

ENERGY AND ENVIRONMENTAL ECONOMICS, INC.

San Francisco, CA

Director, Distributed Energy Resources

Mr. Cutter leads E3's practice enabling energy storage, electric vehicles, and responsive load to serve as valuable resources for the electric grid. Mr. Cutter manages a team of eight staff working on 70+ projects per year for utilities, regulators, and technology companies to match distributed energy solutions to their most valuable applications for customers, the grid, and the environment. Mr. Cutter has most recently collaborated with numerous utilities to successfully develop and deploy utility transportation electrification programs and integrate DER in distribution planning and grid modernization initiatives. Prior to joining E3, Mr. Cutter worked as an independent consultant in water resources for seven years and at PG&E for ten years. Some of the many projects Mr. Cutter has led include:

- Developing transportation electrification strategies for utilities in California, Arizona, the Pacific Northwest, Ohio, Massachusetts, and Quebec, and winning management and regulatory approval supported by robust modeling of EV charging behavior and cost-benefit analysis.
- Leading development of E3's Integrated Distributed Energy Resources (IDER) model to develop the business case for targeted deployment of solar, storage, EVs and other DER. Engaged with numerous utilities and project developers to evaluate proposed storage projects in competitive solicitations.
- Quantifying the value of distribution-aware vehicle-to-grid (V2G) EV services for local distribution and wholesale energy market benefits for Electric Power Research Institute (EPRI) and Nuvve. Leading the team developing E3's EV Grid Impacts Model optimizing charging behavior for 30+ vehicle types and customer segments.
- Leading California Solar Initiative (CSI) RD&D \$1.8 million PV integrated storage project, deploying Sunverge systems for SMUD to provide local distribution and customer benefits. Analysis with E3's Integrated Distributed Energy Resources (IDER) model showed benefits increased by 2.5x when storage is dispatched for utility and customer benefits.
- Developing and updating robust models since 2009 calculating avoided costs and reporting on cost-effectiveness of energy efficiency, demand response, and distributed generation programs for four investor-owned and 34 municipal utilities in California.

100TH MERIDIAN

San Anselmo, CA

Lead Consultant

2000-2005

- Developed robust economic and reservoir operations models for FERC re-licensing proceedings
- Developed cost of generation model for California Energy Commission comparing costs for different technology, ownership, financing and operating scenarios

PG&E ELECTRIC TRANSMISSION SERVICES

San Francisco, CA

Senior Resource Analyst

1998-1999

- Developed and promoted policy changes before the California Independent System Operator, saving PG&E over \$60 million in annual Reliability Must Run payments; successfully advocated progressive solutions in uncertain regulatory environment

PG&E POWER MARKET PLANNING

San Francisco, CA

Senior Resource Planner

1997-1998

- Structured and implemented extensive Energy Trading Risk Management System
- Created and analyzed hedging strategies for energy trading at real-time desk

PG&E – VARIOUS

San Francisco, CA

1989-1997

- Developed and advocated transportation and storage pricing strategies, increasing margins and earning revenues of \$7 million per month from sales of storage and transportation products
- Implemented risk management procedures for valuing embedded options in transportation and storage contracts
- Lead regulatory policy analyst for implementation of capacity brokering for PG&E's intra- and interstate natural gas pipelines

Education

University of California

Berkeley, CA

M.B.A., Haas School of Business

University of California

Berkeley, CA

M.S., Energy and Water Resources, Energy and Resources Group

Tufts University

Medford, MA

B.A., Economics and German, Magna Cum Laude

Citizenship

United States

Refereed Publications

1. E. Cutter, B. Haley, J. Hargreaves, J. Williams, "Utility Scale Energy Storage and the Need for Flexible Capacity Metrics", *Applied Energy*, 124 (2014) 274-282.
2. DeBenedictis, A., B. Haley, C.K. Woo, E. Cutter "Operational energy-efficiency improvement of municipal water pumping in California," *Energy*, 53 (2013) 237-243.
3. Cutter, Eric A., C.K. Woo, F. Kahrl, A. Taylor "Maximizing the Value of Responsive Load," *The Electricity Journal*, (2012) 25:7, 6-16.
4. Cutter, Eric A., Ben Haley, Jim Williams and C.K. Woo, "Cost-effective Water-Energy Nexus: A California Case Study", *The Electricity Journal* 27 (5) (2014).