

# **BUILDING STRONGER STATE ENERGY PARTNERSHIPS WITH THE U.S. DEPARTMENT OF ENERGY**

## **Final Technical Report**

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## **Abstract**

This final technical report details the results of total work efforts and progress made from October 2007 – September 2011 under the National Association of State Energy Officials (NASEO) cooperative agreement DE-FC26-07NT43264, Building Stronger State Energy Partnerships with the U.S. Department of Energy. Major topical project areas in this final report include work efforts in the following areas: Energy Assurance and Critical Infrastructure, State and Regional Technical Assistance, Regional Initiative, Regional Coordination and Technical Assistance, and International Activities in China. All required deliverables have been provided to the National Energy Technology Laboratory and DOE program officials.

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## **EXECUTIVE SUMMARY**

The Department of Energy/National Association of State Energy Officials cooperative agreement, “Building Stronger State Energy Partnerships with the U.S. Department of Energy” was in place during the years 2007 through 2011. All tasks and objectives, as well as task deliverables, have been accomplished and delivered as set forth in the agreement.

NASEO and its partners have been able to successfully provide coordination, outreach, education, training, analysis, and technical assistance to States, Territories, and China in the major task areas of the cooperative agreement.

- Energy Assurance and Critical Infrastructure (Office of Electricity Delivery and Energy Reliability)
- State and Regional Technical Assistance (Office of Electricity Delivery and Energy Reliability)
- Regional Coordination and Technical Assistance (Office of Energy Efficiency and Renewable Energy)
- Regional Initiative (Office of Energy Efficiency and Renewable Energy)
- International Activities in China (Office of Energy Efficiency and Renewable Energy)

Through its unique membership (state and territory energy officials from around the country) and collaborative relationship with other state, national, international, and private energy-focused organizations, NASEO was able to work with the states, territories, and China to identify areas of needed assistance, and opportunities for DOE/state/regional/ international partnerships efforts.

## RESULTS AND DISCUSSION

The award for this project work, Building Stronger State Energy Partnerships with the U.S. Department of Energy, was made in October 2007. Over the next several years, additional work activities were funded by the Office of Energy Efficiency and Renewable Energy as well as the Office of Electricity Delivery and Energy Reliability under the cooperative agreement. This final technical report covers all work, reported by major topical areas, funded under award DE-FC26-07NT43264 from October 2007 through September 2011. Major topical project areas in this final report include work efforts in the following areas: Energy Assurance and Critical Infrastructure (Office of Electricity Delivery and Energy Reliability); State and Regional Technical Assistance (Office of Electricity Delivery and Energy Reliability); Regional Coordination and Technical Assistance (Office of Energy Efficiency and Renewable Energy); Regional Initiative (Office of Energy Efficiency and Renewable Energy); and International Activities in China (Office of Energy Efficiency and Renewable Energy).

All required deliverables have been provided to the National Energy Technology Laboratory and DOE program officials.

### **ENERGY ASSURANCE AND CRITICAL INFRASTRUCTURE – Office of Electricity Delivery and Energy Reliability**

*Provide technical assistance, prepare briefing papers, conduct research and analysis on state policies, organize focused discussions and training opportunities at its scheduled meetings, and conduct-focused conferences. Facilitate a dialogue between state officials and the Department of Energy involved with energy management, homeland security, and emergency response.*

Under this task work, which began in 2007, NASEO provided technical assistance to the States and Territories in the areas of energy management, homeland security, and emergency response. Specific work activities and accomplishments are detailed below:

#### Energy Assurance Guidelines Outreach

- NASEO developed the original draft “State Energy Assurance Guidelines” as a comparison document for current state energy emergency plans; followed by several updates of the Guidelines. The guidelines outlined the overall role of the states in energy assurance, including organizing and building response mechanisms; coordinating with stakeholders; operating within the federal emergency support function structure; planning response strategies; profiling energy use and vulnerability; and identifying fuel-related response measures.
- Substantial improvements and updates were made to version 3 of the Guidelines and version 3.1 was made available on the NASEO website in December 2009, see website <http://www.naseo.org/eaguidelines>. These changes include the results of the review and comments by the membership that occurred at the NASEO Annual Meeting in September 2009. Further an Energy Assurance Documents library with extensive reference materials was developed and posted along with the Guidelines on the NASEO website.
- Assisted states with assessments of their energy assurance, preparedness, and emergency plans utilizing the NASEO-developed energy assurance guidelines to test the plans and train in plan development.
- On July 1, 2009, NASEO held a webcast on the State Energy Assurance Grant Program that was well attended. NASEO staff placed a number of reference documents from the call on the NASEO web site to assist states in preparing their applications. These documents can be found

under Additional Resources along with a copy of the power point presented during the webcast at: <http://www.naseo.org/foa/energyassurance>.

- Developed and published Appendix D and E of the Guidelines to be used as part of the resource material for the 2010 Denver Workshop on Energy Data and Assurance Planning. These appendices point primarily to Energy Information Administration (EIA) sources of energy supply, demand and capacity information available on the EIA website. They provide for the use of federal data available at the state level which is comparable from state to state.

As follow up to the release of the DOE's Funding Opportunity Announcement (FOA) "Enhancing State Government Energy Assurance Capabilities and Planning for Smart Grid Resiliency Grant", which was released on June 15, 2009, NASEO staff held two sets of national and regional conference calls. The first national call reviewed the announcement and provided guidance on the initial response to the FOA. The second set of calls was held on a regional basis to provide guidance on preparing the Project Management Plans. NASEO prepared a series of templates as a guide to states in submitting grant applications as well.

During the 2009 NASEO Annual Meeting in September, NASEO hosted a panel on the ARRA Energy Assurance funding opportunity and invited Alice Lippert, Senior Technical Advisor from DOE's Office of Electricity Delivery and Energy Reliability to speak. This was done in advance of the second set of regional calls referenced above. In addition, NASEO hosted a session of the Energy Data and Security Committee during which attendees discussed the Development of Energy Assurance Management Plans, Reported on NASEO Energy Assurance Activities, Reported on the Secure Grid '09 Table Top Exercise held in July, Reported on the Southeast States Hurricane Preparedness activities, and State Energy Data Issues and Access to Petroleum Data. (Presentations are available on the NASEO website at: <http://www.naseo.org/events/annual/2009/presentations/index.html>.)

#### State Technical Assistance Projects

During the 2<sup>nd</sup> Quarter 2008, NASEO staff, in coordination with the Energy, Data & Security Committee, developed a draft solicitation for a third round of technical assistance grants for state energy assurance planning and preparedness. Following approval by the DOE Project Manager, the solicitation was released to the state energy offices on Wednesday, April 2, 2008. Based on the limited number of proposals received, NASEO staff awarded technical assistance awards to only three state/territory energy offices: Oregon Department of Energy (ODOE), District Department of the Environment (DDOE), and Virgin Islands Energy Office (VIEO). During the 2<sup>nd</sup> Quarter 2009, NASEO staff granted ODOE and VIEO no-cost extensions through December 31, 2009 and is in the process of working with DDOE to terminate the contract due to staff turnover. VIEO subsequently requested and was approved a second no-cost extension through December 31, 2010.

**District of Columbia.** As stated in the previous report, the District Department of Environment/Energy Office (DDOE/EO) had experienced numerous delays related to staff turnover and office reorganization. DDOE/EO managers contacted NASEO last quarter of 2009 to discuss termination of the contract due to their inability to complete the update in a timely manner. NASEO staff has granted DDOE/EO's request and forwarded a formal letter dated September 16, 2009 to that effect to DDOE/EO management.

**Oregon.** Completed and submitted its final report in the 3<sup>rd</sup> quarter 2010.

**Virgin Islands.** As stated in the previous report, the Virgin Islands Energy Office (VIEO). had experienced numerous delays related to staff turnover and office reorganization. VIEO managers were granted two no-cost extensions by NASEO through December 31, 2010, unfortunately due to lack of deliverables NASEO was forced to terminate the contract on February 11, 2011. contacted NASEO last quarter of 2009 to discuss termination of the contract due to their inability to complete the update in a timely manner.

In addition, NASEO staff successfully completed the closeout process for all of the technical assistance grants awarded to state/territory energy office in 2007 and has created a binder containing all of the final reports which was forwarded to the DOE Project Manager and Chair of NASEO's Energy, Data & Security Committee.

#### State/Regional Workshops and Exercises

Midwest Regional Exercise - A meeting was held in November of 2008 at the Argonne National Laboratory's Infrastructure Assurance Center (IAC) in Woodridge, Illinois which included representatives from Indiana, Ohio, Michigan, Wisconsin and Minnesota, the federal government and energy providers within those states. Illinois wanted to be involved in this process but was unable to send a representative to the meeting. The purpose of the meeting was to share the details of each state's energy emergency plan, and compare and contrast the plans to discover areas of commonality and difference. Additionally, representatives from the Midwest energy industry shared their energy emergency plans and the challenges of interfacing with multiple states in an energy emergency.

At the conclusion of the meeting, a series of issues were identified, and there was general consensus on those issues which should be explored further. The issues fell into two categories -- issues currently underway and issues not of immediate concern but should be subjects for potential future actions.

Issues presently underway include the following:

1. Continued/Increased Great Lakes Regional Coordination.
2. The Need for Training and Exercises
3. Sharing and Protecting Sensitive Information between the Public and Private Sectors
4. Identification of Priority End Users
5. Fuel Waiver Procedures.
6. State's Response to Power Outages and the Role of MISO.
7. State Natural Gas Curtailment Plans.
8. Single Point of Contact for Communications.
9. Outreach to the Private Sector in the Energy Area.

Other issues that were discussed but for which action was deferred include: continuity of operation plans both for the public and private sector and the use of integrated planning systems for developing overall state emergency response plans.

DOE/NASEO Southeast Petroleum Supply and Hurricane After-Action Workshop. Following Hurricanes Gustav and Ike in the fall of 2008, the Southeast Region experienced terminal outages, widespread petroleum supply shortages, higher gasoline prices, and long lines at the pumps. To facilitate greater communication and coordination, DOE-OE and NASEO held weekly calls between the state energy offices, petroleum companies, and other interested parties. As a follow-up to these calls, DOE-OE and NASEO hosted a workshop at the Carter Center in Atlanta, GA on January 14-15, 2009 to discuss transportation supply disruption issues and the need for greater regional coordination.

Attendees at the Southeast Petroleum Supply and Hurricane After-Action Workshop developed the following recommendations aimed at improving regional preparedness and future supply disruption responses:

- develop pre-event situational assessments aimed at understanding pre-event baseline, infrastructure, and markets;
- improve regional data collection methods to relieve industry of the burden to respond to multiple data collection requests and assist in the development of regional situation assessments that allow for more effective response measures;



- ensure data confidentiality by evaluating state-level legal authorities across the region;
- evaluate effectiveness of states' emergency declarations to determine if had the desired affect and reduce unintended consequences;
- evaluate effectiveness of states' price gouging laws to eliminate ambiguity, ensure retailers clearly understand the requirements, and determine whether any unintended consequences resulted;
- consider methods to reduce variation in fuel specifications across states and request EPA consider changing the date of the summer to winter fuel switchover to occur before (or after) the hurricane season;
- improve relationship building across state, local, federal, and industry responders to ensure improved and open communications; and
- conduct additional planning and exercises on a regional basis.

NASEO hosted a half-day Energy Assurance Workshop and Roundtable during the 2009 Energy Outlook Conference held at the Omni Shoreham Hotel in Washington, D.C., on February 1-3, 2009. The objective of the workshop was to demonstrate how state and territory energy offices can successfully organize and coordinate table top exercises. A table top exercise is an opportunity to gather officials and present them with a hypothetical emergency situation, preferably one described in a series of unfolding events, to allow them to coordinate, think through, and discuss their response. The workshop was attended by several State Energy Offices as well as partnering organizations. For more information see: <https://www.naseo.org/events/energyoutlook/2009/agenda.htm>.

In coordination with the Summer Energy Outlook Conference held in Denver, CO on April 20 – 21, 2010, an Energy Data and Assurance Planning Workshop was held. NASEO continues to coordinate with NARUC on the “Table Top in a Box” and a session was presented during the Workshop outlining the series of pilot table top exercises which will be held by Michigan, Maine, Texas, Pennsylvania, and Ohio.

#### Winter/Summer Fuels Outlook Conferences

Since 2003, NASEO has managed and hosted the annual Department of Energy Winter and Summer Fuels Outlook Conferences. The Conferences are sponsored by DOE's Office of Energy Assurance, National Energy Technology Laboratory, and Energy Information Administration. The Conferences, usually held in the Spring and Fall of each year, feature presentations from a range of private-sector and government energy experts with the goal of informing state, federal, local, and other energy officials of the outlook for crude oil, distillate, propane, electricity, and natural gas supplies and prices. The audience includes State Energy Offices, energy industry representatives, government officials, and major media outlets. These Conferences were successfully planned and conducted through summer 2011. Information on these Conferences is available on the NASEO web site.

Coordination with state organizations. NASEO continued to coordinate its activities with the National Governors Association, the National Association of State Regulatory Commissioners and the National Council of State Legislatures. NASEO staff and NASEO's Energy Data & Security Committee Chair supported the efforts of the Public Technology Institute to organize, coordinate, and host an energy assurance workshop during its annual meeting on May 11-12, 2009 in San Diego, CA. NASEO staff also worked in coordination with NCSL on the planning and coordination of the 2010 Summer Energy Outlook Conference. The Conference featured EIA's Short-Term Energy Outlook and presentations by industry representatives and energy experts. Following the Conference, the Energy Data and Assurance Planning Workshop was conducted to help attendees identify and understand how to use EIA energy data through a series of energy-based scenarios. Approximately 130 individuals attended the conference and workshop. A NASEO representative presented at the NARUC Critical Infrastructure Committee meeting

in February 2010 and the EPRI Smart Grid and Energy Efficiency Public Advisory Committee meeting in March 2010.

***Task 2 – State and Regional Technical Assistance (Office of Electricity Delivery and Energy Reliability)***

*Work closely with national, state, and regional associations, including regional governors' associations and state energy and environment agencies to coordinate and promote energy efficiency and renewable energy as an important part of the Nation's demand and supply equation.*

This task was added in the September 30, 2009 Statement of Work.

***Support State and Regional Renewable Energy Development***

NASEO will elevate renewable energy integration and advancement, recognizing the ability of State Energy Offices and their partners to overcome policy barriers, inform the regulatory process, engage private and public investment, establish financing mechanisms, coordinate utility involvement, and educate the public. There is a need for state-federal collaboration on these efforts, especially as states pursue fulfillment of policy drivers for renewables integration.

**Deliverables:**

- **Identify and Develop State and Regional Model Processes for Renewables Integration.**  
NASEO will develop models for renewable energy development at both the state and regional level. For example, the process that emerged in Hawaii over the past several years is the type of model NASEO will work from on a multi-state and regional basis.
- **Provide Outreach and Education on Renewable Energy Development to SEOs.**  
Recognizing the progress that can be made through state policy and programmatic advances, NASEO will educate new state energy office directors and staff and support a renewable energy strategy utilizing NASEO's regional structure and the financing task force. Best practices will be documented and offered as suggestions for possible replication.
- **Enhance Communication and Coordination of Renewable Energy Development.**  
NASEO will identify and develop multi-state renewable energy projects through the NASEO-ASERTTI Renewable Energy Committee with support from the renewable energy program director, and in concert with the university energy centers through the ASERTTI partnership. The Committee will also focus on financing, siting, state and federal policy, technical assistance, technology commercialization and coordination with renewable energy organizations. National labs will play a major role in this effort to establish partnerships on a regional basis to close the gap between research, development, and deployment of advanced technologies and NASEO will facilitate the needed linkages among the labs and the states and DOE's regional integration team.

Following the 2009 election of 30 new Governors, NASEO experienced a major turnover in State Energy Office directors and staff. For that reason, NASEO focused this year on educating new members and encouraging coordination among new and existing state energy officials. The building blocks were established for a committee and a formal communication structure among its membership. Maurice Kaya, the former Hawaii Energy Office director, joined NASEO as a strategic advisor to provide support and expertise to states in their renewable integration efforts.

In support of the focus on education and regional coordination, NASEO organized and held both a NASEO/ASERTTI Renewable Energy Committee session and a renewable plenary session at the NASEO Annual Meeting in September 2011 in San Antonio, Texas. Mr. Kaya, NASEO's strategic advisor, developed the session agendas and coordinated with the speakers in the preceding months. The plenary session featured speakers from the private sector and trade organizations, including Todd Foley, ACORE; Mario Hurtado, Clean Line Energy Partners; and Barbara Bauman Tyran from EPRI. The focus of these presentations was to report on renewable energy integration, what fosters renewable energy

business activity within states and regions, and how policies to facilitate project development, investment, and technology commercialization have been instrumental in bringing renewable energy to market. Economic development, technology transfer and renewable energy integration, attraction of investment dollars, and job creation were common themes. The presentations are available online: <http://annualmeeting.naseo.org/agenda.aspx#Integration> and the session description is below.

8:00 am - 9:45 am (*Texas Ballroom B, Second Floor*)

**Renewable Energy Integration: Innovation, Commercialization, and Transmission**

States are overcoming historic challenges in renewable energy development and integration. From leveraging public funds through public-private partnerships to expanding transmission with private investment, in the absence of federal policy, states have stepped in to pass measures that provide for the economic benefits that are derived from increased investment in renewable energy. Learn more about these innovative solutions to clean energy development that create jobs, improve available capital, and affect the demand and supply for emerging and established technologies.

Moderator: Carolyn Snyder, Director, Delaware Division of Energy and Climate

Presenters: [Todd Foley](#) - [Presentation](#) - Senior Vice President of Policy and Government Relations, American Council on Renewable Energy  
[Barbara Bauman Tyran](#) - [Presentation](#) - Director, Washington Relations, Electric Power Research Institute  
[Mario Hurtado](#) - [Presentation](#) - Executive Vice President, Clean Line Energy Partners

The NASEO/ASERTTI Renewable Energy Committee met for the 3<sup>rd</sup> time in person. The group had convened via telephone in April 2011, but had not met in person since February 2011. There were over 20 states present during the committee meeting, as well as other attendees from nonprofits, companies, and NASEO affiliates. The participants were all added to the NASEO/ASERTTI renewable energy committee email distribution list to ensure appropriate follow up and continue to develop a more robust and comprehensive list of interested and informed participants.

During the committee sessions, many state presentations in the past have featured large, well-funded states, so this time around, an effort was made to invite and include presentations from different states that have experience demonstrating leadership and leveraging assets and whose policies/programs other states find replicable. We were unable to secure the participation of a DOE OE representative, however, the committee meeting did achieve the state topical, geographic, and size distribution in the final committee agenda that featured presentations from ME, NJ, ND, and CO. The agenda description and speakers are below:

***NASEO/ASERTTI Renewable Energy Committee***

*Co-Chairs: Larry Shirley, Director of the Green Economy, North Carolina Department of Commerce  
Frank Murray, President and Chief Executive Officer, New York State Energy Research and Development Authority; Parliamentarian, NASEO Board; Chair, ASERTTI*

***State Case Studies and Emerging Issues in Renewable Energy Development***

*Many of the innovative deployment mechanisms used to encourage renewable energy deployment are developed and managed in states and territories. Some of these state programs are not well publicized or even in locations acknowledged to have significant renewable energy resources. This session will present a panel of leaders from states that will share a set of best practices, discuss their experiences and participate in a panel discussion. Emerging issues of interest to state energy offices and research and technology transfer institutions will also be covered. DOE's Office of Electricity Delivery and Energy Reliability will be present to discuss programs that have significant state and regional issues.*

**Maine:** Jeff Marks, Program Manager. Maine's effort to deploy large scale renewable energy systems will be described, including the role the states can play in facilitating and promoting the development of energy assets, in particular ocean energy and offshore wind.

**Colorado:** T J Deora, Director, Colorado GEO, has established an economic development collaboration to support RE development in partnership with NREL and local universities, administered by the Governor's Office of Energy. What is unique about this collaborative organization and what can we learn from its partnering approach?

**New Jersey:** Mike Winka, SEO Director, NJ Board of Public Utilities. NJ has developed a reputation for significant solar energy development in a non-Sun Belt state that consistently leads the nation. What makes NJ's program work? Can it be a model for other states?

**North Dakota:** Andrea Holl Pfennig, Energy Outreach and Special Programs Administrator, Office of Renewable Energy and Energy Efficiency. ND is one of a few states that maintain a state-funded renewable energy program that invests in promising technologies and projects. ND also has a market-stabilizing ethanol facility support program, all to stimulate investment and create jobs. Learn more from this progressive state's successful experiences."

The Renewable Energy Committee will continue to support the interest of states and regions through NASEO's Regional program and facilitate interaction with the Department of Energy's renewable energy programs and other related partners. While there has been interest in all renewable energy technologies, solar energy has emerged as a fairly universal topic of interest throughout the regions, so a close working relationship with EERE's Solar Program is desired. Ramesh Ramamoorthy, DOE's Solar Program Manager, met with the NASEO Board in June 2011. Mr. Ramesh provided an update on the solar program and discussed how state-federal coordination is necessary to meet the program's goals. NASEO also scheduled a follow up meeting with Mr. Ramesh and his staff for October. Because of the interest in offshore wind among coastal and Great Lakes states, the same can be said for EERE's Wind and Hydropower Program. NASEO has plans to meet with the new program manager in October.

Additionally the committee is working closely with the Office of Electricity to collaborate on issues related to transmission and distribution, distributed generation, smart grid, and renewable energy integration. More direct program information can be expected in the upcoming months as the committee accelerates its efforts to improve the interface between OE, and states and territories on matters that transcend national, regional, and state jurisdictions.

NASEO's senior advisor is offering technical assistance on renewable energy to states and regions based on input received from the regional coordinator network. Mr. Kaya participated in three regional conference calls in the past quarter; the summaries from those calls are below.

***Southwest Regional Conference Call***  
***Wednesday, July 20, 2011, 2-3 pm PT***  
**Renewable Energy Programs (solar)**

There is a new solar FOA coming out from DOE that will be directed at PV manufacturing, with the potential for SEOs to be involved/apply for funding. NASEO is working with DOE to host a webinar on this topic in the near future.

State Updates (general):

- AZ: renewable projects with utilities. Three of these co-ops have spent the money very quickly (within one month). These projects deal with solar. EE projects in schools have moved quickly as well, as has solar on state buildings.
- UT: RLF for EE or RE for schools or government agencies. Right now, UT just does EE for schools, so this would add and expand the scope to organizations that could apply for the money. Rules would need to be written in ways that they do not need to go through NEPA, as this would slow down activity.

### ***Mid-Atlantic Regional Conference Call***

***Thursday, July 21, 2011, 10-11 am ET***

#### **Renewable Energy Programs (solar)**

##### *Update from MD*

In MD, 20% of stimulus went towards Project Sunburst – it had a good response, with 17 different projects running. There were initial challenges, due to the scale of projects. But as of today, they have over 5 megawatts installed and are looking to wrap up in the fall (bringing 9 megawatts onto the grid).

Q: How many megawatts anticipated for the residential program?

A: It's on-going and MD plans on continuing the program – historically, MD has installed close to 10 megawatts in the residential sector.

##### *Update from NJ*

NJ now has over 380 megawatts in solar and are expecting continued growth. SRECs are good for the year they are created and the following two years. (Kevin and Scott will discuss more offline).

Q: How much is utility scale?

A: A very small amount is utility grid scale.

Q: Any issues with power quality?

A: There have been some problems – there are 4 electric distribution systems in NJ and issues vary within the state.

##### *Update from PA*

In PA, most programs are winding down with no definite plans of starting up again. PA does have a RPS, as well as an SREC market. However, SREC prices have fallen (markets have met their need).

The PA Sunshine program (for residential and small business) is winding down, but anticipates 60-80 megawatts installed. Also put money in Energy Harvest (added an additional 13 megawatts installed).

##### *Update from DE*

DE has a Green Energy Fund, which is a statewide program. It includes investor utilities of approx. \$3 million per year. More recently, the goal has been to transition off of rebates.

##### *Update from DC*

DC has a RE Incentive Program (using system benefits charges) and is funded at \$2 million annually. The average rebate amount was approx. \$9,000, but is currently at nearly \$11,000.

##### *Update from Maurice Kaya*

NASEO has established a RE committee with ASERTTI. The goal is to help states accelerate RE programs. At the NASEO annual meeting, there will be a few sessions focusing on RE and models of successful programs.



***Mid-Atlantic Regional Conference Call***  
***Thursday, August 11, 2011***

**Presentation from Jennifer Decesaro, DOE (jennifer.decesaro@ee.doe.gov)**

Jennifer Decesaro from DOE's solar program provided a brief overview of DOE's Sunshot Program that Secretary Steven Chu announced in February 2011. The goal(s) include a 75% reduction in the cost of solar systems by the end of the decade (residential, 1.50 per Kilowatt and commercial, 1.25 per Kilowatt). This program is also looking at power electronics elements.

DOE then plans on looking at market transition, balance of systems costs, and evaluating the time element costs, in addition to the following: customer acquisition; financing; permitting; and installation. DOE is working with local governments and the installation community to obtain data on the costs associated with solar. The costs must be addressed and reduced to meet the goals of the Sunshot program.

Two main components of Sunshot include the following:

1. DOE put out a funding opportunity announcement on codes/net metering/zoning/etc. regarding solar – it also included some focus on training code officials.
  - DOE is focusing on IT and electronic based systems
  - DOE is working on policy and regulatory issues as well
2. Rooftop Solar Challenge – “Race to the Rooftop”  
For this initiative, DOE looked at multiple jurisdictions and required letters of commitment from state and utilities.

***Q and A Session/Comments***

Q: PA - what are the cutoffs on size?

A: Up to 5 Kilowatts (residential)

Up to 215 Kilowatts (commercial)

Up to 20 Megawatts (utilities)

Q: MD - when were letters of intent due?

A: June 29, 2011 (PA submitted, but has not heard back yet).

Q: PA - what do you mean by “the platform?”

A: It's not software – it's more of an IT tool – a web based online form for applicants of an incentive program

Q: PA has seen widely different labor rates regarding solar installation – has DOE worked with DOL on this issue?

A: DOE is working on a survey with NREL to address this topic and examine where there are discrepancies.

In addition, since renewable energy often crosscuts other areas of interest, a greater interface with other NASEO committees is planned, especially the Buildings Committee, Financing Task Force, and the Transmission and Energy Supply Committee. Plans for a conference call between the NASEO/ASERTTI renewable energy committee and the NASEO Financing Task Force are in the works for the October 2011 timeframe to discuss renewable energy financing.

***Develop Training Modules and Partnership Opportunities to Support the State Roles in Electricity, Energy Efficiency, Renewable Energy and Other Issues***

Now is a critical time to ramp up outreach and education efforts in the states and to establish partnerships that will cross industry sectors (e.g., end-use, investment community). It is becoming increasingly

important to provide states with best-case options, models, and lessons learned toward effective policy and program development. Working with DOE and other key partners, NASEO will prepare a series of online training modules and educational materials for states that include input from subject matter experts on a range of topics, including energy efficiency, smart grid, renewable energy, as well as tools and resources associated with implementing projects in these areas, such as financing models (via the financing task force), coordination opportunities with key stakeholders, and connecting with public utility commissions and utilities.

#### **Deliverables:**

- **Develop Training Modules.**  
NASEO will evaluate and collect best practices and establish a training and outreach section of its website using the subject matter experts from its regional network and relying on the state examples in each electricity issue area to pull together the appropriate tools and resources and establish a training regimen for new and existing state energy office directors and staff.
- **Develop and Disseminate Educational Materials.**  
NASEO will prepare reports, fact sheets, and tools to share with the SEOs. NASEO will also share information distributed by other related organizations and include expert panelists at meeting sessions, related news items, and website updates.
- **Promote Public-Private Partnerships and Coordination.**  
NASEO will promote public-private sector partnerships in a variety of sectors (e.g., industrial, banking, venture capital) to encourage dialogue across industries and begin to develop recommendations from the states to push the investment in new technologies and advance coordination among sectors and in regions.

NASEO began collecting best practices and state project-based information. There are plans to conduct more data collection over the next few months. The development of the training modules was dependent on the selection of a new training system, the contract of which is now in place through CitrixOnline. The curriculum template for the training modules is also underway. NASEO continues to collect materials and data toward the training module development.

As part of this effort, NASEO began to compile comprehensive state energy plans: <http://www.naseo.org/stateenergyplans/>. An executive summary for the evaluation report was developed and is available online at that site. NASEO will conduct training through an online training module on state energy planning.

NASEO staff also worked with regional coordinators and state energy office industrial program staff to inventory and catalog industrial efficiency work that is being conducted by State Energy Offices. This effort resulted in a draft conference paper presented at the ACEEE 2011 Industrial Summer Study, where NASEO staff discussed with other conference attendees the energy efficiency, peak-shaving, and grid enhancement aspects of state industrial energy efficiency programs and state energy technology demonstration and deployment programs. A final, expanded report is being finalized for NASEO members. This research may also serve to enhance the activities of the State Energy Efficiency Action Network (SEE Action) Industrial and CHP Working Group, and NASEO will coordinate with DOE to explore this possibility. The state-by-state inventory and an edited version of the paper was shared with states to provide a review of the industrial efficiency activities underway. This effort is focused on the replication of successful program elements.

NASEO distributed the materials from the meeting sessions to the State Energy Offices and meeting attendees, including the speaker presentations and related handouts. Following the regional calls, NASEO distributed meeting summaries. Also, through the outreach sessions at the Annual Meeting, NASEO promoted the opportunities that exist through public-private partnerships. NASEO also held a

session among state and affiliate members to facilitate public-private partnerships. To view these presentations, visit: <http://annualmeeting.naseo.org/agenda.aspx>.

*Support State Energy Production and Transmission Initiatives (\$30,000)*

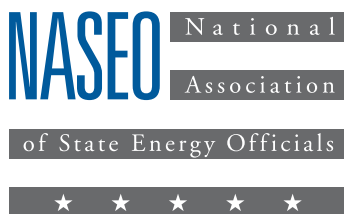
NASEO's Energy Production and Transmission Committee researches and analyzes energy generation issues across sectors (e.g., carbon capture and sequestration, nuclear) and works on siting, transmission, and distribution issues on behalf of NASEO members. The committee develops positions for the NASEO Board's consideration on a variety of issues, including, but not limited to, transmission, utility issues, resource planning, and interconnection. The Committee leads NASEO staff efforts related to these issues.

**Deliverables:**

- **Integrate and Communicate SEO Transmission Efforts.**  
Working through NASEO's Energy Production and Transmission Committee, NASEO will integrate the work of SEOs into the various transmission efforts. For example, Chuck Clinton, NASEO's Lead Regional Coordinator (Mid-Atlantic), and Roya Stanley, Iowa's Energy Office Director, participate in the "EISPC" initiative, designed to facilitate transmission planning in the Eastern Interconnection. NASEO will support similar efforts, engage appropriate SEO directors, communicate results to all SEOs, and inform new directors of relevant efforts.
- **Develop and Coordinate Shale Gas Production Working Group.**  
Under the committee, NASEO will convene states and industry partners to discuss issues surrounding shale gas production, including best practices in site preparation and remediation, water production, and gas recovery (e.g., recovery of fracking fluids and proper disposal of produced water). This working group will ensure regulatory coordination and education for state policymakers. The overarching goal is to ensure sustainable and appropriate development of these sites, to expedite the planning and development process, and to explore state or other organization certification of recovery practices.

NASEO invited its state members to continue to participate in the webinars of the EISPC. Additionally, NASEO featured a transmission expert at its Annual Meeting.

During this quarter, NASEO worked closely with the NARUC and NACAA to improve coordination among state energy officials, air directors, and utility commissioners related to energy and air issues, transmission, electric generation, and energy efficiency. On June 23-24, the groups met with selected members from each organization in Baltimore, Maryland. The agenda for this meeting is below. The groups also worked with EPA to hold a follow up webinar with the Southeast states and the impacts of the pending and active air regulations on August 30.



	<b>STATE ENERGY OFFICIALS, STATE UTILITY COMMISSIONERS, and STATE AND LOCAL AIR REGULATORS Meeting</b> <b>JUNE 23-24, 2011</b> <b>WESTIN HOTEL – BWI AIRPORT</b> <b>AGENDA</b>
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**Thursday, June 23, 2011 - Day 1 – Salon 1**

7:30-8:30 a.m.	<b>Continental Breakfast</b>
8:30-9:00 a.m.	<b>Introduction and Objectives</b> <ul style="list-style-type: none"><li>• Erin O’Connell-Diaz, Co-Chair, NARUC Environmental Coordinating Committee; Commissioner, Illinois Commerce Commission</li><li>• Dave Shaw, NACAA Co-President; Director, NY Dept. of Environmental Conservation, Division of Air Resources</li><li>• Malcolm Woolf, NASEO Chair; Director Maryland Energy Administration</li></ul>
9:00-9:45 a.m.	<b>Energy and Environment Overview</b> <i>What are the current and future drivers; where do the States want to be in five to ten years?</i> <ul style="list-style-type: none"><li>• Sue Tierney, Managing Partner, The Analysis Group</li></ul>
9:45-10:00 a.m.	<b>Break</b>
10:00-11:15 a.m.	<b>Urgency: Top Energy/Environment/Utility Priorities in 2011</b> <ul style="list-style-type: none"><li>• Bill Becker, Executive Director, NACAA</li><li>• Charles Gray, Executive Director, NARUC</li><li>• David Terry, Executive Director, NASEO</li></ul>
11:15 -12:30 p.m.	<b>Federal Perspectives</b> <ul style="list-style-type: none"><li>• Charles Gray, NARUC (Moderator)</li><li>• Jon Wellinghoff, Chairman, Federal Energy Regulatory Commission</li><li>• Joe Goffman, Senior Counsel, Office of Air and Radiation, Environmental Protection Agency</li><li>• Kathleen Hogan, Deputy Assistant Secretary for Energy Efficiency, Department of Energy</li><li>• Gary Guzy, Deputy Director of the Office of Environmental Quality, Council on Environmental Quality</li></ul>
12:30-1:15 p.m.	<b>Luncheon</b>
1:15-2:30 p.m.	<b>Is Reliability a Real Issue for Power Plants and Environmental Rules?</b> <ul style="list-style-type: none"><li>• Jim Gardner, Commissioner, Kentucky Public Utility Commission (Moderator)</li><li>• Sue Tierney, Managing Partner, The Analysis Group</li><li>• John Moura, Manager, Reliability Assessment, North American Electric Reliability Corporation</li></ul>
2:30-3:45 p.m.	<b>Can Energy Efficiency Measures Get Credit in Complying with Environmental Rules?</b> <ul style="list-style-type: none"><li>• Ken Colburn, Regulatory Assistance Project (RAP) (Moderator)</li><li>• Steve Nadel, Executive Director, American Council for an Energy Efficient Economy</li><li>• Tad Aburn, Director, Maryland Air and Radiation Management Administration</li><li>• Julie Rosenberg, Branch Chief, State and Local Climate &amp; Energy Programs, Environmental Protection Agency</li></ul>
3:45-4:00 p.m.	<b>Break</b>

4:00-5:00 p.m.	<b>Coordinating Energy, Environment, and Utility Policy in New York</b> <ul style="list-style-type: none"> <li>• Ken Colburn, RAP (Moderator)</li> <li>• Frank Murray, President, New York State Energy Research and Development Authority</li> <li>• Garry Brown, Chairman, New York Public Service Commission</li> <li>• Dave Shaw, NACAA Co-President; Director, NY Dept. of Environmental Conservation, Division of Air Resources</li> </ul>
<b>Friday, June 24, 2011 - Day 2 - Salon 1</b>	
7:30-8:30 a.m.	<b>Continental Breakfast</b>
8:30-10:00 a.m.	<b>Stakeholder Perspectives on How State Officials Can Integrate Energy/Environment/Utility Issues</b> <ul style="list-style-type: none"> <li>• Philip Jones, Commissioner, Washington Utilities and Transportation Commission (Moderator)</li> <li>• Mark Cooper, Fellow, Vermont Law School and Consumer Federation of America</li> <li>• Jeff Holmstead, Partner, Bracewell and Guiliani</li> <li>• John Walke, Clean Air Director and Senior Attorney, Natural Resources Defense Council</li> <li>• Mary Gade, President, Gade Environmental Group, LLC</li> </ul>
10:00-10:15 a.m.	<b>Break</b>
10:15-11:15 a.m.	<b>Roundtable of State Officials and Meeting Participants</b> <i>If you could change one thing what would it be and what is your number one issue?</i> <ul style="list-style-type: none"> <li>• Facilitated Discussion: Jeff Genzer, Counsel, NASEO</li> </ul>
11:15-12:00 p.m.	<b>Where do we go from here? Plan for Larger Meeting in Fall of 2011, Wrap-Up</b> <ul style="list-style-type: none"> <li>• Bill Becker, Executive Director, NACAA</li> <li>• Charles Gray, Executive Director, NARUC</li> <li>• Jeff Genzer, Counsel, NASEO</li> </ul>
12:00 p.m.	<b>Adjourn</b>

Following the election of 30 new Governors across the country and tightening state budgets, state agencies are still facing changes in leadership and location of State Energy Offices within state government. This delayed the development of a shale gas working group because many of the shale gas states were impacted by these shifts, so the second task was completed with modifications. NASEO anticipates shale gas continuing as a major topic of interest among its members. To set the stage for a future working group discussion, NASEO held a plenary session introducing the opportunities and challenges of shale gas development with its member states and stakeholders.

On Monday, September 12, 2011, NASEO held a briefing on shale gas regulations in the states. The session included two expert panelists, John Felmy from API and Sara Banaszak with ANGA. Dave Althoff from Pennsylvania moderated the session and shared information on Pennsylvania's regulatory environment. The session also covered the impact of shale gas on energy prices. Presentations are available online: <http://annualmeeting.naseo.org/agenda.aspx#ShaleGas>. A question and answer period followed the session.

1:45 pm - 2:45 pm (*Texas Ballroom B, Second Floor*)

### **The Future of Shale Gas**

Shale gas has become an increasingly important source of natural gas in the United States over the past decade. Recent technology advancements have pushed several states to the forefront of this discussion.

This session will discuss the impact this resource will have on energy costs, the nation's energy profile, the environment, and other energy sectors.

Moderator: David Althoff, Director, Pennsylvania Office of Energy and Technology Deployment

Presenters: [John Felmy, Presentation](#) - Chief Economist, American Petroleum Institute  
[Sara Banaszak, Presentation](#) - Vice President and Chief Economist, America's Natural Gas Alliance

*Enhance Coordination with Related Organizations (\$10,000)*

NASEO will work closely with other organizations engaged in electricity-related activities, including the National Association of Regulatory Utility Commissioners, the National Conference of State Legislatures, and the National Governors Association to increase coordination and collaboration across states. NASEO will connect regularly with trade associations, such as the Solar Alliance, Electric Power Research Institute, American Wind Energy Association, and others.

**Deliverables:**

- **Coordinate and Participate in Multi-Organization Meetings.**

A recent effort in the Northeast and Mid-Atlantic regions that convened public utility commissioners and SEO directors proved quite successful in integrating these two areas of state government. There is discussion of holding a subsequent meeting that would include these regions and the Midwest. If such a meeting occurs, NASEO will support planning and preparation, as well as provide travel assistance.

NASEO participated in "The Grid Game" in April 2011, in conjunction with a transmission workshop sponsored by the National Council on Electricity Policy (NCEP). NCEP also held its annual board meeting during that time. A number of states participated in the event, which focused on transmission, policy drivers, and grid enhancements. NASEO also held a briefing for state legislators, legislative staff, utility commissioners, and commission staff on the role of state energy offices. The webinar presentations and agenda are below. Parts one and two of this webinar series focused on the role of state legislators and utility commissioners. This webinar series was focused on highlighting each of the NCEP's member groups and their distinctive role in shaping energy policy. Presentations are available on the NCEP website: <http://www.ncouncil.org/>.

Webinar: September 21, 2011 - What is the Role of a State Energy Office?

The final webinar in a series focused on each of the Council's member groups and what their role is in shaping energy policy. This webinar, specifically focused on State Energy Offices, will provide attendees with a greater understanding of what their role is, including:

- Fostering greater energy efficiency in manufacturing to retain jobs;
- Supporting private sector energy innovations through such means as business incubators and job training;
- Advancing cost-effective energy efficiency retrofits in public buildings (e.g., schools, state facilities) to reduce energy costs to the taxpayer;
- Implementing energy emergency plans to mitigate the economic and security implications of energy supply disruptions and related price spikes;
- Conducting statewide energy planning to ensure states' indigenous energy resources are identified and economic development options are understood; and
- Piloting innovative energy demonstration projects with the private sector and research institutions.

**Moderators:**

- [Kate Marks, Managing Director, NASEO](#)
- Miles Keogh, Director of Grants & Research, NARUC

**Presenters:**

- [William \(Dub\) Taylor, Director of the Energy Conservation Office of Texas](#)
- [John Davies, Deputy Commissioner of the Department for Energy Development and Independence of Kentucky](#)
- [Louise \(Lou\) Moore, Chief of Energy & Pollution Prevention Bureau, Montana](#)

**Webinar:**

- [Part 1](#)
- [Part 2](#)

***Task 3 – Regional Initiative (Office of Energy Efficiency and Renewable Energy***

*Work with defined project regions on initiatives that promote energy efficiency and renewable energy programs. These efforts will seek to simultaneously improve existing coordination while helping to forge new partnerships between states and other relevant organizations.*

In late 2007, NASEO began initial discussions with state and territory energy offices about developing a successful regional program effort. NASEO staff and regional leads informally discussed the opportunity at NASEO's Annual Meeting in Atlanta during regional lunches and networking breaks (September 2007). The original regional leads (New Hampshire, Delaware, Michigan, Kentucky, Texas and Oregon) met in early October on a conference call to discuss programmatic ideas and early steps for moving forward with this effort. By the end of the first year, Maine replaced New Hampshire as the Northeast lead and Florida replaced Kentucky as the Southeast lead. Among the potential areas discussed were bio-fuel production and distribution, regional clean corridors, fuel transportation networks, Home Performance with ENERGY STAR Programs, Distributed Generation, building codes and performance contracting. Working with DOE, NASEO has encouraged states to consider a diverse range of project topics.

In the 2008-2009 timeframe, each of the regions selected a particular project area to pursue. The following summary information detailed the technical applications pursued by each region and the outcomes.

**Northeast Region – Project Area Selected: Biofuels**

NASEO entered into a twelve-month contract with Rick Handley, who formerly handled the biomass programs for the Coalition of Northeast Governors and is a well-known expert in the region, in August 2008 to create an integrated project focused on biofuels activities

Work during the 1<sup>st</sup> Quarter 2009 focused on compiling good bioenergy projects to be used as examples for municipalities, state government, and commercial development. In addition, the contractor added a part-time associate with extensive bioenergy experience to help with the project in an effort to get bioenergy information out as soon as possible and to help ensure that the project was completed on time. The contractor also worked to identify at least six templates for case studies / best practices. Each two-page template included a short description of the technology application, the user / developer, benefits of the project, financing, savings (energy, dollars, maintenance, labor, greenhouse gases), contact / additional information. Good bioenergy project applications were also researched with a focus on bioenergy targets such as: bioenergy heating projects as well as CHP, anaerobic digester, small biofuel projects which could include production of biodiesel, landfill gas, new crop / fuel production.

Mid-Atlantic Region – Project Area Selected: Home Performance with Energy Star  
NASEO entered into a contract with SENTECH, Inc. in June 2008 to provide support for the Mid-Atlantic Home Performance Collaborative. Throughout this project, SENTECH, Inc. coordinated with the six states and District of Columbia to determine each state’s direction and needed assistance in regard to their Home Performance with EnergyStar work.

Additional information on the Home Performance with Energy Star project begins on page 10.

Midwest Region – Project Area Selected: Performance Contracting  
NASEO worked with the Michigan Energy Office and the Energy Services Coalition (ESC) to design a program on performance contracting in the Midwest.

NASEO, Michigan and ESC held a conference call following the 2008 NASEO Winter Conference to exchange information and define objectives for performance contracting programs in the Midwest. The parties worked together to develop a scope of work to enhance peer-to-peer networking on performance contracting. ESC agreed to support this program with technical assistance. Webinars for the region began in June 2008.

The first webinar was held on June 4, 2008, and featured presentations from ESC and the Alabama Energy Office. There were about 15 participants and feedback was well received. On July 30-31, 2008, the Midwestern states met to discuss performance contracting at the Government Center in Indianapolis, IN. The agenda featured presenters from the Energy Service Coalition (ESC), National Association of Energy Service Companies (NAESCO), the Indiana State Energy Office and Energy Service Companies. Indiana shared success stories from local schools, government, and waste water treatment plants and all states were encouraged to discuss ideas and best practices. The attendees were split into small groups to discuss roadblocks in legislation and implementation in Midwestern states. NASEO covered the meeting costs and provided travel funding to state attendees.

During the meeting, attendees outlined the following barriers and recommendations for performance contracting in the Midwest:

#### **PERFORMANCE CONTRACTING BARRIERS**

- Educating utilities on the benefits of performance contracting
- Need to modify enabling legislation in some states
- Coordination between state and local officials (education, information, dissemination, etc.)
- Education and awareness of end users needs to be improved
- Negative views of performance contracting by some decision maker
- Unfamiliarity of state and local policy-makers
- Lack of standard contracts and other documents
- Limited pool of trained performance contracting professionals
- Lack of updated measurement and verification protocols

#### **PERFORMANCE CONTRACTING RECOMMENDATIONS**

- Develop and distribute customized, clear education and outreach materials
- Step-by-step guidebook for different sectors; checklists; best-practices; lessons-learned; testimonials
- Present to MUSH market decision-makers at their conferences/meeting/workshops/webinars, including utilities
- Need more information on advanced “Next Generation” M&V (revenues, emissions credits, etc); Regional effort may be necessary

- State performance contracting monitoring information (protocol, database, etc) to improve energy management.
- Implement Building Operator Certification (BOC)
- Program for facilities managers and appropriate staff
- Form ESC chapters
- Investigate existing utility, university, state and local training programs
- Ensure that increasing the contracts doesn't reduce organizations' operating budgets

The Midwestern states also met on September 9, 2008 in Overland Park, Kansas as part of the NASEO Annual Meeting. Representatives from Michigan, Missouri, Illinois, Wisconsin, DOE, the Energy Services Coalition and NAESCO followed up on the discussions in Indianapolis and provided further background for the development of final deliverables. In the following weeks, NASEO published a compendium of resources on performance contracting programs in the Midwest and sought opportunities for further webinars and conference calls to advance performance contracting in these states. NASEO collected "Key Documents on Performance Contracting in the Midwest" to complete its first-year efforts on the Midwest Performance Contracting Initiative.

Southeast Region – Project Area Selected: Biomass

NASEO worked closely with the southeast during 4<sup>th</sup> Quarter 2007 to examine areas of interest in biofuels and biomass. The southeast determined their need for a meeting to build off of the alternative fuels transportation workshop held in Florida in late 2007. In addition to building on the Florida meeting, this effort would link with the Southern Bio-based Alliance.

During the 1<sup>st</sup> Quarter 2008, NASEO examined the exact scope of the meeting, contract resources, and determined follow-on projects and goals for years two and three of this project. In addition, NASEO contracted with the North Carolina state energy office for the Biomass South 2008 meeting in North Carolina. The Conference was held on September 22-23, 2008 at the new Raleigh Convention Center and had the following stated goals:

- provide a forum at which varied biomass interests; such as industry, investors, researchers, agencies, policy makers, NGOs, feedstock producers, and others; can collaborate across interstate and regional boundaries,
- provide a snapshot of current opportunities, technology, state-of-deployment, research, policy initiatives, and incentives for biopower, biofuels, and bioproducts in the South,
- provide input into development of a south-wide Biomass Roadmap.

The Conference was attended by 271 people from 24 states and three countries. The Southern States Energy Board contributed funding to the meeting and various state agencies, organizations and universities in North Carolina and across the south provided labor and support. NASEO invited the participation of DOE and SEO representatives throughout the planning process. The southeastern states completed their first year activity with the Biomass 2008 meeting. With a gas shortage impacting the region and a critical need for local economic develop, the meeting occurred at a key moment for the further advancement of southern bioenergy. Meeting agenda and presentations are available at: <http://www.ces.ncsu.edu/nreos/forest/feop/biomass-south/agenda.html>.

Western Region – Project Area Selected: Standardizing Benchmarking Practices in the West  
NASEO and the state of Oregon finalized the project scope of work for the western region work and entered into a contract during the 4<sup>th</sup> quarter of 2007. As part of the project, Oregon worked with a regional collaborative including the States of Hawaii, Idaho, California, and Washington as well as Utility stakeholders for the Pacific Northwest to better understand the Energy Star Portfolio Manager and Target Finder rating tools. Oregon Department of Energy (ODOE) invited Western States energy officials to



participate in the conference calls between ODOE, the Regional Utility Stakeholders, the U.S. Department of Energy and the U.S. Environmental Protection Agency and their contractors and worked to develop a process that would help the region gain a better understanding on the rating systems and how the ratings compare to other building performance targets established by the various states and utility organizations. In addition, ODOE committed to establishing recommendations to calibrate the two aforementioned rating systems if inconsistencies were found that would result in better consistency between regional benchmarks and the ratings. ODOE also worked with the Energy Trust of Oregon and sub-contracted with the Cadmus Group to analyze the regional CBSA data for parametric comparison with the Portfolio Manager Ratings. The project culminated in two studies and an online Peer Exchange Workshop at the end of 2007. A final report for the project was submitted to NASEO.

#### Central Region – Clean Energy Workforce Development

The central states decided to focus their regional project on Clean Energy Workforce Development. Fostering opportunities for training and development to transition workers into “green” jobs will likely be a priority for state energy offices in the next year. With a need for skilled people to match the potential large-scale investment in energy efficiency and renewable energy in 2009, state energy offices needed resources, information and opportunities to work together to encourage and allow economic development in the energy sector. This pilot project allowed Central Region states to collaborate to learn best practices and exchange ideas about clean energy workforce development. From January through September 2009, the following activities took place:

- Through a series of webinars and conference calls, the states in the Central Region learned the basics of workforce development in the energy efficiency and renewable energy areas, discussed current projects and learned about innovative programs. Speakers included representatives of innovative state programs, college and university programs, private sector energy service and renewable energy companies. Participants utilized expertise from the Interstate Renewable Energy Council’s training programs and DOE.
- NASEO staff developed a matrix of existing programs in place in the region for the training and development of green jobs, both in the public and private sectors.
- Developed a compendium of tools and resources (online) with information and links for SEOs and stakeholders on clean energy workforce development.
- Disseminated project efforts to interested states outside of the region and other stakeholders.

In addition to the regional projects, NASEO conducted a further effort for fiscal year 2009 focused on rebuilding relationships among the state energy offices with one another, regionally, nationally, and with the Department of Energy. During this time, NASEO hired Regional Coordinators for the Northeast and Mid-Atlantic regions. By the end of the project period, NASEO Regional Coordinators were in place in seven regions of the country. The Regional Coordinators would provide greater direct service to the SEOs as well as improved communication and coordination among the various regional activities related to energy efficiency and renewable energy. While the day-to-day activities for the various regional coordinators would vary, the emphasis was on the following types of support.

- Organized and facilitated regional conference calls for the assigned regions to discuss state actions regarding Stimulus funding.
- Conducted a number of one-on-one phone discussions with assigned SEOs concerning use of stimulus funds; who in the state is doing what in the energy efficiency and renewable energy areas, relationship of stimulus funds, RGGI funds and SBC funds.
- Participated in a number of national conference calls and webinars discussing potential ARRA funding program possibilities.

- Discussed NASEO regional coordinator role with each SEO; discussed their vision regarding the use of ARRA funds.
- Collected and reviewed the 3-23-09 SEP submissions for each assigned state. Followed up with clarifying question with a number of states.
- Prepared a summary of the preliminary ARRA-SEP state plans for assigned region. This summary was an input to the conference calls.
- Reviewed the 5-12-09 ARRA-SEP plans submitted by each state. The review looked for common themes, building code update and enforcement approaches, leveraging approaches and individual programs that can be highlighted for DOE.
- Facilitated peer-to-peer exchanges within assigned region to provide guidance on potential distribution approaches with ARRA Block Grant funds.
- Facilitated focused discussions on the activities and plans for the State Energy Efficient Appliance Rebate Program (SEEARP), the International Codes Council hearings, issues associated with revolving loan funds, Energy Assurance plans and upcoming strategies of the states, state Technical Assistance needs, project database tracking and reporting systems, upcoming workshops and conferences, as well as issues and state planning for the launch of their individual Appliance Rebate Program.
- Continued holding monthly conference calls to discuss state issues including Davis-Bacon, NEPA compliance and Buy American.
- Attended, facilitated, presented at state, regional, and national conferences.
- Worked closely with DOE's Project Management Center and Solutions Center.

*National Home Performance Council (NHPC).* The central mission of the National Home Performance Council (NHPC) is to support efforts to increase the energy efficiency of the U.S. residential building stock through retrofits and high-quality new construction standards. NHPC works to achieve this mission through engaging states and stakeholders in developing model programs and practices, providing technical assistance to the national Home Star program and similar emerging incentive programs, and through an ambitious research agenda to support the promotion of home performance. NHPC successfully engaged in a range of activities to promote residential energy efficiency programs. These included:

**Research Projects.** NHPC developed a preliminary strategy to research, assess and document “best practices” within the residential energy efficiency retrofit industry. The first project undertaken as part of this effort involved a survey of existing home performance programs in the U.S. that documented the frequency and nature of a range of programmatic characteristics including nature of audit protocols, eligibility, subsidies, financing (if any), etc. that will serve as a basis for subsequent best practices research. NHPC assembled a list of 126 programs that meet an expansive definition of Home Performance. A number of specific programmatic criteria were identified for each program to the extent possible. The results were compiled on a spreadsheet, and work was begun to present key data points in chart form and to draft a narrative summarizing the findings. NHPC also went through a preliminary review of its research agenda with the goal of prioritizing and refining specific research projects to be undertaken during the grant period.

**Model Forms Development.** NHPC developed a strategy for creating the Model Forms for the proposed national Home Star energy efficiency rebate program. NHPC established a board committee with representation from a range of stakeholder groups, including states, industry, and contractors, to oversee and guide the Model Forms development process.

NHPC worked towards the creation of Model Forms for the proposed national Home Star energy efficiency rebate program through the following activities:



- Assembled a collection of forms from nine of the leading Home Performance programs in the U.S. that provided suggestions for materials to incorporate into the full range of Model Forms that will be required by the Home Star program, including rebate submission forms for Silver and Gold rebates, QA forms, and contractor representations;
- Made available some of the collected forms to the NHPC Model Forms Committee members through NHPC's website;
- Reached out to "big box" retailers who will serve as rebate aggregators through the Home Star program;
- Used the collected forms to create a draft list of data fields for inclusion in the rebate submission and QA forms;
- Grouped the Silver Star rebates into "families" of forms;
- Conducted follow-up discussions with EPA and DOE regarding creation of the forms;
- Convened a full meeting of the Forms Committee, which identified a number of issues that must be addressed in the forms and resulted in a lengthy list of next steps.

**Home Performance and NHPC Promotion Activities.** NHPC developed a website to serve as a primary vehicle for communication and promoting its work. NHPC also developed a membership and dues structure, to be implemented over the coming months. NHPC enhanced its institutional website ([www.nhpci.org](http://www.nhpci.org)) through a development of the password-protected "members only" section to include a special section for the members of the NHPC Model Forms Committee. This section now includes extensive materials from a range of leading home performance programs across the U.S. that will be used to develop the Model Forms, as discussed in Section 2 above. NHPC conducted outreach to state and federal agencies, introducing NHPC, its executives, and its mission. NHPC also now participates officially in the BPI effort to establish XML data standards and engaged in multiple stakeholder activities.

NHPC undertook a research agenda that focused on identifying "best practices" and "lessons learned" from the range of existing programs and reporting on the findings to form a guide for creating and implementing home performance programs. Specific areas of focus included:

- Universe of Home Performance Programs: This study provided an overview of state, local and utility programs that have used a whole-home approach to residential energy efficiency, identifying both common models and the range of approaches to programmatic areas including auditing, testing, marketing, and financing.
- Consumer Uptake of Whole Home Retrofits: Consumer uptake of residential energy efficiency retrofits has not achieved sufficient levels. This study identified best practices for encouraging consumer uptake of whole home retrofits through research on both program design and interviews with homeowners and contractors.
- Financing: The experiences and best practices with a range of financing vehicles, including secured and unsecured loans, on bill financing and collections, municipal liens, and other approaches, are an important area for best practice research.
- Utility Program Cost-Effectiveness Requirements: Many utilities require that all residential energy efficiency measures that they fund be cost efficient, typically defined as having a savings to investment ratio of at least one within a given, usually brief, period of time. There is not necessarily a clear rationale for the short payback periods, as many efficiency measures such as insulation typically have a relatively long life-span. These restrictions limit the number of energy savings measures that can be funded.

On December 15th, 2010 NHPC issued its first research report: Residential Energy Efficiency Retrofit Programs in the U.S.: Financing, Audits and Other Program Characteristics. The report was announced in a press release. NHPC and the Association of Energy and Environmental Real Estate Professionals (AEEREP) received a \$15,000 grant to fund of a research project that would identify and describe best practices for “greening” the nation’s MLS’s based on an innovative Colorado pilot program. This project is envisioned as the first phase of a larger project involving implementation of the model described in the research paper in up to fifteen target states. NHPC and AEEREP began outlining the research project in December, with a plan to complete the writing by January.

NHPC completed the Gold and Silver Star Model Forms for the proposed federal Home Star program and submitted them to Secretary Steven Chu of the U.S Department of Energy. The Forms have been posted on NHPC’s website, and several states have expressed interest in using them for their programs.

NHPC’s managing director convened the initial meeting of a Building Performance Institute (BPI) working group on a Data Collection and Data Transfer Standards. The Working Group is using NHPC’s Model Forms as a working draft for development of the Data Collection Standard. On December 6th, NHPC managing director Robin LeBaron convened the second meeting of the Building Performance Institute (BPI) Standards and Technical Committee Working Group 5, which is charged with creating Data Collection and Data Transfer Standards. The Working Group focused its initial energy on creating a Data Collection Standard that could be used as a template for building retrofit programs. One working group member created an on-line application based on the Data Collection Standard that would greatly simplify reporting on Home Performance and building retrofit projects. Strategies for developing an XML schema to complement the Data Collection Standard were also discussed. A draft Data Collection Standard is scheduled for completion and submission to BPI’s Standards and Technical committee by mid-January, at which point work will begin on the development of the XML schema.

*Buildings.* NASEO continued its efforts to promote energy codes adoption and compliance. NASEO staff arranged four (4) conference calls (April 1, 8, 16, and 21, 2010) associated with the Energy Foundation Code Workshop project with the Workshop planning team, consisting of John Wilson and Sue AnderBois Energy Foundation, Doug Brookman, reps from BCAP (Robyn Snyder and Cosimina Panetti) to discuss logistics, agenda, key attendees, discussion topics/questions and the materials needed in preparation for the April 26-27 “Building Energy Code Coordination and Strategy Workshop. The Workshop brought together key national and regional leaders involved in building energy code adoption, implementation, enforcement, and compliance to discern how to better coordinate and integrate those efforts. The Workshop identified and developed strategies to support more state and local efforts, with more stringent, effective and enforceable building energy codes. Staff finalized a report which included a listing of the key themes and issues raised by the approximately 65 attendees representing various building energy code stakeholders. The report also included recommendations in response to the Federal Register Notice of DOE soliciting comments on building energy codes.

NASEO staff continued discussions with BCAP and regional energy organizations on ways to better coordinate and communicate between the state energy offices, regional energy efficiency organizations and the BCAP staff on code adoption, compliance, training, and enforcement.

NASEO staff coordinated with partnering organizations to finalize the NASEO Building Code Comments Letter for submission to DOE in response to the Federal Register Notice soliciting comments. NASEO was successful in securing sign-on from ten (10) organizations to the letter which was submitted May 21, 2010.

NASEO conducted several conference calls in June with Energy Efficient Codes Coalition (Bill Faye), ACEEE (Harry Misurello) and Building Codes Assistance Project BCAP (Aleisha Khan) regarding the planning for a possible October NASEO code related workshop in conjunction with the International Code Council (ICC) final action hearings in Charlotte. Staff continued to work with Harry Misuriello of ACEEE, and representatives from ICLEI, Sierra Club/Cool Cities, Alliance to Save Energy, and the Energy Efficient Code Council on a possible Energy Code Outreach strategy to secure greater state involvement in Code adoption process and possible action steps leading up to the International Codes Council Final Hearing in Charlotte October 2010.

NASEO staff participated in a webinar on April 21 hosted by the Cool Cities/Sierra Club to discuss the regional and state outreach regarding the Energy Efficiency Codes Coalition.

Staff participated in the monthly Building Codes Group on April 23, May 20, and June 24 via conference call hosted by Jeff Genzer in his office with ASE, BCAP, ICC, ASHRAE, ACEEE, NRDC, AIA, DOE, IMT, PNNL, several regional efficiency organizations, etc. to coordinate our respective activities relating to building codes. Also, discussed the possible code funding legislation, information to Governor candidates on importance of building energy codes, need to better coordinate the tasks of grantees being funded by DOE and the foundations for code related work, upcoming activities, etc.

Staff participated in a meeting on April 27 with David Terry and Dave Conover PNNL to discuss PNNL supporting NASEO on code related efforts for the Buildings Committee, webinars for state energy offices, interaction opportunities, etc. Staff attended and participated in the May 18-19, 2010, U.S. Green Building Council (USGBC) 2010 Federal Summit in Washington DC. Gave a presentation during the session entitled “Improving State and Local Energy Codes – The Road to ARRA Compliance” with David Karmol ICC, Aleisha Khan BCAP and Jeremy Sigmon USGBC.

*Energy Program Consortium.* Energy Programs Consortium (EPC) made tangible progress on its efforts to implement a secondary market program for unsecured residential energy efficiency retrofit loans. EPC met with several working groups and individual organizations to explain its efforts and invite interested grantees to become involved. Several grantees approached EPC to indicate their interest.

EPC and its counsel, working with the Pennsylvania Treasury, drafted several legal agreements which will allow grantees to officially indicate interest and commit funds to the program. These agreements, when signed, will allow EPC to provide technical assistance to grantees, accept funds from said grantees, and escrow these funds either in a financial institution or with the Pennsylvania Treasury to be used as loan loss reserves in the future.

Simultaneously, EPC, under agreement with Pennsylvania Treasury worked with Bostonia Partners, a broker-dealer, to structure a sale of Pennsylvania Treasury’s existing portfolio of energy efficiency loans; we have recently begun the marketing process of this prospective sale after several months of internal due diligence and financial analysis. The structured sale of these loans is integral to the ongoing program for two reasons. First, Pennsylvania Treasury has agreed to commit all or a portion of the sale’s proceeds to the ongoing loan program. This will be a source of low-cost capital which will allow a warehouse facility to purchase loans from across the United States, providing liquidity to energy efficiency lenders who do not have deep balance sheets. Furthermore, this sale will be indicative of the structure of transactions going forward. EPC’s direct involvement in the structuring and marketing of this first-in-kind transaction will position us at the center of the energy efficiency finance market as we move toward scaling energy efficiency retrofits across the country.

#### ***Task 4 – Regional Coordination and Technical Assistance (Office of Energy Efficiency and Renewable Energy)***

*Establish a Regional Coordination Structure to serve as an information and assistance network for state and local governments and associated entities in the improvement of priority information exchange; overall coordination/synergy among states, local and federal officials; and dissemination of expert program implementation guidance.*

This task was added in the September 30, 2009 Statement of Work.

This program has continued enhancing regional coordination efforts between state and territory energy offices and assisting in the dissemination and replication of successful energy efficiency and renewable energy programs. It focused on new initiatives to promote energy efficiency and renewable energy in states and territories seeking to improve existing coordination, while helping to forge new partnerships between states and other relevant organizations. Additional detailed activities regarding NASEO regional initiatives throughout 2010 are listed below by region:

***Northeast.*** A joint Northeast-Mid-Atlantic regional meeting was held during the NASEO annual meeting in September 2010 to discuss state financing and bonding options, as well as public building retrofits. Further activities in the Northeast included determining the progress on building code compliance planning activities, which will continue to be expanded upon in the upcoming quarter.

The Northeast regional coordinator conducted outreach to SEO directors and key staff involved in energy programs for SEP and also provided DOE guidance and reports with answers to NASEO and SEO questions involving post-PACE financing. The region continued its discussion of QECBs as a mechanism to finance future SEO activities. The regional coordinator worked with individual states to plan the regional peer to peer meeting to be held in MA.

The region agreed to provide targeted conference calls to dedicated staff on specific issues to improve intra-regional communication. Initial topics to cover are efficiency programs for heating oil customers, implementation of solar incentive programs and financing opportunities. The NASEO monthly DOE General Counsel calls were well attended by states in the region, allowing states to voice concerns directly with DOE lawyers. The region conducted an in-person meeting instead of monthly conference call at the end of the NASEO annual meeting in Boston, MA.

***Mid-Atlantic.*** In regards to the Legacy Project, significant progress was noted at the regional meeting of the Mid-Atlantic states in Boston as part of the 2010 NASEO Annual Meeting. A MOU will be signed by several states, including PA, DC, MD, and VA, with hopes that NJ, WV, and DE will follow suit shortly. With this agreement, the Mid-Atlantic states agree on standards for training and certification of all classes of energy workers, and are committed to reciprocity of hiring such workers across state lines. Additionally, the Mid-Atlantic continued to provide Bill Nesmith (NASEO) with suggestions on how to integrate NASEO's approach to building strong state and local networks of energy officials with efforts of various energy officials in China.

With other NASEO staff, the regional coordinator developed a series of white papers for SEOs on a variety of topics, including: peer-to-peer networking and media relations. SEO program operations manuals were shared with other NASEO regional coordinators and DOE in an effort to improve inter-region communication, experience and coordination. NASEO is compiled a library of such resources.

The regional coordinator met, in person, with representatives from DC, NJ, PA and DE to continue to build relationships and offer assistance. The Mid-Atlantic region conducted three regularly scheduled conference calls during the 4<sup>th</sup> quarter of 2010. In addition, states and the regional coordinator participated on three DOE General Counsel teleconferences to better understand DOE reporting

requirements. NASEO hosted a financing conference call to help SEOs understand their options to further finance SEO operations.

***Southeast.*** In response to North Carolina, assistance was provided to help them review and rank proposals and applications for two of their SEP programs, commercial/institutional grants and code training. Also, the Southeast reviewed the ACEEE draft 2010 State Energy Efficiency Scorecard report and provided email comments to NASEO as it related to the Southeast states. Lastly, the Southeast participated in the DOE Clean Energy Application Center's Southeast Advisory Board conference call on August 25, 2010; this call was a quarterly meeting of the advisory group to discuss the recent actions in North Carolina to add CHP to the tax credit, encourage the inclusion of distributed generation on any Smart Grid dockets before the North Carolina Public Utility Commission, and to explore including decoupling of electric rates in the next legislative session to take place in early 2011.

The regional coordinator worked with several states and local governments to collect sample RFPs of successful projects to build an RFP library for NASEO and DOE. The library will provide a jumping off point for SEOs planning to start similar programs. Video of a U.S. Virgin Islands success story was passed on to NASEO management for inclusion on the NASEO website and use in a success story. Case studies from AL and TN were also collected and shared with NASEO and DOE.

The region held an in-person meeting at the 2010 NASEO annual meeting in Boston, MA instead of its regularly scheduled October conference call. During the month of October, the regional coordinator called each state individually to offer support in any function of the SEO. The region held conference calls during the months of November and December. The NASEO monthly DOE General Counsel calls were well attended by states in the region, allowing states to voice concerns directly with DOE lawyers. Worked with regional SEOs to propose topics and structure for the regional peer to peer meeting scheduled at the beginning of March. NASEO was represented on a "Clean Energy Assistance Center" /CHP Advisory Board conference call with North Carolina State University and other Board members. Attendees discussed policy issues in North Carolina, the Regional Assistance Center's work plan for 2011, and CHP demonstration projects across the Southeast. The regional coordinator participated in the NASEO conference call of December 14 on the comments to HUD PowerSaver loan pilot program.

***Midwest.*** On July 21, 2010, the Midwest regional coordinator facilitated a regional conference call with State Energy Offices to provide updates on SEP and other program development and to facilitate information exchanges among the states. The Midwest also notified regional board members of the upcoming board elections in advance of the annual meeting and proposed a draft agenda for the upcoming Midwest regional conference calls, in which information on energy program developments and program and administrative clarifications from DOE was provided. During the 2010 NASEO annual meeting in September, the Midwest moderated an SEO regional meeting and also attended a NASEO Regional Coordinators and DOE/EERE and OWIP meeting to discuss progress and next steps. These meetings provided an excellent networking opportunity to discuss informally with the Midwest states their issues of concerns and program direction.

The region held three conference calls during the quarter. Several states which did not attend the 2010 NASEO annual meeting in Boston, MA were referred to the NASEO website to view presentations and were sent notes from the sessions. DOE summaries of ARRA spending totals are periodically sent to the states to verify and inform the states of their relative positions. The regional coordinator and the states in the region have been involved in planning the regional peer



to peer workshop in Chicago, IL scheduled for the beginning of February. The regional coordinator has asked SEOs in the region to provide RFPs for NASEO's new RFP library. Several states in the region have exciting and successful programs they would like to share. Case studies and SEO success stories were compiled and sent to NASEO staff for publication.

**Central.** The regional coordinator produced and distributed a thrice monthly "Central Region Newsletter" highlighting recent guidance from DOE, state energy news, and important dates for NASEO members. The region held three conference calls during the 3<sup>rd</sup> quarter 2010. Each was very well attended and notes were distributed after the calls. States that attended the ICC Codes Conference in Charlotte, NC spoke about the Conference and the importance of building codes to the region. The NASEO monthly DOE General Counsel calls were well attended by states in the region, allowing states to voice concerns directly with DOE lawyers.

The regional coordinator collected sample RFPs from a number of states for the NASEO RFP library. The region also distributed example RFPs regarding EM&V to help most states begin to think about the end of their ARRA programs. The regional coordinator maintained contact with relevant DOE staff including state Project Officers.

**Southwest.** The three regional conference calls hosted during the 4<sup>th</sup> quarter 2010 yielded several RFPs collected for the NASEO RFP library on a diverse range of topics including energy benchmarking for EM&V as well as solar PV incentive structures. The December conference call included representatives from each state currently working on Davis-Bacon compliance. The themed conference call gave way to a valuable regional discussion on how states are handling their reporting and compliance requirements. The NASEO monthly DOE General Counsel calls were well attended by states in the region, allowing states to voice concerns directly with DOE lawyers.

The regional coordinator also continued work with the Energy Services Coalition on promoting performance contracting in the region. The regional coordinator submitted a proposal to the American Solar Energy Society for a session on ARRA SEP Solar programs. EM&V continues to be a topic of importance as states prepare for audits from all levels of government. Several states requested and shared program structure, reporting requirements and data management. The regional coordinator, in conjunction with other NASEO staff, produced a white paper on media event management, accompanied by a sample media advisory. The paper was also presented in a national webinar to an audience of 53 people on October 22, 2010. The regional coordinator had an in person meeting with the UT SEO while in Salt Lake City for an EECBG/SEP workshop. At the workshop, the regional coordinator presented the above-mentioned media event white paper to state and local officials. Other in person meetings included AZ, NM and American Samoa (AS).

**Northwest.** The Northwest provided extensive consultation to Oregon regarding complex contracting issues related to energy programs. On Thursday, August 12, 2010 the Northwest hosted a conference call between Guam and Dale Hahs of the Energy Services Coalition to help develop an RFP for Guam to use to procure LED lighting and public buildings services.

The regional coordinator worked with Guam and CNMI extensively to produce success stories for the NASEO SEP Success Stories Publication. The region held three conference calls during the quarter and an in-person regional meeting during the 2010 NASEO Annual Meeting in Boston, MA. The regional coordinator maintained contact with GU, WA, CNMI, AK, OR, HI, ID, during the quarter. The coordinator had a site visit with CNMI, and supported the SEO in improving programs on the islands. In addition, the regional coordinator spent time coordinating with VA,

WA, MA, and AL on a multi-state residential labeling program. The regional coordinator provided extensive consultation to Rima Oueid and Katy Newhouse of DOE on the Peer-to-Peer meeting scheduled for March. This involved numerous calls to provide input on the agenda and to recruit attendees and potential speakers.

***Task 5 – International Activities in China (Office of Energy Efficiency and Renewable Energy)***

*Facilitate establishment of an energy center to serve southern China; facilitate cost-shared Green Building Design Charrettes for U.S. and China design professionals and developers; provide assistance to NIKE and the World Federation of the Sporting Goods Industry (WFSGI) to develop and begin implementation of a comprehensive energy program to serve WFSGI members.*

Under this cooperative agreement NASEO provided the following support to international activities between the Office of Energy Efficiency and Renewable Energy and China:

1. Provided technical assistance supporting the establishment of the Shanghai Scientific Energy Conservation Museum (SSECM). NASEO has been involved in the SSECM since its inception, and in 2009-2010 the City of Shanghai expanded this facility ten-fold and linked the museum expansion with the 2010 Shanghai World Expo.
2. Facilitated relationships between U.S. green building experts and Chinese developers.
3. Promoted clean technology transfer between U.S. and Chinese companies. NASEO has successfully overcome barriers in Chinese culture and business models to increase the speed of deployment of superior American-made clean technologies among Chinese companies.
4. Worked through an international trade organization, the World Federation of the Sporting Goods Industry (WFSGI), to promote energy efficiency programs.
5. Facilitated partnerships between State Energy Offices and industrial sector companies to advance and promote energy efficiency measures.

Since 2000, NASEO has been a key partner with China in addressing energy efficiency awareness, education, and implementation at the grassroots level. NASEO's work with China began with a series (2000-2002) of international in-country peer exchange seminars between state energy officials and their Chinese counterparts. Each peer exchange activity increased NASEO's experience, knowledge, skills, and in-country contacts essential to working in the Chinese market and culture. The 2002 peer exchange, sponsored by the U.S. DOE Import-Export Council, was held in Shanghai and laid the groundwork for future efforts.

One highly visible result of the NASEO-China work is the Shanghai Scientific Energy Conservation Museum (SSECM). Over the last five years SSECM has become a huge success in China. This museum has been replicated by several other Chinese provinces and also served as a model for the National Energy Conservation Center which was recently launched in Beijing. NASEO worked with the SSECM to develop opportunity to use the Museum as a platform for U.S. companies to promote sustainable development in the greater Shanghai area. A significant accomplishment was completion of an English language website for the Museum. The SSECM was part of the 2010 Shanghai World Expo.

NASEO has also helped China develop its approach to green buildings projects. In March 2008, NASEO led a group of U.S. experts, recruited because of their relationship to NASEO, who shared information on green building design and implementation at three green building workshops held in Beijing, Shenzhen, and Shanghai. The Chinese Ministry of Housing and Urban-Rural Development hosted this successful workshop. The Green Buildings Workshops focused on having U.S. experts demonstrate to China developers how to make a business case and earn profits by constructing green buildings. The one and a half day workshops featured Clark Brockman of SERA Architects and Dennis Wilde of Gerding-Edlen Development, both of Portland Oregon. The workshops each had three sessions: (1) the Natural Step

System, which is the underpinning of the green building movement; (2) Defining Green Buildings in the U.S. and China; and (3) Integrating Design considerations and Development to Create Green Buildings for Profit. In June 2009, a design charrette was conducted for the China Energy Conservation Investment Corporation (CECIC) in Hangzhou, China. The purpose of the charrette was to give input on a series of eco-parks being developed in China by CECIC. In March 2010 NASEO staff assisted by Paul Frank of LRS Architect, Portland, OR, gave a presentation on high performance buildings. This presentation was at the invitation of the World Bank. Madame Chen at the Shanghai Energy Conservation Supervision Center requested more project related input and requested that NASEO provide U.S. experts on directional drilling and ground source heat pump technology to explore applications of geothermal energy for this project. During 2010 NASEO facilitated detailed analysis of buildings within the Changning District including providing the most up-to-date information available on commercial buildings energy use indexes. These indexes may be used as part of an energy certificate trading plan being contemplated for nationwide implementation in China.

During the 2<sup>nd</sup> quarter of 2009, a memorandum of understanding was signed between NASEO and the World Federation of Sporting Good Industry (WFSGI) establishing the WFSGI Energy Program and defining the roles and responsibilities of the two organizations. The WFSGI Energy Program is a carbon reduction and energy efficiency program for use with contract suppliers in China. The vehicle for implementing this program is an energy service company approach. An RFP for this effort was issued in December 2009. NASEO staff traveled to China in late 2009 accompanied by technical experts from Johnson Controls to visit a Deans Shoes factory in Shenzhen and Trane on a visit to the Mizuno factory in Shanghai which will hopefully serve as pilots for commercial building energy audits.

After numerous attempts on the part of NASEO staff to engage both Dean Shoes and Mizuno management, NASEO was not able to get either company to allow a walk-through energy audit of their facility and provide a free energy study and preliminary price quote for conservation measures.

Numerous follow-up attempts have been made by Johnson Controls, Trane and NASEO to persuade these two companies of the value of their participation. The rollout strategy was predicated on having successful pilot projects to use as a way to get other companies interested. NASEO staff has talked with numerous energy experts in both the U.S. and China about the situation. Some of the possible problems are noted below:

- 1) Bad economy
- 2) Bad timing
- 3) Trust issues with the energy service company
- 4) Resistance to a top down approach from WFSGI
- 5) Perceived risk on the part of supply chain plant managers
- 6) Lack of interest and buy-in re: energy efficiency

NASEO staff believes the issues noted above are part of the problems, but that they are not the central problem. Instead the central problem is thought to be that a supply chain factory manager does not perceive any value proposition connected with the energy efficiency work. It might be the case that they perceive a negative value proposition in that there is inherent risk associated with energy projects which could cost money instead of save money. Until this value proposition issue is addressed, it will be difficult to get the pilot factories to respond.

Perhaps most importantly, this in-country experience has enabled NASEO to develop relationships with Chinese government and industrial organizations. Successful integration into Chinese business culture is heavily dependent upon mutual respect and trust, which are only gained through continuous engagement and interaction over time. NASEO and its professional staff have worked diligently to secure a unique



relationship with the City of Shanghai and the SSECM to provide access to high-level Chinese government and industry officials that cannot be found elsewhere. These organizations, including the non-profit Shenzhen Energy Savings Association and the China Energy Conservation Investment Corporation (CECIC), the largest state-owned enterprise in China devoted solely to energy efficiency and renewable energy activities, and the central government's National Development and Reform Commission, the most powerful commission in China's central government system, have proven to be key partners in successful NASEO-China projects. NASEO also has a long standing relationship with the World Bank and consistently assists with the World Bank's energy conservation activities in China, integrating this work with DOE activities when appropriate.

## **CONCLUSION**

NASEO, through its unique membership (state and territory energy officials from around the country) and collaborative relationship with other state, national, international, and private energy-focused organizations, has strengthened DOE/state/regional/international partnership efforts, laying important groundwork for increased cooperative work and opportunities identification for implementation of energy efficiency and renewable energy practices and technologies.