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 Affairs (formerly Economic Growth, Energy, and the Environment), U.S. Department of State (2024–2026)

The Office of the Chief Economist conducts data-driven economic research and analysis to inform U.S. economic diplomacy.

- Led OCE's analysis of critical mineral supply chains, including trade-data mapping of indirect supply vulnerabilities. Conducted country-level economic security analysis (economic coercion, FDI, energy markets) for the Chief Economist and Under Secretary.
- Created and ran OCE's weekly *News and Economic Research Digest* (NERD), which grew to 400+ readers across the Department and eight U.S. embassies. Received a Meritorious Honor Award (2026) for NERD and critical mineral analyses.

Economic Officer | Overseas detail, U.S. Embassy La Paz, Bolivia (Jul–Sep 2025)

- Wrote reporting cables on U.S.-Bolivia trade and critical minerals, and briefed embassy leadership on the economy during Bolivia's 2025 economic crisis and elections.

Postdoctoral Scholar | Princeton School of Public and International Affairs (2020–2024)

- Co-developed the Greenhouse Gas Impact Value Estimator (GIVE) model, used by the U.S. EPA for its official social cost of greenhouse gas estimates.
- Energy-system and climate-economy modeling of air pollution, inequality, health co-benefits, and sea-level risk within multi-institution, international collaborations.

Education

Ph.D., Energy and Resources Group, University of California, Berkeley — 2020

- Dissertation: "Uncertainty, Inequality & Global Climate Policy"
- Committee: David Anthoff (chair), Klaus Keller, and William D. Collins

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

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

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

Publications

* *Co-lead author with equal contribution, reflecting leadership of specific research components and drafting within large, multi-institution collaborations.*

1. 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." Accepted at ***Nature*** (2026). (link)
2. Scovronick, N., Shiwang, J., Ferranna, M., Wagner, F., **Errickson, F.C.***, … and Budolfson, M. "Global climate justice and the future of air quality co-benefits in low-income and middle-income countries: an energy, climate, and health modelling study." ***The Lancet Global Health*** (2026). (link)
3. Darnell, C., Rennels, L., **Errickson, F.C.***, Wong, T., and Srikrishnan, V. "The interplay of future emissions and geophysical uncertainties for projections of sea-level rise." ***Nature Climate Change*** (2025). (link)

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." ***Proceedings of the National Academy of Sciences*** (2025). (link)

5. 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). (link)

6. Rennert, K., **Errickson, F.C.***, ... and Anthoff, D. "Comprehensive evidence implies a higher social cost of CO_2." ***Nature*** (2022). (link)

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

8. Wong, T.E., Rennels, L., **Errickson, F.C.**, Srikrishnan, V., Bakker, A., Keller, K., and 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). (link)

9. **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). (link)

10. Rennert, K., Prest, B.C., Pizer, W.A., ... and **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). (link)

11. Budolfson, M.B., Dennig, F., **Errickson, F.C.***, ... and Zuber, S. "Protecting the poor with a carbon tax and equal per capita dividend." ***Nature Climate Change*** (2021). (link)

12. Budolfson, M.B., Dennig, F., **Errickson, F.C.***, ... and Zuber, S. "Climate action with revenue recycling has benefits for poverty, inequality and well-being." ***Nature Climate Change*** (2021). (link)

13. 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). (link)

14. Scovronick, N., Anthoff, D., Dennig, F., **Errickson, F.C.***, ... and Budolfson, M.B. "The importance of health co-benefits under different climate policy cooperation frameworks." ***Environmental Research Letters*** (2021). (link)

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

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

17. Scovronick, N., Budolfson, M.B., Dennig, F., **Errickson, F.C.***, ... and Wagner, F. "The impact of human health co-benefits on evaluations of global climate policy." ***Nature Communications*** (2019). (link)

Working Papers & Work in Progress

1. Wang, P., Peng, W., Budolfson, M., Deshpande, A., Wagner, F., **Errickson, F.C.**, … and Scovronick, N. "Complexities in achieving air pollution related equity goals through a net-zero transition in the United States." (Under review, 3rd round, ***Nature Sustainability***)
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) (link)
3. Wong, T.E., Rennels, L., **Errickson, F.C.**, Bakker, A., Keller, K., and Anthoff, D. "MimiBRICK.jl v2.0.0: An updated Julia framework for Bayesian calibration and probabilistic projections of sea-level change." (Submitted)
4. **Errickson, F.C.**, Wong, T.E., Keller, K., Rennels, L., and Anthoff, D. "Improved climate modeling reduces extreme social cost of carbon estimates." (Working paper)
5. 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." (RFF Working Paper 24-23) (link)
6. Colbert, K.R., **Errickson, F.C.**, Anthoff, D., and Forest, C.E. "Including climate system feedbacks increases the social cost of methane." (arXiv:2012.04062) (link)
7. 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?" (Working paper)
8. "Compound climate and geopolitical risks to energy-transition supply chains," with Vivek Srikrishnan. (In progress)
9. "The climate impacts and social costs of hydrogen leaks," with Eric Kort, Xiangwen Fu, Bryan Parthum, Lisa Rennels, and Vivek Srikrishnan. (In progress)
10. "Sources of uncertainty in sea-level projections and their implications for coastal risk," with Marcus Sarofim, Tony E. Wong, Vivek Srikrishnan, Lisa Rennels, and Klaus Keller. (In progress)
11. "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. (In progress)
12. "How to save a million lives?," with Mark Budolfson, Wei Peng, Noah Scovronick, Jinyu Shiwang, and Fabian Wagner. (In progress)

Selected Talks

Economic Affairs and Supply Chain Risk Priorities for Global Embassy Staff. (2026). Speaker & panelist, George P. Shultz National Foreign Affairs Training Center economic training course for locally employed staff from 19 U.S. embassies across six regions, Arlington, VA.

Accounting for Bilateral Trade in Country-Level Economic Vulnerability Assessments. (2024–2025). Multiple presentations to colleagues at the U.S. Departments of State, Energy, and Commerce, USGS, and FBI, Washington, DC.

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

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

Incorporating the Impacts of Climate Change on Ocean Systems into the Social Cost of Carbon: First

Steps. (2023). Moderator/organizer, RFF Social Cost of Carbon Workshops, Washington, DC.

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.

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

The Social Cost of Carbon: Advances in Long-Term Probabilistic Projections of Population, GDP, Emissions, and Discount Rates. (2021). 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). Climate Futures Workshop: Climate Solutions, Money, and Politics, Princeton University.

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

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

The Network for Sustainable Climate Risk Management (SCRiM): An Overview. (2018). 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). EAERE Summer School on Climate Change Assessment, Fondazione Eni Enrico Mattei, Venice, Italy.

Accounting for Climate Uncertainty. (2017). Invited presentation, DS421 Seminar, UC Berkeley.

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

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

Invited Policy Events

Geoeconomics Council of Advisors: Economic Impacts of the War in Iran. (2026). Center for Strategic & International Studies (CSIS), Washington, DC.

Economic Coercion and Critical Mineral Tabletop Exercise. (2026). White team member, CSIS and European Council on Foreign Relations (ECFR), Berlin, Germany.

Critical Mineral Security Tabletop Exercise. (2024). International Energy Agency (IEA), 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 the 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. Reg. 7924 (2018), with Andrew Hultgren.

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 | UC Berkeley Society, Environment, & Economics Lab 2014–2020

Doctoral Member | The Network for Sustainable Climate Risk Management 2016–2020

Honors & Awards

Meritorious Honor Award, U.S. Department of State (2026), "for his exemplary analytic work on critical minerals and energy security and as author of OCE's weekly News and Economic Research Digest."

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 Student 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, Edward J. Bloustein Distinguished Scholars Scholarship, Dean's List (2005–2009).

Teaching

Invited guest lecture, *Integrated Assessment Modeling for Climate Policy Making*, ENE 449/SPI 459, Princeton University (Fall 2024).

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

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

Professional Development

PT501: Leading at State, the Department's leadership course for GS-13 and above, George P. Shultz National Foreign Affairs Training Center (2026).

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

EAERE 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 (2017); Interdisciplinary PhD Workshop in Sustainable Development, Columbia University (2017).

SCRiM Summer School on Sustainable Climate Risk Management, Pennsylvania State University (2016); Summer Workshop in Climate Change Economics: Empirics of Climate Impacts, UC Berkeley (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, DC (2024).

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

Furthering Environmental Justice Perspectives in Our Research (co-organizer, virtual workshop). Princeton University (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), supporting graduate applicants from Africa in economics and public policy (2023).

Volunteer subject matter expert, Jersey City Public Schools Sustainability 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); member, ERG graduate admissions committee (two cycles).

Reviewer

Climatic Change, *Nature Climate Change*, *Science*, *WIREs Climate Change*, U.S. EPA National Center for Environmental Economics Working Paper Series; expert reviewer on the methodology behind the U.S. Geological Survey's critical minerals list.

Other Experience & Skills

Consultant, Resources for the Future & U.S. Environmental Protection Agency (2023–2024). 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). Technical assistance to implement Executive Order 13990 revisions to the social cost of carbon.

Paid consultant and contributor, $1.5M NSF grant, "Multi-scale modeling of interactions between climate change, air quality, and inequalities" (PI: Mark Budolfson, 2021).

Co-developer, Greenhouse Gas Impact Value Estimator (GIVE) model, used by the U.S. EPA for its official social cost of greenhouse gas estimates.

Computing: Julia, Python, R, MATLAB, Fortran, C++, Git, LaTeX, Adobe Illustrator; AI-assisted coding (Claude Code).

Trade and market databases: Bloomberg Terminal, LSEG, S&P Panjiva, fDi Markets, Trade Data Monitor, UN Comtrade, OECD TiVA, USGS mineral data.

U.S. government security clearance, held at the U.S. Department of State (2024–2026).