



Ben Shapiro

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ENERGY AND ENVIRONMENTAL ECONOMICS, INC. *Consultant III*

San Francisco, CA

Mr. Shapiro joined E3 in 2018 after completing his Master of Public Policy from the Goldman School of Public Policy at U.C. Berkeley. His work focuses on analyzing the costs and benefits of distributed solar, energy efficiency, and electrification, with a particular interest in rate design. His graduate studies included a wide range of topics within electricity markets and policy, including retail rate design, wholesale market structure and regulation, energy project development and finance, and emissions trading programs. As a graduate student researcher for several organizations, he contributed to several policy-related research projects, one of which explored the drivers of thermal generator retirements in the U.S. Mr. Shapiro brings to E3 extensive research-based knowledge of electricity markets in addition to experience in state and local policy environments in both the public and private sector. He began his career at Sunrun, where he spent four years working on strategic and policy aspects of new market development for rooftop solar. He earned his Bachelor of Arts in Environmental Studies from U.C. Santa Cruz. Recent E3 projects include:

- **South Carolina Office of Regulatory Staff Renewable Energy Development, 2018.** Supported ORS in exploring potential changes to renewable and distributed energy resource (DER) programs, including successor approaches to net energy metering (NEM) and updated utility-scale interconnection practices. Convened and educated a large, diverse stakeholder group and wrote summary report reflecting ORS, utility, and stakeholder perspectives to inform state policymaking.
- **Sacramento Municipal Utilities District (SMUD) DER Cost-Effectiveness Tool, 2018 – 2019.** Built a model quantifying the energy and emissions impacts of different DER investments on an hourly basis to 2040, enabling detailed and consistent evaluation of fundamentally different types of DER (i.e., load-reducing investments in energy efficiency vs. load-building investments in transportation and building electrification). The tool links SMUD's supply-side resource planning and demand-side distribution and load planning and supports the utility's goal of achieving local net-zero emissions by 2040.
- **Salt River Project (SRP) Transportation Electrification Roadmap, 2018 – 2019.** Surveyed national and state-level policies and utility best practices on electric and autonomous vehicles, and proposed initiatives to enable SRP to realize transportation electrification benefits while minimizing risks to SRP's system.

LAWRENCE BERKELEY NATIONAL LAB
Electricity Markets and Policy (EMP) Group
Graduate Student Researcher

Berkeley, CA
August 2017 – May 2018

- Conducted regression analysis of various factors (e.g., nat. gas prices, renewable penetration) on

- recent thermal generator retirements
- Studied effects of retail electricity rate design components on behind-the-meter storage adoption; created a white paper on findings geared towards state regulators

CALIFORNIA PUBLIC UTILITIES COMMISSION

Office of Ratepayer Advocates
Graduate Student Researcher

San Francisco, CA
May 2017 – July 2017

- Evaluated magnitude of grid reliability and flexibility concerns caused by potential early retirement of gas-fired generators in California
- Assessed policies dictating reliability standards and influencing generator retirement decisions
- Recommended policy modifications to maintain adequate levels of reliability and flexibility under existing market structures

CALIFORNIA AIR RESOURCES BOARD

Policy Consultant

Berkeley, CA
January 2017 – May 2017

- Studied California's Low Carbon Fuel credit market, evaluating participants' perceptions of credit price volatility and anticipation of price trajectory
- Recommended strategies to improve investor confidence in market certainty and ensure attainment of long-term policy goals

RENEWABLE & APPROPRIATE ENERGY LABORATORY

Graduate Student Researcher

Berkeley, CA
October 2016 – May 2017

- Forecast geographic load growth in California to anticipate trends in distributed solar and zero net energy homes
- Researched cost components in PV manufacturing and efficient supply chain options to support industry growth in Mexico

SUNRUN

Senior Market Strategy & Development Analyst
Market Strategy & Development Analyst

San Francisco, CA
March 2016 – May 2016
May 2015 – March 2016

- Analyzed state and local policy environments and electricity price trends to direct market entry strategy
- Managed or consulted on operational launch in 7 new states and 10+ new utilities, commissioning 52+ MW of distributed generation in 2015
- Collaborated with South Carolina state government to define solar leasing structure and requirements
- Managed cross-functional teams spanning sales, operations, policy and product development to determine go-to-market strategy and resource allocation to seamlessly execute new market entries

Operations Supervisor

September 2014 – April 2015

- Directed partnerships with state authorities and business partners to secure \$4+ million in annual SREC revenues
- Managed team of four; built collaborative team dynamic and facilitated individual career development planning

Operations Associate

September 2013 – August 2014

Incentives Administrator

July 2012 – August 2013

Education

University of California, Berkeley

Berkeley, CA

Goldman School of Public Policy

May 2018

Master of Public Policy

University of California, Santa Cruz

Santa Cruz, CA

Bachelor of Arts, Environmental Studies

June 2011

- *Cum laude*, Phi Beta Kappa

Citizenship

United States