Shelley Kwok, Senior Associate II

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. *Senior Associate II,* Apr 2026–Present; *Senior Associate,* Apr 2023–Apr 2026; *Associate,* Jun 2021–Apr 2023; *Research Associate,* Aug 2019–Jun 2021

- Conducts research and provides consulting on energy sector issues.
- Conducts analysis to evaluate energy efficiency programs and policies.
- Produces Python-based data visualization tools.
- Develops Excel-based spreadsheet models to conduct cash flow analyses and utility performance metrics assessments.
- Performs analysis using capacity expansion and dispatch models to support a wide array of projects.
- Writes expert testimony and reports related to power plant economics and utility Integrated Resource Planning.
- Co-developer of Synapse's Building Decarbonization Calculator (BDC), a stock flow model to calculate the emissions and load impacts of heat pump adoption.

Tufts Department of Mechanical Engineering, Medford, MA. *Energy Research Fellow*, Sept 2018–Jul 2019

- Utilized the SWITCH capacity expansion model to create optimized power systems projections.
- Incorporated national rooftop PV potential data from Google Project Sunroof into an energy model database.
- Modeled the electric sector to quantify the effects of installing residential solar at optimized rooftop orientations.
- Developed Python code to manipulate data and create data visualizations.

Integral Group, Oakland, CA. *Intern*, Jun 2018–Aug 2018

- Collaborated with coworkers to design sustainable HVAC systems for Net-Zero Energy and LEED-certified buildings and performed engineering calculations to support building designs.
- Utilized EnergyPlus and OpenStudio to create energy models and provided recommendations for implementing energy efficiency measures.
- Modeled HVAC systems using Revit.

EDUCATION

Tufts University, Medford, MA
Bachelor of Science in Mechanical Engineering, *Magna Cum Laude*, 2019

SKILLS

Computer Software: EnCompass, Excel, Python, R, C++, MATLAB.

PUBLICATIONS

Sharaf, S., S. Kwok, R. Aidun, T. Comings. 2026. *Comments on IURC's Unit Retirement Commission Staff Report: NIPSCO's Michigan City Unit 12*. Synapse Energy Economics for Earthjustice and Citizens Action Coalition of Indiana.

Knight, P., S. Kwok, E. Ashley, A. Glaser Schoff, S. Schadler, S. Sharaf, A. Zeng, A. Napoleon. "Making Energy More Affordable in New York." Presentation prepared for the Natural Resources Defense Council and the Evergreen Collaborative, March 2026.

Biewald, B., D. Glick, S. Kwok, K. Takahashi, J. Carvallo, L. Schwartz. 2024. *Best Practices in Integrated Resource Planning: A guide for planners developing the electricity resource mix of the future.* Synapse Energy Economics and Lawrence Berkeley National Laboratory for The Energy Foundation.

Whited, M., P. Knight, S. Kwok, P. Silva. 2024. *Charting the Wind: Quantifying the Ratepayer, Climate, and Public Health Benefits of Offshore Wind in New England*. Synapse Energy Economics for Sierra Club.

DeLeon, S., K. Takahashi, E. Carlson, A. S. Hopkins, S. Kwok, J. Litynski, C. Mattioda, L. Metz. 2024. *Minnesota Building Decarbonization Analysis: Equitable and cost-effective pathways toward net-zero emissions for homes and businesses.* Synapse Energy Economics for Clean Heat Minnesota.

Kwok, S., J. Smith, D. Glick. 2023. *Review of Cleco Power's 2021 Draft IRP Report.* Synapse Energy Economics for Sierra Club.

Kwok, S., P. Knight, J. Frost, S. Chavin, P. Rhodes. 2023. *Modeling the Benefits of Energy Storage in Maryland*. Synapse Energy Economics for American Clean Power Association.

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

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.

Malone, E., D. Goldberg, S. Kwok, T. Woolf. 2022. *The Cape Light Compact's Low-Income Energy Efficiency Programs: Challenges and Opportunities*. Synapse Energy Economics for The Cape Light Compact.

Hopkins, A. S., A. Napoleon, S. Kwok. 2022. *Factsheet: Hydrogen & Low-Carbon Gases in New York's Electricity Future*. Synapse Energy Economics for Sierra Club.

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.

Glick, D., S. Kwok. 2021 *Review of Southwestern Public Service Company's 2021 IRP and Tolk Analysis.* Synapse Energy Economics for Sierra Club.

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

Eash-Gates, P., D. Glick, S. Kwok, J. Tabernero, R. Wilson. 2021. *A Clean Energy Future for Tampa*. Synapse Energy Economics for Sierra Club.

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.

Kallay, J., S. Letendre, T. Woolf, B. Havumaki, S. Kwok, A. Hopkins, R. Broderick, R. Jeffers, K. Jones, M. DeMenno. 2021. *Application of a Standard Approach to Benefit-Cost Analysis for Electric Grid Resilience Investments.* Synapse Energy Economics for Sandia National Laboratories.

Hopkins, A., S. Kwok, A. Napoleon, C. Roberto, K. Takahashi. 2021. *Scoping a Future of Gas Study*. Synapse Energy Economics for Conservation Law Foundation.

Lane, C., S. Kwok, J. Hall, I. Addleton. 2021. *Macroeconomic Analysis of Clean Vehicle Policy Scenarios for Illinois*. Synapse Energy for the Natural Resources Defense Council.

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.

Wilson, R., B. Fagan, S. Kwok. 2020. *Comments on NorthWestern Energy's Final 2019 Electricity Supply Resource Procurement Plan.* Synapse Energy Economics for Montana Public Service Commission.

Eash-Gates, P., D. Glick, S. Kwok. R. Wilson. 2020. *Orlando's Renewable Energy Future: The Path to 100 Percent Renewable Energy by 2020.* Synapse Energy Economics for the First 50 Coalition.

Takahashi, K., A. Hopkins, J. Rosenkrantz, D. White, S. Kwok, N. Garner. 2020. *Assessment of National Grid's Long-Term Capacity Report*. Synapse Energy Economics for the Eastern Environmental Law Center.

Allison, A., S. Kwok. 2020. *Comments on PacifiCorp's 2019 Integrated Resource Plan*. Synapse Energy Economics for the Sierra Club.

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.

TESTIMONY

State Corporation Commission of Virginia (Case No. PUR-2022-00001): Direct Testimony of Shelley Kwok regarding Appalachian Power Company's petition for approval of an environmental rate adjustment clause for capital investments and operations and maintenance expenses to comply with the federal Effluent Limitation Guidelines regulations in lieu of retirement of the Amos and Mountaineer coal plants. On behalf of Sierra Club. July 29, 2022.

Resume updated March 2026