peluso, K. Takahashi, D. White, R. Wilson, T. Woolf. 2018. *Phase 1 Findings on Muskrat Falls Project Rate Mitigation*. Synapse Energy Economics for Board of Commissioners of Public Utilities, Province of Newfoundland and Labrador.

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.

Hopkins, A. S., K. Takahashi, L. David. 2018. *Challenges and Opportunities for Deep Decarbonization through Strategic Electrification under the Utility Regulatory Structures of the Northeast*. Proceedings of the 2018 ACEEE Summer Study on Energy Efficiency in Buildings, August 12, 2018.

Hall, J., J. Kallay, A. Napoleon, K. Takahashi, M. Whited. *Locational and Temporal Value of Energy Efficiency and other DERs to Transmission and Distribution Systems*. Proceedings of the 2018 ACEEE Summer Study on Energy Efficiency in Buildings, August 12, 2018.

White, D., K. Takahashi, A. Napoleon, T. Woolf. 2018. *Value of Energy Efficiency in New York: Assessment of the Range of Benefits of Energy Efficiency Programs*. Synapse Energy Economics for Natural Resources Defense Council.



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.

Hopkins, A. S., K. Takahashi. 2017. *Alternatives to Building a New Mt. Vernon Substation in Washington, DC*. Synapse Energy Economics for the District of Columbia Department of Energy and Environment.

Hopkins, A.S., A. Horowitz, P. Knight, K. Takahashi, T. Comings, P. Kreycik, N. Veilleux, J. Koo. 2017. *Northeast Regional Assessment of Strategic Electrification*. Synapse Energy Economics and Meister Consulting Group for the Northeast Energy Efficiency Partnerships.

Takahashi, K., A. Allison, D. White. 2017. *Renewable Heating and Cooling Policy Framework: Options to Advance Industry Growth and Markets in New York*. Prepared for the New York State Energy Research and Development Authority.

Sierra Club. 2017. *Sierra Club Comments on Portland General Electric Company 2016 Integrated Resource Plan*. Submitted to the Public Utility Commission of Oregon, January 24, 2017.

Cook, R., J. Koo, N. Veilleux, K. Takahashi, E. Malone, T. Comings, A. Allison, F. Barclay, L. Beer. 2017. *Rhode Island Renewable Thermal Market Development Strategy*. Meister Consultants Group and Synapse Energy Economics for Rhode Island Office of Energy Resources.

Takahashi, K, T. Woolf, J. Kallay, E. Malone, A. Napoleon, M. Whited. 2016. *Starting Energy Efficiency Off on the Right Foot—Regulatory Policies to Support Successful Program Planning and Design*. Synapse Energy Economics for Prince Edward Island Regulatory & Appeals 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.

Fisher, J., P. Luckow, A. Horowitz, T. Comings, A. Allison, E.A. Stanton, S. Jackson, K. Takahashi. 2016. *Michigan Compliance Assessment for the Clean Power Plan: MPSC/MDEQ EPA 111(d) Impact Analysis*. Prepared for Michigan Public Service Commission, Michigan Department of Environmental Quality, and Michigan Agency for Energy.

Woolf, T., A. Napoleon, P. Luckow, W. Ong, K. Takahashi. 2016. *Aiming Higher: Realizing the Full Potential of Cost-Effective Energy Efficiency in New York*. Synapse Energy Economics for Natural Resources Defense Council, E4TheFuture, CLEAResult, Lime Energy, Association for Energy Affordability, and Alliance for Clean Energy New York.

Napoleon, A., K. Takahashi, J. Kallay, T. Woolf. 2016. "Evaluation, Measurement, and Verification in Virginia." Synapse Energy Economics for Clean Energy Solutions Inc., Virginia Energy Efficiency Council, and Virginia Department of Mines, Minerals and Energy.

Stanton, E. A., P. Knight, A. Allison, T. Comings, A. Horowitz, W. Ong, N. R. Santen, K. Takahashi. 2016. *The RGGI Opportunity 2.0: RGGI as the Electric Sector Compliance Tool to Achieve 2030 State Climate Targets*. Synapse Energy Economics for Sierra Club, Pace Energy and Climate Center, and Chesapeake Climate Action Network.

Stanton, E. A., P. Knight, A. Allison, T. Comings, A. Horowitz, W. Ong, N. R. Santen, K. Takahashi. 2016. *The RGGI Opportunity: RGGI as the Electric Sector Compliance Tool to Achieve 2030 State Climate Targets*. Synapse Energy Economics for Sierra Club, Pace Energy and Climate Center, and Chesapeake Climate Action Network.

Kallay, J., K. Takahashi, A. Napoleon, T. Woolf. 2015. *Fair, Abundant, and Low-Cost: A Handbook for Using Energy Efficiency in Clean Power Plan Compliance*. Synapse Energy Economics for the Energy Foundation.

Woolf, T., K. Takahashi, E. Malone, A. Napoleon, J. Kallay. 2015. *Ontario Gas Demand-Side Management 2016-2020 Plan Review*. Synapse Energy Economics for the Ontario Energy Board.

Biewald, B., J. Daniel, J. Fisher, P. Luckow, A. Napoleon, N. R. Santen, K. Takahashi. 2015. *Air Emissions Displacement by Energy Efficiency and Renewable Energy*. Synapse Energy Economics.

Takahashi, K. 2015. "Boost Appliance Efficiency Standards." Ed. John Shenot. In *Implementing EPA's Clean Power Plan: A Menu of Options*. National Association of Clean Air Agencies.

Takahashi, K., A. Napoleon. 2015. "Pursue Behavioral Efficiency Programs." Ed. John Shenot. In *Implementing EPA's Clean Power Plan: A Menu of Options*. National Association of Clean Air Agencies.

Takahashi, K., J. Fisher, T. Vitolo, N. R. Santen. 2015. *Review of TVA's Draft 2015 Integrated Resource Plan*. Synapse Energy Economics for Sierra Club.

Comings, T., S. Jackson, K. Takahashi. 2015. *Comments on Indianapolis Power & Light Company's 2014 Integrated Resource Plan*. Synapse Energy Economics for the Sierra Club.

Stanton, E. A., P. Knight, J. Daniel, B. Fagan, D. Hurley, J. Kallay, E. Karaca, G. Keith, E. Malone, W. Ong, P. Peterson, L. Silvestrini, K. Takahashi, R. Wilson. 2015. *Massachusetts Low Gas Demand Analysis: Final Report*. Synapse Energy Economics for the Massachusetts Department of Energy Resources.

Fields, S., E. A. Stanton, P. Knight, B. Biewald, J. Daniel, S. Jackson, E. Karaca, J. Rosenkranz, K. Takahashi. 2014. *Calculating Alabama's 111(d) Target*. Synapse Energy Economics for the Southern Environmental Law Center.

Fields, S., E. A. Stanton, P. Knight, B. Biewald, J. Daniel, S. Jackson, E. Karaca, J. Rosenkranz, K. Takahashi. 2014. *Calculating Georgia's 111(d) Target*. Synapse Energy Economics for the Southern Environmental Law Center.

Fields, S., E. A. Stanton, P. Knight, B. Biewald, J. Daniel, S. Jackson, E. Karaca, J. Rosenkranz, K. Takahashi. 2014. *Alternate Scenarios for 111(d) Implementation in North Carolina*. Synapse Energy Economics for the Southern Environmental Law Center.

Stanton, E. A., P. Knight, J. Daniel, B. Fagan, D. Hurley, J. Kallay, G. Keith, E. Malone, P. Peterson, L. Silverstrini, K. Takahashi. 2014. *Feasibility Study for Low Gas Demand Analysis*. Synapse Energy Economics for the Massachusetts Department of Energy Resources.

Takahashi, K., T. Comings, A. Napoleon. 2014. *Maximizing Public Benefit through Energy Efficiency Investments*. Synapse Energy Economics for Sierra Club.



Vitolo, T., J. Fisher, K. Takahashi. 2014. *TVA's Use of Dispatchability Metrics in Its Scorecard*. Synapse Energy Economics for Sierra Club.

Comings, T., S. Fields, K. Takahashi, G. Keith. 2014. *Employment Effects of Clean Energy Investments in Montana*. Synapse Energy Economics for Montana Environmental Information Center and Sierra Club.

Keith, G., S. Jackson, J. Daniel, K. Takahashi. 2014. *Idaho's Electricity Sources: Current Sources and Future Potential*. Synapse Energy Economics for the Idaho Conservation League.

Malone, E. T. Woolf, K. Takahashi, S. Fields. 2013. "Appendix D: Energy Efficiency Cost-Effectiveness Tests." *Readying Michigan to Make Good Energy Decisions: Energy Efficiency*. Synapse Energy Economics for the Council of Michigan Foundations.

Takahashi, K. et al. 2013. *Economic and Environmental Analysis of Residential Heating and Cooling Systems: A Study of Heat Pump Performance in U.S. Cities*. Proceeding of the 7th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'13), September 12, 2013.

Comings, T., K. Takahashi, G. Keith. 2013. *Employment Effects of Investing in Select Electricity Resources in Washington State*. Synapse Energy Economics for Sierra Club.

Woolf, T., E. Malone, J. Kallay, K. Takahashi. 2013. *Energy Efficiency Cost-Effectiveness Screening in the Northeast and Mid-Atlantic States*. Synapse Energy Economics for Northeast Energy Efficiency Partnerships, Inc. (NEEP).

Stanton, E. A., T. Comings, K. Takahashi, P. Knight, T. Vitolo, E. Hausman. 2013. *Economic Impacts of the NRDC Carbon Standard*. Synapse Energy Economics for the Natural Resources Defense Council (NRDC).

Woolf, T., W. Steinhurst, E. Malone, K. Takahashi. 2012. *Energy Efficiency Cost-Effectiveness Screening: How to Properly Account for 'Other Program Impacts' and Environmental Compliance Costs*. Synapse Energy Economics for Regulatory Assistance Project and Vermont Housing Conservation Board.

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.

Keith, G., T. Woolf, K. Takahashi. 2012. *A Clean Electricity Vision for Long Island: Supplying 100% of Long Island's Electricity Needs with Renewable Power*. Synapse Energy Economics for Renewable Energy Long Island.

Fisher, J., K. Takahashi. 2012. *TVA Coal in Crisis: Using Energy Efficiency to Replace TVA's Highly Non-Economic Coal Units*. Synapse Energy Economics for Sierra Club.

Woolf, T., E. Malone, K. Takahashi, W. Steinhurst. 2012. *Best Practices in Energy Efficiency Program Screening: How to Ensure that the Value of Energy Efficiency is Properly Accounted For*. Synapse Energy Economics for National Home Performance Council.

Takahashi, K., W. Steinhurst. 2012. *A Preliminary Analysis of Energy Impacts from Partial Deep Energy Retrofit Projects in National Grid's Jurisdiction*. Synapse Energy Economics for National Grid, USA.

Synapse Energy Economics. 2012. *Economic and Environmental Analysis of Residential Heating and Cooling Systems: A Study of Heat Pump Performance in US Cities*. Prepared for a HVAC manufacture company.

Hornby, R., D. White, T. Vitolo, T. Comings, K. Takahashi. 2012. *Potential Impacts of a Renewable and Energy Efficiency Portfolio Standard in Kentucky*. Synapse Energy Economics for Mountain Association for Community Economic Development and The Kentucky Sustainable Energy Alliance.

Keith, G., B. Biewald, E. Hausman, K. Takahashi, T. Vitolo, T. Comings, P. Knight. 2011. *Toward a Sustainable Future for the US Power Sector: Beyond Business as Usual 2011*. Synapse Energy Economics for Civil Society Institute.

Synapse Energy Economics. 2011. *Electricity Scenario Analysis for the Vermont Comprehensive Energy Plan 2011*. Prepared for Vermont Department of Public Service.

Bourgeois, T., D. Hall, W. Steinhurst, K. Takahashi. 2011. *Deployment of Distributed Generation for Grid Support and Distribution System Infrastructure: A Summary Analysis of DG Benefits and Case Studies*. Pace Energy and Climate Center and Synapse Energy Economics for New York State Energy Research and Development Authority (NYSERDA).

Peterson, P., V. Sabodash, K. Takahashi. 2010. *Demand Side Resource Potential: A Review of Global Energy Partners' Report for Midwest ISO*. Synapse Energy Economics for Project for Sustainable FERC Energy Policy.

Keith, G., B. Biewald, E. Hausman, K. Takahashi, T. Vitolo, T. Comings, P. Knight. 2010. *Beyond Business as Usual: Investigating a Future Without Coal and Nuclear Power in the US*. Synapse Energy Economics for Civil Society Institute.

Napoleon, A., W. Steinhurst, M. Chang, K. Takahashi, R. Fagan. 2010. *Assessing the Multiple Benefits of Clean Energy: A Resource for States*. US Environmental Protection Agency with research and editorial support from Stratus Consulting, Synapse Energy Economics, Summit Blue, Energy and Environmental Economics, Inc., Demand Research LLC, Abt Associates, Inc., and ICF International.

James, C., K. Takahashi, W. Steinhurst. 2009. *North Dakota Energy Efficiency Potential Study Report*. Synapse Energy Economics for Plains Justice.

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James, C., J. Fisher, K. Takahashi, B. Warfield. 2009. *No Need to Wait: Using Energy Efficiency and Offsets to Meet Early Electric Sector Greenhouse Gas Targets*. Synapse Energy Economics for Environmental Defense Fund.

Takahashi, K., D. Nichols. 2009. *The Costs of Increasing Electricity Savings through Utility Efficiency Programs: Evidence from US Experience*. Proceeding of the 5th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'09), June 24, 2009.

Hurley, D., K. Takahashi, B. Biewald, J. Kallay, R. Maslowski. 2008. *Cost and Benefits of Electric Utility Energy Efficiency in Massachusetts*. Synapse Energy Economics for Northeast Energy Efficiency Council.

Takahashi, K., D. Nichols. 2008. *The Sustainability and Costs of Increasing Efficiency Impacts: Evidence from Experience to Date*. Proceedings of the 2008 ACEEE Summer Study on Energy Efficiency in Buildings, August 20, 2008.

Hornby, R., C. Salamone, S. Perry, D. White, K. Takahashi. 2008. *Advanced Metering Infrastructure- Implications for Residential Customers in New Jersey*. Synapse Energy Economics for New Jersey Division of the Ratepayer Advocate.

Hornby, R., C. James, K. Takahashi, D. White. 2008. *Increasing Demand Response in Maine*. Synapse Energy Economics for the Maine Public Utilities Commission.

Hausman, E., R. Fagan, D. White, K. Takahashi, A. Napoleon. 2007. *LMP Electricity Markets: Market Operations, Market Power, and Value for Consumer*. Synapse Energy Economics for the American Public Power Association.

Zalcman, F., K. Takahashi, G. Keith, W. Steinhurst. 2006. *A Comprehensive Process Evaluation of Early Experience under New York's Pilot Program for Integration of Distributed Generation in Utility System Planning*. Synapse Energy Economics and Pace Law School Energy Project for New York State Energy Research and Development Authority (NYSERDA).

Chernick, P., J. Wallach, W. Steinhurst, T. Woolf, A. Sommer, and K. Takahashi. 2006. *Integrated Portfolio Management in a Restructured Supply Market*. Resource Insight, Inc. and Synapse Energy Economics for Ohio Consumers' Counsel.

Steinhurst, W., A. Napoleon, K. Takahashi. 2006. *Energy in the Northern Forest Region: A Situation Analysis*. Synapse Energy Economics for Northern Forest Center and The North Country Council.

Synapse Energy Economics. *Ensuring Delaware's Energy Future: A Response to Executive Order Number 82*. Technical assistance for Delaware Cabinet Committee on Energy.

Hausman, E., K. Takahashi, D. Schlissel, B. Biewald. 2006. *The Proposed Broadwater LNG Import Terminal - An Analysis and Assessment of Alternatives*. Prepared for Connecticut Fund for the Environment and Save the Sound.

Synapse Energy Economics. 2006. *The Glebe Mountain Wind Energy Project: Assessment of Project Benefits for Vermont and the New England Region*. Prepared for Glebe Mountain Wind Energy, LLC.

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**Nova Scotia Utility and Review Board (M10473):** Evidence of Alice Napoleon and Kenji Takahashi regarding EfficiencyOne's 2023-2025 DSM Resource Plan, with a focus on the Settlement Plan. On behalf of Counsel to Nova Scotia Utility and Review Board, May 2022.

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## TESTIMONY ASSISTANCE

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## **PRESENTATIONS**

Hopkins, A. S., S. Kwok, A. Napoleon, K. Schultz, K. Takahashi. "Massachusetts Clean Heat Standard: Policy and Regulatory Analysis" presented with Conservation Law Foundation, February 2023.

Takahashi, K. 2022. "Toward Net Zero Emissions from Oregon Buildings – Emissions and Cost Analysis of Efficient Electrification," presentation at LBNL Webinar: End-Use Load Profiles for the U.S. Building Stock: Data Access and Use Cases, December 2022.

Takahashi, K. 2022. "Missed Opportunities - Impacts of Recent Policies on Energy Efficiency Programs in Midwestern States" Presentation at the ACEEE 2022 Summer Study on Energy Efficiency in Buildings, August 24, 2022.

Shipley, J., Hopkins, A., Takahashi, K., & Farnsworth, D. "Renovating regulation to electrify buildings: A guide for the handy regulator," presented with Regulatory Assistance Project, January 2021.

Takahashi, K. 2019. "Non-Wires Alternatives to Building a New Substation in Washington, D.C. – Key Takeaways for Other Jurisdictions" Presentation at the ACEEE 2019 National Conference on Energy Efficiency as a Resource, October 16, 2019

Titus, E., K. Takahashi. 2019. "Strategic Electrification: What does the promised land of information look like?" Presentation at the AESP 2019 Conference, January 24, 2019.

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- 2019 AESP Annual Conference, January 24, 2019.
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- 2017 ACEEE National Conference on Energy Efficiency as a Resource, October 30, 2017.
- 9th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'17), September 13-15, 2017.
- NEEP Northeast Strategic Energy Management Collaborative Workshop, November 15, 2016.
- NEEP 2016 EM&V Forum Annual Public Meeting: the Future of Evaluation, March 30, 2016.
- 2015 ACEEE National Conference on Energy Efficiency as a Resource, September 21, 2015.
- EUCI Conference on Utility Integrated Resource Planning (IRP), May 13-15, 2015.
- 2013 ACEEE National Conference on Energy Efficiency as a Resource, September 22-24, 2013.
- 7th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'13), September 11-13, 2013.
- Energy Measure Verification Workshop (sponsored by Massachusetts Department of Energy Resources), September 2013.
- Smart Building: High Performance Homes - Workshop for building professionals, June 22, 2011.
- NESEA Building Energy 11 Conference, March 8-10, 2011.
- Build Boston 2010 on Residential Design and Construction, November 17, 2010.
- ACI New England Conference 2010, October 6, 2010.
- 2010 ACEEE Summer Study on Energy Efficiency in Buildings, August 18-20, 2010.
- NESEA Building Energy 10 Conference, March 8-10, 2010.

- 5th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'09), June 24, 2009.
- 2008 ACEEE Summer Study on Energy Efficiency in Buildings, August 21, 2008.
- Tufts University Clean Distributed Energy Workshop, June 8, 2006.
- The 2006 Northeast Energy Efficiency Summit, May 17.
- The 2006 Distributed Generation & Interconnection Conference held by DTE Energy, April 26-28, 2006.
- United Nations Climate Change Conference at its eleventh session / Twenty-third sessions of the Subsidiary Bodies and COP/MOP 1, December 2005.

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