

## **Assessing the Benefits of Avoided Climate Change**

Hyatt Regency on Capitol Hill, Washington, D.C.

March 16-17, 2009

### **Featured Speakers**

**Eileen Claussen** is the President of the Pew Center on Global Climate Change and Strategies for the Global Environment. Ms. Claussen is the former Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs. She served as a Special Assistant to the President and Senior Director for Global Environmental Affairs at the National Security Council and as Chairman of the United Nations Multilateral Montreal Protocol Fund. Ms. Claussen was also Director of Atmospheric Programs at the U.S. Environmental Protection Agency. She is a member of the Council on Foreign Relations, the Singapore Energy Advisory Committee, and the Ecomagination Advisory Board. Ms. Claussen is the recipient of the Department of State's Career Achievement Award and the Distinguished Executive Award for Sustained Extraordinary Accomplishment. She also served as the Timothy Atkeson Scholar in Residence at Yale University.

**Dina Kruger** is Director of the Climate Change Division in the Office of Air and Radiation of the U.S. Environmental Protection Agency. Ms. Kruger is responsible for a wide range of programs and analyses dealing with climate change policy, economics, mitigation technologies, science and impacts, and communication. She is currently managing the development of a U.S. EPA rulemaking on the mandatory reporting of greenhouse gases and is providing economic, technical and scientific support to the ongoing rulemakings in the Office of Air and Radiation and the Office of Water. Ms. Kruger directs the EPA's domestic partnership programs on methane and fluorinated gases and the Methane to Markets Partnership, an international initiative aimed at the development of cost-effective methane recovery and use projects that involves developed and developing countries as well as the private sector. She also manages preparation of the U.S. National Inventory of Greenhouse Gases and Sinks, which is submitted annually to the United Nations Framework Convention on Climate Change, and since 1988 has served as an elected member of the Intergovernmental Panel on Climate Change's Task Force Bureau on Greenhouse Gas Inventories. Ms. Kruger has an M.A. from the Energy and Resources Group at the University of California, Berkeley, and a B.A. from the University of Washington.

**Gary W. Yohe** is the Woodhouse/Sysco Professor of Economics at Wesleyan University and Visiting Professor of Economics at the Yale School of Forestry and Environmental Studies. Most of his work has focused attention on the mitigation and adaptation/impacts sides of the climate issue. Dr. Yohe served as convening lead author for one chapter in the "Response Options Technical Volume" of the Millennium Ecosystem Assessment. His call for a risk management approach to climate policy was adopted last fall in the Synthesis Report of the Fourth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC). He has been a senior member of the IPCC since the mid 1990s, serving as a lead author for four different chapters in the Third Assessment Report and as convening lead author for the last chapter of the contribution of Working Group II to the Fourth Assessment Report. He sits on the New York Panel on Climate Change, the Committee on the Human Dimensions of Global Change for the National Research Council, and the Adaptation Panel of the National Academy of Science initiative on America's Climate Choices. He was educated at the University of Pennsylvania and received his Ph.D. in economics from Yale University in 1975.

## Panelists

**David Anthoff** is an environmental economist working on climate change. He is a post doctoral associate of The Economic and Social Research Institute (Dublin) and a freelance consultant on climate change issues. He is working with the integrated assessment model *FUND*. Mr. Anthoff was a visiting research fellow at the Smith School of Enterprise and the Environment at the University of Oxford in the fall of 2008. He is doing a Ph.D. in environmental economics at the International Max Planck Research School on Earth System Modeling and the Research Unit Sustainability and Global Change at Hamburg University. He holds an M.Sc. in environmental change and management from the Environmental Change Institute at the University of Oxford. Previously, he studied philosophy in Munich and Oxford and obtained an M.Phil. in philosophy, logic, and theory of science from Ludwig-Maximilians-Universität München. He lives and works in Munich, Germany.

**Kristie L. Ebi** is Executive Director of the Technical Support Unit for Working Group II (Impacts, Adaptation, and Vulnerability) of the Intergovernmental Panel on Climate Change (IPCC). Prior to this position, she was an independent consultant. She has been conducting research on the impacts of and adaptation to climate change for more than a dozen years, including on extreme events, thermal stress, food-borne safety and security, and vector-borne diseases. She has worked with the World Health Organization, the United Nations Development Programme, the U.S. Agency for International Development, and others on implementing adaptation measures in low-income countries. She facilitated adaptation assessments for the health sector for the states of Maryland and Alaska. She was a lead author of the human health chapter of the IPCC Fourth Assessment Report, and the human health chapter of the U.S. Climate Change Science Program's Synthesis and Assessment Product, *Analyses of the Effects of Global Change on Human Health and Welfare and Human Systems*. Dr. Ebi's scientific training includes a Ph.D. and a Masters of Public Health in epidemiology, an M.S. in toxicology, and two years of postgraduate research at the London School of Hygiene and Tropical Medicine.

**Chris Hope** is Reader in Policy Modeling at Judge Business School. He is a member of the editorial board of the journals *Integrated Assessment* and *Transport Policy*. He was lead author and review editor for the Third and Fourth Assessment Reports of the Intergovernmental Panel on Climate Change. He is an invited member of OFGEM's Environmental Economists Panel. Chris was the specialist advisor to the House of Lords Select Committee on Economic Affairs Inquiry into aspects of the economics of climate change and an advisor on the PAGE model to the Stern Review on the Economics of Climate Change. In 2007, he was awarded the Faculty Lifetime Achievement Award from the European Academy of Business in Society and the Aspen Institute. His research interests involve numerical information in public policy and the integrated assessment modeling of climate change, and he has published extensively in books and peer-reviewed journals.

**Anthony Janetos** is the Director of the Joint Global Change Research Institute, a joint venture between the Pacific Northwest National Laboratory and the University of Maryland. Dr. Janetos has many years of experience in managing scientific and policy research programs on a variety of ecological and environmental topics, including air pollution effects on forests, climate change

impacts, land-use change, ecosystem modeling, and the global carbon cycle. He was also a co-convening lead author of the U.S. Climate Change Science Program's Synthesis and Assessment Product 4.3, *Climate Change Impacts on Agriculture, Land Resources, Water Resources, and Biodiversity*. Dr. Janetos earned Ph.D. and master's degrees in biology from Princeton University and a bachelor's degree (*magna cum laude*) from Harvard College.

**James Lester**, associate with Stratus Consulting, has been researching and monitoring global, federal, and state climate legislation and the development of related emissions markets. He has experience researching and analyzing federal, state, and local renewable energy and energy efficiency activities for the U.S. Environmental Protection Agency and other government agencies. As a research analyst at the World Resources Institute, Mr. Lester performed financial and economic analyses for the Green Power Market Development Group's initiative, which increased corporate purchasing of renewable energy in both the United States and Europe. He researched and analyzed macroeconomic and general equilibrium models used to identify economic effects of federal climate legislation. As a staff assistant for U.S. Congressman Dennis Moore, he researched economic and environmental legislative issues. Mr. Lester holds a master's degree in environmental economics from the University of Colorado and a bachelor's degree in economics from the University of Kansas.

**Michael MacCracken** is Chief Scientist for Climate Change Programs with the Climate Institute in Washington, D.C. Dr. MacCracken conducted research on climate change and air pollution with the University of California's Lawrence Livermore National Laboratory (LLNL), evaluating the climatic effects of volcanic eruptions, greenhouse gases and nuclear war. From 1993-2002, he was detailed from LLNL as senior global change scientist to the U.S. Global Change Research Program (USGCRP), serving as the first executive director of the Interagency Coordinating Office from 1993-1997 and then as executive director of the National Assessment Coordination Office from 1997-2001. He also helped coordinate the U.S. government review of the Second and Third Assessment Reports of the Intergovernmental Panel on Climate Change (IPCC). Since joining the Climate Institute in 2002 on a voluntary basis, his activities have included participation in the Arctic Climate Impact Assessment, serving as review editor for the North America chapter of the IPCC's Fourth Assessment Report, election as president of the International Association of Meteorology and Atmospheric Sciences, and service on the executive committees of the International Union of Geodesy and Geophysics, and the Scientific Committee on Oceanic Research. He received a Ph.D. in applied science from the University of California Davis/Livermore in 1968 and a B.S. in engineering from Princeton University in 1964.

**Michael D. Mastrandrea** is a Research Associate at the Stanford University Woods Institute for the Environment and a lecturer in the Emmett Interdisciplinary Program in Environment and Resources. His research interests include integrated modeling of the climate and society as a tool for international and domestic policy analysis; climate change impacts and vulnerability assessment in California and worldwide based on observed climate data and climate model projections; and treatment of uncertainty in climate change projections and climate policy decision making. His work has been published in several journals, including *Science* and *Proceedings of the National Academy of Sciences*, and he is a co-author of chapters on key vulnerabilities and climate risks and long-term mitigation strategies for the 2007

Intergovernmental Panel on Climate Change Fourth Assessment Report. He also serves on the Editorial Board for the journal *Climatic Change*. He received a Ph.D. from the Interdisciplinary Graduate Program in Environment and Resources and a B.S. in biological sciences, both from Stanford University.

**Steve Newbold** is a policy analyst at the U.S. Environmental Protection Agency's National Center for Environmental Economics. Dr. Newbold's responsibilities include reviewing and providing technical advice for regulatory impact analyses, including benefit-cost analyses, conducted by U.S. EPA program offices in support of new regulations, and maintaining an independent research agenda. His main areas of interest include ecological modeling, ecosystem valuation using linked ecological or bio-economic models and revealed preference valuation models, systematic conservation planning, and methods of benefits estimation for climate change policies. He received a Ph.D. in ecology from the University of California, Davis.

**Brian O'Neill** is a Scientist III in the Institute for the Study of Society and Environment (ISSE) at the National Center for Atmospheric Research (NCAR). He also leads the Population and Climate Change (PCC) Program at the International Institute for Applied Systems Analysis (IIASA) in Laxenburg, Austria. Brian's research interests are in the field of integrated assessment modeling of climate change, which links socio-economic and natural science elements of the climate change issue in order to address applied, policy-relevant questions. Particular areas of focus include the relationship between demographic change and greenhouse gas emissions, the characterization of uncertainty and its role in decision analysis, and scenario analyses linking long-term climate change goals to shorter-term actions. He has also served as a lead author for the Intergovernmental Panel on Climate Change's Fourth Assessment Report in a volume on impacts, adaptation and vulnerability (Working Group II), and for the Millennium Ecosystem Assessment in a volume on scenarios. He holds a Ph.D. in earth systems science and an M.S. in applied science, both from New York University.

**Jon O'Riordan** is currently an adjunct professor in the Faculty of Interdisciplinary Studies at the University of British Columbia. Dr. O'Riordan is also a policy advisor to the Climate Change Adaptation Team centered at Simon Fraser University in Vancouver, British Columbia. He has worked in the public sector all his professional life, first in the federal government in water resource management and later in the British Columbia provincial government in the Ministry of Environment. He was appointed Deputy Minister of the Ministry of Sustainable Resource Management in 2001 and retired from the public service in 2004. He earned a doctorate at the University of British Columbia in water resource management in 1968.

**Christopher Pyke** is the national director of Climate Change Services for CTG Energetics, Inc. He has worked on issues associated with climate change mitigation, impact assessment, and adaptation for the last 15 years. His work currently focuses on helping clients use buildings and land use to reduce greenhouse gas emissions and prepare for changing climatic conditions. Dr. Pyke is a member of the Scientific and Technical Advisory Committee to the U.S. Environmental Protection Agency's Chesapeake Bay Program and the GHG Advisory Committee for the ANSI Standard 14065. Prior to joining CTG, Dr. Pyke served as a scientist with the U.S. EPA and a postdoctoral fellow at the National Center for Ecological Analysis and Synthesis in Santa Barbara, California. Dr. Pyke holds a Ph.D. and M.A. in geography from the

University of California, Santa Barbara and a B.S. in geology (*magna cum laude*) from the College of William and Mary.

**Martha Roberts** is an Economic Policy Analyst in Environmental Defense Fund's Rocky Mountain Office. Her work includes research on the cost of inaction on global warming, analysis of the need to incorporate the social cost of carbon into federal cost-benefit analyses, and outreach on the green job opportunities available in a low-carbon economy. Along with Nancy Spencer, Ms. Roberts was the author of the recent EDF report, "Carbon Counts: Incorporating the Benefits of Climate Protection into Federal Rulemaking." Ms. Roberts received M.S. and B.S. degrees in earth systems from Stanford University.

**Steven Rose** is a senior economist at the Electric Power Research Institute (EPRI). His current research focuses on long-run modeling of climate change drivers, mitigation, and potential risks. He also models the economics of land-use and bioenergy as it relates to domestic and international climate change policy. Before joining EPRI in October 2008, Dr. Rose served as a senior research economist on climate change at the U.S. Environmental Protection Agency, where he was a senior technical advisor for domestic policy-making and international negotiations and actively engaged in research as well as scientific assessments. He was a lead author for the IPCC's Fourth Assessment Report and the IPCC's recent report on the development of new integrated climate scenarios. He was the principal author for the U.S. EPA's Technical Support Document on the Benefits of Reducing GHG Emissions for EPA's Advance Notice of Proposed Rulemaking on Regulating Greenhouse Gas Emissions under the Clean Air Act. He also developed EPA's social cost of carbon values. He received a Ph.D. in agricultural and resource economics from Cornell University.

**Kristen Sheeran** is the director of Economics for Equity and the Environment Network (E3), a nationwide network of economists developing new arguments for environmental protection with a social justice focus. Her research is primarily focused on the tension between equity and efficiency in climate change mitigation. Dr. Sheeran has published articles in *Environmental and Resource Economics*, *Ecological Economics*, *Climatic Change*, *Journal of Economic Issues*, *Eastern Economic Journal*, *Seattle Journal for Social Justice*, and *Berkeley La Raza Law Journal*. Her book, *Saving Kyoto*, with Graciela Chichilnisky, will be published later this year by New Holland Press. She received a Ph.D. in economics from American University.

**Joel B. Smith**, vice president with Stratus Consulting, has been analyzing climate change impacts and adaptation issues for over twenty years. He was a coordinating lead author for the synthesis chapter on climate change impacts for the Third Assessment Report of the Intergovernmental Panel on Climate Change and was a lead author for the IPCC's Fourth Assessment Report. Mr. Smith is on the National Academy of Sciences' Panel on Adapting to the Impacts of Climate Change. He has provided technical advice, guidance, and training on assessing climate change impacts and adaptation to people around the world and for clients such as the U.S. Environmental Protection Agency, the U.S. Agency for International Development, the U.S. Country Studies Program, the World Bank, the United Nations, a number of states and municipalities in the U.S., the Pew Center on Global Climate Change, the Electric Power Research Institute, the National Commission on Energy Policy, and the Rockefeller Foundation. Mr. Smith worked for the U.S. EPA from 1984 to 1992, where he was the deputy director of the Climate Change Division. He joined Hagler Bailly in

1992 and Stratus Consulting in 1998. Mr. Smith received a Masters in Public Policy from the University of Michigan in 1982 and B.A. (*magna cum laude*) from Williams College in 1979.

**Paul Watkiss** is an independent researcher with almost twenty years experience of climate change policy support. Mr. Watkiss has particular expertise in the impacts and economic costs of climate change, the costs and benefits of adaptation, and practical use in policy appraisal. He led the UK Defra-commissioned policy study, “The Social Costs of Carbon (SCC) Review: Methodological Approaches for Using SCC Estimates in Policy Assessment” and a study for the European Environment Agency, “Climate Change: The Cost of Inaction and the Cost of Adaptation.” His recent work includes work for the UK Climate Change Committee, advising on potential methods for setting short-term and long-term carbon targets. He is currently the technical director on the DG Research project “ClimateCost,” which is advancing top-down and bottom-up studies of climate change economics (impacts, adaptation and mitigation) across different sectors and regions for Europe, India and China.