

**Curriculum Vitae**  
**May 2026**

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*Paper links and citations:* [Google Scholar](#)

**Education**

Ph.D., Economics, Cornell University, 2000  
Major Field: Environmental and Natural Resource Economics  
Minor Fields: Applied econometrics and mathematical programming, microeconomics, experimental economics, and development economics  
B.A., Economics with Mathematical Emphasis, honors distinction, Univ. of Wisconsin-Madison, 1989  
Minor Fields: Mathematics, econometrics, computer science, and liberal arts studies

**Current and recent positions**

**Principal Research Economist**, Energy Systems and Climate Analysis Research Group, EPRI, Oct 2008-present.  
**Advisory Committee**, Earth & Biological Sciences Directorate, Pacific Northwest National Laboratory, 2022-present.  
**Task Force Member**, The Scenario Model Intercomparison Project (ScenarioMIP) for CMIP7 (Coupled Model Intercomparison Project Phase 7), 2023 – present.  
**Scientific Steering Group**, U.S. Carbon Cycle Science Program, 2011-present.  
**Scientific Steering Committee**, Integrated Assessment Modeling Consortium (IAMC), 2009-present.  
**Co-Chair**, Stanford-EPRI Public Educational Webcast Series: Options for Estimating the Global Economic Impacts of Climate Change and the Social Cost of Carbon Module-by-Module, 2024-present.  
**Co-Chair**, Finance-Utility Dialogue on GHG Targets and Low-Carbon Transition Risk, 2024-present.

**Additional professional responsibilities and honors**

**Appointed Committee Member**, Committee on Assessing Approaches to Updating the Social Cost of Carbon, The National Academies of Sciences, Engineering, and Medicine, 2015-2017.  
**Advisory Group**, Advisory Group for Scenario Guidance, Task Force on Climate-Related Financial Disclosures (TCFD), 2019-2020.  
**Member**, Scientific Working Group on Scenarios for Climate-related Financial Analysis, Integrated Assessment Modeling Consortium (IAMC).  
**Lead Author**, Intergovernmental Panel on Climate Change (IPCC), Sixth Climate Change Assessment  
- Working Group II on Impacts, Adaptation, and Vulnerability – Climate Resilient Development (Ch 18), Aggregate Economic Climate Impacts (Ch 16), Climate Scenarios and Common Climate Dimensions (Ch 1), and Summary for Policy Makers  
- Working Group III on Mitigation of Climate Change – Economic benefits of mitigation (Ch 3)  
- Working Group I on The Physical Science Basis – New Estimates of Global Warming to Date and Key Implications (Ch 2)  
- Cross-Working Group Climate and Socioeconomic Scenarios Team – lead for Working Group II  
**Contributing Author, IPCC, Sixth Climate Change Assessment**  
- Working Group III on Mitigation of Climate Change – Long run pathways (Ch 3)  
- Working Group I on The Physical Science Basis – Changing State of the Climate System (Ch 2)  
**Panel Member**, EPA’s Science Advisory Board Biogenic Carbon Emissions Panel, reviewed EPA’s initial and revised biogenic carbon emissions accounting frameworks, 2011 – 2012 and 2014 – 2018.  
**Co-winner 2008 Nobel Peace Prize**, IPCC Lead Author

**Lead Author**, IPCC Fifth and Fourth Climate Change Assessment Reports of Working Group III (Mitigation of Climate Change) – long-run socioeconomic and emissions scenarios and mitigation, bioenergy, and land use.

**Contributing Author**, IPCC 4<sup>th</sup> and 5<sup>th</sup> Climate Change Assessments of Working Group III.

**Lead Author**, Climate Change Impacts in the United States: The Third National Climate Assessment.

## Publications

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- Rose, S, 2026. *Assessment of Newer Global Emissions Scenarios for Corporate Climate Transition Risk and Target Setting Applications*. EPRI: Palo Alto, CA. #3002034775.
- Rose, S, 2026. *Developing Meaningful Corporate Climate Transition Risk and Risk Management Metrics: A Framework and Path Forward*. EPRI: Palo Alto, CA. #3002034279.
- Nearby, B, E Smith, S Rose, 2026. *A template for understanding third-party physical climate risk assessment frameworks for utility applications*. EPRI: Palo Alto, CA. Back Pocket Insight.
- Morris, J\*, Rose, SK\*, Reilly, J, A Gurgel, S Paltsev, A Schlosser, 2025. Reconciling widely varying estimates of the global economic impacts from climate change. *Nature Climate Change* 15: 124–127. <https://doi.org/10.1038/s41558-024-02232-7>.
- Fujimori, S, V Krey, K Riahi, M Sugiyama, T Hasegawa, J Edmonds, C Guivarch, S Paltsev, S Rose, R Schaeffer, M Tavoni, SS Vishwanathan, D van Vuuren, M Weitzel, 2025. Towards an open model intercomparison platform for integrated assessment models scenarios. *Nature Climate Change* 15: 1156-1164. <https://doi.org/10.1038/s41558-025-02462-3>.
- Rose, S, 2025. *Net-Zero Climate Targets are Not for Everyone*. EPRI: Palo Alto, CA. #3002032318.
- Rose, SK, C Octaviano, D Livengood, F Ralston Fonseca, 2025. SMARTargets: A methodology for grounded and actionable climate targets aligned with global goals. EPRI: Palo Alto, CA. [Public comment draft](#), July.
- Nearby, B, E Smith, S Rose, 2025. *An Approach for Characterizing Third-Party Physical Climate Risk Assessment Frameworks for Utility Applications*. EPRI: Palo Alto, CA. #3002031389.
- Bistline, J, M Browning, J DeAngelo, D Huppmann, R Jones, J McFarland, A Molar-Cruz, S Rose, SJ Davis, 2024. Uses and Limits of National Decarbonization Scenarios to Inform Net-Zero Transitions. *Joule* 8(10): 2721-2726. <https://doi.org/10.1016/j.joule.2024.09.005>.
- Mignone, BK, L Clarke, JA Edmonds, A Gurgel, HJ Herzog, JX Johnson, DS Mallapragada, H McJeon, J Morris, PR O'Rourke, S Paltsev, SK Rose, DC Steinberg, A Venkatesh, 2024. Drivers and implications of alternative routes to fuels decarbonization in net-zero energy systems, *Nature Communications* 15, 3938 (2024). <https://doi.org/10.1038/s41467-024-47059-0>.
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- Kirk-Davidoff, D, L Fischer, E Smith, D Diaz, J Lala, F Chang, S Rose, J Mardian, 2024. *Climate Data Users Guide*. EPRI, Palo Alto, CA: 2024. #3002028078.
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- Contributing Author, 2007. Agriculture (Chapter 8), *Climate Change 2007. Fourth Assessment Report, Mitigation Working Group (Working Group III)*, Intergovernmental Panel on Climate Change (IPCC), [www.ipcc.ch](http://www.ipcc.ch).
- Contributing Author, 2007. Forestry (Chapter 9), *Climate Change 2007. Fourth Assessment Report, Mitigation Working Group (Working Group III)*, Intergovernmental Panel on Climate Change (IPCC), [www.ipcc.ch](http://www.ipcc.ch).
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- Andrasko, K., S. Rose, R. Alig, J. Lewandrowski, R. MacGregor, and B. Murray, 2005. "Agriculture, Forestry and Greenhouse Gases: Research provides insights for public policy," Farm Foundation, September
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- Rose, Steven K. and Duane Chapman, 2003. "Timber Harvest Adjacency Economies, Hunting, Species Protection, and Old Growth Value: Seeking the Dynamic Optimum," *Ecological Economics* 44: 325-344.
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- Rose, Steven K., 1998. "Non-market Valuation Techniques: The State of the Art." Report prepared for The World Bank Group, October. Based on a Cornell University working paper: Working Paper Series in Environmental and Resource Economics ERE 99-01, Cornell University, January, 1998.

Rose, Steven K., 1998. "The International Public Good Literature—A Review." Report prepared for The World Bank Group, October.

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### **Other select work in progress**

Rose, S, J Morris, A Gurgel, forthcoming. *Assessing global and sub-global socioeconomic transition uncertainty for climate management and risk analyses.*

Rose, SK, C Octaviano, D Livengood, F Ralston Fonseca, *SMARTargets: A methodology for grounded and actionable climate targets aligned with global goals.*

Rose, SK, *Unpacking discounting of climate damages: a sequence of questions and science-based answers.*

Rose, SK, B McCarl, G Latta, *US agriculture and forestry biomass feedstock supplies and environmental and social implications.*

Rose, SK, J Bistline, *Proper (and improper) use of the social cost of carbon and other greenhouse gases.*

### **Select presentations**

"Assessment of newer global emissions scenarios for corporate climate transition risk and target setting applications," IAMC Finance Scientific Working Group, May 2026.

"Understanding global greenhouse gas emissions pathways and why it matters to companies," EPRI Climate Strategy, Risk, and Resilience Workshop, May 2026.

"SMARTargets: an opportunity for corporate climate solutions and progress," Edison Electric Institute Chief Sustainability Officers Workshop, March 2026.

"Energy Policy, Transition Risk, and Climate-Science Aligned Pathways," REITwise 2026, Sustainability Council, March 2026.

"Energy transition opportunities and risks," REITwise 2026, Energy Supply and Capital Planning: Managing Energy Risk, March 2026.

"SMARTargets: An opportunity for progress," IEA-IETA-EPRI GHG Trading Workshop, December 2025.

"SMARTargets: A methodology for grounded and actionable climate targets aligned with global goals," Integrated Assessment Modeling Consortium Annual Meeting, November 2025.

"SMARTargets: Introduction and strategy," Edison Electric Institute Chief Sustainability Officers Workshop, November 2025.

"Meaningful Climate Risk and Risk Management Metrics," Finance-Utility Dialogue on Climate Risk and Target Setting, NYC Climate Week, September 2025.

"Reconciling widely varying estimates of the global economic impacts from climate change," GLASSNET-GTAP Virtual Workshop, Purdue University, July 2025.

"Navigating deep decarbonization, reliability and affordability in the electric power sector," Edison International Sustainability Seminar, July 2025.

"SMARTargets: A Methodology for Grounded and Actionable Climate Targets Aligned with Global Goals," Draft Methodology Public Comment Process Launch Webcast, July 2025.

"Goals and roles of model development?" Energy transitions policy and modeling at a crossroads: New communities, approaches, and scenarios, June 2025.

"Discounting the Economic Impacts of Climate Change – Options and Viable Choices," Stanford-EPRI Public Educational Webcast Series: Options for Estimating the Global Economic Impacts of Climate Change and the Social Cost of Carbon Module-by-Module, May 2025.

"Fueling the Future: Potential Transitions, Opportunities, and Risks for Global and U.S. Energy and Companies," MEA Energy Association Executive Forum, March 2025.

"Climate Target Setting Based on Science – Stakeholder Engagement to Validation," Edison Electric Institute Sustainability Executive Leadership Retreat, January 2025.

“Wildly divergent estimates of the global economic impacts of climate change and the need for reconciliation,” International Monetary Fund (IMF) Conference on Revisiting Climate Damages, December 2024.

“Electric sector low carbon transition uncertainty and risk: a survey of issues,” Midcontinent Independent System Operator, May 2024.

“What are the consequences of meeting and not-meeting the Paris goals – for climates, economies, and adaptation,” Pathways to Sustainable Development: Scenarios for Energy Transition Acceleration, Norwegian University of Science and Technology, March 2024.

“Differences in Regional Decarbonization Opportunities, Uncertainties, and Risks: A P201E 2023 Publication Relevant to Climate Risk and Target Setting,” EPRI Energy System and Climate Analysis Webcast, March 2024.

“Challenges and Insights for Mexico Climate Scenarios,” Sustainable Finance Committee Conference: Towards the Implementation of Climate Scenarios in Mexico, Banco de Mexico, October 2023.

“Options and challenges for estimating the global economic impacts to a future climate,” Stanford-EPRI Public Educational Webcast Series: Options for Estimating the Global Economic Impacts of Climate Change and the Social Cost of Carbon Module-by-Module, February 2024.

“Uncertainty in future global societies and evaluating projections options,” Stanford-EPRI Public Educational Webcast Series: Options for Estimating the Global Economic Impacts of Climate Change and the Social Cost of Carbon Module-by-Module, January 2024.

“Assessing and Planning for Low-carbon Futures,” AEP Enterprise Sustainability Council, October 2023.

“Updating and Applying the Social Cost of Carbon, Methane, and Other Greenhouse Gases,” Salt River Project, October 2023.

“Company Greenhouse Gas Emissions Targets Based on Sound Science,” EPRI Board of Directors, August 2023.

“Climate Change Scenario Analysis: Arizona Low-Carbon Transition Risk Assessment Update,” Arizona Public Service Resource Planning Advisory Council, July 2023.

“Planning for and Managing Future Climate Change,” Climate Change & Implications for Defense and Security (CCIDS), National Defense University, July 2023 and May 2023.

“Recommendations for creating scientifically reliable climate and net benefits estimates,” EPRI, July 2023.

“Estimating the global economic impacts response to a future climate,” Workshop on the challenges and opportunities for estimating the global economic impacts of climate change, June 2023.

“Discounting future economic impacts,” Workshop on the challenges and opportunities for estimating the global economic impacts of climate change, June 2023.

“Global socioeconomic and emissions projections,” Workshop on the challenges and opportunities for estimating the global economic impacts of climate change, Snowmass, CO, June 2023.

“EPA’s draft new social cost of greenhouse gases estimates (SC-GHGs),” Edison Electric Institute Environmental Council Workshop, May 2023.

“Understanding and using the social cost of carbon and discounting climate benefits,” CIBO Policies and Technical Issues Conference, May 2023.

“Technical insights for company low-carbon transition risk assessments,” Fitch Ratings, May 2023.

“Preparing for the Unprecedented As We Transition to Carbon-Free Power Generation,” AMS Washington Forum, April 2023.

“Planning for and Managing Future Climate Change,” Sierra Club, April 2023.

“Potential Updates to the Social Costs of Carbon and Other Greenhouse Gases (SC-GHGs): Technical observations regarding EPA’s draft methodology and use of estimates,” EPRI Public Educational Webcast Series, March 2023.

“Climate Change Scenario Analysis: Update and Climate Change Results,” January 2023.

“Planning for Global Climate Change,” Southwest Water Resiliency Conference, October 2022.

“Pathways to net zero carbon,” International Climate Symposium, Dickinson College, October 2022.

“Grounding climate risk decisions: risk assessment scientific foundation and guidance,” UNDP, October 2022.

“From Global Climate Ambition and Cooperation to Corporate Goals and Offsets Potential,” Exploring the Role of GHG Emissions Offsets to Achieve Corporate Decarbonization Goals Workshop, September 2022.

“Grounding climate risk decisions: Physical climate risk assessment scientific foundation and guidance,” Extreme Weather and our Changing Climate, August 2022.

“Unpacking discounting of climate damages: a sequence of questions and science-based answers,” Discounting and the Social Cost of Carbon, EPRI Social Cost of Social Cost of Carbon and Other Greenhouse Gases Educational Webcast Series, July 2022.

“Quantifying uncertainty in global and sub-global socioeconomic and greenhouse gas emissions futures,” Scenarios Forum 2022, June 2022.

“Enhancing grid & community resilience: adapting to climate change and electrification,” Michigan Public Utility Commission, May 2022.

“Company Physical Climate Risk Assessment,” EPRI-Enel Foundation Workshop: Climate Resilience Drivers and Implementation, May 2022.

“Framing the Concept of Physical Climate Risk for Companies,” EPRI 25th Annual Energy and Climate Seminar, May 2022.

“Climate science and scenarios – introduction and framing,” EPRI-Enel Foundation Climatize Workshop, March 2022.

“Social cost of greenhouse gas use technical considerations and guidance,” Using the Social Cost of Carbon in Policy and Decisions, EPRI Social Cost of Social Cost of Carbon and Other Greenhouse Gases Educational Webcast Series, February 2022.

“Quantifying uncertainty in global and sub-global socioeconomic and greenhouse gas emissions futures,” American Geophysical Union, December 2021.

“Climate Adaptation and Resilience: Physical Climate Data & Guidance,” EPRI Board of Directors, November 2021.

“The Science of Social Cost Greenhouse Gas Estimation and Use: Issues and Challenges to Address for Scientific Reliability,” Understanding the Social Cost of Greenhouse Gas Emissions: Regulatory Implications for the Power Sector, June 2021.

“Scientific challenges in social cost of greenhouse gases estimation and use,” The social cost of carbon and other greenhouse gases – getting up to speed and the road ahead, EPRI Social Cost of Social Cost of Carbon and Other Greenhouse Gases Educational Webcast Series, June 2021.

“Developing Scientifically Reliable Social Cost of Greenhouse Gas Estimates and Use,” Environmental Law & Finance Series: The Social Cost of Carbon, Environmental Law Institute, June 2021.

“Perspectives on biomass feedstock supply modeling for deep decarbonization,” 2021 MIT Energy Initiative Spring Symposium, BECCS: Bioenergy and Carbon Capture and Storage, June 2021.

“Company climate risk decision-making issues and needs,” EPRI 24th Annual Energy and Climate Seminar, May 2021.

“Repairing the Social Cost of Carbon Framework: Immediate and One Year Steps for Scientifically Reliable Estimates and Use,” EPRI webcast, March 2021.

“Climate Change Resiliency in the Energy Sector,” Resilient Engineered Environmental Systems, 70th Environmental Engineering Conference, University of Kansas, April 2020.

“Extreme Weather Events; Electric Sector Adaptation and Resiliency,” EPRI Board of Directors, November 2019.

“Trade-Offs in Managing Global Climate Damages,” Rapid System Transitions Towards Low GHG Futures Workshop, July 2019.

“Global Climate Damage Risk and Decision-Making,” International Energy Workshop, June 2019.

“Global Climate Damage Risk and Decision-Making,” American Geophysical Union, December 2018.

- “A Scientific Foundation for Assessing Company Climate Policy (Transition) Risk and Setting Goals,” UNEP FI North American Roundtable, September 2019.
- “A Scientific Foundation for Assessing Company Climate Policy Risk and Setting Goals,” Task Force on Climate-Related Financial Disclosures, June 2019.
- “Company climate planning and global scenarios – issues and opportunities,” Scenarios Forum, March 2019.
- “Understanding, Improving, and Using the Social Cost of Carbon,” Climate Forum on California’s Cap-And-Trade Program, September 2018.
- “Science Based Targets & Electric Power Sector Decarbonization,” MIT XLI Global Change Forum, March 2018.
- “Global Climate Damage Risk and Decision-Making,” Integrated Assessment Modeling Consortium Annual Meeting, December 2017.
- “Transitioning to Bioenergy for Long-run Climate Management,” National Academy of Sciences Carbon Dioxide Removal Committee, October 2017.
- “Guidance for Using the Social Cost of Carbon (SCC),” Pricing Carbon Dialogue, Resources for the Future, October 2017.
- “A Carbon Tax and the Social Cost of Carbon,” Harvard Electricity Policy Group, 85<sup>th</sup> Plenary Session, December 2016.
- “Limiting Global Warming: Sizing Up the Ambition and Challenge,” Rutgers Energy Institute Policy Seminar Series, Rutgers University, September 2016.
- “Calculating the Social Cost of Carbon: A Detailed Perspective,” Climate Action 2016 Forum, University of Maryland, May 2016.
- “Challenges and Opportunities on the Road Forward from the Paris Climate Agreement,” ENV-VISION Conference, May 2016.
- “The Paris Climate Agreement – Implementation and States,” Women’s Council on Energy and the Environment, April 2016.
- “Characterizing & Advancing Understanding of the Social Cost of Carbon: Deconstructing the Modeling,” Center for Climate and Energy Decision Making, Carnegie Mellon University, February 2016.
- “The Road From Paris: Current and Future Pledges, Global Temperatures, and The Potential Value of International Emissions Trading Partnerships,” UNFCCC COP-21, December 2015.
- “Characterizing & Advancing Understanding of the Social Cost of Carbon,” UNFCCC COP-21, December 2015.
- “Important Frontiers for Climate Change Economics,” Research Frontiers in the Economics of Climate Change, Stanford University, October 2015.
- “Understanding Integrated Assessment Modeling of the Social Cost of Carbon,” Committee on Assessing Approaches to Updating the Social Cost of Carbon, National Academies of Sciences, Engineering, and Medicine, September 2015.
- “Understanding the Social Cost of Carbon: A Technical Assessment—Carbon Cycle and Climate Modeling,” US Carbon Cycle Scientific Steering Group 30<sup>th</sup> Meeting, May 2015.

**Select other professional experience**

- Graduate Faculty**, Department of Economics, Purdue University, Special appointment 2008 – 2013.
- Senior Research Economist**, U.S. EPA, Climate Change Division, Oct 2003 – Oct 2008.
- Technical Expert**, Member of the U.S. Delegation, IPCC Working Group III, Fourth Assessment Report Approval, 2007.
- Expert**, U.S. Government Review Panel, IPCC 4<sup>th</sup> Assessment Report, Working Groups II, III, and Synthesis Report.
- Economist**, The CNA Corporation, Environment Program, Resource Analysis Division, Jun 2001 – Oct 2003.
- Assistant Professor**, Joint appointment in Departments of Economics and Environmental Studies, Washington College, Aug 2000 – Jun 2001.
- Consulting Economist**, The World Bank Group, 1998.

**Resource Economist**, USAID, 1998.

**Journal referee** – *Proceedings of the National Academy of Sciences, Nature, Climatic Change, Review of Environmental Economics and Policy, Ecological Economics, Energy Economics, Energy Journal, Environment and Development Economics, Climate Policy, Environmental Research Letters, etc.*