

DANIEL RAIMI

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919-627-4035, danielraimi@gmail.com

EDUCATION DUKE UNIVERSITY, Sanford School of Public Policy Durham, NC

Master of Public Policy, May 2012

Master's project: "The potential social impacts of shale gas development in NC"

WESLEYAN UNIVERSITY

Middletown, CT

Bachelor of Arts, Departmental Honors in Music, December 2003

EXPERIENCE

2016-curr.

RESOURCES FOR THE FUTURE

Washington, D.C.

Senior Research Associate

- Research on a range of energy and environmental policy topics, including oil and gas regulation and taxation, electricity policy and markets, and climate policy.

2015-curr.

UNIV. MICHIGAN FORD SCHOOL OF PUBLIC POLICY Ann Arbor, MI

Lecturer

- Teaching a 3-credit, 400-level course entitled *Oil and Gas Policy in the United States*. Policy and market issues for oil and gas production, transportation, and consumption.

2015-2016

UNIVERSITY OF MICHIGAN ENERGY INSTITUTE Ann Arbor, MI

Research specialist: Energy, Technology, Policy, and Economics

- Project manager for a university-wide project entitled *Beyond Carbon Neutral*, which identifies and promotes research to advance technologies and policies to reduce atmospheric greenhouse gas concentrations
- Original research into energy and environmental policy, including global carbon markets and the economic and social effects of carbon capture and sequestration

2012-2016

DUKE UNIVERSITY ENERGY INITIATIVE

Durham, NC

Associate in Research

- Lead researcher and author on a multi-year project to examine the local government effects of increased oil and gas development in the United States
- Expertise on state oil and gas tax policy in all major oil- and gas-producing states
- Co-authored a series of papers on international carbon market design
- Presentations on shale gas regulation and impacts made to policymakers, industry groups, university groups
- Other detailed work on shale oil and gas policy and economics; federal energy subsidies; energy projections; energy trade geopolitics

2013-2015

VANDERBILT UNIV. INST. FOR ENERGY AND ENV.

Nashville, TN

Research consultant (part time)

- Analysis for articles and forthcoming book with Prof. Michael Vandenberg
- Focus on projected energy and emissions scenarios based on EIA, IEA, IPCC

2011-2012

NC DEPT. OF ENVIRONMENT & NATURAL RESOURCES Raleigh, NC

Intern, Legislative Affairs (Summer 2011), Consultant (2011-2012)

- Wrote portion of NC State report on potential impacts of shale gas development
- Policy analysis on state energy policies including RPS, tax incentives, land-use policy, air quality regulation, water quality regulation

- 2011-2012 **RESEARCH TRIANGLE INSTITUTE** Durham, NC
 Intern, Energy-Based Economic Development (Fall 2011), Consultant (2012)
 • Analysis of energy-related economic development in Southwest PA
 • Consultant on risk assessment tool for state shale gas regulation
- Spring 2011 **TROSA Drug Rehabilitation and Workforce Training Service** Durham, NC
 • (Consultant) Assisted in preparing TROSA for anticipated 2014 Medicaid expansion
- Spring 2011 **NC CENTER FOR NONPROFITS** Raleigh, NC
 • (Intern) Policy analysis and historical framing of legislative issues facing NC nonprofits

BOOKS

- Dec. 2017 “The Fracking Debate: The Risks, Benefits, and Uncertainties of the Shale Revolution.”
 Columbia University Press, Center on Global Energy Policy Series. Details at
www.thefrackingdebate.com.

PEER REVIEWED ARTICLES (*denotes lead author)

- In review “Federal Subsidies for Clean Energy.” With Richard G. Newell and William A. Pizer. In
 review with *Energy Economics*.
- 2018* “Local government impacts of oil and gas development in the United States.” With
 Richard G. Newell. In review with *Energy Policy*.
- 2017* “State and local government revenues from oil and gas production.” With Richard G.
 Newell. *Energy Policy*, vol. 112, pp. 12-18.
- 2016 “Global Energy Outlook 2015.” With Richard G. Newell and Yifei Qian. Chapter 1 in
 Energy and Security: Strategies for a World in Transition. Woodrow Wilson Center
 Press / Johns Hopkins University Press.
- 2014 “Implications of Shale Gas Development for Climate Change.” With Richard G. Newell.
Environmental Science and Technology. Vol. 48, No. 15.
- 2014 “Carbon Markets: Past, Present, and Future.” With Richard G. Newell and William A.
 Pizer. *Annual Review of Resource Economics*, Vol. 6.
- 2014 “Carbon Markets: Effective Policy?—Response.” With Richard G. Newell and William
 A. Pizer. *Science*. Vol. 344, No. 6191.
- 2014 “Carbon Market Lessons and Global Policy Outlook.” With Richard G. Newell and
 William A. Pizer. *Science*. Vol. 343, No. 6177.
- 2013 “Carbon Markets 15 Year After Kyoto: Lessons Learned, New Challenges.” With
 Richard G. Newell and William A. Pizer. *Journal of Economic Perspectives*, Vol. 27,
 No. 1.

REPORTS AND WORKING PAPERS (*denotes lead author)

- 2018* “The Shale Revolution and Climate Change.” Resources for the Future Issue Brief.
- 2018* “The Shale Revolution and Earthquakes.” Resources for the Future Issue Brief.
- 2018* “The Economic Impacts of the Shale Revolution.” Resources for the Future Issue Brief.
- 2018* “The Health Impacts of the Shale Revolution.” Resources for the Future Issue Brief.
- 2018* “The Effects of the Shale Revolution on Local Governments.” Resources for the Future
 Issue Brief.
- 2018* “The Shale Revolution and Water Quality.” Resources for the Future Issue Brief.
- 2018 “Global Energy Outlooks Comparison Methods: 2018 Update.” With Richard G. Newell
 and Stuart Iler. Resources for the Future report.
- 2018* “‘Energy Dominance’: The Right Goal for U.S. Policy?” The University of Oxford
 Institute for Energy Studies, Oxford Energy Forum. Issue 111.

- 2017* “The local fiscal impacts of a drilling downturn: local government impacts of decreased oil and gas activity in five U.S. shale regions.” With Richard G. Newell. Resources for the Future report.
- 2017* “Decommissioning U.S. power plants: decisions, costs, and key issues.” Resources for the Future report.
- 2017 “WHIMBY (What’s Happening in My Backyard?): A Community Risk-Benefit Matrix of Unconventional Oil and Gas Development.” With Alan Krupnick, Isabelle Echarte, and Laura Zachary. Resources for the Future Discussion Paper.
- 2016* “US state and local oil and gas revenues.” With Richard G. Newell. Resources for the Future Discussion Paper.
- 2016* “Impacts of oil and gas development on local government finances.” With Richard G. Newell. Duke Univ. Energy Initiative working paper.
- 2016* “Oil and gas revenue allocation for local governments in the United States.” With Richard G. Newell. Duke Univ. Energy Initiative working paper.
- 2016* “Dunn County and Watford City, N.D.: A case study of the fiscal effects of Bakken shale development.” With Richard G. Newell. Duke Univ. Energy Initiative working paper.
- 2016* “Colorado’s Piceance Basin: Case Study of Local Public Finance Effects of Oil and Gas Development.” With Richard G. Newell. Duke Univ. Energy Initiative working paper.
- 2015* “Shale Public Finance: Local Government Revenues and Costs Associated with Oil and Gas Development.” With Richard G. Newell. *National Bureau of Economic Research*. Working paper 21542.
- 2015 “Oil and Gas Revenue Allocation for Local Governments in Eight States.” With Richard G. Newell. *National Bureau of Economic Research*. Working paper 21615.
- 2014* “Oil and Gas Revenue Allocation for Local Governments in Eight States.” With Richard G. Newell. Duke Univ. Energy Initiative working paper.
- 2014* “Shale Public Finance: Local Government Revenues and Costs Associated with Oil and Gas Development.” With Richard G. Newell. Duke Univ. Energy Initiative working paper.
- 2013* “Shale Gas Regulations Comparison Workbook for North Carolina.” Delivered to the *N.C. Mining and Energy Commission*, March 8, 2013.
- 2012 “Potential Social Impacts of Shale Gas Development in North Carolina.” In *N.C. Oil and Gas Study*, N.C. Department of Environment and Natural Resources.
- 2012 “Carbon Markets: Past, Present, and Future.” With Richard G. Newell and William A. Pizer. *National Bureau of Economic Research*. Working paper 18504.

SELECTED REVIEWS FOR *THE FRACKING DEBATE*

"At a time when everything from an otherwise unremarkable scientific report to a seemingly innocuous news item can be subject to intense scrutiny and mistrust, *The Fracking Debate*, a balanced guide to the contentious discussion on fracking, is a welcome resource."

-Science magazine, Dec. 1 2017, Vol. 358, Issue 6367, pp. 1138-1139

"A deft, fair analysis that clarifies the issues for both the general public and concerned policy makers."

-Kirkus reviews (starred review)

"Read it. Rarely do books about essentially technical energy matters marshal arcane data and peer-reviewed research so digestibly."

-Petroleum Economist, 2018.

“The result is a meticulously researched, yet simplified and thoughtful book that lends a balanced tone to an expansive, complex and polarizing topic.”

-Natural Gas Intelligence, 2018.

SELECTED POPULAR PRESS COVERAGE

- 2018 Midwest Energy news Q&A on *The Fracking Debate*.
- 2018 E&E News interview on *The Fracking Debate*.
- 2018 Houston Chronical Q&A on *The Fracking Debate*.
- 2018 Kleinman Energy Center for Energy Policy podcast (University of Pennsylvania) interview on *The Fracking Debate*.
- 2018 Resources for the Future podcast interview on *The Fracking Debate*.
- 2018 Energy 360 podcast (Center for Strategic and International Studies) interview on *The Fracking Debate*.
- 2018 The State of Things, WUNC Radio (North Carolina). 20-minute interview on *The Fracking Debate*.
- 2018 Columbia Energy Exchange (podcast) interview with Jason Bordoff on *The Fracking Debate*.
- 2017 Smart Talk, WITF Radio (Pennsylvania). Full hour interview on *The Fracking Debate*.
- 2017 All Things Considered (National Public Radio). “How the Boom Bust Oil Cycle is Playing Out in North Dakota.”
- 2017 StateImpact PA. “Gas severance tax won’t have big impact in Pennsylvania, says researcher”
- 2017 EnergyWire. “Pa.’s gas tax under attack with lawsuits and banners.”
- 2017 Slate. “Donald Trump Wants Energy ‘Dominance.’ What is That?”
- 2016 Business Insider. “Two Oil and Gas Boomtowns Can Tell Us a Lot About the Economy.”
- 2016 Newsweek. “The Aliso Canyon Methane Leak Needs Plugging Fast.”
- 2016 U.S. News and World Report. “California’s Aliso Canyon Methane Leak: Climate Disaster or Opportunity?”
- 2015 The Conversation. “As U.S. Shuttters Nuclear Power Plants, Cutting Emissions Will Become More Costly.”
- 2015 Fortune. “The Downside of Fewer U.S. Nuclear Power Plants.”
- 2015 McClatchy papers. “Oil Boom a Loser for ND Cities, Counties, Study Finds.”
- 2015 KFYR, North Dakota. Live Radio with “Energy Matters.”
- 2014 WUNC. “Fracking Boom: Research Indicates NC Towns Might Not See A Dramatic Impact.”
- 2014 “Lessons from the US: The Benefits of Fracking for Local Government.” *The Guardian* (UK).
- 2014 Denver Post. “Shale Oil and Gas Revenues and Taxes Bolster Public Finances.”
- 2014 Science Daily. “By Itself, Abundant Shale Gas Unlikely to Alter Climate Projections.”
- 2014 International Business Times. “Fracking: Shale Gas ‘Will Not Alter Climate Change Projections.’”
- 2014 Natural Gas Intelligence. “Duke Researchers: Natural Gas Not a Villain, Not Quite a Hero.”

INVITED WORKSHOPS AND PRESENTATIONS

- May 2018 Aspen Institute. Dialogue on stakeholder engagement in the Alpine High region of Texas. Aspen, Colorado.
- May 2018 Citibank. Transportation and Consumer Industry Commodity Conference. Keynote address on *The Fracking Debate*. New York, NY.

- Apr. 2018 Resources for the Future webinar. Six new issue briefs based on *The Fracking Debate*.
- Apr. 2018 Reinsurance Association of America Annual Meeting. Presentation on risks of induced seismicity from oil and gas development. New York, NY.
- Apr. 2018 Rifle, Colorado Energy and Environment Symposium. Keynote address on *The Fracking Debate*.
- Apr. 2018 The Ohio State University. Book talk for *The Fracking Debate*.
- Apr. 2018 University of Pennsylvania. Book talk for *The Fracking Debate*.
- Mar. 2018 Johns Hopkins School of Advanced and International Studies. Book talk for *The Fracking Debate*.
- Mar. 2018 Colorado School of Mines. Book talk for *The Fracking Debate*.
- Mar. 2018 University of Colorado-Denver. Book talk for *The Fracking Debate*.
- Mar. 2018 Aspen Institute. Initial dialogue on stakeholder engagement in the Alpine High region of Texas. Fort Davis, Texas.
- Mar. 2018 Harrisburg University. Book talk for *The Fracking Debate*.
- Mar. 2018 Penn State University. Book talk for *The Fracking Debate*.
- Feb. 2018 University of Pittsburgh. Book talk for *The Fracking Debate*.
- Feb. 2018 Lycoming College, Pennsylvania. Book talk for *The Fracking Debate*.
- Feb. 2018 Florida State University College of Law. Book talk for *The Fracking Debate*.
- Feb. 2018 Indiana University, School of Environmental and Public Affairs. Book talk for *The Fracking Debate*.
- Feb. 2018 Vanderbilt University. Book talk for *The Fracking Debate*.
- Jan. 2018 Duke University Energy Initiative and Nicholas Institute for Environmental Policy Solutions. Book talk for *The Fracking Debate*.
- Jan. 2018 University of Michigan Ford School of Public Policy. Book talk for *The Fracking Debate*.
- Jan. 2018 Resources for the Future. Book launch for *The Fracking Debate*.
- Jan. 2018 Columbia University Center on Global Energy Policy. Book launch for *The Fracking Debate*.
- Dec. 2017 Ohio University Consortium for Energy, Economy, and Environment. Webinar on Oil and Gas Revenues and Local Impacts Across 16 States.
- Nov. 2017 Pennsylvania State University College of Law. Workshop on unconventional oil and gas methane emissions. State College, Pennsylvania.
- Nov. 2017 American Academy of Arts and Sciences. Workshop on energy policy in the Great Lakes region. University of Michigan, Ann Arbor, Michigan.
- Jul. 2017 Energy Impacts 2017. Poster presentation on US state and local government oil and gas revenues. Ohio State University, Columbus, Ohio.
- May 2017 Pennsylvania State University Marcellus Center for Outreach and Research. Webinar on Oil and Gas Revenues and Local Impacts Across 16 States.
- 2016-2017 Aspen Institute: Unconventional oil and gas governance. A multipart series of meetings to develop frameworks for improving oil and gas governance in the U.S.
- Nov. 2016 U.S. Department of Commerce: U.S.-Colombia Workshop on Unconventional Oil and Gas Development. Bogota, Colombia.
- Nov. 2016 University of São Paulo: Unconventional Oil and Gas Conference, Exploration and Production Feasibility in Brazil. São Paulo, Brazil.
- Jul. 2016 Electric Power Research Institute. Greenhouse Gas Implications of Aliso Canyon Natural Gas Leak. Webinar.
- Jun. 2016 U.S. State Department: U.S.-Argentina Workshop on the Sustainable Development of Unconventional Hydrocarbon Resources. Buenos Aires, Argentina.
- May 2016 Resources for the Future and Duke University: How oil and gas development impacts local governments and communities. Washington, DC.

Apr. 2015 North Carolina Energy Conference. Raleigh, NC.
 Nov. 2014 University of Michigan: Ford School of Public Policy. Ann Arbor, MI.
 Oct. 2014 Arkansas Independent Producers and Royalty Owners (AIPRO): Sixth Annual Meeting. Little Rock, AR.
 Sep. 2014 King Abdullah Petroleum Studies and Research Center (KAPSARC). Workshop on “Models of Bargaining and Behavior.” Durham, NC.
 Sep. 2014 Duke University Fuqua Business School: Energy Industry Fundamentals workshop. Durham, NC.
 May 2014 Energy and Environment Symposium: Oil and Gas Education for Local Government. Garfield County, CO.
 May 2014 Duke University Energy Research Workshop. Durham, NC.
 Mar. 2014 Controlling the Local Impacts of Hydrofracking. Pace University Law School and Yale University. New Haven, CT.
 Mar. 2014 Duke University Shale Public Finance Workshop. Durham, NC.
 Dec. 2013 Controlling the Local Impacts of Hydrofracking. Pace University Law School and Yale University. White Plains, NY.
 May 2012 Shale Gas Extraction Summit on Public Health Implications and Prevention. Research Triangle Environmental Health Collaborative. North Carolina Biotechnology Center, Research Triangle Park, NC.

GRANTS

2018-2019 “Shale Research Clearinghouse: Phase I.” \$78,000 donation from private donor to develop an online resource for policymakers and the public to understand the effects of oil and gas development.
 2016-2017 “Shale Public Finance: Phase III.” \$125,000. Extension of previous grant to return to five states examined in previous years. Energy program, Alfred P. Sloan Foundation.
 2014-2016 “Shale Public Finance: Phase II.” \$249,000. Extension of previous grant to examine eight additional states; stakeholder workshop. Energy program, Alfred P. Sloan Foundation.
 2013-2014 “Shale Public Finance.” \$125,000. Analysis of revenues and costs for local governments experiencing new oil and gas development in eight states; stakeholder workshop. Energy program, Alfred P. Sloan Foundation.

UNIVERSITY AND PROFESSIONAL SERVICE

2017 Guest Lecture, University of Michigan Energy Systems Engineering (EES 501). Topic: Oil and gas policy and shale development.
 2016 Energy, Climate, and the 2016 Election. Organized public panel event with experts from Michigan.
 2016 Presentation for the University of Michigan’s Environmental Engineering and Water Resources seminar series. Topic: Climate Policy in the United States: Current Status and Future Outlook.
 2015 Guest Lecture, University of Michigan Energy Systems Engineering (EES 501). Topic: Oil and gas policy and shale development.
 2016 Panel participant, University of Michigan delegation to the 2015 Paris climate negotiations (COP 21).
 2015 Guest Lecture, University of Michigan Earth Sciences (EARTH 380). Topic: Climate implications of shale development, oil and gas exports from the United States.
 2015 Guest Lecture, University of Michigan Energy Systems Engineering (EES 501). Topic: Oil and gas policy and shale development.

- 2015 Guest Lecture, University of Michigan chapter of Nuclear Materials Management. Topic: Oil and gas policy and energy exports in the United States.
- 2015 Panel participant, University of Michigan Program in the Environment. Topic: Fracking.
- 2015 Panel participant, University of Michigan Divestment Steering Committee. Topic: 2015 Paris climate negotiations (COP 21).
- 2015 Coordinated student presentation by University of Michigan delegation to COP 21 negotiations in Paris, France.
- 2015 Coordinated and organized annual Duke University Energy Research Collaboration workshop.
- 2015 Organized second workshop on *Shale Public Finance*, bringing together over 20 experts from around the United States, Duke University Energy Initiative, North Carolina state government.
- 2012-2015 Regular blog posts on *Shale Public Finance* project website.
- 2012-2015 Assisted in interview process for hiring new research analysts at the Duke University Energy Initiative.
- 2013 Organized first workshop on *Shale Public Finance*, bringing together over 20 experts from around the United States, Duke University Energy Initiative, North Carolina state government.
- 2012-2013 Founded and organized Duke University “Power Trips,” taking groups of students and faculty on experiential learning trips to local and regional energy infrastructure facilities.
- 2012-2013 Participated in Duke University Energy Initiative Faculty Advisory Committee.
- 2012-2013 Assisted in organizing monthly “Energy Mix” networking event, Duke University Energy Initiative.
- 2012 Assisted in organizing workshop on The Geopolitics of Energy: Canada, Duke University.
- 2011-2012 Meals-on-wheels volunteer. Participating through Duke University Sanford School of Public Policy.
- 2011-2012 Durham, NC food bank volunteer.

Ad hoc reviewer

National Science Foundation (grant proposals), *Alfred P. Sloan Foundation* (grant proposals), *Review of Policy Research*, *Energy Policy*, *International Journal of Sustainable Development Law and Policy*, *World Development*, *Choices*, *Health Security*, *Environmental Practice*, *McGill International Journal of Sustainable Development Law and Policy*, various working papers.

TEACHING EXPERIENCE

- 2015-curr. University of Michigan Ford School of Public Policy, University of Michigan Program in the Environment. PubPol / Environ 468 (3 credits). Oil and Gas Policy in the United States. Average evaluation score of 3.81/4.00
- 2018 Nominated for University of Michigan “Golden Apple” award, the only university-wide student nominations-based award that recognizes outstanding university teaching
- 2015-2016 University of Michigan School of Natural Resources and Environment. Mentoring a team of graduate students to develop cost curve for carbon dioxide removal technologies.
- 2014 Mentored group of Duke University master’s in public policy students on project assessing domestic electricity subsidies and policy
- 2012 Duke University Sanford School “Best teaching assistant” award
- 2011-2012 TA for core policy analysis course for Duke 1st year master’s in public policy students
- 2012 TA for national security course for Duke 2nd year master’s in public policy students
- 2011 TA for public management course for Duke 2nd year master’s in public policy students
- 2010-2011 TA for core policy analysis course for Duke undergraduate public policy majors

2009-2011 Fundamentals of jazz improvisation instructor, Duke University String School
2008-2009 Curriculum writer for literacy-through-music program “Rock the Classroom”
2007-2009 Master teacher for literacy-through-music program “Rock the Classroom”

PREVIOUS EXPERIENCE

2007-2011 Music Instructor. New York, NY; Los Angeles, CA; Durham, NC
2007-2009 Music Instructor, Master Teacher, and Curriculum Writer with music-through-literacy program “Rock the Classroom.” New York, NY; Los Angeles, CA
2004-2007 Music Instructor and Curriculum Writer with NYC Guitar School. New York, NY
2004-2009 Music Composer, self-employed. New York, NY; Los Angeles, CA

OTHER INTERESTS

Music, travel, tennis, making and drinking cocktails, cooking and eating Sichuan-style food.