

Jason Frost, Senior Associate

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. *Senior Associate*, April 2023 – Present; *Associate* June 2020 – April 2023; *Research Associate*, August 2018 – June 2020.

- Leads the Synapse NEPOOL team participating in the New England wholesale electricity market stakeholder process on behalf of consumer and energy efficiency clients.
- Analyzes wholesale electricity market impacts on resource adequacy, reliability, consumer cost, and emissions, and evaluates energy and capacity market rules in New England and PJM.
- Topic Area Manager for Transportation.
- Co-developer of EV-REDI and the Building Decarbonization Calculator (BDC), which are models to calculate the emissions and electricity demand impacts of electric vehicle and heat pump adoption, respectively.
- Uses the EnCompass model to develop and compare future electric generation resource portfolios to develop decarbonization pathways and to evaluate utility resource planning decisions.
- Conducts a wide range of other energy and transportation sector analysis on rate design for electric vehicles, electric grid resource plans, and other topics.

Lawrence Berkeley National Laboratory, Berkeley, CA. *Materials Science Researcher*, June 2017 – June 2018

- Developed software to accelerate discovery of improved thermoelectric materials for solid state conversion of heat to electricity under the guidance of Dr. Anubhav Jain.
- Implemented a new integration algorithm to more correctly calculate particle mobility.

Stanford University Department of Electrical Engineering, Stanford, CA. *Intern*, Summer 2016

- Searched for materials with rapidly changing dielectric functions and little loss, infinitely anisotropic materials, and permittivity near zero materials.

MIT Kavli Institute for Astrophysics and Space Research, Cambridge, MA. *Intern*, Summer 2015

- Modeled polarization laboratory experiments in Python.
- Modeled atmospheric absorption of soft X-rays and matched quasar jet data with theory.
- Co-authored two papers that have been published.

EDUCATION

Stanford University, Stanford, CA: Bachelor of Science in Physics, 2018.

- Researched optimization of on-campus electric vehicle charging and quantified the resulting benefits. Co-authored paper submitted for publication.

SKILLS

- Programming languages: Python, Julia, C, Matlab
- EnCompass power sector planning software
- Linear and nonlinear optimization

PUBLICATIONS

Frost, J., P. Knight, S. Sharaf, L. Metz, S. Kwok. 2023. *RGGI's Economic Benefits for Pennsylvania*. Synapse Energy Economics for Evergreen Collaborative.

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.

Frost, J., J. Litynski, S. Chavin, P. Silva. 2023. *The Impact of Resource Inflexibility on Capacity Accreditation in New England*. Synapse Energy Economics for Sierra Club.

Knight, P., J. Frost, T. Fitch, E. Sinclair, J. Tabernero, O. Griot, B. Havumaki, J. Smith, L. Metz, S. Chavin. 2023. *TVA's Clean Energy Future: Charting a course to decarbonization in the Tennessee Valley*. Synapse Energy Economics for GridLab and Center for Biological Diversity.

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.

Frost, J., P. Knight, J. Litynski, O. Griot, J. Smith. 2022. *Transforming Transportation in North Carolina*. Synapse Energy Economics for Sierra Club.

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

Frost, J. and collaborators B. Biewald, B. Kastner, M. Mullett. 2022. *Deep Decarbonization and Rapid Electrification in Duke Energy Indiana's Service Territory*. Synapse Energy Economics for Energy Matters Community Coalition.

Frost, J., A. Takasugi, B. Havumaki, P. Knight. 2022. *Transforming Transportation in Michigan: A Roadmap to the State's 2050 Climate Target*. 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.

Frost, J., J. Litynski, S. Letendre, A. S. Hopkins. 2021. *Economic Impacts of Climate Change on Cape Cod*. Synapse Energy Economics for Eastern Research Group and the Cape Cod Commission.

Hopkins, A.S., P. Knight, J. Frost. 2021. *Rhode Island Carbon Pricing Study*. Synapse Energy Economics and the Cadmus Group for the Rhode Island Office of Energy Resources.

Bhandari, D., M. Chang, P. Eash-Gates, J. Frost, S. Letendre, J. Litynski, C. Roberto, A. Takasugi, J. Taberner. R. Wilson. 2021. *Exelon Illinois Nuclear Fleet Audit*. Synapse Energy Economics for Illinois Environmental Protection Agency.

Woolf, T., D Bhandari, C. Lane, J. Frost, B. Havumaki, S. Letendre, C. Odom. 2021. *Benefit-Cost Analysis of the Rhode Island Community Remote Net Metering Program*. Synapse Energy Economics for the Rhode Island Division of Public Utilities and Carriers.

Knight, P. J. Frost, J. Kallay. S. Letendre. J. Hall. 2020. *Assessing the Impacts Climate Change May Have on Maine's Economy, Revenues, and Investment Decisions*. Synapse Energy Economics and Eastern Research Group for the State of Maine's Department of the Governor's Office of Policy Innovation and the Future.

Glick, D., J. Frost, B. Biewald. 2020. *The Benefits of an All-Source RFP in Duke Energy Indiana's 2021 IRP Process*. Synapse Energy Economics for Energy Matters Community Coalition.

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

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.

Chang, M., J. Frost, C. Lane, S. Letendre, PhD. 2020. *The Fixed Resource Requirement Alternative to PJM's Capacity Market: A Guide for State Decision-Making*. Synapse Energy Economics for the State Energy & Environmental Impact Center at the NYU School of Law.

Knight, P., C. Odom, E. Camp, D. Bhandari, J. Frost. 2020. *Solar Siting Opportunities for Rhode Island: An analysis of potentials and costs of rooftop, landfill, gravel pit, brownfield, commercial and industrial ground-mounted and carport solar*. Synapse Energy Economics for Rhode Island Office of Energy Resources.

Frost, J., M. Whited, A. Allison. 2020. *Electric Vehicles Are Driving Electric Rates Down*. Synapse Energy Economics for Natural Resources Defense Council.

Whited, M., J. Frost, B. Havumaki. 2020. *Best Practices for Commercial and Industrial EV Rates*. A guide prepared by Synapse Energy Economics for Natural Resources Defense Council.

Frost, J., B. Biewald, A. Hopkins. 2019. *Incorporating the Costs of Climate Change in Duke Energy Indiana's 2018 Integrated Resource Plan*. Synapse Energy Economics for Energy Matters Community Coalition.

Knight, P., J. Frost. 2019. *Transforming Transportation in New York: Roadmaps to a Transportation Climate Target for 2035*. Synapse Energy Economics for Sierra Club.

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.

Glick, D., B. Fagan, J. Frost, D. White. 2019. *Big Bend Analysis: Cleaner, Lower-Cost Alternatives to TECO's Billion-Dollar Gas Project*. Synapse Energy Economics for Sierra Club.

Glick, D., F. Ackerman, J. Frost. 2019. *Assessment of Duke Energy's Coal Ash Basin Closure Options Analysis in North Carolina*. Synapse Energy Economics for the Southern Environmental Law Center.

Malone, E., D. Goldberg, J. Frost. 2018. *Database of State Efficiency Screening Practices (DSESP): A Resource of the NESP*. Synapse Energy Economics for E4TheFuture.

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.

Allison, A., R. Wilson, D. Glick, J. Frost. 2018. *Comments on South Africa 2018 Integrated Resource Plan*. Synapse Energy Economics for Centre for Environmental Rights.

TESTIMONY

Georgia Public Service Commission (Docket No. 44160 and 44161): Direct Testimony of Jason Frost regarding Georgia Power's 2022 IRP and the benefits of incorporating EV adoption into future IRPs. On behalf of the Sierra Club. May 4, 2022.

Virginia State Corporation Commission (Case No. PUR-2020-00035): Direct testimony of Jason Frost regarding the impact of the FERC MOPR ruling on Dominion's 2020 Integrated Resource Plan and the potential of FRR alternatives in reducing capacity market revenue uncertainty. On behalf of the Sierra Club. September 15, 2020.

Resume updated August 2023