



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

Detailed Agenda

Note: For reasons beyond our control, it may be necessary to alter the content or timing of the program, or substitute speakers without advance notice.

Tuesday, October 13

Hyatt Regency Capitol Hill
400 New Jersey Ave, NW

- 8:00 – 9:00 am** **Registration**
Networking Breakfast
- 9:00 – 9:30 am** **Welcome Remarks by Dan Delurey, CEO, ADS**
Briefing on COP-21
- 9:30 – 11:00 am** **Roundtable 1 - Policy: What has already happened and what is coming?**
When it comes to electricity, climate change represents a new area where policymakers have to consider actions and steps, both on the mitigation front (e.g. Environmental Protection Agency's Clean Power Plan) and in terms of resiliency and preparedness. This roundtable will feature speakers talking about how policy has developed and where policymaking might be headed in the future.
- Moderator: Dan Delurey**
CEO, ADS
- Ali Zaidi**
OMB Associate Director for Natural Resources, Energy, and Science, White House
- Jeff Guldner**
SVP Public Policy, Arizona Public Service
- Anne Hoskins**
Commissioner, Maryland Public Service Commission
- Melissa Lavinson**
Vice President, Federal Affairs, Pacific Gas & Electric
- Alice Hill**
Senior Director for Resilience Policy, National Security Council, White House
- David Terry**
Executive Director, National Association of State Energy Offices (NASEO)



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

11:00 – 11:30 am

Networking Break
Sponsored by:



**Vermont
Energy Investment
Corporation**

11:30 am – 1:00 pm

Roundtable 2 – Technology: Will new technologies and business models help utilities and tech companies integrate DER and address climate change mitigation and resilience?

This roundtable will feature a mix of utility, technology, and national lab executives discussing the role that new and evolving technologies can play in addressing climate mitigation, resiliency, and adaptation.

Moderator: Dan Delurey

CEO, ADS

Eric Schmitt

VP of Operations, California ISO

Karen Butterfield

Chief Commercial Officer, Stem

Paul Lau

Chief Grid Strategy and Operations Officer, SMUD

Bryan Hannegan

Associate Laboratory Director, National Renewable Energy Laboratory (NREL)

Jeff Burleson

VP of System Planning, Southern Company

Erika Diamond

VP, Energy Markets, EnergyHub

1:00 – 2:00 pm

Networking Lunch (No speaker)
Sponsored by:



2:00 – 3:00 pm

The Summit will now turn to two tracks of breakout sessions. The “A” track will focus on climate change mitigation. The “B” track will focus on resiliency and adaptation.

Breakout 1

1-A Smart Grid and Mitigation: Prices and information: Powerful tools for emissions reductions

There is much we know now about the power of price and information signals for changing how consumers and businesses interact with the grid, as well as how this allows resources such as renewable energy to be



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

introduced to the grid at large scale. This session will look at recent work in this area, including some stemming from the Polar Vortex of last year.

Moderator: Susan Covino

Senior Consultant, Emerging Markets, PJM Interconnection

Ryan Wiser

Senior Scientist and Deputy Group Leader in the Electricity Markets and Policy Group, Lawrence Berkeley National Laboratory
Ryan is the co-author of a new LBNL Report "Net Metering and Market Feedback Loops: Exploring the Impact of Retail Rate Design on Distributed PV Deployment," which looked at how variable pricing and other rate designs can affect PV deployment, and investigated aspects of the famed "utility death spiral." He will present his findings.

Caroline Pakenham

Dynamic Pricing Program Lead, Elevate Energy

Elevate Energy is a nonprofit entity working in the Midwest that recently completed work looking at what effect the "Polar Vortex" of early 2014 had on residential hourly pricing programs in Illinois. Caroline will talk about what they learned about impacts on reductions, persistence, and other factors in her presentation "Peak Winter Pricing? 2014 Polar Vortex Impacts on Residential Dynamic Electricity Pricing Programs."

Ethan Goldman

Energy Informatics Architect, VEIC

Ethan has recently focused on real-time data management through gateways and dashboards and how that relates to integrated efficiency metrics. He will talk about that and the potential for real-time load and storage controls to respond to peak rates. He will also add his thoughts on what all of the new information and technology will mean for the evolution of M&V in his presentation "Measuring Energy Savings When it Counts: How Smart Grid Data and Open-Source Analytics Can Produce Efficiency Load-shapes."



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

1-B Smart Grid and Adaptation: A discussion of the impacts of the CPP on electricity reliability from different points of view on the grid

Changing the dispatch order of existing generation assets and integrating significant quantities of renewable electric power into the grid can affect system reliability and resilience in a number of ways. In this panel, experts are brought from several key parts of the utility industry to comment on the challenges and opportunities associated with maintaining reliability and improving resilience as the CPP unfolds in the utility industry.

Moderator: Lori Singleton

Director Emerging Customer Programs - Solar, Sustainability and Telecom, Salt River Project

Mike Sullivan

SVP, Utility Services, Nexant

Nearly everyone agrees maintaining reliability and improving resilience of the grid and its systems is a fundamental consideration in grid modernization. But how do you balance the benefits that come from integrating DER into utility systems against the costs of maintaining reliability and improving resilience? Nexant has done pioneering work on how to value reliability and resilience improvements and Mike will talk about what they have learned and how it can be applied to the analysis of the economic impacts of DER integration.

Tom Bialek

Chief Engineer, Smart Grid Integration Team, San Diego Gas & Electric

San Diego Gas & Electric is among the leading utilities in the country when it comes to grid modernization of the distribution system as well as the integration of DER. Tom has been on point for SDG&E's utility-owned microgrid at Borrego Springs – a reliability induced deployment - and is working across the company's lines to coordinate its efforts aimed at making the grid more reliable and resilient by making it smarter. Tom will talk about the challenge and opportunities that utilities face in integrating DER into their grid systems.



A NATIONAL SUMMIT ON
**SMART GRID AND
 CLIMATE CHANGE**

OCTOBER
13-14 2015
 WASHINGTON, DC

Jeff Burleson

VP of System Planning, Southern Company

Southern Company is a large, multi-state utility company that has not received as much attention as other utilities in the country for some of the changes to its system it has made. Southern has a full AMI deployment, is integrating solar and other DER, and is working hard to ensure that it is ready for extreme weather events that the region often encounters. Jeff will lay out what Southern has done and what it plans to do to increase resiliency and reliability.

3:00 – 3:30 pm

Networking Break

Sponsored by:



3:30 – 4:30 pm

Breakout 2

2-A Smart Grid and Mitigation: Conservation Voltage Reduction (CVR) and Volt-Var Optimization (VVO)

There was an entire session on this at last year's Summit, and many say that the information that was presented helped get VVO a lot of attention in the final CPP. This session will feature a VVO provider, a utility doing VVO, and also include some hot-off-the-presses new information from the point person at DOE on this topic.

Moderator: Wayne Harbaugh

Director, Pricing and Regulatory Strategies, Baltimore Gas & Electric

Joe Paladino

Senior Advisor, U.S. Department of Energy's Office of Electricity
Joe is one of the key members of the DOE Smart Grid Team and, among other things, he has been working on new report that looks into the latest technologies and business models for CVR, or Volt Var Optimization (VVO) as it is also known. Joe will be unveiling the results of this work in this session.

Maria Seidler

Director, Alternative Energy Solutions Policy and Grants, DVI
DVI is a company formed to focus on VVO and how it can be used to optimize grid operations and introduce not only cost savings



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

but also emissions savings through the energy reductions it creates – with no loss of benefit or service to customers. Maria will talk about some of the DVI deployments and what they are finding.

Michael B. Johnson

Project Director, Grid Solutions Projects, Duke Energy
“VVO implementation at Duke Energy”

2-B Smart Grid and Adaptation: Microgrids

You may think microgrids are not that “hot” anymore because you are seeing fewer reports, policy announcements, etc. The truth is that microgrids are still ramping up and are an area that continues changing as the electricity system becomes more distributed and more resilient. Hear from the top microgrid person at DOE and some people involved in microgrid deployments as they talk about how this new smart grid tool is also a resiliency option.

Moderator: Christopher Gillman

Director, Demand Response Operations, Duke Energy

Dan Ton

Smart Grid R&D Program Manager, U.S. Department of Energy
Dan is the point person at DOE for all things microgrid, both from the standpoint of developing new technology (e.g. a controller for multiple microgrids), and from that of support to new deployments. He will explain DOE’s microgrid program and talk about how microgrids are evolving and becoming more complex and also more capable of helping to improve resiliency.

Will Agate LEED AP

Senior Vice President, Navy Yard Energy Operations and Initiatives, Philadelphia Industrial Development Corps (PIDC)
Will spoke at the National Town Meeting on Demand Response and Smart Grid a few years ago to introduce those in attendance to the exciting work that was underway at the Philadelphia Navy Yard complex where DR, DER, and microgrids were all part of the plan. The things he spoke of are now real, and even bigger things are on the drawing board. Come hear Will’s briefing on what is



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

underway - "The Philadelphia Navy Yard Microgrid Modernization Update."

Ken Horne

Associate Director, Navigant

Will current deployment patterns be sufficient to help slow the negative impacts of climate change? Could microgrids be a key to decarbonizing our electricity grid while ensuring near-perfect service reliability? Ken's presentation, "Weather, Carbon and Microgrids: How Resiliency and Renewables Integration can be achieved through Commercially Viable Design," will examine resilient microgrids within the larger context of microgrid investment drivers and the outlook for the future of the microgrid industry and electricity grid as a whole.

4:45 – 5:45 pm

Breakout 3

3-A Smart Grid and Mitigation: The Clean Power Plan

There is a new kid on the block when it comes to options available to states and utilities for putting together climate action plans, and it is smart grid (broadly defined). This session will focus directly on how DR, DER, and other smart grid options can play a role in plans that are developed pursuant to EPA's Clean Power Plan (CPP).

Moderator: Steve Cowell

CEO, Conservation Services Group

David Littell

Principal, RAP

The Regulatory Assistance Project (RAP) was recently the lead organization on a project to develop a menu of options that state-level Clean Air Agencies could use to put together a state's implementation plan for the CPP. The menu includes DR and many other smart grid options and is an important vehicle for getting out the message that smart grid can reduce emissions. David, a former State Utility Commissioner and also former State Environmental Regulator, will present the menu and talk about how it can be used in his presentation "CPP Options for States and Utilities Allow for Power Sector Innovation and Smart Grid Strategies."



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

Matt Stanberry

VP of Market Development, Advanced Energy Economy (AEE)
AEE has been working hard to help federal and state energy officials better understand the new technologies that can not only help in modernizing the grid but also reducing emissions. Matt will present on a new public-domain model called STEER (State Tool for Electricity Emissions Reduction) that AEE has developed which allows parties to perform scenario analyses on what things like smart grid can mean if included in a state implementation plan for the CPP. His presentation is "STEERing State Analysis of CPP Implementation Options"

Frank Lacey

Senior Vice President, Regulatory and Market Strategy, CPower
"DR as a Reliability Resource for Grid De-carbonization"

3-B Smart Grid and Adaptation: Integration of DER and renewable energy

While evidence is increasing that smart grid options can directly decrease emissions, there is also the long-standing and still significant role of DR and smart grid technologies and capabilities in integrating and facilitating intermittent and variable types of DER, especially renewable DER. This session will present some of the new research and brand-new test bed activity in this area taking place at federal labs, utilities, and research foundations.

Moderator: Manish Rukadikar

Manager, Strategy, DTE Energy

Mark Dyson

Senior Associate, Rocky Mountain Institute (RMI)
RMI recently published a white paper entitled "The Economics of Demand Flexibility." Mark will report on this paper and present an original analysis of the potential for smart grid-enabled, consumer-facing technology and business models to dynamically reshape behind-the-meter loads to reduce customer bills and grid costs. The presentation, "Using Demand Flexibility to Support the Value of Rooftop PV," will look specifically at the ability of this technology and related programs to help integrate renewable



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

energy on the grid, including rooftop solar PV.

Pete Cappers

Research Scientist and Assistant Group Leader in the Electricity Markets and Policy Group at the Lawrence Berkeley National Laboratory

Demand response has historically been used as a resource to help manage bulk power system operations. However, major changes are happening in the distribution grid that may warrant consideration of demand response as a resource to help planners and operators balance the distribution system. In his presentation, "How DR can and cannot help manage the distribution system," Pete will discuss why it is important to understand the capabilities of each type of currently designed demand response opportunity to contribute to the reliable operation of the distribution system. In addition, how can these DR opportunities be altered to make them more efficient and effective resources for distribution system operators and planners.

Howard Smith

Manager, Distributed Energy Resource Policy, Southern Company Service

Howard has had operating responsibilities at Southern for both demand-side and supply-side resources, and now is on point for DER policy and the integration challenges that the rising tide of DER presents. Howard will talk about how his multi-state utility is looking at DR and smart grid as an important tool for allowing increased amounts of solar and other renewable energy resources – while still maintaining the reliability and resiliency expected by Southern's customers and stakeholders.

6:00 – 7:30 pm

Networking Reception
Sponsored by:





A NATIONAL SUMMIT ON
**SMART GRID AND
 CLIMATE CHANGE**

OCTOBER
13-14 2015
 WASHINGTON, DC

Wednesday, October 14

Hyatt Regency Capitol Hill
 400 New Jersey Ave, NW

8:00 – 9:00 am

Networking Breakfast
 Sponsored by:



9:00 – 9:30 am

Keynote Address from Secretary Moniz, U.S. Department of Energy

Perhaps no DOE Secretary has ever been as influential and impactful as Ernest Moniz, both within an Administration and with such a wide range of external audiences. Secretary Moniz will provide attendees with his observations and perspectives on a number of topics and issues, and talk about how the Administration and his agency are addressing them.

9:30 – 10:30 am

Beginning at 9:30 am, the two tracks of breakout sessions from Day 1 will continue.

Breakout 4

4-A Smart Grid and Mitigation: Savings & emissions reductions

One of the myths that still exists is that smart grid options like DR do not lead to any energy reductions, and instead just move energy usage from one time to another. There is ample evidence now to show that this is not true, and you will hear about some of it in this session.

Moderator: Rick Counihan

Head of Energy Regulatory and Government Affairs, Nest Labs

Karen Studarus

Power Systems Engineer, Pacific Northwest National Laboratory
Last year, Rob Pratt introduced “Applying the Smart Grid to Climate Change Mitigation: Emissions Impact Estimation Tool for Smart Grid Projects,” showing that significant carbon reductions could be achieved through the use of smart grid technologies. This year, guided by our industry steering committee, PNNL developed and launched a web calculator that lets users explore the CO₂, NO_x and SO_x emissions of a specific project in context. Karen will demonstrate and discuss that calculator.



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

Abigail Daken

Environmental Engineer/Program Manager, Environmental Protection Agency

For more than 20 years, EPA has been working with industry to label products that deliver superior end use efficiency through the ENERGY STAR program. In her presentation “Evolution of ENERGY STAR for a Connected World,” Abi will discuss how the ENERGY STAR program is evolving in the world of DER and intelligent efficiency to measure and define efficiency in a world enabled by information technology, devices and services.

Mike Hoover

Senior Director, State Energy Regulation, Southern California Edison

California has a regulatory proceeding open these days on just about any and all aspects of smart grid, demand response, and DER. It also is operating under the most aggressive greenhouse gas reduction mandate of any state and about to put a 50% renewable goal in place. Mike will talk about what policy is in place, what may be coming, and what it is like for a utility to plan and operate going forward.

4-B Smart Grid and Adaptation: Resilience and reliability

Emissions reduction plans will be picking up speed pursuant to the CPP. But resiliency planning has been underway at many utilities, states, cities, and communities for some time spurred by some of the extreme weather events that have been experienced and are expected to happen. This session will focus on bringing everyone up to speed on what to know and how to think about it.

Todd Olinsky-Paul

Project Director at Clean Energy States Alliance, Clean Energy Group

“State programs, policies, and trends”

Mike Winka

Senior Policy Advisor to the President, New Jersey Bureau of Public Utilities

Mike, a veteran official in New Jersey State Government, has been on the front edge of many of the changes to the electricity system



A NATIONAL SUMMIT ON
**SMART GRID AND
 CLIMATE CHANGE**

OCTOBER
13-14 2015
 WASHINGTON, DC

that his state and the industry have gone through and continue to deal with. At BPU, Mike is putting his expert knowledge of the electricity system to work as New Jersey works to craft emission reduction policies and programs, while also applying the lessons learned from Superstorm Sandy to how that system might be made more reliable and resilient. Learn more in his presentation “Microgrids – why now?”

Birud Jhaveri

Senior Associate, Cadmus

With new integrated distribution planning requirements and grid modernization efforts, Cadmus has been working on tools and methodologies to identify and geo-target constrained areas on the grid to aid in reducing energy use or target EVs and storage. Cadmus is currently actively engaged with clients on more advanced distribution planning efforts and Birud will present on how advanced planning requirements aid in making the grid more efficient using emerging technologies in a presentation entitled “Transformation in Distribution Planning and its impact on reliability and GHG reductions.”

10:30 – 10:45 am

Networking Break

Sponsored by:

CADMUS

10:45 – 11:45 am

Breakout 5

5-A Smart Grid and Mitigation: Savings & emissions reductions, M&V, and impacts

There is greater understanding among many stakeholders today that not all kWh cost the same to produce and deliver, and that the costs of such on peak can dwarf the off-peak cost. But just as the marginal costs on a system can change, the marginal emissions rate can as well when different supply sources are dispatched or scaled back. This session will look at what information on that is available and how it might be used.

Moderator: Howard Smith

Manager, Distributed Energy Resource Policy, Southern Company Service



A NATIONAL SUMMIT ON
**SMART GRID AND
CLIMATE CHANGE**

OCTOBER
13-14 2015
WASHINGTON, DC

Jessica Lau

System Planning Engineer, ISO New England

ISO-NE, as a system operator, generates information on the emissions of the supply sources on its system and Jessica will talk about what is available, how it can be used, what its limitations might be, and what could be available in the future.

Allison Guerette

Climate and Energy Environmental Analyst, New England States for Coordinated Air Use Management (NESCAUM)

"Emissions planning in the Northeast"

Carol Miller

Co-founder of E2i (Energy Emissions Intelligence), Director of Locational Emissions Estimation Methodology (LEEM), and Professor, Department of Civil and Environmental Engineering, Wayne State University

Carol is part of a team that has developed new applications to increase the transparency between point of energy consumption and energy generation, allowing the prediction of marginal emission rates that vary with space and time. The applications are powered by LEEM, and have generated interest and initial pilots in building energy management systems, water distribution systems, and corporate sustainability efforts. Carol will talk about what this means and why it matters in her presentation "New Tools for Emission-Targeted Demand Response."

5-B Smart Grid and Adaptation: Resilience and reliability – Take 2!

Maintaining and Improving reliability and resiliency involves taking both strategic and tactical standpoints, learning from past experiences, and using new technologies and the data they yield. This session will feature speakers coming at the objective from all of those perspectives as well as others.

Moderator: Mike Hyland

SVP Engineering, American Public Power Association



A NATIONAL SUMMIT ON
**SMART GRID AND
 CLIMATE CHANGE**

OCTOBER
13-14 2015
 WASHINGTON, DC

Dave Oberholzer

VP of Partner and Business Development, Weatherbug Home
Big Data – it’s become the soup du jour! Everyone talks about the importance of integrating Big Data for improved optimization and operation of the grid. Yet one of the biggest data sets that has been overlooked is one produced by Mother Nature – weather – critical to managing the system during and after extreme events, as well as in accurately forecasting EE and DR. Dave’s business unit, WeatherBug Home, is working on providing weather-integrated tools and solutions for utilities that provide answers for these two areas. He will share current customer projects underway – and a glimpse into the future!

Paul Stergiou

Department Manager, ConEd
Everyone knows that ConEd has been on the front lines of a new frontier of resiliency and outage management due to its efforts during and after Superstorm Sandy. Prior to and since Sandy, ConEd has been working to modernize its distribution system to allow it be more flexible and efficient and Paul will talk about what they have done in his presentation “Electric Distribution Storm Hardening Initiatives.”

Judi Greenwald

Deputy Director for Climate, Environment and Efficiency, U.S. Department of Energy
Judi is the point person for the Partnership for Energy Sector Climate Resilience, which is a partnership between DOE and 18 electric power companies. Under this Partnership, owners and operators of energy assets will develop and pursue strategies to reduce climate and weather-related vulnerabilities. Collectively, these Partners and DOE will develop resources to facilitate risk-based decision making and pursue cost-effective strategies for a more climate-resilience U.S. energy infrastructure. Judi will explain more about the Partnership and where it is headed in her presentation “Partnership for Energy Sector Climate Resilience.”

11:45am

Conclusion of Summit