

# MORGAN R. EDWARDS

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## EDUCATION

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**Massachusetts Institute of Technology, Ph.D.** 2017

Engineering Systems

Dissertation: *Emissions 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

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**Postdoctoral Associate**, Massachusetts Institute of Technology 2017 –

Assessing the role of energy transitions in achieving the Sustainable Development Goals and the use of measurements and indicators to coordinate sustainability efforts by local governments, corporations, and civil society.

**Graduate Research Assistant**, Massachusetts Institute of Technology 2011 – 2017

Evaluating opportunities for mitigating methane and other non-CO<sub>2</sub> greenhouse gas emissions in electricity, transportation, end-use technologies using environmental and energy systems modeling, technology life cycle assessment, and policy analysis.

**Research Associate**, University of North Carolina at Chapel Hill 2010 - 2011

Center for Sustainable Energy, Environment, and Economic Development

Assessing and comparing energy efficiency policies and programs in the U.S. and Russia in collaboration with the Higher School of Economics in Moscow using structural equation modeling and policy analysis.

## REFEREED PUBLICATIONS

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**Edwards** and Trancik. “Design criteria and performance of emissions equivalency metrics,” *Paper in progress (draft available upon request)*.

**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.

## OTHER PUBLICATIONS

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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.

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.

## HONORS, AWARDS, AND FELLOWSHIPS

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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

## CONFERENCE PRESENTATIONS

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**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 CH<sub>4</sub> 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

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<b>Guest Lecturer</b> Modeling for Assessment and Policy Massachusetts Institute of Technology	2016 – 2017
<b>Seminar Participant</b> Kaufman Teaching Certificate Program	2016
<b>Teaching Assistant</b> Energy Systems and Climate Change Mitigation Massachusetts Institute of Technology	2012
<b>Head Teaching Assistant</b> Honors Introduction to Economics University of North Carolina at Chapel Hill	2010 - 2011
<b>Teaching Assistant</b> Introduction to Economics, Honors Introduction to Economics University of North Carolina at Chapel Hill	2008 - 2009

## RESEARCH SUPERVISION

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Ethan McGarrigle, Undergraduate Research Assistant	2016 –
Caitlin Keegan, Undergraduate Research Assistant	2016 –

## DEPARTMENT SERVICE

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Co-President, Engineering Systems Student Society	2015 - 2016
Social Chair, Engineering Systems Student Society	2014 - 2015

## CONFERENCE ORGANIZATION

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Gordon Research Seminar on Industrial Ecology, Co-Chair	2018
MIT Energy Conference, Content Team	2012
UNC Chapel Hill Sustainable Energy Conference, Lead Organizer	2011

## **SELECTED MEDIA COVERAGE**

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“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.

## **PROFESSIONAL SOCIETIES**

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International Society for Industrial Ecology

2013 –

## **LANGUAGES**

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French – non-technical reading, improving writing, speaking, and technical reading