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The Forum for America's Ideas

Final Technical Report
Assistance to State Legislatures on Energy Issues

April 1, 2011 – September 30, 2016

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Executive Summary

The project educated and trained state legislators and legislative staff from across the nation on energy technology and policy issues, improving their level of understanding and enabling them to make informed policy decisions on critical issues in their states. Since most policymakers are elected with little or no background on energy issues, NCSL has played a critical ongoing role in supporting them as create policy to deal with the rapidly evolving energy system. The policymakers that attended meetings and trainings indicated improved comprehension and understanding of energy issues in the meeting and session evaluations. These educational trainings included the annual 60-hour training Legislative Energy Horizon Institute, the 2-3 yearly meetings of the Energy Supply Task Force, the annual Energy Summit, energy institutes on energy assurance and critical infrastructure, transmission institutes, a natural gas institute and numerous sessions and issue forums at NCSL annual meetings.

The effort also included the production of many written products (all available on the NCSL website), in-person technical assistance and the promotion of information-sharing among policymakers to achieve a higher level of energy understanding among state policymakers and staff.

Achievements

Over the project period, the effort attained its goals of raising the level of energy policy understanding on a number of fronts:

- by training nearly 150 legislative leaders, nearly half of whom were committee chairs, during its Legislative Energy Horizon Institute;
- by developing and implementing an energy newsletter that reaches close to 2000 recipients;
- through writing, publishing and promoting more than 100 publications on a variety of energy policy issues;
- through its yearly Energy Summit, which was attended by more than 600 legislators and staff over the past 5 years;
- through the tracking of state legislation and promotion of the popular NCSL Energy Policy on line database, which contains thousands of bills and is visited by close to 500 people each month; and
- by answering more than a 1000 legislative research requests on a wide range of energy policy issues.

Activities and Deliverables Summary

Technical Assistance to State Legislatures

1) Technical Assistance and Research Requests

A critical part of providing policymakers with quality information includes the energy program's legislative support through technical assistance and tailored research. NCSL staff respond daily to information requests from state legislatures on a broad array of energy issues. Staff provided tailored research for requestors with 50 state surveys, policy analysis and technical research. The NCSL program also provided presentations and testimony during legislative committee hearings and meetings.

- **Technical Assistance** NCSL provided in-person presentations and written testimony for state legislatures on a number of occasions
 - NCSL presented before the Montana legislatures 111D Telecommunications Interim Committee's and the Environmental Quality Council's 111d Subcommittee. The presentation, which took place on January 14, 2016, explored state legislative actions and options related to 111d. The presentation is available [here](#).
 - [Testimony for Delegate Sally Jameson](#) (May, 2016): NCSL helped coordinate a session on state action and support to maintain the U.S. nuclear fleet. On behalf of NCSL, Delegate Jameson (MD) discussed recent legislative examples and possible policy options for nuclear generation.
 - [DOE Consent Based Siting Meeting](#) (May, 2106): NCSL drafted talking points for Delegate Sally Jameson (MD) on the role state legislatures play regarding commercial nuclear waste disposal.
 - [Nevada Joint Committee on High Level Radioactive Waste](#) (June, 2016): NCSL staff testified before Nevada's Committee on High Level Radioactive Waste. NCSL highlighted state trends regarding the storage and disposal of nuclear waste, including examples of recent legislative action.
 - NCSL presented on State Tax Policies that Impact Energy Development during the U.S. DOE Tribal Leader Taxation Forum, New Orleans, LA on March 22, 2012. NCSL presented on Natural Gas Outlook and Hydraulic Fracturing Regulation during the Top 12 of 2012 NCSL Webinar Presentation on February 20, 2012.
 - NCSL testified on February 14, 2013, in Kansas before the House Standing Committee on Energy and Environment on State Renewable Electricity Standards. The presentation provided an overview of recent state activities to reduce or repeal renewable electricity standards along with some state activities on RPS costs, which have been a leading concern in these discussions.
 - Provided written testimony on community solar garden state legislation, which was submitted for the Nevada Assembly Commerce and Labor Subcommittee meeting on Wednesday, March 30, 2011 on AB 442. See <https://nelis.leg.state.nv.us/76th2011/App#/76th2011/Bill/Meetings/AB442>
 - [The Role of State Legislatures in Clean Power Plan Compliance](#), Testimony before the Montana 111(d) Federal Clean Power Plan Subcommittee, 1/14/2016
 - Provided written testimony on community solar garden state legislation, which was submitted for the Nevada Assembly Commerce and Labor Subcommittee meeting on Wednesday, March 30, 2011 on AB 442. See <https://nelis.leg.state.nv.us/76th2011/App#/76th2011/Bill/Meetings/AB442>
 - **Midwestern Energy Assurance Meeting Legislator Recruitment** Recruited and accompanied state legislators from Kansas and Illinois in their participation at the

meeting in Chicago, Illinois in 2011. Presentations can be found at: <http://doc-oe-regionalexercises2011.govtools.us/>

- **Western Energy Assurance Exercise Legislator Recruitment** Recruited state legislators from Kansas and Illinois in their participation at the meeting in Phoenix, AZ on November 29-30, 2011. Due to conflict with NCSL Fall Forum, NCSL was unable to attend. Presentations can be found at <http://doc-oe-regionalexercises2011.govtools.us/>
- In September of 2013, NCSL traveled to North Dakota for a bipartisan delegation of California's legislators who came to examine North Dakota's regulations and legislative oversight of oil and gas development. NCSL helped facilitate the workshop and provided the delegation with an overview of how states are approaching hydraulic fracturing policies.
- NCSL testified before the Minnesota Legislative Energy Commission (LEC) on March 3, 2014 on state electric vehicle incentives. The LEC consists of 10 members from the MN House of Representatives and 10 members from the MN Senate who are appointed to evaluate energy policies in the state. The goal of the hearing was to provide an overview of legislation, policies and trends related to electric vehicles. The presentation and audio are available on the LEC website [here](#).
- North Dakota Energy Tour, June 12-13, 2014. NCSL brought Ten legislators from eight states on a two-day trip through North Dakota to learn about, coal gasification, modern lignite coal technologies, hydraulic fracturing and horizontal drilling and other fossil energy technologies.
- **Research Requests** NCSL received and answered between 40 and 60 legislative information requests per quarter on a variety of issues. These included: aspects of public utility commission regulation, standard-offer-service bidding, rate cap expirations, restructuring, energy conservation programs, demand side management, low-income utility bill assistance, reliability standards, climate change, renewable energy policy, resource procurement, bidding, rate cap expirations, energy conservation programs in state buildings, pay-as-you-save energy efficiency funding, reliability policy, general energy prices, low-income utility bill assistance, hydraulic fracturing, renewable energy finance, alternative fuel vehicles, energy efficiency, pipeline safety, severance taxes, wind rights, requiring gas stations to have backup generators, metal theft, energy reliability and disaster preparedness, state policies that would create resiliency banks to finance infrastructure, hydraulic fracturing chemical disclosure, drilling well integrity, smart meters, transporting crude, gas pipelines, EMP preparedness, protecting against and responding to oil and gas spills, net metering, virtual net metering, transmission planning and renewable energy zones, licensing requirements for electric generation suppliers, stretch energy codes, wind tax incentive credit, cap-and-trade, copper theft, EE in commercial buildings, green banks, EERS, solar installations, carbon tax, high voltage transmission lines, dynamic pricing and many others. Below are a few select examples of requests.
 - Provided in-depth information to Colorado legislative staff on providing alerts to consumers entering next tier in a tiered-rate schedule and efforts to target high energy users for energy efficiency programs.
 - Provided research to legislative staff in Ohio in regards to drilling on state-owned parks in Michigan and Pennsylvania. Provided extensive information on the laws and regulations in these two states, as well as a 50 state survey addressing regulation of the oil industry, which included oil leases specific to state land.
 - Provided research to legislative staff in West Virginia addressing pooling issues within the hydraulic fracturing debate. This included administrative codes, state statutes, bills, and regulations on pooling.

- Provided research to legislative staff in Ohio in regards to drilling on state-owned parks in Michigan and Pennsylvania. I provided extensive information on the laws and regulations in these two states, as well as a 50 state survey addressing regulation of the oil industry, which included oil leases specific to state land.
- Provided research to legislative staff in West Virginia addressing pooling issues within the hydraulic fracturing debate. This included administrative codes, state statutes, bills, and regulations on pooling.
- Provided research for the New York State Assembly on hydraulic oversight resource needs, including specific data from a number of natural gas top-producing states that have employees working directly or indirectly on hydraulic fracturing oversight.
- Provided extensive and ongoing research for California legislative staff on utilities' return on capital investments including explanations of the differences between the allowed return and the earned return, state examples and comparisons.
- Assisted legislative analyst in Kentucky with analysis of state limitations of utilities' ability to terminate services to vulnerable citizens during extreme weather. This included a 50 state statute search and summary of general trends in addition to a review of states that have implemented laws that restrict a utility's ability to terminate services to vulnerable citizens under various circumstances.
- Provided in-depth information to Colorado legislative staff on providing alerts to consumers entering next tier in a tiered-rate schedule and efforts to target high energy users for energy efficiency programs.
- Provided extensive research for a Senior Counsel of the Office of Legislative Services in New Jersey on energy reliability, preparedness and disaster planning.
- Responded to requests for policy information on oil dependency, utility shut-offs, gasoline pricing and heating oil payments. eligibility for renewable electricity standards, carbon taxes, hydraulic fracturing regulations, natural gas severance taxes, nuclear energy, PUC and Energy Office structure, wind siting and electric vehicles.
- NCSL provided legislative analysis of the existing renewable portfolio goal in the Virgin Islands, providing staff with input on how the goal could be made a standard with certain enforcement approaches and more specific timelines.
- Provided extensive research on how states are funding construction and expansion of natural gas vehicle fueling stations to a legislative staffer in the Pennsylvania Senate. This included comprehensive lists of states that have state-funded grant or loan programs, or provide tax credits, to help finance NGV infrastructure. This research also included state examples that have taken comprehensive approaches with many programs to incentivize NGV vehicle infrastructure expansion.
- Provided extensive research on pipeline safety regulation and siting, particularly relating to environmental impact studies and landowner rights, to a legislator in Maryland. This included information on state versus federal regulation, landowners' rights, state legislative examples, and a number of specific bill summaries.

2) Publications

Publications have played a critical part of NCSL's education and outreach, providing legislators and staff with high quality, balanced, informative reports, articles, web briefs and white papers on a broad range of energy policy issues. These publications are promoted via listservs, NCSL daily news emails, at meetings and on NCSL's web site. They ranged from introductory 2 page Legisbriefs to magazine articles to longer more in-depth online reports.

Energy Efficiency

- [State Policies for Low- and Moderate-Income Customer Access to Renewable Energy and Energy Efficiency](#), 11/16/2016
- [Energy Efficient Lighting](#), Updated 6/2/2016
- [How Green Is Green?](#), *SL Magazine*, 5/16
- [PACE Financing](#), Update 1/26/2016
- [Energy Efficiency State Legislative Update: 2015](#), 1/5/16
- [Helping Utilities Invest in Energy Efficiency](#), *LegisBrief*, 4/15
- [Banking on Energy](#), *SL Magazine*, 4/15
- [Energy Financing from the Future](#), *SL Magazine*, 3/15
- [Harnessing the Market to Create Energy Savings: An Energy Efficiency Financing Guide for State Policymakers](#), 2/15
- [Energy Efficiency State Legislative Update: 2014](#), 1/15/2015
- [States Explore Energy Banks as a Financing Tool](#), *LegisBrief*, 1/15
- [State Energy Banks](#), 12/1/2014
- [Making Energy Efficiency Easy](#), *SL Magazine*, 6/14
- [On-Bill Financing: Cost-free Energy Efficiency Improvements](#), 5/15/14
- [On-Bill Financing: Cost-Free Energy Efficiency](#), *LegisBrief*, 3/10/14
- [Energy Efficiency Requirements for Public Buildings](#), 11/20/13
- [Efficient Buildings Update 2013](#), 11/19/13
- [Energy Savings Performance Contracts \(ESPCs\)](#), 11/18/13
- [Energy Efficiency Financing Legislative Update](#), 7/17/13
- [The Power of Efficiency](#), *SL Magazine*, 2/13
- [Building Energy Codes](#), *LegisBrief*, 11/12
- [State Energy Efficiency Action Update](#), 3/26/12
- [Cogeneration: Moving Toward a Sustainable Future](#), *LegisBrief*, 4/11
- [Capturing CO2](#), *SL Magazine*, 3/11

Energy Security & Critical Infrastructure

- [Ever-Ready Energy](#), *SL Magazine*, 5/3/16
- [State Efforts to Protect the Electric Grid](#), 4/18/16
- [Protecting the Nation's Energy Infrastructure: States Address Energy Security](#), 10/14/13
- [Securing the Nation's Energy Future](#), *LegisBrief*, 8/12
- [Energy Security Legislative Update](#), 4/5/11
- [Energy Security](#), 10/25/10

Energy Policy

- [Utility Submetering](#), updated 1/15/16
- [Legislative Approval of Clean Air State Implementation Plans](#), 6/22/15
- [Community Choice Aggregation](#), 1/12/15

- [A Policymaker's Guide to Comprehensive State Energy Planning](#), NCSL Task Force on Energy Supply, 8/14
- [States Reactions to Proposed EPA Greenhouse Gas Emissions Standards](#), 4/17/14
- [Partners in Power](#), *SL Magazine*, 3/14
- [The New Energy Revolution](#), *SL Magazine*, 2/14
- [2010 State Energy Legislative Updates](#), 11/10
- [Meeting the Energy Challenges of the Future: A Guide for Policymakers](#), 7/19/10

Fossil Energy

- [Economies of Shale](#), *SL Magazine*, 6/15
- [Reducing Methane Emissions](#), *LegisBrief*, 5/15
- [Transporting Crude Oil by Rail: State and Federal Action](#), updated 10/30/15
- [Compulsory Pooling Laws: Protecting the Conflicting Rights of Neighboring Landowners](#), 10/24/14
- [State Revenues and the Natural Gas Boom: An Assessment of State Oil and Gas Production Taxes](#), 6/10/13
- [States Take the Lead on Regulating Hydraulic Fracturing: Overview of 2012 State Legislation](#), 3/14/13
- [Natural Gas Development and Hydraulic Fracturing: A Policymaker's Guide](#), 6/5/12
- [Oil and Gas Severance Taxes: States Work to Alleviate Fiscal Pressures amid the Natural Gas Boom](#), 2/22/12
- [Fracking Update: What States Are Doing to Ensure Safe Natural Gas Extraction](#), 7/8/11
- [Making State Gas Pipelines Safe and Reliable: An Assessment of State Policy](#), 3/1/11
- [Capturing CO₂](#), *SL Magazine*, 3/11
- [Carbon Capture and Storage](#), 2/8/11
- [Carbon Capture and Storage in the States](#), 1/31/11

Greenhouse Gas Emissions

- [States' Reactions to EPA Greenhouse Gas Emissions Standards \(including 2016 State Action\), 2015 State Action and 2014 State Action](#), Updated 4/18/2016
- [State Forest Carbon Incentives and Policies](#), 3/16
- [Treasure in the Trees](#), *SL Magazine*, 3/16
- [Power Shift: Lawmakers Face Clean Power Plan, Now on Hold](#), *SL Magazine*, 2/16
- [Forests and Carbon Storage](#), *LegisBrief*, 1/16
- [EPA Greenhouse Gas Emission Limits: What They Mean For State Legislatures](#), *LegisBrief*, 8/15
- [The 411 on 111\(d\)](#), *SL Magazine*, 6/15
- [Legislative Role in Potential Interstate Collaboration on the Clean Power Plan](#), 6/15
- [Climate Change: State Policy Update 2012 – 2014](#), 5/1/14
- [Climate Change: Policy Update 2011](#), 8/11
- [A Policymaker's Guide to Climate Economics: Questions to Ask](#), 6/22/11
- [Capturing CO₂](#), *SL Magazine*, 3/11

Nuclear

- [State Support for Nuclear Power](#), 8/31/16
- [States Restrictions on New Nuclear Power Facility Construction](#), updated 4/15/2016

- [New Nuclear Power Plant Designs: The Not So Small Role of Small Modular Reactors](#), updated 8/12/15
- [Will Small Modular Reactors Transform the Nuclear Industry?](#), *Legisbrief*, 6/14
- [The President's Blue Ribbon Commission on America's Nuclear Future](#), 3/31/11

Renewable Energy

- [The Growth of Shared Renewable Energy](#), *Legisbrief*, 12/1/2016
- [State Policies for Low- and Moderate-Income Customer Access to Renewable Energy and Energy Efficiency](#), 11/16/2016
- [Net Metering: Policy Overview and State Legislative Updates](#), 9/14, Updated 11/2/2016
- [Renewable Energy State Legislative Update: 2015](#), 9/16
- [Integrating Renewable Energy](#), 6/16
- [The Rundown on Renewable Energy Standards](#), *SL Magazine*, 6/16
- [Energy Siting and Compatibility with the Military Mission](#), 5/2016
- [State Legislative Approaches to Wind Energy Facility Siting](#), 4/16
- [State Renewable Portfolio Standards and Goals](#), Updated 3/23/2016
- [PACE Financing](#), Updated 1/26/2016
- [The Buzz over Renewable Energy](#), *SL Magazine*, 7-8/15
- [State Policies for Power Purchase Agreements](#), 7/22/2015
- [Banking on Energy](#), *SL Magazine*, 4/15
- [States Explore Energy Banks as a Financing Tool](#), *LegisBrief*, 01/15
- [State Energy Banks](#), 12/1/2014
- [Renewable Energy State Legislative Update: 2014](#), 10/28/2014
- [Integrating Renewables](#), 10/22/2014
- [Energy Development Near Military Operations](#), *LegisBrief*, 9/14
- [Solar-Clad Rooftops, Like Hybrid Cars, Are Rapidly Becoming Mainstream](#), *SL Magazine*, 8/14
- [Renewable Energy Mandates on the Front-Burner](#), *SL Magazine*, 1/14
- [Reaching Renewable Energy Targets: Addressing Integration Challenges](#), *LegisBrief*, 7/31/13
- [2011 Renewable Energy Legislation](#), 12/31/11
- [Solar Industry: Rise and Shine](#), *SL Magazine*, 12/11
- [Fuel Cells—Clean and Reliable Energy](#), 3/9/11

Transmission

- [Energy Development Near Military Operations](#), *LegisBrief*, 9/14
- [Metal Theft | 2013 Legislative Update](#), 2/5/14
- [States Get Smart: Encouraging and Regulating Smart Grid Technologies and Developments](#), 7/31/13
- [States Walk the Line: Current State Action Towards More Efficient, Secure, and Cost Effective Electricity Transmission](#), 7/9/13
- [Metal Theft Can Threaten U.S. Energy Security: A Hot Issue in 2012](#), 10/31/12
- [2012 Smart Grid State Action](#), 7/09/12
- [Lawmakers Hammer Against Metal Theft](#), *LegisBrief*, 1/10/12
- [Copper Theft Can Cause Major Electric Outages and Impact Ratepayers: A Hot Issue in 2011](#), 10/18/11
- [2011 Smart Grid Legislation](#), 7/11/11
- [Transmitting Electricity in an Increasingly Complex Energy Market: A Legislative Update](#), 4/13/11

Transportation

- [State Efforts Promote Hybrid and Electric Vehicles](#), updated 6/29/2015
- [Transforming Transportation with Electricity](#), *LegisBrief*, 1/14
- [Fueling the Future](#), *SL Magazine*, 3/12
- [Transportation Energy for the Future: A Guide for Policymakers](#), 2/21/12
- [Going Electric](#), 5/1/11

- 3) **Meetings and Webinars.** NCSL held a range of meetings and webinars under this agreement in order to raise legislative awareness related to electricity, electricity regulation, fossil fuels, transmissions, energy efficiency, energy assurance, critical infrastructure and a range of other topics. These include yearly trainings of approximately 35 legislators during its Legislative Energy Horizon Institute (LEHI), which is 60 hours of intensive exploration of the electricity system, from generation and delivery to consumption and regulation (since these agendas are not posted online, the 5 years of agendas are uploaded along with this document). They also include Energy Supply Task Force meetings, the annual Energy Summit and the variety of Energy Institutes and other invitational held by the energy program. Links to meeting agendas and webinars, categorized by topic are shown below

2016 Meetings and Webinars

- [Solar Energy Boot Camp](#), Denver, 8/24-25/2016
- [Energy Policy Summit at NCSL Legislative Summit](#), Chicago, 8/7-8/8/2016
- [Energy Supply Task Force Meeting at NCSL Legislative Summit](#), Chicago, 8/7/2016
- [The Future of Distributed Solar Energy](#), webinar, 6/28/2016
- [The Next Wave of Energy Efficiency](#), webinar, 6/1/2016
- [Energy Risk and Critical Infrastructure Workshop](#), 5/25/2016
- [State Forestry Policies for Carbon Benefits](#), webinar, 3/17/2016
- [2016 Energy Policy Outlooks Webinar Presentation](#), 2/24/2016
- [Clean Power Plan Implementation | What You Need to Know](#), webinar, 1/2/2016

2015 Meetings and Webinars

- [Task Force on Energy Supply Presentations - NCSL Capitol Forum](#), 12/8-12/9/2015
- [Nuclear Legislative Working Group Fall Meeting](#), 11/18-11/20/2015
- [Clean Power Plan Policy Workshop](#), 11/10-11/11/2015
- [Alternative Fuel Tools for State Decision-Makers](#), webinar, 9/23/2015
- [Natural Gas Policy Institute](#), Pittsburgh, 9/9-9/11/2015
- [Solving the Nuclear Waste Storage Dilemma](#), webinar, 9/03/2015
- [Energy Policy Summit at NCSL Legislative Summit](#), Seattle, 8/3/2015
- [Energy Supply Task Force Meeting at NCSL Legislative Summit](#), Seattle, 8/2/2015
- [What's Next for the Renewable Fuel Standard](#), 6/19/2015
- [Nuclear Legislative Working Group Spring Meeting](#), 6/8-6/11/2015
- [EPA Regulations: What Are They and What Do They Mean for Your State?](#), 6/5/2015
- [Transmission Policy Institute, Agenda and Presentations, Denver](#), 5/28 - 5/29/2015
- [What's Coming Down the Pipe: The Fundamentals of Securing America's Natural Gas Pipelines](#), 5/21/2015
- [The State Impacts of Falling Oil Prices](#), 5/8/2015

- [EPA Greenhouse Gas Emissions Regulations: State Options and Responses](#), webinar, 4/30/2015
- [The Future of the Electric Grid: Energy Consumer as Energy Producer](#), webinar, 3/5/2015
- [Growing Efficient Economies: Removing Utility Disincentives for Energy Efficiency](#), webinar, 2/12/2015

2014 Meetings and Webinars

- [Task Force on Energy Supply Forum Presentations](#), 12/9/2014
- [Protecting the Grid: Reducing Risks to the Nation's Energy Network](#), 12/4/2014
- [Energy Policy Summit](#), NCSL Legislative Summit, 8/19/2014
- [Task Force on Energy Supply Legislative Summit Presentations](#), 8/18/2014
- [Energy Development and the Department of Defense: State Policy Options Webinar](#), 7/31/2014
- [Small Modular Nuclear Reactors—Can the Latest Nuclear Technology Transform the Nuclear Industry? Webinar](#), 6/19/2014
- [Increasing Natural Gas Pipeline Safety Webinar](#), 6/18/2014
- [The Rise of Renewables: Integration Challenges and Opportunities Webinar](#), 5/29/2015
- [A Question of Equity: Net Metering and the Costs and Benefits of Rooftop Solar Webinar](#), 5/1/2014
- [Reliability, Risk and Energy Diversity Webinar](#), 4/17/2014
- [A Cost-Benefit Look at Renewable Energy Standards Webinar](#), 3/20/2014
- [Transforming Transportation with Electricity: State Action](#), *Presentation 3/3/14*
- [Hydraulic Fracturing: States Take Action](#), *Presentation 2/21/14*

2013 Meetings and Webinars

- [Task Force on Energy Supply 2013 Fall Forum Meeting Presentations](#), 12/3/2013
- [Task Force on Energy Supply, NCSL Legislative Summit Presentations](#), 8/11/2013
- [Energy Policy Summit](#), NCSL Legislative Summit Presentations, 8/12/2013
- [Task Force on Energy Supply 2013 Spring Forum Presentations](#), 5/2/2013
- [2013 NCSL Spring Forum Energy, Transportation and Agriculture Committee Agenda and presentations](#), 5/2/2013
- [Renewable Energy Integration Challenges: How States are Managing the Rapid Growth of Renewable Energy Webinar](#), 4/25/2013

2012 Meetings

- [Energy Supply Task Force](#) -- NCSL Fall Forum, 12/4/2012
- [Tribal Leader Forum Series: Key Renewable Energy Opportunities for Oklahoma Tribes](#), 8/13/2012
- [Energy Policy Summit](#), NCSL Legislative Summit, 8/6/2012
- [Energy Supply Task Force](#), Chicago, Illinois 8/5/2012
- [Harnessing the Free Market to Improve Energy Efficiency: State Benchmarking and Disclosure Policies Webinar](#), 6/12/2012
- [Energy Supply Task Force Meeting Presentations](#), Executive Committee Meeting, Denver, Colorado 5/18/2012
- [Tribal Leader Forum: Energy Tax Policies and Inter-Jurisdictional Challenges](#), 3/22/2012
- [Conventional Energy \(Oil, Gas & Coal\) Forum and Associated Vertical Business Development: Best Practices in Indian Country](#), 3/1/2012

- [Exploring the Business Link Opportunity: Transmission and Clean Energy Development in the West](#), 2/7-8/2012

2011 Meetings

- [NCSL Task Force on Energy Supply Presentations](#), Tampa, Florida, 11/29/2011
- [NCSL Task Force on Energy Supply](#), Quebec City, CANADA, 10/1/2011
- [Energy Policy Summit Agenda and Presentations](#), San Antonio, Texas, 8/8/2011
- [Critical Infrastructure Workshop](#) at NCSL Legislative Summit, San Antonio, 8/7/2011
- [Transmission Policy Institute Agenda and Presentation](#), Denver, Colorado, 4/20/2011
- [NCSL/NARUC Carbon Capture and Storage Institute](#), New Haven, West Virginia, 6/16/2011
- [The Task Force on Energy Supply Meeting](#), 5/6/2011
- [NCSL 2011 Spring Forum Agriculture and Energy Committee Presentations](#), 4/15/2011
- [DOE South Regional Energy Assurance Exercise](#), 3/1/2011

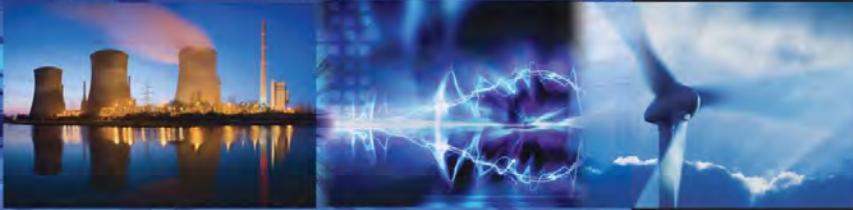
4) Development and Maintenance of Web-based Legislative Database

NCSL leveraged DOE funding for this project to develop the only public resource for state-by-state bill tracking on a variety of energy issues, including: critical infrastructure; fossil fuels; utility regulation; renewable energy; nuclear energy; electric vehicles; transmission; and many other topics. This searchable database, located on the energy home page within the NCSL website, allows users to create customized searches for bills based on keyword, date, topic and status. The database is updated bi-weekly, and now contains more than 10,000 bills related to energy. This searchable database, located [here](#). The database is updated biweekly and contains a comprehensive, up-to-date summary of states legislative activity on energy in all 50 states. The database provides legislators, legislative staff and others with the ability to learn about the current legislative trends in energy efficiency and to find bills related to issues they are addressing in their states.

Appendix begins on next page

Legislative Energy Horizon Institute

July 19 – 22, 2011
Portland, Oregon



INSTITUTE PARTNERS:

Pacific NorthWest Economic Region
University of Idaho
U.S. Department of Energy
National Conference of State Legislatures

AGENDA — PORTLAND, OREGON

Tuesday, July 19, 2011, SolarWorld

12:45 p.m. 1:00 p.m.	Meet at the LEHI table in the hotel lobby Bus departs Hilton for SolarWorld (Wear comfortable shoes for SolarWorld Tour)
1:35 – 2:05 p.m.	Orientation <i>Ken Johnson, Director, State Policy and Government Affairs, Puget Sound Energy</i> <i>Jeff Morris, Director, PNWER's Energy Horizon</i> <i>Yvonne Sertich, Director, Executive Education, University of Idaho</i>
2:10 – 3:05 p.m.	Global Energy Picture <i>John Felmy, Chief Economist, American Petroleum Institute</i>
3:10 – 4:05 p.m.	Where Does North America Fit In? <i>Ron Pernick, Co-founder and Managing Director, Clean Edge, Inc.</i>
4:10 – 5:05 p.m.	Canadian Energy Future <i>Paul Ziff, CEO, Ziff Energy Group</i>
5:05 – 5:25 p.m.	Break (refreshments and hors d'oeuvres)
5:25 – 6:00 p.m.	Overview of Solar Market Issues and Introduction to SolarWorld
6:00 – 8:00 p.m.	SolarWorld Tour (no pictures), Reception and Dinner <i>North America's largest solar cell manufacturing facility</i> <i>Bus departs at 8:00 p.m.</i>

Wednesday, July 20, 2011, LEHI Classroom West Pavilion (unless otherwise noted)

7:45 – 8:45 a.m.	LEHI Breakfast Canada's Energy Situation <i>Serge P. Dupont, Deputy Minister, Natural Resources Canada</i>
9:00–10:00 a.m.	U.S. Energy Situation <i>Dick Moore, Utility Executive Course, University of Idaho</i>
10:00–10:30 a.m.	Oil/Gas Tax and Royalty Rates: Competing for Shale Development <i>Dick Moore, Utility Executive Course, University of Idaho</i>
10:45-11:45 a.m.	Petroleum 101 <i>Dick Moore, Utility Executive Course, University of Idaho</i>
11:45- 11:55a.m.	Emergency Response Operations <i>Alice Lippert, Senior Technical Advisor to the Deputy Assistant Secretary of Infrastructure Security and Energy Restoration, U.S. Department of Energy</i>
12:00 – 1:00 p.m.	PNWER Luncheon Plenary – Grand Ballroom <i>Gary Doer, Canadian Ambassador to the U.S.</i>
1:15 –3:50 p.m.	Natural Gas Production, Transmission, and Delivery <i>Dick Moore, Utility Executive Course, University of Idaho</i>
4:00 –5:30 p.m.	Price at the Fuel Pump — Facts and Myths <i>Cathy Reheis-Boyd, President, Western States Petroleum Association</i>
5:30 –7:00 p.m.	Block Party Reception <i>Rogue Brewery (free evening)</i>

Thursday, July 21, 2011, LEHI Classroom West Pavilion (unless otherwise noted)

8:00 – 9:15 a.m.	LEHI Breakfast Canadian Energy Strategy <i>Ron Liepert, Alberta Energy Minister</i>
9:25 – 11:50 a.m.	Electric Power Generation, Transmission, and Distribution <i>Skip Collier, Utility Executive Course, University of Idaho</i>
12:00 – 1:00 p.m.	PNWER Luncheon Plenary, CEO Roundtable Discussion - Grand Ballroom <i>Dawn Farrell, COO, TransAlta</i> <i>Kimberly Harris, CEO, Puget Sound Energy</i> <i>Martha Wyrsh, President, Vestas America</i>

1:15 – 2:15 p.m.	Energy Sector's Greatest Challenges – CEO Roundtable <i>Dawn Farrell, COO, TransAlta</i> <i>Kimberly Harris, CEO, Puget Sound Energy</i> <i>Martha Wyrsh, President, Vestas America</i>
2:30 – 6:00 p.m.	Electric Power Generation, Transmission, and Distribution <i>Skip Collier, Utility Executive Course, University of Idaho</i>
7:00 p.m.	Sponsor Dinner <i>Perkins Coie LLP, 1120 Couch Street, 10th Floor (Brewery Block)</i> <i>Portland's Historic Brewery Blocks, 4 LEEDS certified buildings</i>

Friday, July 22, 2011- LEHI Classroom West Pavilion (unless otherwise noted)

8:00 – 9:15 a.m.	PNWER Breakfast Plenary Featuring “Jolt! The Impending Dominance of the Electric Car and Why America Must Take Charge” - Grand Ballroom <i>James Billmaier, Author</i>
9:15 – 9:40 a.m.	Break (check out/check bags)
9:45 – 11:00 a.m.	Smart Grid: Concepts and Issues <i>Peter Christensen, Technology Commercialization Manager, Pacific Northwest National Laboratory</i>
11:00 – 11:30 a.m.	Transforming Transportation: The Role of Natural Gas <i>Kathryn Clay, Executive Director, Clean American Transportation Alliance</i>
11:30-11:55 a.m.	Policies that Contribute to Success for Natural Gas as a Transportation Fuel <i>Alicia Milner, President, Canadian Natural Gas Vehicle Alliance</i>
12:00 – 1:00 p.m.	LEHI Lunch Challenges of Integrating Renewable Energy into the Grid <i>Elliot Mainzer, Senior Vice President, Strategy, Bonneville Power Administration</i>
1:15 – 2:15 p.m.	Independent Power Producers <i>Robert Kahn, Executive Director, Northwest Intermountain Power Producers</i>
2:30 – 3:30 p.m.	Financing Electric Projects <i>Donald Gaines, Vice President and Treasurer, Puget Sound Energy</i>
3:30 - 4:30 p.m.	Financing Natural Gas Projects <i>David Anderson, Senior Vice President and CFO, NW Natural</i>
4:30 – 4:45 p.m.	Wrap and Closing Instructions

Legislative Energy Horizon Institute

June 14 - 16, 2012
Washington, D.C.



INSTITUTE PARTNERS:

Pacific NorthWest Economic Region
University of Idaho
U.S. Department of Energy
National Conference of State Legislatures
Government of Canada

AGENDA – WASHINGTON, D.C.

Wednesday, June 13th, 2012

7:00pm-9:30	Welcome Reception <i>Liaison Hotel</i> <i>The Connect Room, Located on the 2nd floor</i> <i>415 New Jersey Avenue, NW, Washington, D.C.</i>
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Thursday, June 14th, 2012 – The Regulators and Emerging Regulations

7:15a.m.	Continental Breakfast <i>American Gas Association (AGA)</i> <i>400 North Capitol Street, NW, Washington, D.C.</i>
7:50-8:00a.m.	Welcome and Assessments
8:00-8:50a.m.	The Future of State Utility Regulation <i>Miles Keogh, Director, Grants and Research,</i> <i>National Association of Regulatory Utility Commissioners (NARUC)</i>
9:00-9:50a.m.	Public Policy Impacts on Business Decisions <i>Mike Oldak, Vice President and General Counsel, Utilities Telecom Council</i>
10:00-10:50a.m.	Role of the Federal Energy Regulatory Commission <i>Phil Moeller, Commissioner, Federal Energy Utility Commission (FERC)</i>
11:00-11:50a.m.	What is NERC/WECC? <i>David R. Nevius, Senior Vice President,</i> <i>North American Electric Reliability Corporation (NERC)</i>
12:00-1:00p.m.	Lunch Session <i>Located in the Hall of the States - Rooms 383-385, Across the Lobby from AGA</i> Climate Change – Canada's Approach <i>Stephen de Boer, Director General, Climate Change International</i>

1:10-2:15p.m.	Integrated Resource Planning (Life Cycle Cost) <i>Phillip Popoff, Manager, Integrated Resource Planning, Puget Sound Energy (PSE)</i>
2:20-3:15p.m.	Integrating New Energy Technologies <i>Gary Spitznogle, Director of New Technology, American Electric Power (AEP)</i> <i>Peter Christensen, Pacific Northwest National Laboratory (PNNL)</i>
3:20-4:15p.m.	Conservation and Decoupling <i>Michele Bair, Vice President, American Electric Power (AEP)</i> <i>Tom DeBoer, Director, Federal & State Regulatory Affairs, Puget Sound Energy (PSE)</i>
4:20-5:15p.m.	Energy Efficiency Performance Contracting <i>Jennifer Schafer, President, Cascade Associates</i> <i>Shelly H. Cohen, Senior Project Developer, Renewable Energy & Energy Efficiency, Ameresco</i>
6:00-7:30p.m.	Sponsor Dinner <i>Hill Country Barbecue Market</i> <i>410 7th Street NW Washington, D.C.</i>
Friday, June 15th, 2012 – Changing Policies and Markets	
7:30a.m.	Continental Breakfast <i>American Gas Association (AGA)</i> <i>400 North Capitol Street, NW, Washington, D.C.</i>
8:00-8:50a.m.	Performance Standards for Greenhouse Gas Emissions <i>Joel Beauvais, Senior Advisor, Office of General Counsel,</i> <i>U.S. Environmental Protection Agency (EPA)</i>
9:00-10:00a.m.	Future of Coal – Panel Discussion and Roundtable <i>Gary Spitznogle, Director, New Technology Development and Policy Support,</i> <i>American Electric Power (AEP)</i> <i>Robert 'Bob' Wright, Ph.D., P.E. Senior Advisor, Office of Clean Coal, U. S. Department of Energy (DOE)</i>
10:05-11:50a.m.	Climate Change, Where Are We Now? <i>Gene Trisko, Attorney</i> <i>Judi Greenwald, Vice President, Technology and Innovation, Center for Climate and Energy Solutions</i> <i>Thomas Peterson, Founder, President and Chief Executive Officer, The Center for Climate Strategies</i>
12:00-12:50p.m.	Lunch Session <i>Located in the Hall of the States - Rooms 383-385, Across the Lobby from AGA</i> Renewable Energy Policy Issues: Feed-in Tariffs, Energy Trusts, Renewable Portfolio Standards <i>Matt Clouse, Director, Renewable Energy Policies and Programs, U.S. Environmental Protection Agency (EPA)</i>

1:00-1:50p.m.	Overview of Canada's Regulation <i>Dan McFadyen, Chairman, Energy Resource Conservation Board</i>
2:00-2:50p.m.	Nuclear Energy: Today and Tomorrow <i>Marshall Cohen, Senior Director, Legislative Programs, Nuclear Energy Institute (NEI)</i>
3:00-3:50p.m.	Permitting Policies for Energy Infrastructure <i>Jeff Wright Director, Office of Energy Projects, Federal Energy Regulatory Commission (FERC)</i>
4:00-4:50p.m.	An Energy Policy of Innovation <i>Marc Cummings, Director of Policy and External Affairs, Pacific Northwest National Laboratory (PNNL)</i>
5:30-7:30p.m.	Graduation Dinner <i>Canadian Embassy 501 Pennsylvania Avenue NW, Washington, D.C.</i>
Saturday, June 16th – Emerging Energy Issues and Safety	
8:00a.m.	Continental Breakfast <i>American Gas Association (AGA) 400 North Capitol Street, NW, Washington, DC</i>
8:30-9:45a.m.	Integrating Renewables: A North American Perspective <i>Lori Bird, Senior Energy Analyst, National Renewable Energy Laboratory (NREL)</i>
9:55-10:50a.m.	Overview of North America's Aging Infrastructure <i>Phil Bennett, Senior Managing Counsel, American Gas Association (AGA)</i>
11:00-11:30a.m.	Class Discussion <i>Jeff Morris, Director, Legislative Energy Horizon Institute Ken Johnson, Director of State Policy and Government Affairs, Puget Sound Energy (PSE)</i>
11:45-12:45p.m.	Lunch Session <i>Located in the Hall of the States - Rooms 383-385, Across the Lobby from AGA</i> Pipeline Safety <i>Carl Weimer, Executive Director, National Pipeline Safety Trust</i>
1:00-2:15p.m.	Hydraulic Fracturing <i>Glen Benge, Senior Technical Advisor (Retired), ExxonMobil Shail Ghaey, Upstream Exploration & Production, American Petroleum Institute (API)</i>
2:15-2:30	Final Evaluations/Adjourn

Legislative Energy Horizon Institute



INSTITUTE PARTNERS:

Pacific NorthWest Economic Region
University of Idaho
U.S. Department of Energy
National Conference of State Legislatures
Government of Canada

July 5-10, 2013, Richland, WA
October 23-26, 2013, Washington, DC

Draft AGENDA – Richland, WA

Friday July 5th, 2013

7:30-9:00pm	Hospitality Welcome for Participants arriving July 5th <i>Courtyard by Marriott, Richland Columbia Point</i> <i>480 Columbia Point Drive Richland, WA 99352</i> <i>(509) 942-9400 (509) 942-9401</i>
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Saturday July 6, 2013

7:00-9:00am	Breakfast (voucher) <i>Courtyard by Marriott, Richland Columbia Point</i> <i>480 Columbia Point Drive Richland, WA 99352</i>
9:30am	Bus Leaves for Pacific Northwest National Laboratory (you will need your security badge before we leave hotel)
9:45am	Welcome Self knowledge Assessment Jeff Morris/Yvonne Sertich
10:00-11:55am	Electric Power Generation, Transmission & Distribution Faculty Skip Collier
12:00-1:10pm Lunch	PNNL's Energy Infrastructure Operations Center <i>Short Presentation by Dr. Jud Virden Associate Laboratory Director for Energy & Environment, PNNL (Class split into two groups to tour center)</i>
1:15-5:45pm	Electric Power Generation, Transmission & Distribution Faculty Skip Collier
5:45-6:30pm	<i>Social Time (open)</i>
6:30-7:30pm Dinner	An Energy Policy of Innovation Marc Cummings, Director of Policy and External Affairs, Pacific Northwest National Laboratory (PNNL)

7:35	Bus Departs PNNL for Hotel
8:00-10:00pm	Hospitality Suite Open
Sunday July 7, 2013	
7:00-8:45am Breakfast <i>at Hotel</i>	
9:00am	Bus departs for PNNL
9:20-10:45am	US Energy Situation University of Idaho Faculty Dick Moore
11:00 – 12:00pm	Natural Gas Production, Transmission & Delivery University of Idaho Faculty Dick Moore
12:00-1:15 p.m.	Advanced Energy Market Trends and Policy Opportunities Tom Plant – AEEI
1:30-2:30pm	Natural Gas Production, Transmission & Delivery University of Idaho Faculty Dick Moore
2:45 -4:30pm (Snack)	Petroleum 101 University of Idaho Faculty Dick Moore
4:35pm	Bus Departs for WSU
4:45-7:35 Dinner/Tours start @ 6:30pm Bus leaves 7:35	Barbecue and Biofuels at WSU Tri-Cities 4:45-5:25 Wood Pellets 101 Gordon Murray, RPF, CMA, Executive Director 5:25-6:00 Wood Pellet Association of Canada Advanced Fuels Dr. John Holladay, 6:00-6:30 PNNL Energy and Environment Sector WSU Biofuel Research Dr. Birgitte Ahring, Director and Battelle Distinguished Professor
8:00-10:00pm	Hospitality Suite Open

Monday, July 8, 2013

7:45am	Bus Departs for PNNL
7:55-8:55am	Global Energy Picture Joseph Giljum, BP Economist
9:00-10:00am	Financing Energy Projects Brandon J. Lohse, CTP, Corporate Treasurer, Puget Sound Energy
10:05-11:05am	Independent Power Producers, Our Story Robert Kahn, Executive Director Northwest Intermountain Power Producers
11:10-12:10pm	Aligning Utility Regulation with State Energy Policy Ken Johnson Director, Rates & Regulatory Affairs
12:15-1:15pm Lunch	Canada's Energy Situation Michael Keenan, Associate Deputy Minister, Natural Resources Canada
1:30-2:30	New Markets for Canadian Natural Gas Gary Weilinger, Vice President, Spectra
2:40-3:40	Cyber Security and Energy Assurance Miles Keogh, Director, Grants and Research, National Association of Regulatory Utility Commissioners (NARUC)
3:50-5:30pm	Integrated Resource Planning Phillip Popoff Manager, Integrated Resource Planning
5:35pm	Bus departs for hotel
6:05pm	Bus departs for Dinner
6:15-8:00pm Social and Dinner	CEO Round Table-Challenges of Running an Energy Company Today Tagaris Winery and Bistro, 844 Tulip Ln Richland, WA 99352 Kimberly Harris CEO PSE Dave Curry CEO Demand Energy Mark Reddemann CEO Energy Northwest

8:00-10:00pm	Hospitality Suite Open
Tuesday, July 9, 2013	
7:30-8:30am Breakfast	Rate of Return 101 Commissioner Phil Jones Chair of NARUC/Washington State Utility Commissioner
8:35am	Bus departs for PNNL
8:45-9:45am	Integrating Renewables Aaron Bloom, The National Renewable Energy Laboratory, Transmission and Grid Integration
9:50-11:00am	Smart Grid Peter Christensen Technology Commercialization Manager, Energy Portfolio Pacific Northwest National Laboratory
11:00- 11:40pm	Alberta's Energy Resources Mr. Doug Lammie, Executive Director, Strategic Energy Secretariat Alberta Energy Ministry
11:40-12:30	Wrap up & Lunch
12:30-5:00	Airport or Optional site visit McNary Dam. Nine Canyon Wind Farm & Battery Storage site and Natural Gas Turbine. (folks needing to get to airport for 4:30-8pm flights will leave tour after Nine Canyon Wind Farm)
6:00-	(TBD)
Wednesday, July 10, 2013	
7:30-8:00 am Breakfast	Optional Field Trip or Airport
8:00am-12pm	Bus Hotel leaves for Columbia Generation Nuclear Plant Bus will return to Hotel. <i>Courtyard by Marriott, Richland Columbia Point</i> <i>480 Columbia Point Drive Richland, WA 99352</i>

Legislative Energy Horizon Institute



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University of Idaho
U.S. Department of Energy
National Conference of State Legislatures
Government of Canada

July 5-10, 2013, Richland, WA
October 23-26, 2013, Washington, DC

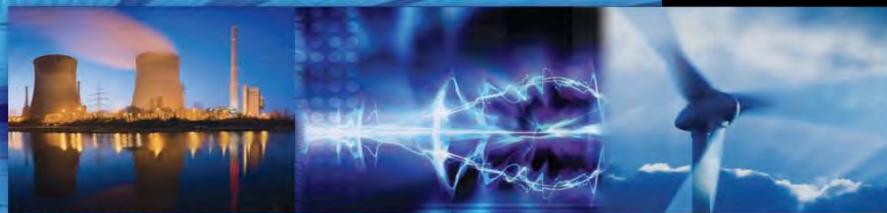
AGENDA – WASHINGTON, DC

Wednesday, October 23, 2013	
7:00pm	Informal Dinner Gathering <i>The Dubliner (202.737.3773)</i> <i>Number 4 "F" ST, Washington, DC 20001</i> <i>(Meal and non-alcohol drinks covered)</i>
Thursday, October 24, 2013	
7:15am	Breakfast <i>American Gas Association (AGA)</i> <i>400 N Capitol ST NW, Washington, DC</i>
7:50-8:10am	Welcome and Assessments <i>Alice Madden, US Department of Energy</i>
8:10-8:50am	Developing Outcome Based/Technology Neutral Energy Policy <i>Marc Cummings, PNNL</i>
9:00-9:50am	Public Policy Impacts on Business Decisions <i>Michael Oldak, Utilities Telecom Council</i>
10:00-10:50am	Role of the Federal Energy Regulatory Commission <i>Philip Moeller, Federal Energy Regulatory Commission (FERC)</i>
11:00-11:50am	What is NERC/WECC? <i>David Cook, North American Electric Reliability Corporation (NERC)</i>
12:00-1:00pm	Lunch Session Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>
1:10-2:15pm	Nuclear Energy: Today and Tomorrow <i>Michael McGarey, Nuclear Energy Institute (NEI)</i>

2:20-3:25pm	What Will State/Province Based Regulation Look Like in 2030? <i>Charles Goldman, Lawrence Berkeley National Laboratory</i> <i>David Malkin, GE Digital Energy Management</i>
3:45-4:45pm	Canada's Energy Policy Issues and Approach to Climate Change <i>Sheila Riordan, Embassy of Canada</i>
4:45-5:00pm	Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>
6:00-8:00pm	Graduation Reception <i>Denis Stevens, Canadian Embassy</i> <i>Alice Madden, US Department of Energy</i> <i>Embassy of Canada, 501 Pennsylvania AVE NW, Washington, DC</i>
Friday, October 25, 2013	
7:30am	Breakfast <i>American Gas Association (AGA) 400 N Capitol ST NW /</i> Permitting Policies for Energy Infrastructure <i>Jeff Wright, Federal Energy Regulatory Commission (FERC)</i>
8:15-9:00am	Best Practices in Fracturing <i>Rhonda Reda, Ohio Oil and Gas Association Energy Education Program</i>
9:05-9:55am	Future of Coal <i>Ben Yamagata, Coal Utilization Research Council</i>
10:00-11:25am	Climate Change, Where Are We Now? <i>Thomas Peterson, The Center for Climate Strategies</i> <i>Eugene Trisko, Attorney</i>
11:35am-12:15pm	Case Study—A Business Plan to Integrate Natural Gas Vehicles <i>Michael Britt, UPS</i>
12:20-1:05pm	Lunch Session—Resilience and Energy Assurance Planning <i>Alice Lippert, US Department of Energy</i>
1:10-1:55pm	Overview of Canada's Energy Regulation <i>Jennifer Steber, Alberta Energy Regulator</i>
2:00-3:15pm	Best Practices for Renewable Energy Development <i>Tony Clifford, Standard Solar, Inc.</i> <i>Susan Sloan, American Wind Energy Association</i>
3:20-4:10pm	What is Energy Efficiency? What is Conservation? <i>Steven Nadel, ACEEE</i>
4:15-5:05pm	Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>

6:00-7:45pm	Sponsor Dinner (Casual) <i>Cuba Libre Restaurant and Rum Bar(202.408.1600)</i> <i>801 9th ST NW STE A (corner of 9th and H Streets)</i> <i>Washington, DC 20001</i>
Saturday, October 26, 2013	
7:30am	Breakfast <i>American Gas Association (AGA)</i> <i>400 N Capitol ST NW, Washington, DC</i>
8:00-8:50am	Energy Storage Today <i>Katherine Hamilton, Electricity Storage Association</i>
9:00-9:50am	Overview of North America's Aging Infrastructure and Pipeline Safety Best Practices <i>Kyle Rogers, American Gas Association (AGA)</i>
10:00-11:00am	Coal in a Changing Regulatory Landscape <i>Eric Holdsworth, Edison Electric Institute</i>
11:05am-12:15pm	Performance Contracting <i>Kevin Bellamy, Siemens</i>
12:30-1:15pm	Lunch Session—2030 Energy Plan <i>Nicole Steele, Alliance to Save Energy</i>
1:15-1:30pm	Sponsor's Comments
1:30-2:00pm	Final Debrief and Evaluations

Legislative Energy Horizon Institute



INSTITUTE PARTNERS:

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University of Idaho
U.S. Department of Energy
National Conference of State Legislatures
Government of Canada

August 23-26, 2014, Richland, WA
November 13-15, 2014, Washington, DC

Final AGENDA – Richland, WA 2014

Friday August 22, 2014

1:30-5:30pm	For those who signed up for optional tour of the 1GW Columbia Nuclear Generating Station Bus leaves hotel at 1:30.
7:00-8:30pm	Hospitality Welcome for Participants arriving August 22, 2014 <i>Courtyard by Marriott, Richland Columbia Point</i> 480 Columbia Point Drive Richland, WA 99352 (509) 942-9400
9-10:30pm	Hospitality Suite Open Room 215 at Hotel

Saturday August 23, 2014

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:00-8:45am	Breakfast At Hotel (voucher in your check-in packet) (you will need your security badge before leaving hotel—Badge pick up in the lobby) <i>Courtyard by Marriott, Richland 480 Columbia Point Drive, Richland, WA 99352</i>
9:00am	Bus for Pacific Northwest National Lab.
9:30am	Welcome (Official Course start) Self knowledge Assessment Jeff Morris/Yvonne Sertich
9:45-12:15pm	Electric Power Generation, Transmission & Distribution Faculty Skip Collier
12:15-1:15pm	Lunch discussion on morning session
1:30-5:00pm	Electric Power Generation, Transmission & Distribution Faculty Skip Collier
5:00pm-6:30pm Dinner	Battery Storage Field Test Unit--Tour and Dinner at EMSL John Steigers, Generation Project Development, Energy Northwest
6:30	Bus Departs for Hotel
8:00-10:00pm	Hospitality Suite Open Room 215 at Hotel

Sunday August 24, 2014

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:45am	<i>Bus leaves for PNNL</i>
8:00-8:30am	<i>Breakfast at PNNL</i>
8:30-10:00am	US Energy Situation University of Idaho Faculty Dick Moore
10:15 – 11:15am	Natural Gas Production, Transmission & Delivery University of Idaho Faculty Dick Moore
11:20-12:05pm	Policy Opportunities with EPA's 111d rule Tom Plant – AEEI
12:10-1:20 p.m. lunch	PNNL's Energy Infrastructure Operations Center Short Presentation by Dr. Jud Virden Associate Laboratory Director for Energy & Environment, PNNL (Class split into two groups to tour center)
1:30-2:30pm	Natural Gas Production, Transmission & Delivery University of Idaho Faculty Dick Moore
2:45 -3:55pm	Petroleum 101 University of Idaho Faculty Dick Moore
4:00-7:30 pm Dinner/Test Drive start @ 5:30pm Bus leaves 7:30	Alternative Fuels for Transportation Biomass for Transportation Brendan J McCarthy State Government Affairs Portland General Electric Policies that work to support natural gas vehicles , Alicia Milner, President of Canadian Natural Gas Vehicle Alliance State of Electric Vehicles in North America. Rebecca Harsh Knox Director, Retail Energy Policy Edison Electric Institute Student Drive about and Dinner! 3 electric Vehicles, 2 Propane vehicles, 2 CNG Vehicles, 1 LNG Truck
9:00-10:30pm	Hospitality Suite Open Room 215 at Hotel

Monday, August 25, 2014

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

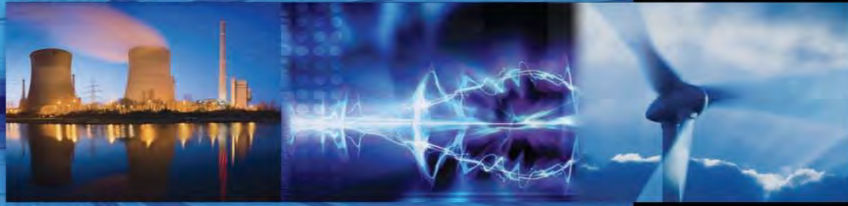
7:35am	Bus Leaves for PNNL
8:00-8:55am	Global Energy Picture Mark Finley BP General Manager, Global Energy Markets and US Economics
9:00-10:00am	Financing Energy Projects Brandon J. Lohse, CTP, Corporate Treasurer, Puget Sound Energy
10:05-11:05am	Independent Power Producers, Our Story Robert Kahn, Executive Director Northwest Intermountain Power Producers
11:10-12:10pm	Aligning Utility Regulation with State Energy Policy Ken Johnson Director, Rates & Regulatory Affairs
12:15-1:15pm Lunch	What is Energy Efficiency? Andrew Pape-Salmon P.Eng., RDH Company
1:30-2:30	Canada's Energy Situation Andrew Leach, Associate Professor, Alberta School of Business University of Alberta
2:40-3:40	New Markets for Canadian Natural Gas Gary Weilinger, Vice President, Spectra
3:50-5:30pm	Integrated Resource Planning Game Jason Thackston, Avista Senior VP Energy Resources
5:35pm	Bus departs for Dinner
6:15-8:00pm Social and Dinner	Senior Energy Executive Round Table Challenges of Running an Energy Company Today Mark Reddemann CEO Energy Northwest Jason Thackston, Avista Senior VP Energy Resources Gary Weilinger, Vice President, Spectra Dave Robertson, Vice President Portland General Electric Russ Weed VP Business Development at UniEnergy Technologies, LLC, Location The Reach Museum --Opened July 5, 2014 "Our primary mission will be one of storyteller... Looking through the lens of the Hanford Reach National Monument and the Columbia River."
8:30-10:00pm	Hospitality Suite Open Room 215 at Hotel

Tuesday, August 26 2014

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:35am	Bus Departs Hotel for PNNL
8:00-9:00am Breakfast	Rate of Return 101 Commissioner Phil Jones Chair of NARUC/Washington State Utility Commissioner
9:10-10:20am	Integrating Renewables Aaron Bloom, The National Renewable Energy Laboratory, Transmission and Grid Integration
10:25- 11:50am	Smart Grid Carl Imhoff, Technology Manager, Electricity Infrastructure Market Sector Pacific Northwest National Laboratory
12:00-1:00pm Lunch	Preview of DC Class Session Wrap up & Lunch
1PM	Bus back to Hotel
1:30-3:00pm	Airport or Optional site visit to Nine Canyon Wind Farm

Legislative Energy Horizon Institute



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August 23-26, 2014, Richland, WA
November 13-15, 2014, Washington, DC

AGENDA – WASHINGTON, DC

Wednesday, November 12, 2014

7:00pm **Informal Dinner Gathering**
The Dubliner (202.737.3773)
Number 4 "F" ST, Washington, DC 20001
(Meal and non-alcohol drinks covered)

Thursday, November 13, 2014

7:30am **Breakfast**
American Gas Association (AGA)
400 N Capitol ST NW, Washington, DC

8:00-8:30am **Welcome and Assessments**
Alice Madden, US Department of Energy, Kyle Rogers AGA--Jeff Morris, Yvonne Sertich

8:30-9:20am **Public Policy Impacts on Business Decisions**
Bill Murray, Managing Director, Public Policy, Dominion

9:25-10:20am **Overview of North America's Aging Infrastructure and Pipeline Safety Best Practices**
Kyle Rogers, American Gas Association (AGA)

10:30-11:30am **Role of the Federal Energy Regulatory Commission**
Commissioner Tony Clark, Federal Energy Regulatory Commission (FERC)

11:30-12:20am **The Future of Coal**
Julio Friedmann, Deputy Assistant Secretary, USDOE

12:30-1:00pm **Lunch Session Class Debrief**
Jeff Morris, Legislative Energy Horizon Institute

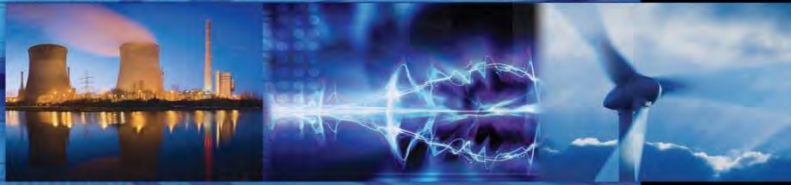
1:05-2:05pm **Nuclear Energy: Today and Tomorrow**
Everett Redmond, Senior Director for Policy Development
Nuclear Energy Institute (NEI)

2:15-3:30pm **What Will State/Province Based Regulation Look Like in 2030?**
Charles Goldman, Lawrence Berkeley National Laboratory

3:40-4:35pm	Energy Storage Today <i>Katherine Hamilton, Electricity Storage Association</i>
4:45-5:00pm	Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>
5:30-7:00pm	Graduation Reception (Walk or Cab) <i>Denis Stevens, Canadian Embassy</i> <i>Alice Madden, US Department of Energy</i> <i>Embassy of Canada, 501 Pennsylvania AVE NW, Washington, DC</i>
7:15-9pm	Dinner Oyamel Cocina Mexicana (Walk or Cab) <i>401 7th Street NW</i> <i>Washington, DC 20004 (Corner of 7th & D Streets) t. 202.628.1005</i>
Friday, November 14, 2014	
7:30am	Breakfast <i>American Gas Association (AGA) 400 N Capitol ST NW</i>
8:00-9:50am	Association EPA's 111b and 111d--What do we know Today <i>Joe Goffman, Associate Assistant Administrator for Climate and Senior Counsel, EPA Office of Air and Radiation (OAR)</i> Known Unknowns on 111b and 111d <i>Eric Holdsworth, Edison Electric Institute</i>
10:00-10:50am	Overview of Industry Practices in Fracturing <i>Rhonda Reda, Ohio Oil and Gas Association Energy Education Program</i>
10:55-11:50am	State/Provincial Perspective on Fracturing Regulation <i>Dan Grossman, Rocky Mountain Regional Director, Environmental Defense Fund,</i>
12:00-12:55pm	Lunch Session Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>
1:05-1:50pm	Rail Safety and Crude <i>Lauren Kinney ADM Safety and Security Transport Canada</i>
2:00-2:50pm	Crude by Rail a North American Market <i>Bob Greco, Director of Downstream and Industry Operations API</i>
3:00-4:00pm	Best Practices for Renewable Energy Development <i>Tom Vinson, American Wind Energy</i> <i>Emily J. Duncan, Solar Energy Industries Association</i>
4:05-5:00pm	Developing Outcome Based/Technology Neutral Energy Policy <i>Angela Becker-Dippman, PNNL</i>
5:00-5:15pm	Class Debrief -Jeff Morris, Legislative Energy Horizon Institute
6:00-7:45pm	Sponsor Dinner (Casual- Walk or Cab) <i>Hill Country Barbecue Market</i>

	410 7th Street NW Washington, DC 20004 202-556-2050
Saturday, November 15, 2014	
8:00am	Breakfast <i>American Gas Association (AGA)</i> <i>400 N Capitol ST NW, Washington, DC</i>
8:30-9:20am	<i>Wheel of 111b and 111d Classroom Discussion</i>
9:30-10:20am	Future of the Grid Becky Harrison CEO GridWise Alliance
10:00-11:00am	After the Election -- What will Congress do with Energy?
11:05am-12:15pm	Performance Contracting <i>Kevin Bellamy, Siemens</i>
12:30-1:15pm	Lunch Session—Evaluations, Small Group Debrief, and Sponsor Comment

Legislative Energy Horizon Institute



INSTITUTE PARTNERS:

Pacific NorthWest Economic Region
University of Idaho
U.S. Department of Energy
Pacific Northwest National Laboratory
National Conference of State Legislatures
Government of Canada

July 24-28, 2015, Richland, WA
October 6-10, 2015, Washington, DC
July 22-26, 2016, Richland, WA
November 6-10, 2016, Washington, DC

AGENDA – Richland, WA 2015

Friday July 24, 2015

1:30-5:30pm	For those who signed up for optional tour of the 1GW Columbia Nuclear Generating Station Bus leaves hotel at 1:30.
7:00-8:30pm	Hospitality Welcome for Participants arriving August 22, 2014 <i>Courtyard by Marriott, Richland Columbia Point</i> 480 Columbia Point Drive Richland, WA 99352 (509) 942-9400
8:30-10:30pm	Hospitality Suite Open Room 215 at Hotel

Saturday July 25, 2015

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:00-8:45am	Breakfast At Hotel (Order breakfast at your leisure give cashier your room #) (you will need your security badge before leaving hotel—Badge pick up in the lobby) <i>Courtyard by Marriott, Richland 480 Columbia Point Drive, Richland, WA 99352</i>
9:00am	Bus Leaves for Pacific Northwest National Lab.
9:30am	Welcome (Official Course start) Self knowledge Assessment Jeff Morris/Yvonne Sertich
9:45-12:15pm	Electric Power Generation, Transmission & Distribution University of Idaho Faculty Skip Collier
12:15-1:00pm	Lunch discussion on morning session EMSL 1077/75
1:05-5:00pm	Electric Power Generation, Transmission & Distribution University of Idaho Faculty Skip Collier
5:00pm-7:00pm Dinner	Rate of Return 101 Commissioner Phil Jones - <i>Immediate Past Chair of NARUC/Washington State Utility Commissioner</i>
7:00	Bus Departs for Hotel

8:00-10:00pm	Hospitality Suite Open Room 215 at Hotel
<p align="center">Sunday July 26, 2015 <i>All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium. 3335 Innovation Blvd, Richland, WA 99354</i></p>	
7:45am	<i>Bus leaves for PNNL</i>
8:00-8:30am	<i>Breakfast at PNNL EMSL 1077/75</i>
8:30-10:30am	Natural Gas Production, Transmission & Delivery University of Idaho Faculty Dick Moore
10:45-11:40	Integrating Renewables Aaron Bloom, The National Renewable Energy Laboratory, Transmission and Grid Integration
11:45-1:25 p.m. lunch	PNNL's Energy Infrastructure Operations Center EMSL 1077/75 Short Presentation by Dr. Jud Virden Associate Laboratory Director for Energy & Environment, PNNL (Class split into two groups to tour center)
1:35 -4:00pm	Petroleum 101 University of Idaho Faculty Dick Moore
4:05-7:30 pm Lecture Dinner/Test Drive start @ 5:45pm Bus leaves 7:30	Alternative Fuels for Transportation Policies that work to support natural gas vehicles, Matt Godlewski, President of NGVA State of Electric Vehicles in North America. Jim Francfort Principle Investigator DOE Advanced Vehicle Testing Activity at Idaho National Laboratory (INL) Student Drive about and Dinner! (Must Sign Waiver Form) Bi-Fuel Propane Yukon XL, Bi-Fuel Propane Police Car, Possible SD 114 CNG Roll-off truck, 2012- Bi-Fuel Propane Chevy Avalanche, 2013 Bi-Fuel CNG Chevy Silverado 4x4, Honda Civic dedicated CNG, 2 Nissan Leafs, 3 electric Vehicles
9:00-10:30pm	Hospitality Suite Open Room 215 at Hotel

Monday, July 27, 2015

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:30 am	Bus Leaves for PNNL
8:00-8:30am	Breakfast EMSL 1077/75
8:30-9:25am	Financing Energy Projects Brandon J. Lohse, CTP, Corporate Treasurer, Puget Sound Energy
9:30-10:25am	Independent Power Producers, Our Story Mark Soutter Manager of Regulatory Affairs, Invenergy LLC
10:30-11:25am	Canadian Natural Gas Gary Weilinger, Vice President, Spectra
11:30-12:10pm	Tools for Legislators in LEHI J.R. Tolbert Senior Director, State Policy Advanced Energy Economy
12:15-12:55 pm	Lunch EMSL 1077/75
1:00-2:00	Canada's Energy Situation <i>Peter MacConnachie</i> <i>Sustainability Issues Manager at Suncor Energy</i>
2:10-3:05	Aligning Utility Regulation with State Energy Policy Ken Johnson Director, Rates & Regulatory Affairs
3:15-5:15 pm	Integrated Resource Planning Game <i>EMSL 1077/75</i> Jason Thackston, Avista Senior VP Energy Resources
5:30pm	Bus departs for Dinner
6:15-8:00pm Social and Dinner	Senior Energy Executive Round Table Challenges of Running an Energy Company Today Mark Reddemann CEO Energy Northwest Jason Thackston, Senior Vice President Energy Resources, Avista Gary Weilinger, Vice President External Affairs, Spectra Energy Scott Bolton, Vice President External Affairs, PacifiCorp Location The Reach Museum --Opened July 5, 2014 "Our primary mission will be one of storyteller... Looking through the lens of the Hanford Reach National Monument and the Columbia River."
8:30-10:00pm	Hospitality Suite Open <i>Room 215 at Hotel</i>

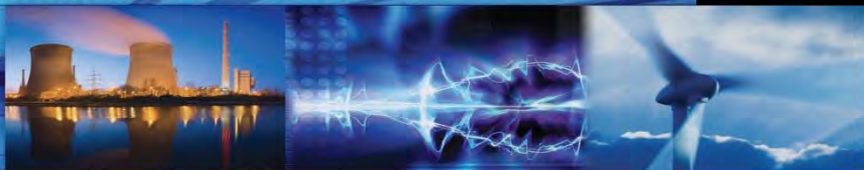
Tuesday, July 28 2015

All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.

3335 Innovation Blvd, Richland, WA 99354

7:30am	Bus Departs Hotel for PNNL (If you are going on wind farm tour, please check out and bring your bags to lobby-- You will go directly to airport from tour.)
8:00-8:30	Breakfast EMSL 1077/75
8:30-9:20	Financing Energy Efficiency Dan Scripps, President Michigan Energy Innovation Business Council
9:25-10:20am	Smart Grid Carl Imhoff, Technology Manager, Electricity Infrastructure Market Sector Pacific Northwest National Laboratory
10:25-11:50am	Utility 2.0 What will the Utility of the Future look like Part 1. Robin Bedilion Sr. Technical Leader of Technology Innovation, EPRI Dr. Ron Melton, Director of the Pacific Northwest Smart Grid Demonstration (PNSGD) project, PNNL
12:00-1:00pm	Lunch Preview of DC Class Session & Wrap Up EMSL 1077/75
1PM	Bus back to Hotel/ If on wind farm tour board assigned van or car directly to tour.
1:30-3:00pm	Airport or Optional site visit to Nine Canyon Wind Farm

Legislative Energy Horizon Institute



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July 24-28, 2015, Richland, WA
October 7-10, 2015, Washington, DC
July 22-26, 2016, Richland, WA
November 9-12, 2016, Washington, DC

AGENDA – WASHINGTON, DC

Wednesday, October 7, 2015

7:00pm	Informal Dinner Gathering <i>The Dubliner (202.737.3773)</i> <i>Number 4 “F” ST, Washington, DC 20001</i> <i>(Meal and non-alcohol drinks covered)</i>
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Thursday, October 8, 2015

7:30am	Breakfast <i>American Gas Association (AGA)</i> <i>400 N Capitol ST NW, Washington, DC 20001</i>
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8:00-8:30am	Welcome and Assessments <i>Jeff Morris, Yvonne Sertich</i>
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8:30-9:20am	Role of the Federal Energy Regulatory Commission <i>Commissioner Tony Clark, Federal Energy Regulatory Commission (FERC)</i>
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9:25-10:20am	The Future of Coal <i>David Mohler, Deputy Assistant Secretary, USDOE</i>
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10:30-11:30am	Nuclear Energy: Today and Tomorrow <i>Everett Redmond, Senior Director for Policy Development</i> <i>Nuclear Energy Institute (NEI)</i>
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11:30-12:25pm	Best Policy Practices for Renewable Energy & Enabling Technologies <i>Andrew Gohn AWEA, Rick Umhoff, SEIA, Jason Burwen, ESA</i>
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12:30-1:00pm	Lunch Session Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>
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1:05-2:05pm	The Federal Energy Policy Landscape to 2016 and beyond. <i>Isaac Edwards Committee staff of Sen. Lisa Murkowski (invited)</i> <i>Angela Becker-Dippman Chief of Staff Sen. Maria Cantwell</i>
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2:15-3:45pm	What Will State/Province Based Regulation Look Like in 2030? <i>Charles Goldman, Lawrence Berkeley National Laboratory</i>
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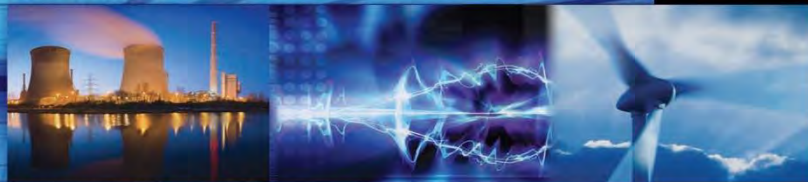
3:40-4:35pm	Litigation on FERC Order 745 & 1000 --Implications for States <i>Katherine Hamilton Co-Founder 38 North Solutions</i>
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4:45-5:00pm	Class Debrief <i>Jeff Morris, Legislative Energy Horizon Institute</i>
5:30-7:00pm	Graduation Reception (Walk or Cab) <i>Denis Stevens, Deputy Head of Mission, Canadian Embassy</i> <i>Liz Dalton, Principal Deputy Assistant Secretary, Department of Energy</i> <i>Embassy of Canada, 501 Pennsylvania AVE NW, Washington, DC</i>
7:15-9pm	Dinner Oyamel Cocina Mexicana (Walk or Cab) <i>401 7th Street NW Washington, DC 20004 (Corner of 7th & D Streets) t.</i> <i>202.628.1005</i>
Friday, October 9, 2015	
7:30am	Breakfast <i>American Gas Association (AGA) 400 N Capitol ST NW 2001</i>
8:00-8:30am	EPA's 111b and 111d—The Final Rule <i>Joe Goffman, Associate Assistant Administrator for Climate and Senior Counsel, EPA Office of Air and Radiation (OAR)</i>
8:30-10:00	The Road Ahead on 111b and 111d <i>Eric Holdsworth, Edison Electric Institute</i> <i>Matt Stanberry, Vice President, Market Development AEE</i> <i>Bill Murray, Managing Director, Public Policy, Dominion</i>
10:05-10:55am	Overview of Industry Practices in Fracturing <i>Rhonda Reda, Ohio Oil and Gas Association Energy Education Program</i>
11:00-11:50pm	Regulatory State/Provincial Perspective on Fracturing Regulation <i>Scott R. Perry, Deputy Secretary Office of Oil and Gas Management Pennsylvania</i>
11:55-12:25pm	Lunch Session Debrief
12:30-1:45pm	Global Energy Picture <i>Mark Finley BP General Manager, Global Energy Markets & US Economics</i>
1:50-2:40pm	Future of the Grid <i>Becky Harrison CEO GridWise Alliance</i>
2:45-4:00pm	Utility 2.0 <i>Ryan Katofsky, Senior Director, Industry Analysis AEE</i> <i>Ashley Brown, Harvard Electricity Policy Group</i>
4:05-5:00pm	Natural Gas's Aging Infrastructure, Pipeline Safety & Expansion Best Practices <i>Kyle Rogers, American Gas Association (AGA)</i>
5:00-5:15pm	Class Debrief - <i>Jeff Morris, Legislative Energy Horizon Institute</i>
6:00-7:45pm	Sponsor Appreciation Dinner (Casual- Walk or Uber/Cab) <i>BP DC Office, 1101 New York Avenue, Washington DC</i>

Saturday, October 10. 2015

8:00am	Breakfast <i>American Gas Association (AGA)</i> <i>400 N Capitol ST NW, Washington, DC 2001</i>
8:30-11:30	<i>NARUC/Duke Procurement Risk Simulation</i> <i>Miles Keogh Director of Grants and Research NARUC</i>
11:30am- 12:30pm	LEHI Class of 2015 Crystal Ball/Time Capsule -- Classroom Discussion <i>Lunch Session Evaluations, Small Group Debrief, and Sponsor Comment</i>

Legislative Energy Horizon Institute



INSTITUTE PARTNERS:

Pacific NorthWest Economic Region
University of Idaho
U.S. Department of Energy
Pacific Northwest National Laboratory
National Conference of State Legislatures
Government of Canada

July 23-26, 2016, Richland, WA
November 10-12, 2016, Washington, DC

AGENDA – Richland, WA 2016

Friday July 22, 2016

2:00-5:30pm	For those who signed up for optional tour of the 1GW Columbia Nuclear Generating Station Bus leaves hotel at 1:30
6:30-8:30pm	Hospitality Welcome for Participants arriving July 22, 2016 <i>Pointe Room @ Courtyard by Marriott, Richland Columbia Point</i> <i>480 Columbia Point Drive Richland, WA 99352 (509) 942-9400</i>
9:00-11:00pm	Hospitality Suite Open Room 215 at Hotel

Saturday July 23, 2016

All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354

7:00-8:45am	Breakfast at Hotel (Order breakfast at your leisure give cashier your room #) (Please bring government ID with you to class in order to receive your security badge at the EMSL building) <i>Courtyard by Marriott, Richland 480 Columbia Point Drive, Richland, WA 99352</i>
9:00am	Bus Leaves for Pacific Northwest National Laboratory
9:30am	Welcome (Official Course start) Self-knowledge Assessment Jeff Morris/Yvonne Sertich
9:45-12:15pm	Electric Power Generation, Transmission & Distribution University of Idaho Faculty Skip Collier <i>(Breaks called by Instructor)</i>
12:15-1:00pm Lunch	Class Introductions & discussion on morning session EMSL 1077
1:05-5:00pm	Electric Power Generation, Transmission & Distribution University of Idaho Faculty Skip Collier <i>(Breaks called by Instructor)</i>
5:00pm-7:00pm Dinner	Energy Cyber Security Deb Gracio, Director, National Security Program Development Office Pacific Northwest National Laboratory
7:00	Bus Departs for Hotel
8:00-10:00pm	Hospitality Suite Open Room 215 at Hotel

Sunday July 24, 2016

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:45am	<i>Bus leaves for PNNL</i>
8:00-8:30am	<i>Breakfast at PNNL EMSL 1077/75</i>
8:30-10:30am	Natural Gas Production, Transmission & Delivery University of Idaho Faculty Dick Moore (Breaks called by Instructor)
10:45-11:40	Rate of Return 101 Danny Kermode, Washington UTC and NARUC Lecturer
11:45-1:25 p.m. lunch	PNNL's Energy Infrastructure Operations Center Presentation by Dr. Jud Virden Associate Laboratory Director for Energy & Environment, PNNL @ Systems Engineering Building (Class split into two groups to tour center and have lunch)
1:35 -4:00pm	Petroleum 101 University of Idaho Faculty Dick Moore
4:05-7:30 pm Lecture Dinner/Test Drive start @ 5:45pm Bus leaves 7:30	Alternative Fuels for Transportation Natural Gas Vehicles, what infrastructure is needed? Ben Farrow Manager, New Product Development, PSE State of Electric Vehicles in North America. James Francfort Principle Investigator DOE Advanced Vehicle Testing Activity at Idaho National Laboratory (INL) Vehicle Overview Bryan Schiedler, Chair, Transportation Technology Department Linn Benton Community College Student Drive about and Dinner! (Must Sign Waiver Form) Bi-Fuel Propane Yukon XL, Bi-Fuel Propane Police Car, Possible SD 114 CNG Roll-off truck, 2012- Bi-Fuel Propane Chevy Avalanche, 2013 Bi-Fuel CNG Chevy Silverado 4x4, Honda Civic dedicated CNG, 2 Nissan Leafs,
9:00-10:30pm	Hospitality Suite Open Room 215 at Hotel

Monday, July 25, 2016

*All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.
3335 Innovation Blvd, Richland, WA 99354*

7:30 am	Bus Leaves for PNNL
8:00-8:30am	Breakfast EMSL 1077/75
8:30-9:25am	Financing Energy Projects David Stickley, Manager of Financial Planning & Analysis, Puget Sound Energy
9:30-10:25am	Aligning Utility Regulation with State Energy Policy Roger Woodworth, President, Avista Development
10:30-11:25am	Canadian Natural Gas Gary Weilinger, Vice President, Spectra
11:30-12:00pm	Tools for Legislators in LEHI J.R. Tolbert Senior Director, State Policy Advanced Energy Economy
12:05-12:50 pm	Lunch EMSL 1077/75
1:00-2:30	Integrated Resource Planning Game EMSL 1077/75 Jason Thackston, Avista Senior VP Energy Resources
2:50-3:50	Energy the Next 30 years Amory B. Lovins Cofounder, Chief Scientist and Chairman Emeritus Rocky Mountain Institute (Class will walk to Battelle Auditorium to join PNNL Scientists for 1 hour then return to class at EMSL)
4:15-5:10 pm	Canada's Energy Situation Peter MacConnachie Sustainability Issues Manager at Suncor Energy
5:15-6:05	Public Power, Our Story George Caan, CEO Washington PUD Association
6:10	Bus departs for Dinner
6:30-8:00pm Social and Dinner	Energy--The Next 30 years--Continued Q &A Amory B. Lovins Cofounder, Chief Scientist and Chairman Emeritus Rocky Mountain Institute The Reach Museum --Opened July 5, 2014 "Our primary mission will be one of storyteller... Looking through the lens of the Hanford Reach National Monument and the Columbia River."
8:30-10pm	Hospitality Suite Open Room 215 at Hotel

Tuesday, July 26 2015

All Classroom Sessions Environmental Molecular Sciences Laboratory Auditorium.

3335 Innovation Blvd, Richland, WA 99354

7:30am	Bus Departs Hotel for PNNL <i>If your flight departs before 2pm please bring your bags with you on the bus.</i>
8:00-8:30	Breakfast EMSL 1077/75
8:30-9:20	Integrating Renewables Aaron Bloom, The National Renewable Energy Laboratory, Transmission and Grid Integration
9:25- 10:20am	Utility 2.0 What will the Utility of the Future look like Part 1. Robin Bedilion Sr. Technical Leader of Technology Innovation, EPRI
10:25- 11:55am	Smart Grid Carl Imhoff, Technology Manager, Electricity Infrastructure Market Sector Pacific Northwest National Laboratory
12:00- 12:30pm	Lunch Preview of DC Class Session & Wrap Up EMSL 1077/75
12:45PM	Bus to Hotel dropping people at hotel and then going straight to airport.