

**Short Curriculum Vitae
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Steven K. Rose, Ph.D.

Senior Research Economist, Energy Systems and Climate Analysis Research Group
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EDUCATION

Ph.D., Economics, Cornell University, 2000

Major Field: Environmental and Natural Resource Economics

Minor Fields: Applied econometrics, mathematical programming, microeconomics, experimental economics, development economics

B.A., Economics with Mathematical Emphasis, honors distinction, Univ. of Wisconsin-Madison, 1989

Minor Fields: Mathematics, econometrics, computer science, liberal arts studies

OTHER SELECT ACTIVITIES

Lead Author, Intergovernmental Panel on Climate Change, 6th Climate Change Assessment of Working Group II on Impacts, Adaptation, and Vulnerability, Climate Resilient Development.

Advisory Group, Advisory Group for Scenario Guidance, Task Force on Climate-Related Financial Disclosures (TCFD), 2019–2020.

Committee Member, Committee on Assessing Approaches to Updating the Social Cost of Carbon, The National Academies of Sciences, Engineering, and Medicine, 2015 – 2017.

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.

Scientific Steering Group, U.S. Carbon Cycle Science Program, 2011 – present.

Lead Author, IPCC 5th and 4th Climate Change Assessment Reports.

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

Scientific Steering Committee, Integrated Assessment Modeling Consortium, 2009 – present.

Member, Scientific Working Group on Scenarios for Climate-related Financial Analysis, Integrated Assessment Modeling Consortium.

Co-chair, Stanford University Energy Modeling Forum, Land-use and Bioenergy Modeling Subgroup.

SELECT PUBLICATIONS

Rose, S, D Young, 2021. Repairing the Social Cost of Carbon: Immediate Steps for Scientifically Reliable Estimates and Use. EPRI, Palo Alto, CA. 3002020523.

Rose, S, D Young, 2020. *EPRI Public Comments on New York State Department of Environmental Conservation’s Proposal “Establishing a Value of Carbon: Guidelines for Use by State Agencies.”* EPRI, Palo Alto, CA: 2020. 3002020249.

Rose SK, Bauer N, Popp A, Weyant J, Fujimori S, Havlik P, Wise M, van Vuuren D, 2020. An overview of the Energy Modeling Forum 33rd study: assessing large-scale global bioenergy deployment for managing climate change. *Climatic Change* 163, 1539–1551. <https://doi.org/10.1007/s10584-020-02945-6>.

Rose, S., M. Scott, 2020. *Review of 1.5°C and Other Newer Global Emissions Scenarios: Insights for Company and Financial Climate Low-Carbon Transition Risk Assessment and Greenhouse Gas Goal Setting.* EPRI, Palo Alto, CA. 3002018053.

Rose, S, 2020. *The Value of Carbon Dioxide Removal: Opportunities for Global Climate Management, the Electric Sector, and Companies.* EPRI, Palo Alto, CA: 2020. 3002016604.

Rose SK, Popp A, Fujimori S, Havlik P, Weyant J, Wise M, van Vuuren D, Brunelle T, Cui Y, Daioglou V, Frank S, Hasegawa T, Humpenöder F, Kato E, Sands RD, Sano F, Tsutsui J, Doelman J, Muratori M, Prudhomme R, Wada K, Yamamoto H, in review. Global biomass supply modeling for long-run management of the climate system.

Scott, M, S Rose, 2020. *Climate Disclosure and Voluntary Reporting Trends: 2019 Survey Results.* EPRI, Palo Alto, CA. 3002018052.

Daioglou V, Rose SK, Bauer N, Kitous A, Muratori M, Sano F, Fujimori S, Gidden MJ, Kato E, Keramidas K, Klein D, Leblanc F, Tsutsui J, Wise M, van Vuuren DP, 2020. Bioenergy technologies in long-run climate change mitigation: results from the EMF-33 study. *Climatic Change* 163, 1603–1620. <https://doi.org/10.1007/s10584-020-02799-y>.

- Muratori M, Bauer N, Rose SK, Wise M, Daioglou V, Cui Y, Kato E, Gidden M, Strefler J, Fujimori S, Sands RD, van Vuuren DP, Weyant J, 2020. EMF-33 insights on bioenergy with carbon capture and storage (BECCS). *Climatic Change* 163, 1621–1637. <https://doi.org/10.1007/s10584-020-02784-5>.
- Scott, M, S Rose, 2019. *Climate Disclosure and Voluntary Reporting Trends: 2018 Survey Results*. EPRI, Palo Alto, CA. 3002016948.
- Bauer, N, SK Rose, S Fujimori, D van Vuuren, J Weyant, M Wise, Y Cui, V Daioglou, MJ Gidden, E Kato, A Kitous, F Leblanc, R Sands, F Sano, J Strefler, J Tsutsui, R Bibas, O Fricko, T Hasegawa, D Klein, A Kurosawa, S Mima, M Muratori, 2018. Global energy sector emission reductions and bioenergy use: overview of the bioenergy demand phase of the EMF-33 model comparison. *Climatic Change*.
- Rose, S, M Scott, 2018. *Grounding Decisions: A Scientific Foundation for Companies Considering Global Climate Scenarios and Greenhouse Gas Goals*. EPRI, Palo Alto, CA. 3002014510.
- Bistline, J, SK Rose, 2018. Social Cost of Carbon Pricing of Power Sector CO₂: Accounting for Leakage and Other Social Implications from Subnational Policies, *Environmental Research Letters* 13 014027.
- Huppmann, D, E Kriegler, V Krey, K Riahi, J Rogelj, SK Rose, J Weyant, et al., 2018. *IAMC 1.5°C Scenario Explorer and Data hosted by IIASA*. Integrated Assessment Modeling Consortium & International Institute for Applied Systems Analysis. doi: 10.22022/SR15/08-2018.15429.
- Cropper, ML, RG Newell, M Allen, M Auffhammer, CE Forest, IY Fung, JK Hammitt, HD Jacoby, RE Kopp, W Pizer, SK Rose, R Schmalensee, JP Weyant, 2017. *Valuing Climate Damages: Updating Estimation of the Social Cost of Carbon Dioxide*. National Academies of Sciences, Engineering, and Medicine, Committee on Assessing Approaches to Updating the Social Cost of Carbon. Washington, DC: National Academies Press.
- Rose, S.K., R. Richels, G. Blanford, T. Rutherford, 2017. The Paris Agreement and Next Steps in Limiting Global Warming. *Climatic Change* 142(1), 255-270.
- Rose, S.K., D.B. Diaz, G.J. Blanford, 2017. Understanding the Social Cost of Carbon: A Model Diagnostic and Inter-Comparison Study, *Climate Change Economics* 8 (2).
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- Rose, S.K., 2017. *Carbon Pricing and the Social Cost of Carbon*. EPRI, Palo Alto, CA. 3002011391.
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- Cropper, ML, RG Newell, M Allen, M Auffhammer, CE Forest, IY Fung, JK Hammitt, HD Jacoby, RE Kopp, W Pizer, SK Rose, R Schmalensee, JP Weyant, 2016. Assessment of Approaches to Updating the Social Cost of Carbon: Phase 1 Report on a Near-Term Update. National Academies of Sciences, Engineering, and Medicine. Committee on Assessing Approaches to Updating the Social Cost of Carbon, Board on Environmental Change and Society. Washington, DC: National Academies Press.
- Rose S, 2016. Estimating Benefits of Reducing Greenhouse Gas Emissions. *Public Utilities Fortnightly* (Aug): 52-55.
- Rose, S and J. Bistline, 2016. *Applying the Social Cost of Carbon: Technical Considerations*. EPRI, Palo Alto, CA. Report #3002004659, <http://epri.co/3002004659>.
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- Blanford, G., D. Diaz, R. Richels, S. Rose, T. Rutherford, 2015. *CO₂ Mitigation for Climate Risk Management*. EPRI, Palo Alto, CA. Report #3002005831, <http://epri.co/3002005831>.
- Rose, S.K., 2015. The Inevitability of Climate Adaptation in U.S. Agriculture. *Choices* 30(2) [Journal of the Agriculture and Applied Economics Association].

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- Waldhoff, S., D. Anthoff, S. Rose, and R.S.J. Tol, 2014. The Marginal Damage Costs of Different Greenhouse Gases: An Application of FUND. *Economics: The Open-Access, Open-Assessment E-Journal*, 8 (2014-31): 1—33. <http://dx.doi.org/10.5018/economics-ejournal.ja.2014-31>.
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- Lead Author, 2014. Energy, Water, and Land Use (Chapter 10). *Climate Change Impacts in the United States: The Third National Climate Assessment*, U.S. Global Change Research Program, 257-281.
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- Rose, S.K., 2012. The role of the social cost of carbon in policy. *WIREs Climate Change* 3:195–212.
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- van Vuuren, D., K. Riahi, R. Moss, J. Edmonds, A. Thomson, N. Nakicenovic, T. Kram, F. Berkhout, R. Swart, A. Janetos, S.K. Rose and N. Arnell, 2012. A proposal for a new scenario framework to support research and assessment in different climate research communities. *Global Environmental Change* 1: 21-35.
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- Rose, S.K. and B. Sohngen, 2011. Global Forest Carbon Sequestration and Climate Policy Design, *Environment and Development Economics* 16: 429-454.
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- Anthoff, David and Rose, Steven and Tol, Richard S. J. and Waldhoff, Stephanie T., 2011. The Time Evolution of the Social Cost of Carbon: An Application of Fund. Economics Discussion Paper No. 2011-44, Available at SSRN: <https://ssrn.com/abstract=1974112> or <http://dx.doi.org/10.2139/ssrn.1974112>.
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- Hibbard, K., A. Janetos, D.P. van Vuuren, J. Pongratz, S.K. Rose, R. Betts, M. Herold, and J.J. Feddema, 2010. "Research Priorities in Land Use and Land Cover Change for Earth System and Integrated Assessment Modeling," *International Journal of Climatology* 30 (13): 2118–2128.
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- Clarke, L., J. Edmonds, V. Krey, R. Richels, S. Rose, M. Tavoni, 2009. "International climate policy architectures: Overview of the EMF 22 International Scenarios," *Energy Economics* 31 (Supplement 2): S64-S81.
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SELECTION OF OTHER PROFESSIONAL EXPERIENCE

Graduate Faculty, Department of Economics, Purdue University, Special appointment 2008 – 2013.

Co-winner 2008 Nobel Peace Prize, IPCC Lead Author

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 Meeting, Bangkok, Thailand, 2007.

Expert, U.S. Government Review Panel, IPCC 4th 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, Climatic Change, Review of Environmental Economics and Policy, Ecological Economics, Energy Economics, Energy Journal, Environment and Development Economics, Climate Policy, Environmental Research Letters, etc.*