

Derek Lemoine

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Appointments

Employment:

2011-2017 Assistant Professor of Economics, University of Arizona

2017-present Associate Professor of Economics, University of Arizona

Professional:

2017-present: Faculty Research Fellow, National Bureau of Economic Research

Fall 2017: Visiting Assistant Professor, Duke University

Spring 2018: Visiting Assistant Professor, University of British Columbia

Education

University of California, Berkeley

Ph.D. Energy and Resources, 2011

M.A. Economics, 2010

M.S. Energy and Resources, 2007

The University of the South (Sewanee, TN)

B.A. Philosophy, Integrative Environmental Solutions, 2003

Publications

Lemoine, D. 2017. Escape from third-best: Rating emissions for intensity standards. **Environmental and Resource Economics** 67(4):789-821.

Lemoine, D. 2017. Green expectations: Current effects of anticipated carbon pricing. **Review of Economics and Statistics** 99(3): 499-513.

Lemoine, D. and I. Rudik. 2017. Managing climate change under uncertainty: Recursive integrated assessment at an inflection point. **Annual Review of Resource Economics** 9: 117-142.

Lemoine, D. and I. Rudik. 2017. Steering the climate system: Using inertia to lower the cost of policy. **American Economic Review** (in press).

Lemoine, D. and S. Kapnick. 2016. A top-down approach to projecting market impacts of climate change. **Nature Climate Change** 6(1):51-55.

- Lemoine, D. and C.P. Traeger. 2016. Ambiguous tipping points. **Journal of Economic Behavior and Organization** 132:5-18.
- Lemoine, D. and C.P. Traeger. 2016. Economics of tipping the climate dominoes. **Nature Climate Change** 6(5):514-519.
- Lemoine, D. and C. Traeger. 2014. Watch your step: Optimal policy in a tipping climate. **American Economic Journal: Economic Policy** 6(1):137-166.
- Baker, E., M. Fowlie, D. Lemoine, and S.S. Reynolds. 2013. The economics of solar electricity. **Annual Review of Resource Economics** 5(1):387-426.
- Lemoine, D. and H.C. McJeon. 2013. Trapped between two tails: Trading off scientific uncertainties via climate targets. **Environmental Research Letters** 8:034019.
- Lemoine, D.M., S. Fuss, J. Szolgayova, M. Obersteiner, and D.M. Kammen. 2012. The influence of negative emission technologies and technology policies on the optimal climate mitigation portfolio. **Climatic Change** 113(2):141-162.
- Sager, J., J.S. Apte, D.M. Lemoine, and D.M. Kammen. 2011. Reduce growth rate of light-duty vehicle travel to meet 2050 global climate goals. **Environmental Research Letters** 6(2):024018.
- Lemoine, D.M. 2010. Climate sensitivity distributions depend on the possibility that models share biases. **Journal of Climate** 23(16):4395-4415.
- Lemoine, D.M. 2010. Paleoclimatic warming increased carbon dioxide concentrations. **Journal of Geophysical Research** 115:D22122.
- Lemoine, D.M. 2010. Valuing plug-in hybrid electric vehicles' battery capacity using a real options framework. **The Energy Journal** 31(2):113-143.
- Lemoine, D.M., R.J. Plevin, A.S. Cohn, A.D. Jones, A.R. Brandt, S.E. Vergara, and D.M. Kammen. 2010. The climate impacts of bioenergy systems depend on market and regulatory policy contexts. **Environmental Science & Technology** 44(19):7347-7350.
- Lemoine, D.M. and D.M. Kammen. 2009. Addendum to "An innovation and policy agenda for commercially competitive plug-in hybrid electric vehicles". **Environmental Research Letters** 4(3):039701.
- Kammen, D.M., S.M. Arons, D.M. Lemoine, and H. Hummel. 2009. Cost-effectiveness of greenhouse gas emission reductions from plug-in hybrid electric vehicles. In **Plug-in Electric**

Vehicles: What role for Washington?, ed. D.B. Sandalow, 170-191. Washington, D.C.: Brookings Institution Press.

Lemoine, D.M., D.M. Kammen, and A.E. Farrell. 2008. An innovation and policy agenda for commercially competitive plug-in hybrid electric vehicles. **Environmental Research Letters** 3(1):014003.

Lemoine, D., J.P. Evans, and C.K. Smith. 2006. A landscape-level GIS analysis of streamside management zones on the Cumberland Plateau. **Journal of Forestry** 104(3):25-31.

Unpublished Working Papers

Age-Induced Acceleration of Time: Implications for Intertemporal Choice

The Climate Risk Premium: How Uncertainty Affects the Social Cost of Carbon (**second revise and resubmit at American Economic Journal: Economic Policy**)

Expect Above Average Temperatures: Identifying the Economic Impacts of Climate Change

General Equilibrium Rebound from Energy Efficiency Policies

Innovation-Led Transitions in Energy Supply

The Process of Self-Discovery: Learned Helplessness, Self-Efficacy, and Endogenous Overoptimism

Other Publications

Lemoine, D. 2012. Plug-in hybrids and the grid: Putting the pieces together. **OR Forum, Operations Research**.

Lemoine, D. 2012. Abrupt changes---To what extent are tipping points a concern in coping with global change? In: **Past Global Changes (PAGES) News** 20(1): 42.

Kammen, D.M. and D.M. Lemoine. 2009. Commentary: The transition from ICVs to PHEVs and EVs. In **Betting on Science: Disruptive Technologies in Transport Fuels, Accenture**, 219-220.

Lemoine, D.M. 2008. Undervalued by expectations: The fuel flexibility of plug-in hybrid electric vehicles. **Dialogue, The Official Publication of the United States Association for Energy Economics** 16(3):12-14.

Contributor to **A Low-Carbon Fuel Standard for California. Part 1: Technical Analysis**. Farrell, A.E. and Sperling, D., Project Directors. 2007. UC Berkeley Transportation Sustainability Research Center. Paper UCB-ITS-TSRC-RR-2007-2. 179 pp.

Stallman, C., K. McIlwain, and D. Lemoine. 2005. ***The Baldwin County Wetland Conservation Plan: Final Summary Document***. Baldwin County Planning and Zoning Department, Bay Minette, AL. 115 pp.

Grants

PI: Institute of the Environment Program Development Grant, Other PI: A. Langer, \$15,000, 2016

UA Renewable Energy Network Policy Research Initiative, Other PI: A. Langer, \$15,000, 2015-16

Eller Small Grant, Other PI: A. Langer, \$2500, 2015-16

UA Renewable Energy Network Policy Research Initiative, Other PI: A. Langer, \$15,000, 2014-15

UA Renewable Energy Network Policy Research Initiative, \$15,000, 2013-14

UA Renewable Energy Network Policy Research Initiative, \$12,000, 2012-13

Network Member: National Science Foundation Sustainability Research Network, "What are sustainable climate-risk management strategies?" (network director Klaus Keller), \$11,910,966, 2012-2017

Fellowships and Awards

John V. Krutilla Research Stipend, **Resources for the Future**, 2013

Dissertations Initiative for the Advancement of Climate Change Research (**DISCCRS**) **Symposium Scholar**, 2012

Switzer Environmental Fellowship, 2009

Eisenhower Graduate Transportation Fellowship, **U.S. Department of Transportation**, 2009

Young Scientists Summer Program Fellowship Grant, **U.S. National Academies (for research at IIASA in Laxenburg, Austria)**, 2009

Dennis J. O'Brien USAEE Best Student Paper Award, **United States Association for Energy Economics**, 2008

Student Paper Award, **United States Association for Energy Economics**, 2007

1st Place and Travel Grant, **UC-Berkeley Science, Technology, and Engineering Policy (STEP) White Paper Competition**, 2007

National Science Foundation Graduate Research Fellowship, 2005

Commendation for Distinguished Public Service, **Baldwin County Commission** (Resolution #2005-105), 2005

Valedictorian of the College of Arts and Sciences, The University of the South, 2003

Peer Reviewer

American Economic Journal: Economic Policy

American Economic Review

American Journal of Agricultural Economics
Annals of Operations Research
Canadian Journal of Economics
Climatic Change
Ecological Economics
Economic Journal
Economics Letters
Energies
Energy Journal
Energy Policy
Environment and Development Economics
Environmental Research Letters
Environmental and Resource Economics
Environmental Science & Technology
IEEE Transactions on Power Systems
Intergovernmental Panel on Climate Change Working Group 3 (U.S. Government Review)
International Economic Review
International Journal of Sustainable Transportation
Journal of the Association of Environmental and Resource Economists
Journal of Benefit-Cost Analysis
Journal of Economic Behavior and Organization
Journal of Economic Dynamics and Control
Journal of Economic Theory
Journal of Economics and Management Strategy
Journal of Environmental Economics and Management
Journal of the European Economic Association
Journal of Policy Analysis and Management
Journal of Public Economic Theory
Journal of Public Economics
Management Science
National Science Foundation
Nature Climate Change
Nature Energy
Oikos
Philosophical Transactions of the Royal Society A
PLOS ONE
Proceedings of the National Academy of Science
Review of Economics and Statistics
Resource and Energy Economics
Transportation Research Board
Transportation Research Part C

Invited Seminars and Conference Presentations

- 2018 Allied Social Science Associations Annual Meeting (Philadelphia)
- 2017 Allied Social Science Associations Annual Meeting (Chicago); Econometric Society North American Summer Meeting (St Louis); Iowa State University; IZA Workshop on Environment and Labor Markets (Bonn); Macro and Micro Economics of Climate Change Workshop (Santa Barbara); MIT CEEPR Fall Research Workshop; North Carolina State; University of California Santa Barbara; University of Maryland AREC; University of North Carolina/Duke (joint)
- 2016 Allied Social Science Associations Annual Meeting (San Francisco, discussant); Association of Environmental and Resource Economists Summer Conference (Breckenridge); Climate Damages and Tipping Points Forum (ASU); Southwest Economic Theory Conference (Riverside); University of Chicago (EPIC)
- 2015 Allied Social Science Associations Annual Meeting (Boston, discussant); Association of Environmental and Resource Economists Summer Conference (San Diego); Fondazione Eni Enrico Mattei (FEEM); Georgetown University; Occasional California Workshop in Environmental and Resource Economics (UCSB); Toulouse Conference on the Economics of Energy and Climate Change; University of California Berkeley (Agricultural and Resource Economics); University of California Berkeley (Energy Institute at Haas); University of California San Diego; Workshop on Advances in the Economics of Climate Change (Stanford); Workshop on Thresholds, Tipping Points, and Random Events in Dynamic Systems (Knoxville, paper and discussant)
- 2014 Allied Social Science Associations Annual Meeting (Philadelphia, discussant); ASU Renewable Energy workshop (discussant); EPA National Center for Environmental Economics; Oxford Center for the Analysis of Resource Rich Economies; Resources for the Future; Monte Verità Conference on Sustainable Resource Use and Economic Dynamics (SURED); RAND Decision Making Under Deep Uncertainty Workshop; Society for Risk Analysis (Denver); Umeå University CERE; University of Calgary; University of Maryland AREC
- 2013 Allied Social Science Associations Annual Meeting (San Diego); Arizona State University (Morrison School); Colorado School of Mines; HEC Montréal; Occasional California Workshop in Environmental and Resource Economics (UCSB); Stanford Institute for Theoretical Economics summer workshop; University of California, Berkeley (Energy Institute at Haas joint with Department of Agricultural and Resource Economics); University of California, Berkeley (Institute of Transportation Studies); University of California, Davis (Economics); University of California, Davis (Institute of Transportation

- Studies); University of Toronto; Yale University (School of Forestry and Environmental Studies)
- 2012 Allied Social Science Associations Annual Meeting (Chicago); Association of Environmental and Resource Economists Summer Conference (Asheville); Cowles Summer Conference on Macroeconomics and Climate Change (New Haven); Southern Economic Association Annual Meeting (New Orleans)
- 2011 Arizona State University; Association of Environmental and Resource Economists Summer Conference (Seattle); CU Environmental and Resource Economics Workshop (Vail); Indiana University SPEA; International Energy Workshop (Palo Alto); Joint Global Change Research Institute (UMd); Lawrence Berkeley National Laboratory Climate Group; Lawrence Livermore National Laboratory Atmospheric Science Seminar; National Center for Environmental Economics (U.S. Environmental Protection Agency); NBER Summer Institute Environmental and Energy Economics Workshop (Cambridge); Pennsylvania State University (CLIMA); Resources for the Future; Southern Economic Association Annual Meeting (Washington, DC, also discussant); Third Santa Fe Conference on Global and Regional Climate Change; University of Arizona; University of California Santa Barbara; University of Colorado; University of Connecticut; University of Massachusetts, Amherst; University of Rhode Island; University of Wyoming; Vanderbilt University; World Resources Institute
- 2010 American Geophysical Union Fall Meeting (San Francisco); Energy Technology R&D and Intellectual Property in the New Green Economy (Baker Institute, Rice University); Hart Energy Executive Briefing on Refining and Biofuels (Phoenix); US Association for Energy Economics North American Conference (Calgary)
- 2009 E3 (San Francisco); Executive Panel at Accenture International Utilities and Energy Conference (Vancouver)
- 2008 California Electric Fuel Implementation Strategies Workshop (Berkeley); US Association for Energy Economics North American Conference (New Orleans)
- 2007 US Association for Energy Economics North American Conference (Houston)
- 2005 Baldwin County Commission (Bay Minette, Alabama); Watersheds, Nonpoint Source Pollution, and Stormwater Workshop (Weeks Bay Reserve)
- 2004 Biogem Committee of the Tennessee Forestry Association

Teaching

Environmental and Energy Economics: Applied Theory (graduate, U. of Arizona, 2012-present)
Energy and Environmental Challenges (undergraduate, U. of Arizona, 2012-present)
Energy Economics (graduate, UC Berkeley, 2011)

Service

Professional

Program Committee for the Association of Environmental and Resource Economists (3 members, 2017-2020)
Selection Committee for the John V. Krutilla Research Stipend (5 members, 2017-2020)
Program Committee for the Summer Conference of the Association of Environmental and Resource Economists (2015-2017)
Editorial Council, Journal of the Association of Environmental and Resource Economists (2014-present)

University of Arizona

Faculty member of the Graduate Interdisciplinary Program in Global Change (2017-present)
Department Promotion and Tenure Criteria Committee (2015-2016)
Associate, Center for Climate Adaptation Science and Solutions (2014-present)
Faculty Advisory Committee, Institute of the Environment (2013-2016)
Reviewer, UA REN Faculty Exploratory Research Grants (2013-2015)
Academic Program Review Self-Study Committee (2012-2013)
Udall Scholar Orientation (2012-2013)

Graduate Advising (with first job)

Chaired:

2015 Ivan Rudik (Iowa State)

Committees:

2018 Jackson Dorsey, Keith Meyers, Sanguk Nam, Max Rosenthal
2017 Wesley Blundell (Cal State East Bay), Anatolii Kokoza (USAA); at Wisconsin: Charles Chang (PNNL)
2015 Dooseok Jang (Yonsei University), Mike Matheis (Saint Anselm College), Soudeh Mirghasemi (Hofstra University)
2014 Thiagarajah Subramaniam (Discover)
2013 Chrystie Burr (University of Colorado), Benjamin Zamzow (adjunct at Carnegie Mellon University)
2012 Mario Samano (HEC Montréal)

Professional Affiliations

American Economic Association
Association of Environmental and Resource Economists
Econometric Society

Foreign Language

Spanish – high proficiency

Seminars and conferences at University of Arizona and around Tucson

Agricultural and Resource Economics; Applied Math Modeling and Computation Seminar; Arizona Energy and Environmental Policy Workshop; Economics Departmental Seminar; Economics, Law, Environment, and Government Workshop; Economics Society; Environmental Breakfast Club; Environmental and Occupational Health Seminar; Environmental Economics Group; Foothills Forum; Geosciences and Atmospheric Sciences Joint Colloquium; Philosophy, Politics, Economics, and Law Club; Renewable Energy Network; Rincon United Church of Christ; Society for Industrial and Applied Mathematics; Statistics Colloquium; Sustainable Tucson; UA-Sandia Symposium on “Anticipatory R&D investments for energy-water-climate change in arid regions”; Unitarian Universalist Congregation of Green Valley

Professional Training

CO₂ Markets Training Course. Point Carbon. San Francisco, CA. November 28, 2007.
Advanced Analysis with ArcGIS. Environmental Systems Research Institute, Inc. (ESRI).
Redlands, CA. June 5-7, 2006.