

MORGAN R. EDWARDS

Van Munching Hall #3107, College Park, MD 20749

morgane@umd.edu | +1 919-619-7868 | morganraeedwards.com | @energymorgan

EDUCATION

- Massachusetts Institute of Technology, Ph.D.** 2017
Data, Systems, and Society
Dissertation: *Greenhouse gas equivalency metrics for evaluating energy technologies*
Committee: Jessika Trancik (chair), Susan Solomon, Richard de Neufville
- Massachusetts Institute of Technology, S.M.** 2013
Technology and Policy
Master's Thesis: *Climate impact metrics for energy technology evaluation*
Supervisor: Jessika Trancik
- University of North Carolina at Chapel Hill, B.S.** 2010
Environmental Science, Economics
Highest Honors and Highest Distinction
Undergraduate Thesis: *Roadmaps for improving state-level energy efficiency*
Supervisor: David McNelis

RESEARCH AND PROFESSIONAL EXPERIENCE

- President's Postdoctoral Fellow**, University of Maryland 2018-
Affiliated fellow at the Joint Global Change Research Institute
- Postdoctoral Associate**, Massachusetts Institute of Technology 2017 – 2018
- Graduate Research Assistant**, Massachusetts Institute of Technology 2011 – 2017
- Research Associate**, University of North Carolina at Chapel Hill 2010 - 2011

PEER-REVIEWED JOURNAL ARTICLES

- Edwards, Klemun, and Trancik.** "What role for research in a new era for climate policy? Four research priorities for making decentralized policies reach further," in review.
- Edwards and Trancik.** "Design criteria and performance of emissions equivalency metrics," in review.
- Cui, Hultman, Edwards, He, Sen, Surana, McJeon, Iyer, Patel, Yu, Nace, Shearer,** "A plant-by-plant assessment of coal retirement needs under the Paris Agreement," conditionally accepted at *Nature Communications*.

Edwards, Klemun, Kim, Wallington, Tamor, and Trancik. “Vehicle emissions of short- and long-lived climate forcers: Trends and tradeoffs,” *Faraday Discussions*, 2017.

Edwards, McNerney, and Trancik. “Testing emissions equivalency metrics against climate policy goals,” *Environmental Science and Policy*, 2016.

Roy, **Edwards**, and Trancik. “Methane mitigation timelines to inform energy technology evaluation,” *Environmental Research Letters*, 2015.

Edwards and Trancik. “Climate impacts of energy technologies depend on emissions timing,” *Nature Climate Change*, 2014.

TECHNICAL REPORTS

Cui, Hultman, McJeon, Yu, Cui, **Edwards**, Sen, Song, Jiang. A plant-by-plant assessment of accelerated coal power phase-out in China under the Paris climate goals. *Technical Report*, to be published in 2019.

Hultman et al. Accelerating America’s Pledge: Going All-In to Build a Prosperous, Sustainable Economy for the United States, *Technical Report*, to be published in 2019.

Edwards, Surana, Thomas, and Williams. “Accelerating climate-mitigating technology development and deployment,” *Technical Report*, 2019.

Trancik, Brown, Jean, Kavlak, Klemun, **Edwards**, McNerney, Miotti, Mueller, and Needell, Technology improvement and emissions reductions as mutually reinforcing efforts: Observations from the global development of solar and wind energy, *Technical Report*, 2015.

OTHER PUBLICATIONS

Cui, **Edwards**, Bowman, and Hultman. Coal’s emission shadow: Meeting climate goals requires cancelling all proposed coal power plants and accelerating the retirement of existing fleets, *Policy Brief*, 2019.

Trancik, **Edwards**, Kavlak, Klemun, McNerney, Miotti, Needell, Pereira, Supran, Wei. “Notes on scale: Why U.S. states can make a significant contribution to the Paris Agreement.” *Press Release*, 2017.

Trancik, Klemun, and **Edwards**. “People are worried Trump will stop climate progress. The numbers say he can’t.” *Washington Post*, November 2016.

PUBLICATIONS IN PREPARATION

Edwards, Giang, Macey, Magavi, and Schulman, “Repair failures in natural gas

distribution systems call for accelerated energy transitions,” in preparation.

Giang, **Edwards**, and Macey, “Counting carbon: Co-producing data, science, and policy on urban gas leaks in Massachusetts,” in preparation.

Macey, Giang, and **Edwards**, “Inventing climate categories,” in preparation.

Edwards, Klemun, Waitz, and Trancik. “Climate mitigation opportunity with leaky energy technologies,” in preparation.

HONORS, AWARDS, AND FELLOWSHIPS

University of Maryland President’s Postdoctoral Fellowship	2018 –
Siebel Scholarship	2016
Society of Industrial Ecology Young Professionals Scholarship	2015, 2017
Best Presentation, TMP Graduate Consortium	2015
Martin Family Sustainability Fellowship	2015 – 2016
NSF Graduate Research Fellowship	2013 – 2016
Best Thesis Nominee, MIT Technology and Policy Program	2013
MIT Presidential Fellowship	2011 - 2012
Best Teaching Assistant, Introductory Economics	2010
Bill Glaze Award	2009
William Richardson Davie Scholarship	2006 - 2010

SELECTED PRESENTATIONS

Edwards and Macey, “Climate policy and calculation in natural gas distribution systems.” Invited Talk at the University of British Columbia, 2019.

Edwards and Trancik. “Designing emissions equivalency metrics for energy systems transitions.” Gordon Research Conference in Industrial Ecology, 2018.

Edwards and Trancik. “Design criteria and performance of emissions equivalency metrics.” International Society for Industrial Ecology/International Symposium on Sustainable Systems and Technologies Joint Conference, 2017.

Edwards and Trancik. “Performance criteria for the design of emissions equivalency metrics.” Gordon Research Conference in Industrial Ecology, 2016.

Edwards, McNerney, and Trancik. “Performance of greenhouse gas equivalency

metrics under an uncertain climate future.” International Society for Industrial Ecology Biennial Conference, 2015.

Edwards, McNerney, and Trancik. “Metrics for evaluating the climate impacts of energy technology CH₄ emissions.” Technology, Management, and Policy Graduate Consortium, 2015.

Edwards and Trancik. “Emissions metrics for evaluating alternative transportation fuels against changing climate constraints.” International Society for Industrial Ecology Biennial Conference, 2013.

Edwards and Trancik. “Revised emissions factors to evaluate alternative transportation fuels against a changing background climate.” International Symposium on Sustainable Systems and Technologies, 2013.

Edwards. “Quantitative Approaches to Roadmap Development: Lessons Learned from U.S. Energy Efficiency Metrics.” XII International Academic Conference on Economic and Social Development, 2010.

Edwards. “American Recovery and Reinvestment Act: Metrics for Evaluating Energy Efficiency Investments.” Sustainable Energy Conference and Workshop, 2010.

TEACHING EXPERIENCE

Guest Lecturer Technology Innovation and Policy, University of Maryland	2018
Curriculum Designer and Co-Instructor Past, Present, and Future of the Environment and Integration with Society Massachusetts Institute of Technology	2017 – 2018
Guest Lecturer Modeling for Assessment and Policy, Massachusetts Institute of Technology	2016 – 2017
Seminar Participant Kaufman Teaching Certificate Program Massachusetts Institute of Technology	2016
Teaching Assistant Energy Systems and Climate Change Mitigation Massachusetts Institute of Technology	2012
Head Teaching Assistant Honors Introduction to Economics University of North Carolina at Chapel Hill	2010 - 2011
Teaching Assistant Introduction to Economics, Honors Introduction to Economics University of North Carolina at Chapel Hill	2008 - 2009

RESEARCH SUPERVISION

Ava Waitz, Undergraduate Research Assistant	2017 -
Caitlin Keegan, Undergraduate Research Assistant	2017
Ethan McGarrigle, Undergraduate Research Assistant	2016

PROFESSIONAL SERVICE

Co-Chair, Gordon Research Seminar on Industrial Ecology	2018
Co-President, Engineering Systems Student Society	2015 - 2016
Content Team, MIT Energy Conference	2012
Lead Organizer, Sustainable Energy Conference, UNC Chapel Hill	2011
Professional societies: International Society for Industrial Ecology, American Geophysical Union, American Association of Geographers	
Manuscript reviewer: <i>Nature Communications</i> , <i>Environmental Science & Technology</i> , <i>Environmental Research Letters</i>	

SELECTED MEDIA COVERAGE

- “Climate negotiations in Paris could increase use of low-carbon energy technologies.” *MIT News*, 2015.
- “Assessing the climate impacts of energy technologies.” *Energy Futures*, 2014.
- “Climate change mitigation: Depositing global warming potentials.” *Nature Climate Change News and Views*, 2014.