

**Opportunities for Additional GHG Reductions From Petroleum
Transportation Fuels Workshop
August 20, 2018**

PANELISTS

Roger Aines

Roger is the Chief Scientist of the Energy Program at Lawrence Livermore National Laboratory. He has a PhD in Geochemistry from Caltech, and has worked on carbon management for the last twenty years. Today he leads a new initiative in Negative Emissions at Lawrence Livermore that is developing the technology to remove carbon dioxide from the atmosphere, either by natural methods such as increasing soil carbon, or by engineered approaches such as capturing carbon dioxide from biofuel production or even direct air capture. An important part of that initiative is looking at how businesses can be created that will do the work of removing billions of tons of carbon dioxide per year. Roger believes that many of those businesses will begin here in California.

Severin Borenstein

Severin Borenstein is E.T. Grether Professor of Business Administration and Public Policy at the Haas School of Business and Faculty Director of the Energy Institute at Haas. He is also Director emeritus of the University of California Energy Institute (1994-2014). He received his A.B. from U.C. Berkeley and Ph.D. in Economics from M.I.T. His research focuses on business competition, strategy, and regulation. He has published extensively on the airline industry, the oil and gasoline industries, and electricity markets. His current research projects include the economics of renewable energy, economic policies for reducing greenhouse gases, alternative models of retail electricity pricing, and competitive dynamics in the airline industry.

Borenstein is also a research associate of the National Bureau of Economic Research in Cambridge, MA. He served on the Board of Governors of the California Power Exchange from 1997 to 2003. During 1999-2000, he was a member of the California Attorney General's Gasoline Price Task Force. In 2010-11, Borenstein was a member of U.S. Secretary of Transportation Ray LaHood's Future of Aviation Advisory Committee. In 2012-13, he served on the Emissions Market Assessment Committee, which advised the California Air Resources Board on the operation of California's Cap and Trade market for greenhouse gases. In 2014, he was appointed to the California Energy Commission's Petroleum Market Advisory Committee, which he chaired from 2015 until the Committee was dissolved in 2017. Since 2015, he has served on the Advisory Council of the Bay Area Air Quality Management District.

Peter Erickson

Pete Erickson is a Senior Scientist in the U.S. Center of the Stockholm Environment Institute (SEI), based in the Seattle office. Peter's research focuses on climate change policy, with particular interests in the role of offsets in cap-and-trade programs, contribution of consumption and behavior changes to reducing greenhouse gas emissions, industrial policy and cities.

Current and recent projects include the development of a greenhouse gas tracking framework for a major U.S. metropolitan area (Seattle); a study on the quality and quantity of potential greenhouse gas offsets in the United States; a study on the role of international offsets in global climate mitigation; and a long-term emission reduction scenario for sustainable consumption and production in the United States.

Peter joined SEI in 2008 after 8 years consulting on environmental issues for cities and states throughout the United States. He received a B.A. from Carleton College in 1998, with a major in geology and extensive studies in mathematics.

Ashley Langer

Ashley Langer is an Assistant Professor of Economics at the University of Arizona who does research at the intersection of energy economics and industrial organization. In order to better understand how to craft efficient environmental policies, Professor Langer studies how individuals and firms make decisions that affect the environment. She has worked on how drivers choose which vehicles to purchase, how much and how aggressively to drive those vehicles, and where to purchase gasoline. Professor Langer has looked at how manufacturers change vehicle prices in response to gasoline price changes. In research on the effect of government policy on the environment, Professor Langer has studied how congestion tolling would affect urban land use and how highway spending affects congestion. In new research, Professor Langer looks at how the evolution of residential solar subsidies over time can drastically impact their cost-effectiveness. Her research informs policies from taxes on gasoline, vehicle miles traveled, and congestion to subsidies for alternative fueling stations and solar panel installation. Professor Langer has an undergraduate degree from Northwestern University and a PhD from the University of California, Berkeley. She has previously worked at the Brookings Institution and the Ford School of Public Policy at the University of Michigan.

Amy Myers Jaffe

Amy Myers Jaffe is the David M. Rubenstein senior fellow for energy and the environment and director of the program on Energy Security and Climate Change at the Council on Foreign Relations. A leading expert on global energy policy, geopolitical risk and energy and sustainability, Jaffe previously served as executive director for energy and sustainability at the University of

California, Davis and senior advisor for energy and sustainability at Office of the Chief Investment Officer of the University of California, Regents. She was also formerly a global fellow at the Woodrow Wilson International Center for Scholars. Prior to joining the University of California, Davis, Jaffe served as founding director of the Energy Forum at Rice University's James A. Baker III Institute for Public Policy and its Wallace S. Wilson fellow for energy studies. She has taught energy policy, business, and sustainability courses at Rice University, University of California, Davis, and Yale University.

Christopher Knittel

Christopher Knittel is the George P. Shultz Professor of Applied Economics in the Sloan School of Management at the Massachusetts Institute of Technology. He is also the Director of MIT's Center for Energy and Environmental Policy Research which has served as the hub for social science research on energy and the environmental since the late 1970s. Professor Knittel also co-directs of The E2e Project, a research initiative between MIT and UC Berkeley to undertake rigorous evaluation of energy efficiency investments. He joined the faculty at MIT in 2011, having taught previously at UC Davis and Boston University. Professor Knittel received his B.A. in economics and political science from the California State University, Stanislaus in 1994 (*summa cum laude*), an M.A. in economics from UC Davis in 1996, and a Ph.D. in economics from UC Berkeley in 1999. His research focuses on environmental economics, studying how firms and consumers respond to policies. He is a Research Associate at the National Bureau of Economic Research in the Productivity, Industrial Organization, and Energy and Environmental Economics groups. He is the co-editor of the *Journal of Public Economics*, and an associate editor of the *Journal of Transportation Economics and Policy*, and *Journal of Energy Markets*, having previously served as an associate editor of *The American Economic Journal -- Economic Policy* and *The Journal of Industrial Economics*. His research has appeared in *The American Economic Review*, *The American Economic Journal*, *The Review of Economics and Statistics*, *The Journal of Industrial Economics*, *The Energy Journal* and other academic journals.

Hannah Pitt

Hannah Pitt is a Research Analyst with Rhodium Group's Energy & Climate team, where she focuses on analyzing energy markets and policy, and on quantifying the impacts of climate change on human systems. Before joining Rhodium, Hannah supported efforts to design and implement climate mitigation strategies in developing countries as a Senior Policy Analyst at the Center for Clean Air Policy, a nonprofit think tank in Washington, D.C. Previously, she contributed to economic development research at the Yale University Economic Growth Center and the Institute for Financial Management and Research. Hannah has a Bachelor's degree in Economics and Environmental Science from Northwestern University and a Master's degree in International Development from the Harvard Kennedy School.

Daniel Sperling

Dr. Daniel Sperling is Professor of Civil Engineering and Environmental Science and Policy, and founding Director of the Institute of Transportation Studies at the University of California, Davis (ITS-Davis). Dr. Sperling has led ITS-Davis to international prominence by building strong partnerships with industry, government, and the environmental community, integrating interdisciplinary research and education programs, and connecting research with public outreach and education.

Dr. Sperling is recognized as a leading international expert on transportation technology assessment, energy and environmental aspects of transportation, and transportation policy. He was the 2013 chair of the California Fuel Cell Partnership and is 2015 Chair of the Transportation Research Board of the National Academies. He received the 2013 Blue Planet Prize for being "a pioneer in opening up new fields of study to create more efficient, low-carbon, and environmentally beneficial transportation systems" and 2010 Heinz Award for his "achievements in the research of alternative transportation fuels and his responsibility for the adoption of cleaner transportation policies in California and across the United States." He is author or editor of over 200 technical articles and 12 books, including *Two Billion Cars* (Oxford University Press, 2009), and has testified 7 times to the U.S. Congress on alternative fuels and advanced vehicle technology.

He earned his Ph.D. in Transportation Engineering from the University of California, Berkeley (with minors in Economics and Energy & Resources) and his B.S. in Environmental Engineering and Urban Planning from Cornell University. Professor Sperling worked two years as an environmental planner for the US Environmental Protection Agency and two years as an urban planner in the Peace Corps in Honduras.