

**Tuesday, September 13, 2016 ■ Hyatt Regency ■ Atlanta, Georgia**

PRESENTED BY BIPARTISAN POLICY CENTER, GREAT PLAINS INSTITUTE, AND NICHOLAS INSTITUTE FOR ENVIRONMENTAL POLICY AT DUKE UNIVERSITY

# Program

**Power Sector Trends in  
the Eastern Interconnect:  
Implications for Environmental  
Policies & Investments**

# Schedule

**9:30 am Welcome and Workshop Preview**

**9:40 am Morning Keynote: Howard Gruenspecht, U.S. Energy Information Administration**

**10:15 am Expert Panel:  
Understanding the Evolving Trends in the Eastern Interconnect**

Presentation of key findings and takeaways about evolving trends in the electricity sector. How is the electricity sector expected to evolve in the absence of carbon policies? What will happen to the existing fossil and nuclear fleets? What role will renewables and energy efficiency play? What are the key variables that lead to different projected futures? What does the evolving baseline mean for energy and environmental policies under consideration?

**10:30 am Respondent Panel:  
Stakeholders and Others React**

Stakeholder representatives will each have a chance to react to the expert panel presentations, followed by a moderated discussion. Audience reactions will also be welcomed in this discussion.

**11:45 am Lunch**

**12:15 pm Luncheon Keynote: Janet McCabe, U.S. Environmental Protection Agency**

**1:00 pm Expert Panel:  
Policy Implications of Emerging Trends and Analytical Results**

Presentations will build on modeling results to explore the policy implications of emerging trends. What do analyses of the Clean Power Plan tell us about the potential impacts of state policy decisions? What are the expected impacts on costs, capacity mix, and generation mix? How important is it that states allow trading with other states? What might a patchwork of policies mean as compared to more uniform implementation across states?

**1:40 pm Break**

**2:00 pm Respondent Panel:  
Stakeholders and Others React**

Stakeholder representatives will each have a chance to react to the expert panel presentations, followed by a moderated discussion. Audience reactions will also be welcomed in this discussion.

**3:30 pm Recap of Day's Discussion and Identification of Key Questions  
Going Forward**

**3:45 pm Adjourn**

**#PowerTrends16**

**Power Sector Trends in the Eastern Interconnect: Implications for Environmental Policies & Investments**

# Speakers

## Welcome and Workshop Preview



**Tracy Terry,**  
Director of Energy,  
Bipartisan Policy Center

Tracy Terry is the director for energy security of the Bipartisan Policy Center's (BPC) Energy Project. She currently leads the Project's extensive work on power sector, oil, and natural gas issues. She oversees technical staff and consultants engaged in conducting rigorous analysis to support the Project's policy options and recommendations. Tracy is extensively involved in developing the strategic direction of BPC's energy portfolio and works directly with the organization's board, senior advisors, funders, NGOs, state and federal officials, and industry leaders.

In 2010, Tracy was appointed Deputy Director of the National Commission on the Deepwater Horizon Oil Spill (established by President Obama), which examined the root causes of the Deepwater Horizon explosion and developed recommendations to strengthen federal laws, regulations, and industry practices. Prior to joining the BPC and its predecessor, the National Commission on Energy Policy, she worked at the Department of Energy analyzing the economic effects of electricity restructuring and environmental policies related to the electric sector. Tracy also worked at the Environmental Protection Agency where she was a lead analyst for the U.S. Government's review of international climate change policies proposed for the Kyoto Protocol. Tracy is an expert in energy-economic modeling and has used a wide variety of industry models for analysis. She holds a B.A. in government and economics from the University of Texas at Austin and a Master of Public Affairs from Indiana University. ■

## Morning Keynote



**Howard Gruenspecht,**  
Deputy Administrator,  
U.S. Energy Information  
Administration

Dr. Gruenspecht is the Deputy Administrator of the U.S. Energy Information Administration (EIA), the statistical and analytical agency within the U.S. Department of Energy (USDOE). Over the past 35 years, Dr. Gruenspecht has worked extensively on energy-related environmental issues and economy-wide energy modeling. Before joining EIA in 2003, he was a Resident Scholar at Resources for the Future, an independent, non-partisan research organization. From 1991 to 2000, he held senior positions in USDOE's Office of Policy. Prior to his service at USDOE, Dr. Gruenspecht served as a senior staff economist at the White House Council of Economic Advisers with primary responsibilities in the areas of environment, energy, regulation, and international trade. His other professional experience includes service as a faculty member at the Tepper School of Business at Carnegie-Mellon University (1981-88), economic adviser to the chairman of the U.S. International Trade Commission (1988-90), and assistant director for economics and business on the White House Domestic Policy staff (1978-79). Dr. Gruenspecht has a Ph.D. in economics from Yale University and a B.A. from McGill University. ■

**Expert Panel:**  
**Understanding the Evolving Trends  
in the Eastern Interconnect**



**Chris MacCracken,**  
Principal, ICF International

Chris MacCracken is a Principal with ICF International's Energy Advisory & Solutions Team. He assists clients in assessing the impacts of environmental regulation on their portfolios to support the development of compliance, regulatory, and operational strategies. Chris's clients include electric utilities, IPPs, and NGOs. He has directed ICF's support in a number of regulatory analysis engagements, including efforts for NERC and RGGI, Inc. Most recently, he has advised clients on program design approaches under the Clean Power Plan. Chris has degrees from the University of California and Carnegie Mellon University. ■

**Respondent Panel:**  
**Understanding the Evolving Trends  
in the Eastern Interconnect**



**MODERATOR:**  
**Brian Murray,**  
Director, Environmental  
Economics Program,  
Nicholas Institute for  
Environmental Policy Solutions

Brian Murray is the interim director of the Duke University Energy Initiative and director of the Environmental Economics Program at Duke University's Nicholas Institute for Environmental Policy Solutions. He is widely recognized for his work on the economics of climate change policy. This includes the design of cap-and-trade policy elements to address cost containment and inclusion of offsets from traditionally uncapped sectors such as agriculture and forestry. Murray is among the original designers of the allowance price reserve approach for containing prices in carbon markets that was adopted by California and the Regional Greenhouse Gas Initiative (RGGI) cap-and-trade programs. Throughout his 21-year research career, he has produced many peer-reviewed publications on topics ranging from the design of market-based environmental policies and the effectiveness of renewable energy subsidies to the evaluation of programs to protect natural habitats such as forests, coastal, and marine ecosystems.

He holds both a doctoral and master's degree in resource economics and policy from Duke University and a bachelor's degree in economics and finance from the University of Delaware. ■



**Mike Bull,**  
Director, Policy &  
Communications, Center  
for Energy & Environment

As Director for Policy and Communications for the Center for Energy and Environment, Mike Bull is responsible for development, evaluation, and communication of effective clean energy solutions for CEE. Over the years, Mike has held a number of policy positions in Minnesota state government, including Senior Policy Advisor for Energy and the Environment for former Minnesota Governor Tim Pawlenty. Before coming to CEE, Mike worked for Wind on the Wires, the Midwest regional partner for the American Wind Energy Association, and Xcel Energy, one of the nation's largest combination electric and gas utilities.

Significant projects Mike has worked on since joining CEE include:

- Minneapolis Energy Pathways project, resulting in the formation of the Minneapolis Clean Energy Partnership, the first City-Utility clean energy partnership in the nation between Minneapolis, Xcel Energy, and CenterPoint Energy
- Designing a net-zero carbon emission strategy for the Destination Medical Center in Rochester, Minnesota, and
- Co-directing a nation-leading utility business model project known as the Minnesota e21 Initiative.

Mike earned a J.D. cum laude from the University of Minnesota Law School and a Master of Public Policy from the Humphrey Institute of Public Affairs at the University of Minnesota.

In addition to his work at CEE, he serves as vice chair of the Wind on the Wires Board of Directors.



**John Myers,**  
Director, Environmental Policy  
and Regulatory Affairs,  
Tennessee Valley Authority

John has been active in environmental matters for nearly 40 years. With natural resource and engineering backgrounds, John has been with TVA for 22 years holding various positions in environmental and clean energy matters. He leads a forward-looking team to help TVA continue its mission of service to the Valley. He finds his spare time is mostly aimed at being outdoors, often near his home in Soddy Daisy, Tennessee. ■



**Ted Thomas,**  
Chairman, Arkansas Public  
Service Commission

Ted Thomas of Conway was appointed Chairman of the Arkansas Public Service Commission by Governor Asa Hutchinson in January 2015.

He has served as Chief Deputy Prosecuting Attorney for the 20th Judicial District, Administrative Law Judge at the Public Service Commission, Budget Director for Governor Mike Huckabee and in the Arkansas House of Representatives, where he served as Chairman of the State Agencies and Governmental Affairs Committee during his final term.

Chairman Thomas received a Bachelor of Arts with High Honors in Political Science from the University of Arkansas in 1986 and a Juris Doctorate from the University of Arkansas School of Law in 1988. He is licensed to practice law before the United States Supreme Court, the Arkansas Supreme Court, the United States Courts of Appeals for the District of

Columbia Circuit and the Eighth Circuit, and the United States District Courts for the Eastern and Western Districts of Arkansas.

Chairman Thomas currently serves on the National Association of Regulatory Utility Commissioners (NARUC) Washington Action Committee and the Committee on Electricity. ■



**Susan Tierney,**  
Senior Advisor,  
Analysis Group

Sue Tierney is a Senior Advisor at Analysis Group, where she specializes in energy policy and economics in the electric and gas industries. She previously spent over a dozen years in state and federal government – as Assistant Secretary for Policy at the U.S. Department of Energy and as cabinet officer for environmental affairs and public utility commissioner in Massachusetts. She currently chairs the External Advisory Board of the National Renewable Energy Laboratory, DOE's Electricity Advisory Committee, and the ClimateWorks Foundation Board. She is a director of World Resources Institute, Resources for the Future, the Alliance to Save Energy, the Keystone Center, and the Energy Foundation and was co-lead convening author of the energy chapter of the National Climate Assessment. She earned her Ph.D. and M.A. degrees in regional planning at Cornell University in New York. ■



**Brian Toth,**  
Manager of  
Environmental Assessment,  
Southern Company

Brian Toth currently holds the position of Manager of Environmental Assessment at Southern Company, where he manages and leads the teams responsible for engaging in air, land, water, climate, and environmental policy act / endangered species regulatory assessment and development activities and directs some of the company's participation with external technical, legal, and research-oriented trade associations.

Prior to this position, he has held the positions of Climate Strategy Manager with responsibility for climate and renewable regulation / policy analysis and compliance strategy development; Environmental Strategy Manager, where he was responsible for managing the development of the company's compliance strategy with future environmental regulations; and Principal Environmental Engineer, where he managed environmental permitting, due diligence, and NEPA projects for Southern Company's operating company subsidiaries.

Prior to joining Southern Company, Mr. Toth worked for an environmental, health, and safety consulting firm. He has a B.S. from Clemson University and M.S. from the University of Alabama and is a licensed Professional Engineer. ■

## Luncheon Keynote



**Janet McCabe,**  
Acting Assistant Administrator,  
Office of Air and Radiation,  
U.S. Environmental  
Protection Agency

Janet McCabe is the Acting Assistant Administrator for the Office of Air and Radiation, having previously served as OAR's Principal Deputy to the Assistant Administrator.

Prior to joining EPA in November 2009, McCabe was Executive Director of Improving Kids' Environment, Inc., a children's environmental health advocacy organization based in Indianapolis, Indiana, and was an adjunct faculty member at the Indiana University School of Medicine, Department of Public Health.

From 1993 to 2005, Ms. McCabe held several leadership positions in the Indiana Department of Environmental Management's Office of Air Quality and was the office's Assistant Commissioner from 1998 to 2005. Before coming to Indiana in 1993, Ms. McCabe served as Assistant Attorney General for environmental protection for the Commonwealth of Massachusetts and Assistant Secretary for Environmental Impact Review. Ms. McCabe grew up in Washington, D.C. and graduated from Harvard College in 1980 and Harvard Law School in 1983. ■

## Expert Panel: Policy Implications of Emerging Trends and Analytical Results



**Jennifer Macedonia,**  
Fellow and Senior Advisor,  
Bipartisan Policy Center

Jennifer Macedonia is a senior advisor to the Bipartisan Policy Center (BPC), and has served in this capacity since 2009 for both the National Commission on Energy Policy and BPC's Energy Project. She has 20 years' experience in energy and environmental policy and expertise in market-based instruments to spur technological innovation. Macedonia leads economic analysis and advises states, including the Midcontinent States Energy and Environmental Regulators (MSEER), on designing effective policies to address the challenges of a transitioning power sector. As an independent consultant focusing on the nexus of policy, engineering, and economics, Macedonia advises clients on strategy and policies for the power, transportation, and industrial sectors. Formerly with the United States Environmental Protection Agency (EPA), Macedonia served as an expert on the U.S. delegation to international climate negotiations for four years. At EPA, she also helped shape the development and implementation of market-based programs to reduce air pollution from the power sector, including the Acid Rain SO<sub>2</sub> Trading Program. Macedonia has a Bachelor of Science in Mechanical Engineering. ■



**Martin Ross,**  
Senior Research Economist,  
Nicholas Institute for  
Environmental Policy Solutions

Martin Ross is a senior research economist at Duke University's Nicholas Institute for Environmental Policy Solutions, specializing in environmental and energy economics and macroeconomic-simulation modeling.

Prior to joining the Nicholas Institute at the end of 2011, he worked with RTI International where he developed the Applied Dynamic Analysis of the Global Economy (ADAGE) model, which is used by the U.S. Environmental Protection Agency (EPA) to respond to Congressional requests for legislative analyses. The ADAGE model can investigate many types of economic, energy, environmental, and trade policies at the international, national, and U.S. regional levels. It is particularly useful for examining how climate change mitigation policies limiting carbon dioxide (CO<sub>2</sub>) emissions from energy consumption and non-CO<sub>2</sub> greenhouse gas (GHG) emissions will affect all sectors of the economy, altering industrial and residential energy consumption and efficiency. Research conducted for the U.S. EPA Climate Change Division, the Stanford Energy Modeling Forum, and the Pew Center on Global Climate Change has involved using the ADAGE model to estimate U.S. macroeconomic impacts of legislative proposals to reduce GHG emissions. Other modeling by Ross has included developing a detailed technology model of electricity markets to examine how criteria pollutant and GHG policies affect capacity planning decisions and generation costs.

Prior to joining RTI, Ross spent several years at Charles River Associates, where he developed regional models to look at effects of climate change mitigation policies and macroeconomic impacts of electric-utility

legislation. In addition to his legislative analysis, Ross has advised industry groups such as the Electric Power Research Institute and Edison Electric Institute on economic and electricity modeling, and is published in *The Energy Journal*, *Energy Economics*, and *Climatic Change*, among others.

Ross holds both a doctoral and master's degree in economics from the University of Colorado, Boulder, and a bachelor's degree in economics from Michigan State University. ■

### Respondent Panel: Policy Implications of Emerging Trends and Analytical Results



**MODERATOR:**  
**Doug Scott,**  
Vice President, Strategic  
Initiatives, Great Plains Institute

Doug Scott joined GPI as Vice President of Strategic Initiatives in early 2015. Scott focuses on GPI projects related to his work as a state official, including the Midcontinent Power Sector Collaborative, Midcontinent States Energy and Environmental Regulators, PJM Energy and Environmental Regulators, National Enhanced Oil Recovery Initiative, and the e21 Initiative.

Scott was appointed chair of the Illinois Commerce Commission in March 2011 by Illinois Governor Pat Quinn. During his tenure with the Commission, he served as a member of the Energy, Resources, and Environment Committee for the National Association of Regulatory Utility Commissioners (NARUC) and on the Task Force on Environmental Regulation.

Scott also previously served as director of the Illinois Environmental Protection Agency from 2005 to 2011. During those years, he chaired the Illinois Governor's Climate Change



Advisory Committee and represented Illinois in the development of the Midwestern Governors' Association's energy and climate accords. Scott was a member of the Air Committee for the Environmental Council of States (ECOS) and the US EPA Environmental Financial Advisory Board. He was also elected and served as Mayor of Rockford, IL from 2001 to 2005, after serving as a state representative in the Illinois General Assembly between 1995 and 2001.

A native of Rockford, Scott received his undergraduate degree with honors from the University of Tulsa in 1982 and a Juris Doctorate with honors from Marquette University, Milwaukee, WI in 1985. ■



**Dallas Burtraw,**  
Darius Gaskins Senior Fellow,  
Resources for the Future

Dallas Burtraw has worked to create efficient and politically rational control of air pollution from the electricity sector and has written extensively on electricity industry regulation and environmental outcomes. Recently, Burtraw has studied the application of the Clean Air Act to reduce greenhouse gases and the distribution of cost of various approaches to emissions pricing. He has conducted extensive modeling and analysis of approaches that states might use to implement the Clean Power Plan. He has examined the cost-effectiveness of trading programs for nitrogen and sulfur dioxide in the US and of CO2 emissions trading in the EU, California, and RGGI. He also has conducted integrated assessment modeling of nitrogen and sulfur dioxide emissions from the power sector, including health and ecosystem effects and valuation. Burtraw holds a Ph.D. in economics, a master's degree in public policy from the University of Michigan, and a bachelor's degree from the University of California, Davis. ■



**Michael Dowd,**  
Director of Air Division,  
Virginia Department  
of Environmental Quality

Michael G. Dowd is Director of the Air Division for the Virginia Department of Environmental Quality. In that position, Mr. Dowd oversees the air quality planning, permitting, compliance, monitoring, and mobile source programs for the Commonwealth. Prior to becoming Air Director, Mr. Dowd served as DEQ's Enforcement Director. Before joining DEQ, Mr. Dowd was an attorney in private practice with law firms in Richmond, Virginia, Washington, D.C., and Columbus, Ohio. Mr. Dowd is a graduate of Columbia University and holds a J.D. from Vermont Law School. He is a recipient of EPA's Bronze Medal. Mr. Dowd is Treasurer of the Mid-Atlantic Regional Air Management Association (MARAMA), Chairman of the Mid-Atlantic Diesel Collaborative, Co-Chairman of the Training Committee of the National Association of Clean Air Agencies (NACAA), and a board member of Southeast States Air Resources Management, Inc. (SESARM). ■



**Katie Dykes,**  
Deputy Commissioner  
for Energy, Connecticut  
Department of Energy  
and Environmental Protection  
& Chair, RGGI, Inc. Board of Directors

Katie Scharf Dykes is the Deputy Commissioner for Energy at the Connecticut Department of Energy and Environmental Protection (CT DEEP).

As Deputy Commissioner, Katie works with both halves of the agency's Energy branch: the Public Utilities Regulatory Authority (PURA) on the regulatory side, and the Bureau of Energy and Technology Policy on the energy strategy

side. Katie provides leadership at a defining moment in the agency's history as DEEP moves forward to achieve the goals of Connecticut's energy agenda by bringing cheaper, cleaner, and more reliable energy to the state.

Katie joined CT DEEP in March 2012, after serving as Deputy General Counsel for the White House Council on Environmental Quality. In that role, she provided legal counsel on a variety of energy and environmental issues including climate change and sustainability.

Prior to that, she served as Legal Advisor to the General Counsel for the U.S. Department of Energy. At the Department of Energy, she worked on issues related to regulatory reform, electric power transmission, energy efficiency, and renewable energy. Katie holds a bachelor's degree in history and environmental studies from Yale, a master's degree in history, also from Yale, and she is a graduate of Yale Law School. ■



**Julie McNamara,**  
Energy Analyst, Union  
of Concerned Scientists

Julie McNamara is an energy analyst with the Climate & Energy program at the Union of Concerned Scientists. In her role, she analyzes state, regional, and national policies relating to clean energy development and deployment.

Before joining UCS, Ms. McNamara worked as a graduate research assistant for MIT's Program on Emerging Technologies, where she developed proactive and adaptive risk management frameworks for the field of synthetic biology. Previously, she spent several years as an environmental scientist at Eastern Research Group, an environmental

and public policy consulting firm. There, she worked on regulatory development and analysis for EPA, DOE, and OSHA, and analyzed and communicated data on environmental indicators, community health exposures, and occupational health and safety hazards for federal and state agencies and their stakeholders. ■



**Cathy Woollums,**  
Senior Vice President,  
Environmental Services and  
Chief Environmental Counsel,  
Berkshire Hathaway Energy

Cathy Woollums is the Senior Vice President, Environmental Services and Chief Environmental Counsel for Berkshire Hathaway Energy and is responsible for the development and implementation of the company's worldwide corporate environmental policy, strategy, and programs; oversight of the organization's environmental compliance assurance management activities and systems; environmental permitting, monitoring, and reporting; and support of the company's environmental litigation. Ms. Woollums has served as an environmental policy witness in regulatory proceedings seeking cost recovery of investments in emissions controls and has testified before the U.S. Senate Environment and Public Works Committee regarding costs of compliance with EPA regulations.

Ms. Woollums received her B.A. in Political Science from Winona State University and her J.D. from Drake Law School and is licensed to practice law in Iowa and Illinois. Ms. Woollums has served on the Iowa State Bar Association's Environmental and Natural Resources Section Council, the Edison Electric Institute's Environment Executive Advisory Committee, the Iowa Climate Change Advisory Council, and the Interstate Natural Gas Association

of America's Board of Directors Greenhouse Gas Task Force. She has more than 25 years' experience in environmental matters and served several terms as chair of the Iowa Association of Business and Industry's Environmental Committee and two terms as the governor's appointee to the Clean Air Act Compliance Advisory Panel.

Ms. Woollums joined the company in 1991 as an associate attorney and has served in various legal and environmental roles. She previously served as a law clerk to the judges in the Seventh Judicial District of Iowa and was a litigation attorney in private practice. ■

## Recap of Day's Discussion and Identification of Key Questions Going Forward



**Brad Crabtree,**  
Vice President, Fossil Energy,  
Great Plains Institute

Brad Crabtree joined the Great Plains Institute in 2002 and is a Vice President. Brad currently manages the Institute's fossil energy projects in carbon capture and storage, power generation and unconventional oil and gas production. He co-directs the National Enhanced Oil Recovery Initiative, a national coalition of energy, industrial and technology companies, labor unions, environmental organizations, and state officials working to expand the capture of carbon dioxide for use in domestic oil production.

Brad previously coordinated energy policy advisory groups for the Midwestern Governors Association and facilitated the Midwestern Greenhouse Gas Reduction Accord Advisory

Group for six governors and the Manitoba premier. He also co-directed Powering the Plains, GPI's original flagship project that developed a comprehensive, 50-year regional blueprint for energy efficiency, renewable energy and advanced coal technologies. Brad has organized multiple overseas energy policy and technology delegations for public and private-sector leaders from the Midwest and nationally.

Prior to GPI, he was project director at the Consensus Council in Bismarck, ND, managing regional flood mitigation and resource management projects. Brad was appointed by U.S. Secretary of Energy Ernest Moniz to serve on the National Coal Council, which prepares studies and makes recommendations to the Secretary on coal and the coal industry. He ranches with his wife and daughter in North Dakota, where he was a statewide candidate for Public Service Commissioner in 2010 and 2012. A graduate of the Georgetown School of Foreign Service, Brad has an M.A. in history from Johns Hopkins University. ■



## BIPARTISAN POLICY CENTER

Founded in 2007 by former Senate Majority Leaders Howard Baker, Tom Daschle, Bob Dole, and George Mitchell, the Bipartisan Policy Center (BPC) is a nonprofit organization that drives principled solutions through rigorous analysis, reasoned negotiation, and respectful dialogue. With projects in multiple issue areas, BPC combines politically balanced policymaking with strong, proactive advocacy and outreach.



## GREAT PLAINS INSTITUTE

Better Energy.  
Better World.

As a non-partisan, non-profit organization, the Great Plains Institute takes a pragmatic approach to energy and climate change challenges—working with diverse interests to transform the way we produce, distribute, and consume energy to be both environmentally and economically sustainable. Through research and analysis, consensus policy development, technology acceleration, and local action we are leading the transition to clean, efficient and secure energy. Learn more at [www.betterenergy.org](http://www.betterenergy.org).



Established at Duke University in 2005, the Nicholas Institute for Environmental Policy Solutions helps decision makers create timely, effective, and economically practical solutions to the world's critical environmental challenges. Through its six programs, the Nicholas Institute mobilizes objective, rigorous research to confront the climate crisis, clarify the economics of limiting carbon pollution, harness emerging environmental markets, put the value of nature's benefits on the balance sheet, develop adaptive water management approaches, and identify other strategies to attain community resilience.