ENVIRONMENTAL MONITORING, EVALUATION, AND PROTECTION: LINKING SCIENCE AND POLICY

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SPEAKER BIOGRAPHIES

NYSERDA

New York State
Energy Research and
Development Authority

SCOTT BAILEY
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Scott was trained in traditional geology as an undergraduate, but his graduate work turned to hydrology and biogeochemistry. Although his position is classified as a geologist, the term geoecology better describes his work. He is broadly interested in the influence of substrate, including soils, geologic parent-materials, landforms, and water, on the structure and function of ecosystems. The bulk of his work is based on observational studies. This approach is supplemented with field experiments and modeling. He is currently focusing on (1) the evaluation of watershed mass balance studies and retrospective soil monitoring to determine temporal dynamics of forest soil base cation supply, (2) the role of secondary minerals as nutrient reservoirs in forest soils, (3) site factors responsible for nutritional stress in sugar maple, and (4) the role of seepage and fractured-rock groundwater discharge in nutrient cycling and biodiversity. Current projects range in location from the Allegheny Plateau in Pennsylvania to the Chic-Choc Mountains in Quebec, with a special emphasis on the Hubbard Brook, Cone Pond, and Sleepers River Research Watersheds.

TOM BOURGEOIS
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Mr. Bourgeois has provided economic and financial analysis as well as database services to the Pace Energy and Climate Center for more than 10 years. He is Co-Managing Director of the Northeast Regional CHP Applications Center (NERAC), a project of the U.S. Department of Energy. His work on CHP includes development of an online Guidebook on Codes, Siting & Permitting for Small Distributed Generation, Emission Reduction Credits, and small DG, and market assessments of CHP potential. Mr. Bourgeois has been the primary author of reports on issues of energy efficiency, renewable energy policy and regional economic development. He has been contributing author on numerous briefs and other submissions to the Public Service Commission in New York and the Department of Public Utilities in New Jersey. He has supplied testimony as an expert witness on behalf of the Energy Project in proceedings before the Public Service Commission in New York and the Department of Public Utilities in New Jersey. Prior to working for the Energy and Climate Center, Mr. Bourgeois was the Director of the Economic Information Unit of the New York State Data Center, housed within the former New York State Department of Economic Development (now the Empire State Development Corporation). Mr. Bourgeois also served as Principal Economist of the New York State Assembly Ways and Means Committee, where he was responsible for econometric modeling and preparing state and national economic forecasts for use by the tax policy and budget staff of the Assembly. He holds an M.S. from the University of North Carolina at Chapel Hill from the School of Regional Planning (with a concentration in Economic Development). He has successfully completed all coursework and exams leading to the completion of a Ph.D. in managerial economics at Rensselaer Polytechnic Institute (RPI) in Troy NY, a joint degree program offered by the Economics program and the School of Management at RPI.

MICHAEL BRAUER
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Dr. Brauer's research emphasizes the assessment of air pollution exposure and health impacts, with specific focus on transportation-related and biomass air pollution. He has participated in studies throughout the world (U.S., Canada, Mexico, Asia, eastern/western Europe) and served on advisory committees to the World Health Organization, the US National Academy of Sciences, the International Joint Commission, and governments in North American and Asia.

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Mr. Dahl was awarded a B.S. an M.S. in geology from Rensselaer Polytechnic Institute. He is currently employed as the Director, Bureau of Oil and Gas Regulation at NYSDEC and has held this position since July of 2001. Jack was Regional Minerals Manager in Olean/Allegany NY from January of 1990 to July of 2001. Prior to his employment with New York State, Mr. Dahl worked in the oil and gas industry with Phillips Petroleum, Texas Eastern and Union Pacific Resources Corp. from July of 1978 to January of 1990. He was responsible for exploration and development activities in the Gulf Coast, Appalachians, Nova Scotia, Alaska, California, Indonesia, Australia, North Sea and northern Africa.

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Art DeGaetano is a Professor in the Department of Earth and Atmospheric Sciences at Cornell. He is also the director of the federally-supported Northeast Regional Climate Center (NRCC) and Associate Chair of Earth and Atmospheric Sciences (EAS). The NRCC's mission is to enhance the use and dissemination of climate information to a wide variety of sectors in the Northeast. Art serves as an editor for the American Meteorological Society's Journal of Applied Meteorology and Climatology. Art has been at Cornell since 1991, serving as the Center's Research Climatologist until 2001. Prior to his arrival at Cornell, Art was an Assistant Professor with the Meteorology Department at the South Dakota School of Mines and Technology in Rapid City. He received an interdisciplinary Ph.D. focusing on climatology and horticulture from Rutgers University in 1989.

KENNETH DEMERJIAN
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Dr. Kenneth Demerjian is the Ray Falconer Endowed Chair and Director of the Atmospheric Sciences Research Center (1986-present) and Professor in the Department of Earth and Atmospheric Sciences, University at Albany, State University of New York. He also holds appointments in the Departments of Environmental Health and Toxicology in School of Public Health at SUNY and is a Visiting Scientist at Harvard University. He holds a B.A degree in chemistry from Northeastern University and M.S. and Ph.D. degrees in physical chemistry from the Ohio State University. Prior to joining the University at Albany, he was director of National Oceanic and Atmospheric Administration, Meteorology Laboratory, which was assigned under an interagency agreement to the U.S. Environmental Protection Agency. Dr. Demerjian has served on and chaired professional committees and advisory panels including state and federal legislative advisory boards, National Academy of Science Committees, editorial boards and national and international research programs. He co-chaired the NARSTO Ozone Assessment and co-chaired the recent NARSTO Assessment on Multi-pollutant Air Quality Management and Accountability. He serves on the Research Committee of the Health Effects Institute (HEI), the U.S. EPA Clean Air Science Advisory Committee's (CASAC), Ambient Air Monitoring Strategy Subcommittee, and U.S. EPA Board of Scientific Counselors (BOSC) Executive Committee. He is also on the Science Advisory Committee for the Johns Hopkins PM Health Center and Science Advisory Board of the MIRTHE, NSF Engineering Research Center at Princeton University and is an associate editor for Atmospheric Environment. He has published over one hundred journal articles and book chapters in the areas of atmospheric chemistry, air quality measurement, and modeling and atmospheric process science.

CHARLES T. DRISCOLL
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Dr. Charles T. Driscoll is the University Professor of Environmental Systems Engineering at Syracuse University. Dr. Driscoll received his B.S. degree in civil engineering from the University of Maine and his M.S. and Ph.D. in environmental engineering from Cornell University. Dr. Driscoll's teaching and research interests are in the areas of environmental engineering, environmental chemistry, biogeochemistry and environmental quality modeling. Dr. Driscoll's research has focused on the effects of air pollution on forest, aquatic, and coastal ecosystems, including acidic deposition, and mercury. Dr. Driscoll has authored or co-authored more than 300 peer-reviewed articles and has been acknowledged by the Institute for Scientific Information (ISI) as one of the most highly cited researchers in both engineering and environmental science. He has led synthesis efforts on ecosystem effects of air pollution organized by the Hubbard Brook Research Foundation through their Science-Links program. He is currently a principal investigator of the National Science Foundation's Long-Term Ecological Research project at the Hubbard Brook Experimental Forest, New Hampshire. In 1984, the National Science Foundation designated Dr. Driscoll as a Presidential Young Investigator. In 2007 he was elected to the National Academy of Engineering. He has provided expert testimony to U.S. Congressional and State legislative committees. Dr. Driscoll has served on many local, national, and international committees, including the National Research Council Panel on Process of Lake Acidification, Committee of Air Quality Management, the Committee on Independent Scientific Review of the Everglades Restoration Program, and the Heinz Center Committee on the State of the Nation's Ecosystems. Dr. Driscoll is on the Board of Directors of the Hubbard Brook Research Foundation and the Upstate Research Institute.

CHRISTIANE EGGER
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Christiane Egger holds a law degree and a post-graduate degree in environmental engineering. She is Deputy Manager of the O.Ö. Energiesparverband, the energy agency of Upper Austria, and the manager of the Ökoenergie-Cluster, a network of 150 companies active in renewable energy and energy efficiency. Christiane is the Vice-President of the European Energy and Transport Forum, the consultative body of the European Commission on Energy and Transport, and a vice-president of FEDARENE, the European Network of Regional Energy and Environment Agencies. She is also the conference director of the World Sustainable Energy Days, one of the largest annual conferences in Europe on energy efficiency and renewable energy sources. Christiane is an expert in energy efficiency in buildings, solar and biomass heating and dissemination and promotion of sustainable energy production and use.

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Jon D. Erickson is Associate Professor at the Rubenstein School of Environment and Natural Resources and the Environmental Program at the University of Vermont, and Fellow of the Gund Institute for Ecological Economics. From 1997 to 2002 he was Assistant Professor of Economics at Rensselaer Polytechnic Institute where he helped build the first Ph.D. program in ecological economics. He holds a Ph.D. and M.S. in natural resource economics from Cornell University, B.S. and A.S. degrees in business management from Cornell and North Country Community College, and was Lecturer and Visiting Professor in statistics at Cornell and the University of Agriculture in Nitra, Slovakia. His research includes work on climate change economics and

policy, renewable energy development, greenhouse gas emissions and energy modeling, and community-based watershed management, published in over 50 articles and book chapters including the journals Science, Ecological Economics, Climatic Change, Land Economics, World Development, and Energy Policy. His interdisciplinary, problem-based research approach and diverse experience in teaching ecological economics in and out of the classroom are captured in a book with Josh Farley and Herman Daly on Ecological Economics: a Workbook on Problem-Based Learning Other recent books include Ecological Economics of Sustainable Watershed Management, Frontiers in Ecological Economic Theory and Application, and The Great Experiment in Conservation: Voices from the Adirondack Park. He teaches both undergraduate and graduate courses in ecological economics and topical problem-based courses in forest resource values, community empowerment and health education through grassroots sports, and regional sustainable development, and was honored with UVM's first Service Learning Award. He is president-elect of the U.S. Society for Ecological Economics and has served on the board of directors of the International Society for Ecological Economics and is past president of the Adirondack Research Consortium.

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Dr. David Evers is the founder and Executive Director of the BioDiversity Research Institute (BRI). He specializes in research on avian toxicology with an emphasis on the pattern of availability of methylmercury and its effects in the common loon and songbirds. Current research projects include injury assessments of mercury impacts on wildlife in Maine, Massachusetts, New York, and Virginia for the federal government; development of a wildlife criterion for mercury using empirical studies at the population level in Maine and New York; investigating the relationship between water management and biotic mercury uptake throughout New England; and determining spatio-temporal mercury exposure profiles in sharks, birds, and mammals across North America and, more recently, Central America. In 2005, Dave served as a co-guest editor of a special issue in the journal Ecotoxicology devoted to mercury in the environment of northeastern North America. Under BRI, several mercury monitoring networks and database summary efforts are ongoing. Dave is also an adjunct professor at the University of Maine and the University of Southern Maine. He earned a Ph.D. in conservation biology from the University of Minnesota and has published more than 60 scholarly papers.

TOM FIESINGER
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Tom Fiesinger is a Project Manager in NYSERDA's Environmental Research and Development Program. Since joining NYSERDA in 1982 he has been developing and managing projects for improving waste management with a current focus on farm digester projects. Tom received his M.S. in environmental engineering sciences from the University of Florida and his undergraduate degree in chemistry at LeMoyne College.

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Jeremy Firestone is Associate Professor, College of Earth, Ocean, and Environment and Senior Research Scientist, Center for Carbon-free Power Integration, University of Delaware. He has a J.D. from University of Michigan and a Ph.D. in Public Policy Analysis from University of North Carolina. Prior to obtaining his Ph.D., he was an Assistant Regional Counsel for the United States Environmental Protection Agency (USEPA)

(1986-89) and an Assistant Attorney General for the State of Michigan (1989-1996). Professor Firestone helped organize the first AWEA Offshore Wind Power Workshop and has made presentations on wind power at the Danish Offshore Wind Environmental Results Conference, European Offshore Wind Conference, WINDPOWER 2006, NREL, Princeton, Woods Hole, and other venues. He has published the results of his research in leading journals, including Wind Energy, Energy Policy, Coastal Management, Environmental Law Reports, and Environmental Law, and teaches courses on wind power and climate change policy. He was lead citizen participant in recent administrative proceedings leading to the US's first offshore wind power purchase agreement and to explicit consideration of externalities (quantitatively and on a life-cycle basis) to long-term Integrative Resource Planning in Delaware. He is actively engaged in discussions with Gamesa to bring land- and sea-based wind power to the University of Delaware's coastal campus.

JOHN GRAHAM
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John Graham works as a senior scientist at NESCAUM, an interagency association of eight northeastern states (New York, New Jersey, Connecticut, Maine, Massachusetts, Vermont, Rhode Island, and New Hampshire). Since joining NESCAUM in 2002, John has been responsible for investigating air quality issues in the northeast and providing technical advice to its member states, covering a wide range of topics that include fine particulate matter, ozone, regional haze, mercury, and other air toxics. With his NESCAUM colleagues, he has authored several recent reports of note, including "Assessment of Carbonaceous Fine Particles (PM2.5) for New York and the Region" and "Modeling Mercury in the Northeast United States." Ongoing projects include studying the trace elemental composition of distillate oils marketed in the northeast, modeling mobile source air toxics with the Community Multi-scale Air Quality Modeling System (CMAQ) and using NESCAUM's Multi-pollutant Analysis Framework (MPAF) with several states to evaluate least-cost policy pathways to simultaneously achieve climate and other air quality goals. Dr. Graham holds a Ph.D. in atmospheric science from Massachusetts Institute of Technology and an AB in chemistry from Harvard College.

PETE GRANNIS
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Pete Grannis' environmental leadership spans decades. As a State Assembly member from Manhattan's Upper East Side, Mr. Grannis was well known for his proactive and forward-thinking environmental vision. From fighting to clean up long-festering toxic waste sites and reduce damaging acid rain to championing groundbreaking laws to increase recycling and protect residents from dangerous secondhand cigarette smoke, his thirty-two year tenure in Albany was marked by significant environmental victories. Grannis' impressive legislative accomplishments have been recognized by numerous environmental, health, and consumer organizations. As Commissioner of DEC, Mr. Grannis has shown the same vision and passion. Continuing to push the environmental envelope, he has positioned New York State as a global leader in the fight against climate change and moved quickly on a range of department priorities, from protecting open space to pollution prevention to reducing toxics — a wide-ranging agenda for a cleaner, healthier environmental future.

KEVIN HALE
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Kevin Hale has more than 12 years of experience developing and participating in the evolving energy and environmental markets. In his current role at NYSERDA, Mr. Hale is responsible for designing and managing New York's Renewable Portfolio Standard, a policy intended to supply 25% of NY's electricity needs with renewable sources by the year 2013. Also at NYSERDA, Mr. Hale is serving as one of New York's designees on policy development and implementation efforts for the Regional Greenhouse Gas Initiative, the first mandatory, market-based effort in the United States to reduce greenhouse gas emissions. Prior to NYSERDA, Mr. Hale was a consultant at SAIC and worked for Enron Energy Services. Mr. Hale holds an MBA from the State University of New York at Albany and a B.S. in business management from the State University of New York at Plattsburgh.

JOHN HALLIWELL
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John Halliwell received BS and MS degrees in electrical engineering from the University of Tennessee, Knoxville. Mr. Halliwell is a Project Manager in the Electric Transportation Group of the Power Delivery and Utilization Sector. Mr. Halliwell's primary focus is smart charging development for plug-in electric vehicles. His other research activities focus on improving efficiency of power supply systems, solid state lighting and seeking new ways to deliver power to products and systems that optimize energy use. Mr. Halliwell joined Electric Power Research Institute (EPRI) in 2007. Before joining EPRI, he worked at Atmospheric Glow Technologies where he was responsible for design of high voltage power supplies for atmospheric plasma systems, instrumentation of experimental systems and project oversight. Previously he worked in residual gas analysis and industrial leak testing at Vacuum Technology, Incorporated, electronics design and systems integration at Oak Ridge National Laboratory, and test instrumentation development at E G & G Energy Measurements. Mr. Halliwell has broad experience in design and application of electronic circuits and electronic systems in instrumentation, controls, embedded systems and power supplies.

JANET JOSEPH
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Janet Joseph is the Director of the Clean Energy Research and Market Development program at NYSERDA. Ms. Joseph oversees a portfolio of more than 650 projects, focused on developing and accelerating the market introduction of emerging clean energy technologies in New York, including wind, solar, biomass, advanced transportation technology, and environmental pollution control. Her program also supports research to better understand and mitigate the environmental effects of energy production, including climate change. Ms. Joseph has held a variety of technical and policy positions at NYSERDA over the past 18 years. Prior to joining NYSERDA, Janet was a research scientist at Battelle Pacific Northwest Laboratories. Ms. Joseph has also worked as an environmental consultant for Booz-Allen and Hamilton in Washington, D.C. Janet has an M.S. degree in environmental chemistry from the University of Maryland.

DANIEL JOSEPHSON
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Daniel Josephson joined the Department of Natural Resources at Cornell University in 1979. He conducts applied fishery research as a staff member of the Adirondack Fishery Research Program and manages the Little Moose Field Station near Old Forge, New York. His research focuses on ecosystem processes that influence coldwater fisheries; with primary interest in native salmonids of the Adirondack Mountain region including brook trout, lake trout, and round whitefish. His current research examines (1) the role of movements and food webs in sustaining salmonid populations, (2) the impacts of acid precipitation and non-native fish introductions on native fish populations, and (3) management practices to restore, conserve, and protect native fish populations in Adirondack waters. Over the past thirty years, he has authored or co-authored 23 peer reviewed journal articles, organized 4 symposiums and workshops, and given over 100 professional and extension talks and posters, most of which focused on the ecology and management of brook trout and other native fishes in lakes and streams of the Adirondack Mountain region.

GREG LAWRENCE
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Dr. Lawrence is a research hydrologist for the U.S. Geological Survey, which he joined in 1990. He has spent his career conducting various research investigations related to acid rain effects on surface waters, soils, and forest health. He received a Department of the Interior Superior Service Award in 2003 and has published over 80 articles and reports including documentation of 100-year changes in Russian soils and extensive work on episodic acidification in the Adirondack and Catskill Mountains of New York. He received a B.S. in zoology from the University of Vermont, an M.S. in environmental and forest biology from State University of New York, College of Environmental Science and Forestry, and a Ph.D. in civil engineering from Syracuse University.

JOHN MARTIN
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In 1993, John joined the New York State Energy Research and Development Authority to manage its Subsurface Resources Program. He regularly lectures and publishes on such diverse topics as the development of unconventional shale gas reservoirs, carbon capture and sequestration issues, the potential for compressed-air energy storage and renewable energy resource development. Dr. Martin has served on various state and national panels providing advice on science policy. Dr. Martin holds a Ph.D. in urban and environmental studies, an M.S. in economics and a B.S. in geology from Rensselaer Polytechnic Institute. He also holds an M.B.A. from Miami University and completed graduate work in mineral economics at West Virginia University.

KARL MICHAEL
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Karl S. Michael is Program Manager for the Energy Analysis Program at the New York State Energy Research and Development Authority (NYSERDA) in Albany, New York. In this capacity, he coordinates energy, environmental, and economic modeling and forecasting activities related to energy policy and planning in New York. Currently, Mr. Michael leads the modeling, quantitative analysis, and energy forecasting work that

supports the 2009 New York State Energy Plan. Previously, he led the energy modeling for the Regional Greenhouse Gas Initiative (RGGI), which developed the nation's first regional cap-and-trade program for carbon emissions from the electricity-generation sector. He also led New York's energy modeling efforts to support the Greenhouse Gas Task Force, the Acid Deposition Reduction Program (ADRP), the Clean Air Interstate Rule (CAIR), and the Clean Air Mercury Rule (CAMR). Mr. Michael has more than 25 years' experience in modeling and analysis of energy planning issues in both the public and private sectors. Prior to joining NYSERDA in 1995, Michael was an energy analyst with the New York State Energy Office and an economic analyst with Orange and Rockland Utilities Inc. of Pearl River, New York. . Mr. Michael holds an M.S. in finance from the University of New Haven, West Haven, Connecticut; and a B.S. in economics from the University of the State of New York at Albany.

MYRON J. MITCHELL
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Dr. Myron J. Mitchell has been at the College of Environmental Science and Forestry in Syracuse since 1975. He is currently a Distinguished Professor in the Department of Environmental and Forest Biology and Director of the Council on Hydrologic Systems Science. His research interests include investigations of biogeochemistry, hydrology, forest ecology, decomposition processes and floral-faunal interactions in terrestrial and aquatic systems. He has worked in Asia as well as Central Europe. He has participated on various National Science Foundation (NSF) panels and currently serves on the Board of Directors of the Research Foundation of State of New York and Board of Directors of Upstate Freshwater Institute. He served on the New York State Commission for Higher Education. He is a member of the United States Environmental Protection Agency Clean Air Scientific Advisory Committee NOx & SOx Secondary NAAQS Review Panel. Recent research has focused on the role of air pollutants and climate change on watershed processes with support from the NSF, U.S. Forest Service, New York State Energy Research and Development Authority, and the New York City Department of Environmental Protection. He has been a NRC Postdoctoral Fellow at the University of British Columbia (1973 to 1974), a Visiting Scholar for The University of Calgary (1983), obtained a Fulbright Travel Fellowship to New Zealand (1983-1984), was a Visiting Professor, Kyoto University, Japan (1996) and also was awarded a Deutscher Akademischer Austausch Dienst award for working in Germany (2004). Honors and rewards include Fellow of the American Association for the Advancement of Science (1992), Sigma Xi Outstanding Faculty Research Award (1994), Co-chair for Gordon Conference on Hydrobiogeochemistry of Forested Catchments (1997), SUNY Chancellor's Research Recognition Award (2002), and Exemplary Researcher Award by SUNY-ESF (2006). Dr. Mitchell is affiliated with the following organizations: American Geophysical Union, Ecological Society of America; A.A.A.S., Sigma Xi, and Soil Science Society of America. He has more than 210 publications. Dr. Mitchell received his Ph.D. in soil ecology from The University of Calgary and obtained a B.A. in biology in 1969 at Lake Forest College (Lake Forest, Illinois).

FRANK MURRAY
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Francis J. Murray, Jr. was appointed President and Chief Executive Officer of the New York State Energy Research and Development Authority (NYSERDA) on January 26, 2009. Prior to his appointment, Mr. Murray served as Senior Advisor at the international environmental consulting firm Ecology and Environment, Inc., where he provided strategic policy and market development guidance on environmental and energy issues to a number of private sector and not-for-profit clients. Mr. Murray also represented the Pace Energy and Climate Center and the Natural Resources Defense Council in the New York Public Service Commission proceeding to establish an energy efficiency portfolio standard program. From 1996 to 1997, Mr. Murray was policy advisor

to the United States Secretary of Energy, assisting in the development of the Clinton Administration's national energy policy. Mr. Murray served from 1992 to 1994 as the New York State Commissioner of Energy and Chairman of the NYSERDA Board of Directors, then a statutory function of the State Energy Commissioner. At that time, he also served as Chairman of the State Energy Planning Board, a multi-agency statutory board charged with the responsibility of developing a comprehensive, integrated energy plan for the State that integrated State energy, environmental and economic development policies. In 1985, Mr. Murray was appointed Deputy Secretary to the Governor for Energy and the Environment, a position he held until 1992. He served from 1983 to 1985 as Assistant Secretary for Energy and the Environment in the administration of New York State Governor Mario M. Cuomo. He represented New York in numerous national and regional energy and environmental activities, including the Coalition of Northeastern Governors, the National Governors' Association, and the Council of Great Lakes Governors. Mr. Murray began his work on New York State energy issues as legislative counsel and then as an energy and environmental policy advisor to Governor Hugh Carey from 1977 to 1982. He began his career in public service as a legislative assistant to Congressman James V. Stanton (D-Ohio). Mr. Murray received his B. S. in Foreign Service from the Edmund A. Walsh School of Foreign Service at Georgetown University and his J. D. from Georgetown University Law Center.

KAREN MURRAY
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Dr. Karen Riva Murray has been an aquatic ecologist with the U.S. Geological Survey since 1991. She is based at the New York Water Science Center in Troy, NY, where she has studied major river basins in the eastern United States as part of the National Water Quality Assessment Program. Dr. Murray has a Ph.D. from the State University of New York, College of Environmental Science and Forestry. Since 2005, she has been engaged in a multidisciplinary study of mercury cycling and bioaccumulation in headwater streams in the New York's Central Adirondacks and in South Carolina's Inner Coastal Plain.

WILLIAM T. PENNELL
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Dr. Pennell is Management Coordinator of NARSTO – a public/private partnership among industry, government agencies, and academia in Canada, the United States, and Mexico that works to improve the scientific basis of air-quality management in North America. NARSTO performs scientific assessments, conducts workshops and special scientific studies, and it operates the NARSTO Quality Systems Science Center, which provides a central data archive for NARSTO-related field activities. Prior to becoming NARSTO Management Coordinator, Dr. Pennell was principal line manager for the Pacific Northwest National Laboratory's (PNNL) research activities in atmospheric science and global change. The scope of PNNL's activities ranged from basic research into processes responsible for the formation, transport, removal, and environmental impact of energy-related pollutants to basic economic and social science research that was focused on obtaining a predictive understanding of the effects of climate and other environmental change on human activities.

CYNTHIA ROSENZWEIG
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Dr. Cynthia Rosenzweig is a Senior Research Scientist at NASA Goddard Institute for Space Studies where she heads the Climate Impacts Group. She has organized and led large-scale interdisciplinary regional, national, and international studies of climate change impacts and adaptation. She is a co-chair of the New York City Panel on Climate Change, a body of experts convened by the Mayor advising the city on adaptation for its critical infrastructure. She has co-led the Metropolitan East Coast Regional Assessment of the U.S. National Assessment of the Potential Consequences of Climate Variability and Change, sponsored by the U.S. Global Change Research Program. She is a Coordinating Lead Author of the IPCC Working Group II Fourth Assessment Report observed changes chapter and served on the IPCC Task Group on Data and Scenarios for Impact and Climate Assessment. Dr. Rosenzweig's research involves the development of interdisciplinary methodologies to assess the potential impacts of, and adaptations to, global environmental change. A recipient of a Guggenheim Fellowship, she joins impact models with climate models to predict future outcomes of both land-based and urban systems under altered climate conditions. She is a Professor at Barnard College and a Senior Research Scientist at the Columbia Earth Institute.

KAREN M. ROY
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Ms. Karen Roy has been a research scientist with the NYS Department of Environmental Conservation, Division of Air Resources, Bureau of Air Quality Analysis and Research, since 2001. She is the Research Manager of the ongoing Adirondack Long-Term Monitoring Program (ALTM) in Ray Brook, NY. Prior to this position she was a Project Analyst for Natural Resources at the NYS Adirondack Park Agency (1984–2001). Her background is in aquatic chemistry and limnology. She has a M.S. degree in Water Resources from the University of Vermont.

ROBERT SINGER
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Robert Singer holds a Ph.D. in aquatic ecology from the University of Illinois, with additional graduate work from the Duke University Marine Laboratory. After an extensive research and teaching career at Colgate University, Syracuse University, and Rensselaer Polytechnic Institute, he entered environmental consulting in 1996. He led environmental assessment projects for a national firm, including the Croton Water Treatment Plant and other projects for the City of New York. Dr. Singer joined Ecology and Environment in 2006 and initiated environmental assessments for power projects in New York, including the Huntley IGCC, Lackawanna Clean Energy petcoke to synthetic natural gas project, and the Jamestown BPU oxy-coal project. Each of these projects included a carbon capture and sequestration component, which Dr. Singer managed. He also has worked on stream fill permits related to mountaintop removal coal mining in West Virginia. He is the Project Manager for New York State Energy Research and Development Authority’s study of carbon capture opportunities in western New York.

BRIAN SLATER
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Brian Slater is a research geologist in the Oil and Gas office of the New York State Museum. He has an M.S. from the University of Albany and is currently working on a New York State Energy Research and Development Authority grant project through the Midwest Region Carbon Sequestration Partnership (MRCSP) to evaluate the potential for storage of carbon dioxide in the geologic strata of New York State.

ROBERT G. SLIWINSKI
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Rob Sliwinski is the Director of Bureau of Air Quality Planning in the Division of Air Resources at the New York State Department of Environmental Conservation. In this capacity he is in charge of the State's air quality planning and inventory activities. He was the principal author of the State's NOx Budget and Acid Deposition Reduction programs as well as a number of other ozone control regulations. He has been a member of many state, federal and multi-state workgroups and committees on air quality and emission controls. Mr. Sliwinski has been with the Department of Environmental Conservation for 26 years and the Division of Air Resources for 18 years. He has a B.S. in forest engineering from the State University of New York College of Environmental Science and Forestry and an M.S. in environmental engineering from Rensselaer Polytechnic Institute.

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Professor Solecki's research focuses on urban environmental change and urban spatial development. He is the Director of the City University of New York Institute for Sustainable Cities and has served on several U.S. National Research Council committees including the Special Committee on Problems in the Environment (SCOPE). He is currently a member of the International Geographical Union (IGU) Megacity Study Group, the International Human Dimensions Programme (IHDP), and Urbanization and Global Environmental Change Scientific Steering Committee. He also serves as the co-leader of several climate impact committees (?) in the greater New York and New Jersey region. He developed course material on climate change and cities and taught classes in environmental policy and management, world geography/human geography, Geographic Information Systems, and resource conservation.

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Dr. Srivastava joined the United States Environmental Protection Agency in 1994. Dr.Ravi is an international expert on the control of emissions from stationary combustion sources, especially coal-fired electric utility boilers. His current work includes evaluation of mercury and multi-pollutant control technologies for utility boilers, modeling of reacting flows, and development of adaptive grid-based computational fluid dynamics algorithms. He has over 70 technical publications and one patent. He is also experienced in the development and promulgation of several NOx regulations including Acid Rain regulations, NSPS revisions, and NOx SIP Call. He has received numerous awards and commendations recognizing his scientific achievements, and has provided leadership to the Air & Waste Management Association. Dr. Ravi received his B.S. and M.S. degrees

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Mr. Strait has more than 24 years experience in the air pollution field with expertise in preparing emissions inventories and forecasts for greenhouse gases (GHG) and criteria and hazardous air pollutants. He is currently managing a project with New York State Energy Research and Development Authority to develop GHG abatement cost curves for approximately 100 technologies and best practices sets (TBPs). These curves will serve as the building blocks for constructing economy-wide abatement cost curves for a wide range of potential policy actions for New York. For Center for Climate Strategies (CCS), Mr. Strait has served as the project manager for stakeholder processes in several states to develop state-specific policy recommendations for mitigating GHG emissions, and has served as a co-facilitator for Cross-Cutting Issues Technical Work Groups for several states. Prior to joining CCS in 2007, Mr. Strait held positions with three different consulting firms where he managed projects for the United States Environmental Protection Agency (USEPA) to develop the National Emissions Inventory (NEI) for mobile and non-point (area) sources, evaluated costs and economic impacts associated with regulatory alternatives for national air pollution programs, and provided expertise on many other air pollution projects including state implementation plans and emission inventories for regional planning authorities. Mr. Strait holds a B.A in biology from Northland College and an M.E.M. from Duke University with additional graduate work in forest policy and economics.

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Dr. Timothy J. Sullivan earned a B.A. in History from Stonehill College, an M.A. in Biological Sciences from Western State College of Colorado, and a Ph.D. in Biological Sciences from Oregon State University. He did postdoctoral research at the Center for Industrial Research and the University of Oslo, Norway. Dr. Sullivan has been President and Principal Scientist of E&S Environmental Chemistry, Inc. for the past 21 years. His research focuses on the effects of air pollution on aquatic and terrestrial resources; watershed analysis; effects of land use on surface waters; aquatic acid/base chemistry; mobilization, speciation, and toxicity of metals in acidic waters; episodic processes controlling surface water chemistry; and environmental assessment. Dr. Sullivan's recent projects have included a modeling study of past and future acidification of Adirondack lakes, the Southern Appalachian Mountains Initiative (SAMI) Aquatic and Terrestrial Assessments, the Shenandoah National Park Assessment of Air Quality and Related Values, studies of land use and water quality in agricultural and forestry lands in Coastal Oregon, and studies to quantify critical loads of sulfur and nitrogen deposition for the protection of acid-sensitive lakes and streams.

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Dr. Elizabeth Thorndike's professional work has been in the nonprofit and government sectors. She founded the Center for Environmental Information in Rochester and served as executive director and then on the board of directors for 35 years. She is also a founder of the Rochester Regional Group of Sierra Club and the Cayuga Lake Watershed Network. She has served as a Trustee and Conservation Chair of the Association for

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Dr. Mark J. Utell is Professor of Medicine and Environmental Medicine, Director of Occupational and Environmental Medicine and former Director of the Pulmonary/Critical Care Division at the University of Rochester Medical Center. He serves as Associate Chairman of the Department of Environmental Medicine. He received his M.D. from Tufts University School of Medicine in 1972 and upon completion of a fellowship in Pulmonary Medicine in 1977, he joined the faculty at the University of Rochester. His research interests have centered on the effects of environmental toxicants on the human respiratory tract. His research studies have been funded by the National Institutes of Health (NIH), Environmental Protection Agency (EPA), National Aeronautics and Space Administration (NASA), Health Effects Institute, New York State Energy Research and Development Authority, the Electric Power Research Institute and by private industry. He is a fellow of the American Association for the Advancement of Science (AAAS). Dr. Utell has published extensively on the health effects of inhaled gases, particles, and fibers in the workplace, indoor, and outdoor environments. He has served as Chair of EPA's Environmental Health Committee and on the Executive Committee of the EPA Science Advisory Board. He is a recipient of the NIEHS Academic Award in Environmental and Occupational Medicine. Dr. Utell is currently a member of the National Research Council's (NRC) Board on Environmental Studies and Toxicology and Chair of the Health Effects Institute's Research Committee. He previously served on the NRC Committee on Research Priorities for Airborne Particulate Matter, the Institute of Medicine's (IOM) Committee to Review the Health Consequences of Service during the Persian Gulf War; and the IOM Committee on Biodefense Analysis and Counter-measures.

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Susan Wierman is Executive Director of the Mid-Atlantic Regional Air Management Association (MARAMA). MARAMA provides training and technical support, and facilitates coordination among ten state and local air pollution control agencies in the Mid-Atlantic Region. Previously Ms. Wierman served in various positions with the Maryland Department of the Environment (MDE), where she spent 8 years as Deputy Director of the Air and Radiation Management Administration. Earlier, she worked as an environmental planner for local and state government agencies in Washington State and Minnesota. She has a BA and M.S. in urban planning from the University of Washington in Seattle. With the support of a mid-career fellowship from the US Environmental Protection Agency, she earned a Certificate in Continuing Engineering Studies from Johns Hopkins University in Baltimore. She also received training from the Maryland Government Executive Institute. Ms. Wierman is a member of the Editorial Advisory Committee for the Air and Waste Management Association (AWMA) and a member of Phi Beta Kappa honor society. She is an AWMA Fellow Member and a former AWMA Board Member and Vice President. She currently serves as Public Sector Co-Chair of North American Research Strategy for Tropospheric Ozone.

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Dr. Peter Woodbury is a Senior Research Associate in the Department of Crop and Soil Science at Cornell University. He develops and uses different kinds of models (spatial, process, statistical, and probabilistic) to quantify the sustainability of agricultural and forest ecosystems and to contribute to improved environmental management and policy. Recent and current research projects include quantifying sediment and nutrient sources in large river basins, effects of air pollution on crop yield, and carbon sequestration by all United States forests. With multi-disciplinary teams, he is currently investigating the strengths, weaknesses, opportunities. and challenges for sustainable bioenergy systems at farm, landscape, state, and national scales and addressing important bioenergy questions such as determining the types of feedstocks that are most sustainable for different soils, farms, and regions; the effects of different bioenergy systems on soil, air, and water quality; and the effects of increased bioenergy feedstock production on agriculture and other rural land uses.