

REBEKAH G. SHIRLEY

University of California, Berkeley

Tertiary Education

Doctor of Philosophy, Energy and Resources <i>Designated Emphasis in Energy Science and Technology</i> Energy and Resources Group, College of Natural Resources, <i>University of California, Berkeley</i>	2011 - 2015
Master of Science, Civil Systems Civil and Environmental Engineering, College of Engineering, <i>University of California, Berkeley</i>	2010 – 2011
Master of Science, Energy and Resources Energy and Resources Group, College of Natural Resources, <i>University of California, Berkeley</i>	2009 – 2011
Bachelor of Arts and Science, Environment (First Class Honors) School of Environment, <i>McGill University, Montreal, Canada</i>	2004 – 2007

Academic Certificates

Management of Technology Certificate, <i>University of California, Berkeley</i>	2011
Engineering and Business for Sustainability Certificate, <i>University of California, Berkeley</i>	2010

Research Grants Awarded

Policy Alternatives Research Institute, University of Tokyo	2016-2017
United States Agency for International Development (Award No. 106395-5094553)	2015-2016
Sustainable Projects and Solutions Small Grant, Haas School of Business, University of California, Berkeley	2014-2015
Rainforest Foundation Norway	2013 – 2014
Energy Development in Island Nations, National Renewable Energy Laboratory, United States	2010 –2011

Scholarships and Fellowships

Chancellor's Fellowship for Graduate Study, <i>University of California, Berkeley</i>	2009 – 2014
International Student Scholarship, <i>McGill University, Montreal, Quebec</i>	2005 – 2007
Major Faculty Entrance Scholarship, <i>McGill University, Montreal, Quebec</i>	2004 – 2005
National Earth Sciences Scholarship, <i>Ministry of Tertiary Education, Trinidad and Tobago</i>	2004 – 2007

Relevant Employment and Work Experience

Research Director, Power for All . Director of research at the largest international campaign for decentralized renewable energy (DRE) technology. This involves developing Power for All's research agenda, managing 6-person research team in preparing a relational database on DRE projects and drivers worldwide, and establishing a network among major research institutions in the DRE field. https://powerforall.org	2015 - present
Post-Doctoral Researcher, Energy and Resources Group, University of California, Berkeley . Lead researcher on a USAID grant project that involves exploring utility configurations for optimal grid connectivity and renewable energy resource investments in mainland Southeast Asia.	2015 – present

- Graduate Student Researcher (PI: Dr. Daniel Kammen), **Renewable and Appropriate Energy Laboratory**. Designed sustainability metric tools and prepared electricity planning, optimization and energy resource feasibility assessments for governmental and non-profit clients, with a specialization in tropical developing regions. Primary dissertation research conducted on integrated energy planning tools for Southeast Asia. See a list of completed projects and related media releases at: <https://rael.berkeley.edu/people/shirley-rebekah> **2010 – 2015**
- Graduate Student Instructor, **University of California, Berkeley**. Taught weekly tutorials, held office hours, prepared problem sets, exams and graded for Graduate Course ER 200 (Energy and Society). Designed and co-facilitated Undergraduate Course ER 98/198 (Energy in the News), a new elective course on contemporary energy policy analysis in Spring 2013. <http://er100200.berkeley.edu> **2011 – 2013**
- Electricity Planning and Policy Researcher, **California Public Utilities Commission, San Francisco**. Prepared the Division of Rate Payers research report on renewable energy status and utility project failure rates in California using statistical analyses and CEC data. **2011 - 2012**
- Environmental Program Officer, Energy Unit. **Environmental Management Authority, Trinidad and Tobago**. Assessed and permitted large scale on-shore and off-shore conventional energy projects through conducting environmental impact and ecological risk assessment and managing the EIA stakeholder process. <http://www.ema.tt.gov> **2007 - 2009**

Recent Publications¹

Peer-Reviewed Journal Articles and Academic Reviews

- Kitzes, J. and **Shirley, R.** (2016). "Estimating biodiversity impacts without field surveys: A case study in northern Borneo." *Ambio*, Volume 45, Issue 1, pp 110-119,
- Shirley, R.**, Kammen, D. (2015) "Integrated Long-term Energy Planning for Rapidly Developing Economies: A case study of Megaprojects in Southeast Asia." *Energy Strategy Reviews*, Volume 8, Pages 15-29
- Kammen, D., **Shirley, R.**, Caravallo, J. and Ponce de Leon Barido, D. (2014). "Switching to Sustainability." *Berkeley Review of Latin American Studies*, Spring 2014, Pages 6-10
- Gourdji, S., Craig, M., **Shirley, R.**, Ponce de Leon Barido, D., Campos, E., Giraldo, M., Lopez, M., Pereira de Lucena, A., Luger, M. and Kammen, D. (2014). "Sustainable Development Opportunities at the Climate, Land, Energy and Water Nexus in Nicaragua." *Center for Latin American Studies Working Paper Series*, January 2014, Paper No. 33
- Shirley, R.**, and Kammen, D. (2013). "Policy Development for Innovative Renewable Energy Implementation in Island Regions." *Energy Policy*, Volume 57, Pages 244-252
- Shirley, R.**, Jones, C., and Kammen, D. (2012). "A Carbon Footprint Calculator for Islands: Case Study of the US Virgin Islands." *Ecological Economics*, Volume 80, Pages 8-14

Technical Reports

- Fava, M., Reynau, M., Mecchia, A., Voung, H., **Shirley, R.** (2013). "Sustainable Housing in French Polynesia." *Ministry of Housing, French Polynesia, Technical Report*. Prepared by the University of California, Berkeley
- Shirley, R.**, Kammen, D. (2012) "Estimating the Potential Impact of Renewable Energy on the Caribbean Island Jobs Sector." *Renewable and Appropriate Energy Laboratory Technical Report*, No.2012.1
- Contreras, R., Williams, M., de Cuba, K., Rice, M., Warren, A., **Shirley, R.** and Kammen, D. (2011). "Energy Policy and Sector Analysis in the Caribbean 2010 - 2011." *National Renewable Energy Laboratory Technical Report*, U.S. DOE

¹ All publications can be found on the RAEL laboratory research page at <https://rael.berkeley.edu/people/shirley-rebekah>

Selection of Recent Presentations

"Democratizing Access: How Collective Action Builds Markets & Changes the World", Panel Discussion at the Energy AccessX, Clean Energy Ministerial, San Francisco, California, June 1, 2016

"Policy Implications of The Large Energy Infrastructure Resurgence" presented at the Energy and Resources Group Spring 2016 Colloquium Series, University of California, Berkeley, April 27, 2016

"Exploring Energy Opportunities of the Tropics in Data-Limited Contexts" presented at the International Heart of Borneo Conference, Malaysia, November 12, 2015

"Success Stories: Supporting Energy Alternatives in Island regions through Planning Tools" presented at the Philippine Movement for Climate Justice (PMCJ) Forum for Clean Energy Solutions, Philippines, July 9, 2015

"Ecological Modeling to Support Energy Decision Making: A focus on Clean Energy Opportunities in Borneo" presented at the Oxford University Southeast Asian Studies Symposium, Kuala Lumpur, March 22, 2015

"Adapted Optimization Modeling for the Social, Ecological and Economic Contexts of Developing Countries" presented at the Asian Foundation Development Fellows Conference, University of California, September 17, 2014

"Understanding Tropical Island Household Energy Use and the Scope for Energy Efficiency Improvements: Developing a Household Carbon Calculator" presented at the Latin America Speaker Series, Center for Latin American Studies, University of California, Berkeley, February 10, 2014

"Sustainable Development Opportunities at the Climate, Land, Energy and Water Nexus in Latin America" presented at the Fulbright NEXUS Program Scholar Symposium, Washington, DC September 20, 2013

"Water Footprint Mapping and Conservation in Urban India: A Case Study of the Tourism Sector" presented at Bridges Across Boundaries II, TATA/TISES Research Seminar, Mumbai, India, July 31, 2012

"Crossing the Finish Line: An Assessment of Contract Failure Rates in California's Race to 33% Renewable Energy" presented at the Energy Management Seminar, California Public Utilities Commission, San Francisco, CA, May 29, 2012

Relevant Programming Skills

Electricity Modeling: Power World, HOMER, PLEXOS, LEAP, Network Planner

Geo-Spatial Modeling: ArcGIS

Discrete Choice Modeling: Biogeme

Mathematical/Statistical Modeling: Excel, Matlab, Stata

Programming Languages: Python, R

Website Development: DRUPAL, WordPress

Relevant Extracurricular Involvement

Graduate Student Assembly, University of California, Berkeley, Delegate. Represented the Energy and Resources Group graduate student body in issues related to UC Berkeley governance. **2013 - 2014**

ASUC Graduate-Undergraduate Mentorship Program, Mentor. Providing advice to individual final year undergraduates. <http://aavp.berkeley.edu/services/ugmp.html> **2013 – 2015**

Bay Area Scientists in Schools (BASIS), Team Leader. Teaching renewable energy science lessons to K3 and K4 students in elementary schools, *Oakland, California*. **2011 – 2014**

GRID Alternatives Volunteer. Installing solar panel systems for low income households in the San Francisco Bay Area community, *Berkeley, California*. <http://www.gridalternatives.org> **2010 – 2015**

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Language Proficiency (US Department of State Proficiency Code)

<i>Language</i>	<i>Oral Proficiency</i>	<i>Written Proficiency</i>
English	Native or Bilingual	Native or Bilingual
Spanish	Minimum Professional	Full Professional
French	Limited Working	Limited Working

Professional Associations

IEEE Power and Energy Society
IEEE Women in Engineering Society
IEEE Technology and Engineering Management Technical Community
Sustainable Energy for All Energy Access Practitioners Network
Young Professionals In Energy

Academic References

Dr. Daniel Kammen

Professor, Energy and Resources Group, *University of California, Berkeley*
Founding Director, Renewable and Appropriate Energy Laboratory

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Dr. Duncan Callaway

Assistant Professor, Energy and Resources Group, *University of California, Berkeley*
Joint Appointment: Department of Mechanical Engineering

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Dr. Richard Noorgard

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