

Nichole Hanus

44 Montgomery Street, Suite 1500, San Francisco, CA 94104
nichole.hanus@ethree.com

415.391.5100

ENERGY AND ENVIRONMENTAL ECONOMICS, INC *Consultant III*

San Francisco, CA

Dr. Hanus joined E3's Distributed Energy Resources group in 2018 after completing a Ph.D. in Engineering and Public Policy from Carnegie Mellon University. Her work focuses on cost-benefit analysis and long-term strategic planning for electrification of buildings and transportation. Her doctoral research, inspired by her prior energy efficiency consulting experience, employed engineering and behavioral decision sciences to characterize commercial building system investment decisions, utility ratepayer accountability strategies, and distributed generation viability. In addition to her Ph.D., she holds a B.S. in Mechanical Engineering from the University of Dayton. Notable, non-confidential E3 projects include:

- **Transportation Electrification Roadmap, Salt River Project, 2018 – 2019.** Led E3's research into medium- and heavy-duty vehicles and transportation network companies (e.g., Uber), and created load shapes and characterized adoption and charging patterns and infrastructure investment needs for each of these vehicle types as well as bus fleets, to accurately capture prospective net-benefits of transportation electrification to SRP and its customers.
- **Pacific Northwest Electric Vehicle Benefit-Cost Analysis, Bonneville Environmental Foundation, 2019 – ongoing.** Analyzing prospective benefits and costs of customer EV adoption (including cars and light-duty trucks) from the unique perspective of the dozens of public power entities who purchase primarily low-cost hydropower from the Bonneville Power Administration.
- **Prospective Benefits of Utility-Owned Heat Pumps in Low- and Moderate-Income Households, Confidential State Agency, 2019 – ongoing.** Evaluating the economics, emissions impacts, and business models associated with utility ownership and deployment of geothermal and air-source heat pumps in low- and moderate-income households in a state with ambitious clean energy targets.

LAWRENCE BERKELEY NATIONAL LABORATORY

Berkeley, CA

Guest Student Assistant

June 2017 – Jan 2018

Energy Technologies Area (ETA) / Building Technologies & Urban Systems

- Presented in the ETA Seminar series, met with researchers from the Electricity Markets & Policy Group and the Sustainable Energy Systems Group to discuss research, and mentored a team from the Building & Industrial Applications Department on expert elicitation and interview coding

SIEBEN ENERGY ASSOCIATES

Chicago, IL

Energy Engineer

Jan 2012 – July 2014

- Performed utility-funded energy assessments of large commercial buildings, feasibility studies of energy incentives, new construction commissioning, and building performance simulation
- Passed Fundamentals of Engineering in 2011

SAMSUNG AMERICAN RESEARCH CENTER

Evaluation Engineer Co-op

Schaumburg, IL

2009 – 2010

- Developed Design of Experiments for new product evaluations and design effectiveness

WRIGHT PATTERSON AIR FORCE BASE (AFRL/RHCB)

Research Intern

Dayton, OH

May 2008 – Aug 2008

- Designed and conducted rudimentary audiology experiments for improving pilot headphones

Education

Carnegie Mellon University

Pittsburgh, PA

Ph.D., Engineering and Public Policy (EPP)

2018

M.S., Engineering and Public Policy (EPP)

2017

National Science Foundation Graduate Research Fellowship Program

2016 – 2018

Emerson and Elizabeth Pugh Fellowship in Engineering and Public Policy

2016

ETH Zürich

Zürich, Switzerland

Visiting Scholar

2016

University of Dayton

Dayton, OH

B.S., Mechanical Engineering (Renewable and Clean Energy)

2011

Summa cum laude

Award of Excellence for Outstanding Mechanical Engineering Achievement

Publications

Journal Articles & Technical Reports:

1. **Hanus, N.**, Azevedo, I., Wong-Parodi, G., Vaishnav, P., and Darghouth, N. (2019). "Solar PV as a mitigation strategy for the U.S. education sector." *Environmental Research Letters*. DOI: 10.1088/1748-9326/aafbcf
2. **Hanus, N.**, Wong-Parodi, G., Hoyos, L., Rauch, M. (2018). "Framing clean energy campaigns to promote civic engagement among parents." *Environmental Research Letters*. DOI: 10.1088/1748-9326/aaa557
3. **Hanus, N.**, Wong-Parodi, G., Small, M., and Grossmann, I. (2017). "The role of psychology and social influences in energy efficiency adoption." *Energy Efficiency*. DOI: 10.1007/s12053-017-9568-6
4. Augustino, B., Azevedo, I., Davis, A., **Hanus, N.**, Lai, E., Lamadrid, A., Michalek, J., Neenan, B., Robinson, J., Whitefoot, K., & Yip, A. (2017). "Characterizing Utility Customer Preferences for Technologies and Services: A Review of Methods and their Applications." *EPRI*, Palo Alto, CA: 3002011249.
5. Hallinan, K., Enns, H., Ritchey, S., Brodrick, P., Lammers, N., **Hanus, N.**, Rembert, M., & Rainsberger, T. (2012). "Energy Information Augmented Community-Based Energy Reduction." *Sustainability*, 4(7): 1371-1396.

Conference Papers:

1. Stine, D. and **Hanus, N.** (2016). "Public Policy Analysis for Engineers." *2016 American Society for Engineering Education Annual Conference and Exposition*. New Orleans, LA (USA). Proceedings Paper ID#15543.
2. **Hanus, N.**, Wong-Parodi, G., Small, M., Grossmann, I., Davis, A. (2015). "Leveraging Pittsburgh's energy efficiency social network to predict next adopters." *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining 2015*. Paris, France. DOI: 10.1145/2808797.2809430

Selected Presentations

1. **Hanus, N.**, Wong-Parodi, G., Azevedo, I., Vaishnav, P., Davis, A., and Darghouth, N. (2018). "A benefit-cost analysis for solar PV in educational institutions." *International Symposium on Sustainable Systems and Technology*. Buffalo, NY (USA).
2. **Hanus, N.**, Wong-Parodi, G., Azevedo, I., and Davis, A. (2017). "Measuring PV technical potential and financial feasibility for educational buildings in the United States." *35th USAEE/IAEE North American Conference*. USAEE Student Scholarship. Houston, TX (USA).
3. **Hanus, N.**, Wong-Parodi, G. (2017). "Clean energy campaigning that promotes civic engagement among English and Spanish speaking parents." *9th International Conference on Energy Efficiency in Domestic Appliances and Lighting (EEDAL'17)*. Irvine, CA (USA).
4. **Hanus, N.** (2017). "Successful Company Engagement Strategies." *2017 Emerging Technologies Summit*. Ontario, CA (USA).
5. **Hanus, N.**, Wong-Parodi, G., Small, M., Grossmann, I., Davis, A. (2016). "Applying decision science methods to identify non-economic factors to energy efficiency investments in the commercial sector." Precourt Fellow. *Behavior, Energy & Climate Change Conference (BECC)*. Baltimore, MD.
6. Volken, S., **Hanus, N.**, Trutnevyte, E. (2016). "Building informed and stable preferences in communities affected by new energy developments: the role of fact sheets and deliberation." *Society for Risk Analysis Annual Meeting*. San Diego, CA.
7. **Hanus, N.**, Wong-Parodi, G., Small, M., Grossmann, I., Davis, A. (2015). "Leveraging Pittsburgh's energy efficiency social network to predict next adopters." *IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining 2015*. Paris, France.

Citizenship

United States