Frank C. Errickson

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Google Scholar

Positions

AAAS Science & Technology Policy Fellow | Office of the Chief Economist, Office of the Under Secretary for Economic Growth, Energy and the Environment, U.S. Department of State (2024-present)

- **Economic Officer** | Overseas detail at U.S. Embassy La Paz, Bolivia, U.S. Department of State (July-September 2025)

Postdoctoral Scholar | School of Public and International Affairs, Princeton University (2020-2024)

Education

University of California, Berkeley
Ph.D. Energy and Resources Group 2020
- Committee: David Anthoff (*chair*), Klaus Keller, & William D. Collins
- Fields: climate science, environmental economics, & data science

University of California, Berkeley
M.S. Energy and Resources Group 2016

Columbia University
M.A. Atmospheric Science & Development Economics 2011

Stockton University
B.A. Political Science (Sustainability & Environmental Policy track) 2009
- *summa cum laude*, Environmental Science minor

Affiliations

Affiliate Member | Resources for the Future Social Cost of Carbon Initiative 2021-2023
Associate Member | Princeton University Climate Futures Initiative 2018-2024
Doctoral Fellow | U.C. Berkeley Society, Environment, & Economics Lab 2014-2020
Doctoral Member | The Network for Sustainable Climate Risk Management 2016-2020

Publications

* *indicates publications where I am a co-lead author with equal contribution*

1. Scovronick, N., Shiwang, J., Ferranna, M., Wagner, F., **Errickson, F.C.***, Tong, D., Yan, X., Dubash, N., Liu, Y., Krishna, B., Fleurbaey, M., Wang, P., Zhang, S., Keisewetter, G., Smith, S., Dennig, F., Peng, W., and Budolfson, M. Energy and Health: Global Climate Policy and the Future of Air Quality Co-Benefits in LMICs. *Under review at The Lancet* (2025).

2. Rennels, L., **Errickson, F.C.**, Keller, K., Parthum, B., Smith, D., and Anthoff, D. "Robustness to Model Uncertainties Drives More Rapid CO_2 Emissions Reductions." *Submitted* (2025).

3. Darnell, C., **Errickson, F.C.***, Rennels, L., Wong, T., and Srikrishnan, V. The interplay of future emissions and geophysical uncertainties for future sea level rise. *Accepted at Nature Climate Change* (2025).

4. Young-Brun, M., Dennig, F., **Errickson, F.C.**, Feindt, S., Méjean, A., and Zuber, S. Within-country inequality and the shaping of a just global climate policy. *Accepted at Proceedings of the National Academy of Sciences* (2025). ⊛authors listed alphabetically following economics convention

5. Bressler, D., Shimberg, N., Rennels, L., Parthum, B., Smith, D., **Errickson, F.C.**, and Anthoff, D. "Large disproportionate mortality effects on the global poor drive a higher income-weighted social cost of CO_2." *Reject and resubmit at Nature* (2025).

6. Wang, P., Peng, W., Budolfson, M., Deshpande, A., Wagner, F., **Errickson, F.C.**, Huang, X., Iyer, G., Loughlin, D., Nolte, C.G., Smith, S.J., Shiwang, J., and Scovronick, N. "Complexities in achieving air pollution related equity goals through a net-zero transition in the United States." *Under review (2nd round) at Nature Sustainability* (2025).

7. Prest, B.C., Rennels, L., **Errickson, F.C.**, and Anthoff, D. Equity weighting increases the social cost of carbon: new government guidelines could transform benefit-cost analysis of U.S. climate policy. *Science* (2024).

8. Rennert, K., **Errickson, F.C.***, Prest, B., Rennels, L., Newell, R., Pizer, B., Kingdon, C., Wingenroth, J., Cooke, R., Parthum, B., Smith, D., Cromar, K., Diaz, D., Moore, F., Müller, U., Plevin, R., Raftery, A., Ševcíková, H., Sheets, H., Stock, J., Tan, T., Watson, W., Wong, T., and Anthoff, D. Comprehensive evidence implies a higher social cost of CO_2. *Nature* (2022).

9. Wong, T.E., Ledna, C., Sheets, H., Rennels, L., **Errickson, F.C.**, Diaz, D., Anthoff, D. Sea-level and socioeconomic uncertainty drives high-end coastal adaptation costs. *Earth's Future* (2022).

10. Wong, T.E., Rennels, L., **Errickson, F.C.**, Srikrishnan, V., Bakker, A., Keller, K., Anthoff, D. MimiBRICK.jl: A Julia package for the BRICK model for sea-level change in the Mimi integrated modeling framework. *The Journal of Open Source Software* (2022).

11. **Errickson, F.C.**, Keller, K., Collins, W.D., Srikrishnan, V., and Anthoff, D. Equity is more important for the social cost of methane than climate uncertainty. *Nature* (2021).

12. Rennert, K., Prest, B.C., Pizer, W.A., Newell, R.G., Anthoff, D., Kingdon, C., Rennels, L., Cooke, R., Raftery, A.E., Ševcíková, H., **Errickson, F.C.**. The social cost of carbon: advances in long-term probabilistic projections of population, gdp, emissions, and discount rates. *Brookings Papers on Economic Activity* (2021).

13. Budolfson, M.B., Dennig, F., **Errickson, F.C.***, Feindt, S., Ferranna, M., Fleurbaey, M., Klenert, D., Kornek, U., Kuruc, K., Méjean, A., Peng, W., Scovronick, N., Spears, D., Wagner, F., and Zuber, S. Protecting the poor with a carbon tax and equal per capita dividend. *Nature Climate Change* (2021).

14. Budolfson, M.B., Dennig, F., **Errickson, F.C.***, Feindt, S., Ferranna, M., Fleurbaey, M., Klenert, D., Kornek, U., Kuruc, K., Méjean, A., Peng, W., Scovronick, N., Spears, D., Wagner, F., and Zuber, S. Climate action with revenue recycling has benefits for poverty, inequality and well-being. *Nature Climate Change* (2021).

15. Budolfson, M.B., Anthoff, D., Dennig, F., **Errickson, F.C.***, Kuruc, K., Spears, D., and Dubash, N.K. Utilitarian benchmarks for emissions and pledges promote equity, climate, and development. *Nature Climate Change* (2021).

16. Scovronick, N., Anthoff, D., Dennig, F., **Errickson, F.C.***, Ferranna, M., Peng, W., Spears, D., Wagner, F., and Budolfson, M.B. The importance of health co-benefits under different climate policy cooperation frameworks. *Environmental Research Letters* (2021).

17. **Errickson, F.C.**, Kuruc, K., and McFadden, J. Animal-based foods have high social and climate costs. *Nature Food* (2021).

18. Scovronick, N., Vasquez, V.N., **Errickson, F.C.**, Dennig, F., Gasparrini, A., Hajat, S., Spears, D., Budolfson, M.B. Human health and the social cost of carbon: a primer and call to action. *Epidemiology* (2019).

19. Scovronick, N., Budolfson, M.B., Dennig, F., **Errickson, F.C.***, Fleurbaey, M., Peng, W., Socolow, R.H., Spears, D., Wagner, F. The impact of human health co-benefits on evaluations of global climate policy. *Nature Communications* (2019).

Working Papers

1. **Errickson, F.C.**, Wong, T.E., Keller, K., Rennels, L., and Anthoff, D. ***Improved climate modeling reduces extreme social cost of carbon estimates***.

2. Wingenroth, J., Prest, B., Rennels, L., Rennert, K., **Errickson, F.C.**, and Anthoff, D. Accounting for Biodiversity Loss Raises the Social Cost of CO_2.

3. Colbert, K.R., **Errickson, F.C.**, Anthoff, D., and Forest, C.E. ***Including climate system feedbacks increases the social cost of methane***.

4. Budolfson, M.B., Dennig, F., **Errickson, F.C.***, Fleurbaey, M., Peng, W., Scovronick, N., and Wagner, F. ***Are improvements in air quality a sufficient justification for climate policy?***

Work In Progress

1. ***The global distribution of climate and air pollution co-benefits across income groups***, with Mark Budolfson, Wei Peng, Noah Scovronick, Jinyu Shiwang, and Fabian Wagner.

2. ***Sub-national air quality co-benefits under different energy system pathways***, with Mark Budolfson, Keyan Guo, Wei Peng, and Noah Scovronick.

3. ***Ranking U.S. climate policies to improve air pollution and health equity***, with Mark Budolfson, Maddalena Ferranna, Simon Lang, Wei Peng, Noah Scovronick, Jinyu Shiwang, and Vivek Srikrishnan.

4. ***How to save a million lives?***, with Mark Budolfson, Wei Peng, Noah Scovronick, Jinyu Shiwang, and Fabian Wagner.

5. ***The climate impacts and social costs of hydrogen leaks***, with Eric Kort, Bryan Parthum, Lisa Rennels, Vivek Srikrishnan.

6. ***Accounting for environmental and geopolitical risks in critical mineral supply chains***, with Vivek Srikrishnan.

Selected Talks

Accounting for Bilateral Trade in Country-Level Economic Vulnerability Assessments. (2024-2025). Multiple presentations to colleagues at the U.S. Department of State, U.S. Department of Energy, U.S. Geological Survey, and Federal Bureau of Investigation, Washington D.C.

Valuing the Impacts of Climate Change on Global Fin and Shell Fisheries: Current Approaches & Ways Forward. (2023). Moderator/organizer, Resources for the Future Social Cost of Carbon Workshops. Resources for the Future, Washington D.C.

Valuing the Impacts of Climate Change on Coral Reefs: Current Approaches & Ways Forward. (2023). Moderator/organizer, Resources for the Future Social Cost of Carbon Workshops. Resources for the Future, Washington D.C.

Incorporating the Impacts of Climate Change on Ocean Systems into the Social Cost of Carbon: First Steps. (2023). Moderator/organizer, Resources for the Future Social Cost of Carbon Workshops. Resources for the Future, Washington D.C.

Understanding Different Metrics for Comparing Relative Impacts from Carbon and Methane Emissions - Which Metric to Use?. (2023). Invited virtual presentation, Environmental Defense Fund Economics Seminar Series. Environmental Defense Fund, Washington D.C.

Equity, Climate Uncertainty, and the Social Cost of Carbon. (2022). Invited virtual presentation, Marine Policy Center Seminar. Woods Hole Oceanographic Institution, Woods Hole, MA.

The Social Cost of Carbon: Advances in Long-Term Probabilistic Projections of Population, GDP, Emissions, and Discount Rates. (2021). Participant in author discussion session, Fall 2021 Brookings Papers on Economic Activity conference. Washington, DC.

Progressive Revenue Recycling can Alleviate Poverty, Reduce Inequality, and Improve Well-being While Avoiding Dangerous Climate Change. (2021). Virtual presentation, Climate Futures Workshop: Climate Solutions, Money, and Politics. Princeton University, Princeton, NJ.

Accounting for Deeply Uncertain Temperature and Sea-Level Projections in the Social Cost of Carbon. (2019). Oral presentation, Workshop on Climate Policy and Sustainable Growth. Princeton University, Princeton, NJ

Climate Uncertainties and the Social Cost of Methane. (2018). Poster presentation, Sustainability Research Network Awardees Conference. National Science Foundation, Washington, DC.

The Network for Sustainable Climate Risk Management (SCRiM): An Overview. (2018). Oral presentation, Sustainability Research Network Awardees Conference. National Science Foundation, Washington, DC (jointly presented with Klaus Keller, Ben Lee, Robert Nicholas, and Nancy Tuana).

The Impact of Human Health Co-Benefits on Evaluations of Global Climate Policy. (2018). Oral presentation, European Association of Environmental and Resource Economists Summer School on Climate Change Assessment: Economic Models and Evaluation Criteria. Fondazione Eni Enrico Mattei, Venice, Italy.

Accounting for Climate Uncertainty (2017). Invited oral presentation, Data Science for the 21st Century (DS421) Seminar. UC Berkeley, Berkeley, CA.

A Modular Approach to Integrated Assessment Modeling. (2017). Invited oral presentation, Fondation Maison des Sciences de l'Homme, Paris, France.

Uncertainty and the Social Cost of Methane Using Bayesian Constrained Climate Models. (2016). Poster presentation, American Geophysical Union Fall Meeting. San Francisco, CA.

Invited Policy Events

Economic Research Steering Group Meeting. (2025). MITRE Corporation. McLean, VA.

Critical Mineral Security Tabletop Exercise. (2024). International Energy Agency. Brussels, Belgium.

Other Writing

Challenges and Opportunities for Incorporating Climate Change's Impacts on Ocean Systems into the Social Cost of Greenhouse Gases (2024), with Brian C. Prest and Jordan Wingenroth. Resources for the Future Report.

Increasing the Representation of Earth System Feedbacks in the Social Cost of Carbon Dioxide (2024), with David Anthoff, Brian C. Prest, Kevin Rennert, and Jordan Wingenroth. Report prepared for U.S. Environmental Protection Agency.

Public Comment: Updated Estimates of the Social Cost of Methane for Usage in Regulatory Analysis (2022), with David Anthoff, Richard G. Newell, William A. Pizer, Brian C. Prest, Lisa Rennels, Kevin J. Rennert, and Jordan Wingenroth.

Furthering Environmental Justice Perspectives in Our Research: Report and Recommendations to Princeton University From the April 2021 Workshop (2021), with Nic Choquette-Levy, Sara Constantino, Erin Mayfield, Malini Nambiar, Pooja Ramamurthi, Keely Swan, and Melissa Tier.

Comments on Proposed BLM Rule: Waste Prevention, Production Subject to Royalties, and Resource Conservation - Rescission or Revision of Certain Requirements, 83 Fed. Ref 7924 (2018), with Andrew Hultgren.

Honors & Awards

Loker Foundation Graduate Award, UC Berkeley College of Natural Resources (2019).

Data Sciences for the 21st Century (DS421) NSF Fellow: UC Berkeley (2016-2018).

Outstanding Graduate Instructor Award, Haas School of Business, UC Berkeley (2015).

Graduate School of Arts and Sciences scholarship, Columbia University (2010-2011).

Undergraduate: Outstanding Scholars Recruitment Program Scholarship (2005-2009), Edward J. Bloustein Distinguished Scholars Scholarship (2005-2009), Dean's List (2005-2009).

Teaching

Invited guest lecture, *Integrated Assessment Modeling for Climate Policy Making*. Andlinger Center for Energy and the Environment & School of Public and International Affairs - ENE 449/SPI 459, Princeton University (Fall 2024).

Graduate student instructor, *The Economics of Climate Change*. Energy and Resources Group, UC Berkeley (Fall 2015, 2018, 2019 and Spring 2016).

Graduate student instructor, *Microeconomics for Business Decision Making*. Haas School of Business, UC Berkeley (Fall 2016). Received Outstanding Graduate Student Instructor award.

Professional Development

Global Trade Analysis Project (GTAP) 101 Course. Purdue University (2025).

Working at an Embassy & Overseas Security. Foreign Service Institute, Arlington, VA (2025).

Washington Tradecraft. Foreign Service Institute, Arlington, VA (2025).

European Association of Environmental and Resource Economists Summer School on Climate Change Assessment: Economic Models and Evaluation Criteria. Fondazione Eni Enrico Mattei, Venice, Italy (2018).

DS421 Data Visualization & Science Communication Workshop. UC Berkeley, Berkeley, CA (2017).

Interdisciplinary PhD Workshop in Sustainable Development. Columbia University, New York, NY (2017).

SCRiM Summer School on Sustainable Climate Risk Management. Pennsylvania State Univer- sity, State College, PA (2016).

Summer Workshop in Climate Change Economics - Empirics of Climate Impacts. UC Berkeley, Berkeley, CA (2015).

Academic Service

Organized Workshops & Conferences

Global Advances in Quantifying and Attributing Climate Impacts and Damages to Support Climate Risk Management (co-chair, oral & poster session). American Geophysical Union Fall Meeting. Washington D.C. (2024).

Incorporating the Impacts of Climate Change on Ocean Systems into the Social Cost of Carbon (co-organizer, three virtual workshop bringing together experts in oceanography, coral reefs, fisheries science, environmental economics, and other related fields to develop best practices for estimating ocean system climate damages). Resources for the Future, Washington D.C. (2023).

Furthering Environmental Justice Perspectives in Our Research (co-organizer, virtual workshop). Princeton University, Princeton, NJ (2021).

Global Perspectives on Sustainable and Just Energy Transitions (co-chair, oral & poster session). American Geophysical Union Fall Meeting. San Francisco, CA (2019).

Mentorship & Outreach

Mentor, *Columbia University Climate School Alumni Mentoring Program* (2022-2024).

Mentor, *The Graduate Applications International Network (GAIN)*: Support graduate applicants from Africa to strengthen the pipeline into economics and public policy. (2023).

Volunteer subject matter expert, *The Jersey City Public Schools Sustainability Science, Technology, Engineering, Arts, and Mathematics (STEAM) Challenge - Environmental Ambassadors* (2021).

Mentor, *Energy and Resources Group New Student Mentorship Program* (2017-2020).

Student organizer, *UC Berkeley Climate Change Economics Lunch Seminar* (2017-2019).

Committee member, *Energy and Resources Group graduate student admissions committee*, UC Berkeley (two admission cycles).

Reviewer

Climatic Change, Nature Climate Change, Science, U.S. EPA National Center for Environmental Economics (NCEE) Working Paper Series, U.S. Geological Survey (USGS) Working Papers, WIREs Climate Change

Other Experience & Skills

Consultant, Resources for the Future & U.S. Environmental Protection Agency (2023-2024). *Providing technical assistance to incorporate climate tipping points into official U.S. social cost of carbon estimates.*

Consultant, Resources for the Future & U.S. Environmental Protection Agency (2021-2022). *Providing technical assistance to implement Executive Order 13990, which instructed a new interagency working group to provide revised social cost of carbon estimates.*

Computing: Julia, Python, R, MATLAB, Fortran, C++, Git, LaTeX, Adobe Illustrator.

Co-developer: Greenhouse Gas Impact Value Estimator (GIVE) model (*used by the U.S. Environmental Protection Agency for their official social cost of greenhouse gas estimates*).

Miscellaneous: National Ski Patrol Avalanche Level 1 Training Certification
NOLS Wilderness Medicine - Wilderness First Aid Certification
Active security clearance