Sabine Chavin, Senior Associate

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PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. *Senior Associate*, Apr 2025–Present*, Associate*, Jul 2022–Apr 2025.

- Consults on energy sector issues, including integrated resource planning, power system modeling, federal energy legislation, tracking utility performance, electrification policies, and energy storage.
- Skilled power system modeler, with experience using resource adequacy, capacity expansion and production cost modeling to assess impacts of large loads, federal and state energy policies, forecast avoided energy costs, and evaluate energy equity considerations.
- Co-developer of interactive website dashboards, including one to assess energy and emissions in the Northeast and one to track the performance of electric utilities in Puerto Rico.
- Assists in developing testimony on power plant economics.

Kleinman Center for Energy Policy, University of Pennsylvania. *Student Fellow,* Jan–May 2022

- Attended energy and climate policy seminars on a range of topics including the geopolitics of rare earth materials, adaptive architectural design and geoengineering.
- Researched and authored a blog post on microgrid tariff regulations.

Neuroscience Lab, University of Pennsylvania. *MindCORE Fellow in Balasubramanian Lab*, Summer 2021

- Designed and coded in Python a model of spatial navigation to better understand biological neural navigation processes.
- Studied analytical techniques for interpreting our computational results.

Cryo-electron Tomography Lab, University of Pennsylvania. *Research Assistant in Chang Lab*, Summer 2020

- Generated and analyzed tomograms (3D representations) of parasites from 2D electron microscope data.
- Authored literature review on the lifecycle of *Plasmodium falciparum* (malaria parasite).
- Explored useful machine-learning approaches to classifying proteins.

EDUCATION

University of Pennsylvania, Philadelphia, PA
Bachelor of Arts in Physics: Concentration in Computer Techniques, 2022
Master of Science in Physics, 2022

University of California, San Diego, San Diego, CA
Certificate in Power Systems Engineering, 2026

PUBLICATIONS

Knight, P., S. Sharaf, S. Chavin, E. Ashley, A. Zeng, E. McGarvey, S. Shenstone-Harris, R. Aidun. 2026. *Assessing Electricity Resource Adequacy in Pennsylvania and PJM*. Synapse Energy Economics, Mondre Energy, and Aspen Technologies for the Pennsylvania Public Utility Commission.

Chavin, S., Fagan, B., Weiss, I. 2026. *Electric System On-Island Capacity Alternatives for Prince Edward Island: Examination of MECL Application for On-Island Capacity Supply.* Synapse Energy Economics for Prince Edward Island Regulatory and Appeals Commission.

Shenstone-Harris, S., W. Dejeanlouis, S. Chavin. 2026. *Understanding Rising Transmission Costs in the District of Columbia: An Overview of Transmission Planning and Its Impact on Electricity Customers in DC*. Synapse Energy Economics for the District of Columbia Department of Energy and Environment and Office of the Attorney General.

Chavin, S., P. Knight, S. Sharaf., A. Zeng. "How Increased Clean Energy Deployment in Indiana Can Pave the Way for Lower Bills." Presentation prepared for Advanced Energy United, February 2026.

Resor, C., S. Chavin, P. Knight, S. Sharaf. 2026. *The Next Decade in PJM: A Path to Reliability and Affordability*. Synapse Energy Economics for Advanced Energy United.

Borden, E., S. Chavin, W. Dejeanlouis, C. Mattioda, A. Zeng, A. Glaser Schoff. 2025. *Assessment of Storage Procurement Mechanisms and Cost-Effectiveness in Maine*. Synapse Energy Economics for the Maine Governor's Energy Office.

Chavin, S., Knight, P., Shenstone-Harris, S., Zeng, A., Fuzaylov, A., Hittinger, J. 2025. *Tackling the PJM Electricity Cost Crisis.* Synapse Energy Economics for Evergreen Collaborative.

Knight, P., S. Chavin, J. Hittinger, A. Zeng, C. Resor. 2025. *Modernizing Pennsylvania's Clean Energy Policies: An analysis of the proposed PRESS and PACER policies.* Synapse Energy Economics for Pennsylvania Department of Environmental Protection.

Chavin, S., Knight, P., Glick, D., Gyalmo, T., Weiss, I. *Risks of Rapid Data Center Growth in PJM.* Synapse Energy Economics for Sierra Club.

Shenstone-Harris, S., C. Mattioda, T. Gyalmo, S. Chavin. 2024*. Bill and Rate Impacts of PJM's 2025/2026 Capacity Market Results & Reliability Must-Run Units in Maryland.* Synapse Energy Economics for the Maryland Office of People's Counsel.

Synapse Energy Economics, Resource Insight, Les Deman Consulting, North Side Energy, and Sustainable Energy Advantage. 2024. Avoided Energy Supply Components in New England: 2024 Report. Synapse Energy Economics for AESC 2024 Study Group.

Takahashi, K., A. S. Hopkins, E. Carlson, S. Schadler, S. Chavin. 2024. *Memo: Assessment of Electric Grid Headroom for Accommodating Building Electrification (Revised July 2024)*. Synapse Energy Economics to New Yorkers for Clean Power.

Frost, J., S. Chavin, P. Silva. 2023. *Impacts of Electricity Generation Regulatory Structures on Connecticut Ratepayers.* Synapse Energy Economics for Connecticut Office of Consumer Counsel.

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.

Goldberg, D., S. Chavin, J. Tabernero, P.Knight. 2023. *Green Dash Northeast: state-level data on emissions and energy in the Northeast.* Synapse Energy Economics for Barr Foundation.

SKILLS

Python, OCaml, MATLAB, Java, Microsoft Office Suite

Resume updated June 2026