



Sam Schreiber

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ENERGY AND ENVIRONMENTAL ECONOMICS, INC.

San Francisco, CA

Managing Consultant

Sam Schreiber supports utilities and state regulatory agencies with integrated system planning efforts, with a focus on long-term capacity expansion modeling. His experience centers on the modeling of candidate resources that are identified in the capacity expansion analysis, including resource cost forecasting, geospatial modeling of resource potential and land use, renewable generation profiles, and transmission. His recent work includes supporting the California Public Utilities Commission (CPUC) Integrated Resource Plan (IRP) on the co-optimization of resource and transmission investment, as well as assessments of cost impacts due to the Inflation Reduction Act, including hydrogen fuels and other emerging technologies.

Prior to joining E3, Mr. Schreiber was a Research Assistant with the McGehee Group at the University of Colorado Boulder, where he developed enhanced process controls to improve the efficiencies and reproducibility of perovskite-tandem solar cells. He previously worked for two years as an analyst at ForeFront Power, a mid-scale (100 kW – 10 MW) solar project developer, where he conducted market and policy research for Eastern markets, including NY VDER, MA SMART, and IL ABP. Select E3 projects include:

California Public Utilities Commission, Integrated Resource Plan (2022 – ongoing). Leads geospatial analysis for the E3's support of the CPUC IRP, modeling the transmission system to the substation level, identifying where resources can interconnect to minimize impacts on the transmission system. Takes data inputs from CAISO and the CEC and cross-references the data to understand how potential resource additions will impact transmission constraints. His contributions have added locational outputs to E3's busbar mapping, the process of refining the geographically coarse profiles in the IRP proceeding, allowing transparency and specificity in CAISO's modeling of the transmission system.

Salt River Project, Integrated System Planning (2022 - 2023). Ran PLEXOS long-term capacity expansion model, setting up model, contributing input development, and overseeing model runs to draw conclusions comparing how SRP's approach to planning would impact outcomes such as carbon intensity cost and water use. Also worked with SRP's customer programs team to understand carbon impacts of their programs. Wrote PYTHON script comparing carbon reduction across program measure adoptions, comparing the benefits of SRP programs like distributed solar, energy efficiency, heating electrification, and transportation electrification.

City of Santa Clara, Integrated Resource Planning (2023). Took data inputs from CPUC IRP on costs and potentials, streamlining analysis to support the development of an integrated resource plan for Silicon Valley Power. Contributed PLEXOS modeling for a smaller California municipal utility outside of CPUC jurisdiction.

UNIVERSITY OF COLORADO BOULDER, MCGEHEE GROUP

Boulder, CO

Graduate Research Assistant

2020 - 2022

- Fabrication and characterization of efficient, reproducible, and stable perovskite solar cells
- Implemented enhanced pneumatic and electronic process controls and standardized fabrication procedures to improve device reproducibility and baseline efficiencies
- Optoelectronic and thin-film characterization to understand limitations to device performance
- Collaboration with NREL staff scientists on experimental design and device characterization

FOREFRONT POWER

Senior Analyst, Sales

San Francisco, CA

2018 – 2020

- Developed economic, financial, and energy system models to determine the viability of solar PV and energy storage systems for commercial behind-the-meter and community solar applications
- Subject-matter expert for state policy, legislation, rates, and incentive programs
- Led sales, marketing, development, and engineering teams to respond to RFP opportunities
- Streamlined analysis methodology to improve throughput of entire analyst team
- Analyzed and presented financial metrics internally and savings analyses to customers

TSINGHUA SOLAR SYSTEMS

International Business Development Intern

Beijing, CHINA

2016

- Prepared prospectus for potential joint-venture partners on residential solar-thermal systems in the U.S. and India

Education

Stanford University
M.S., Civil Engineering

Stanford, CA
2018

Stanford University
B.S., Engineering Physics

Stanford, CA
2017

Publications

Kaczaral, S. C., et. al., “Improved Reproducibility of Metal Halide Perovskite Solar Cells via Automated Gas Quenching.” *APL Energy* 1 December 2023; 1 (3): 036112. <https://doi.org/10.1063/5.0174396>

Strand, E. J., et. al., “Printed Organic Electrochemical Transistors for Detecting Nutrients in Whole Plant Sap.” *Adv. Electron. Mater.* 2021, 2100853. <https://doi.org/10.1002/aelm.202100853>