

State Energy Advisory Board
Meeting Minutes: June 26-28, 2012
Washington, DC

STEAB MEETING ATTENDEES

Designated Federal Officer (DFO):

- Gil Sperling, STEAB DFO, Senior Management Technical Advisor, EERE, DOE.

STEAB MEETING ATTENDANCE		
BOARD MEMBERS	Present	Absent
Susan S. Brown , Deputy Administrator, Wisconsin Division of Energy	✓	
Tom Carey , Director, Energy and Rehabilitation Programs, New York State Division of Housing and Community Renewal	✓	
Dan Carol , Strategic Advisor/Organizational Consultant		✓
William Vaughn Clark , Director, Office of Community Development, Oklahoma Department of Commerce	✓	
John H. Davies , Director, Division of Renewable Energy and Energy Efficiency, Kentucky Office of Energy Policy	✓	
David Gipson , Director, Energy Services Division, Georgia Environmental Facilities Authority		✓
Philip Giudice , Chief Executive Office, Liquid Metal Batter Corporation	✓	
Paul Gutierrez , Vice Provost for Outreach Services, Associate Dean and Director, Cooperative Extension Service, College of Agriculture and Home Economics, New Mexico State University	✓	
Duane Hauck , Director, Extension Services, North Dakota State University	✓	
Robert Jackson , Manager, Michigan Economic Development Office, Michigan Energy Office	✓	
Elliott Jacobson , Vice President for Energy Services, Action Energy	✓	
Peter Johnston , Project Manager, Clean Energy Technologies, Burns & McDonnell	✓	
Maurice Kaya , Hawaii Renewable Energy Development Venture	✓	
Ashlie Lancaster , Director, South Carolina Energy Office	✓	
Lou Moore , Chief, Energy and Pollution Prevention Bureau, Montana	✓	
Frank Murray , President and CEO, New York State Energy Research and Development Authority	✓	
Steve Payne , Managing Director, Housing Improvements & Preservation, Department of Commerce	✓	
Janet Streff , Manager, State Energy Office, Minnesota Department of Commerce	✓	
David Terry , Executive Director, ASERTTI	✓	
Daniel Zaweski , Assistant Vice President - Energy Efficiency and Distributed Generation Program, Long Island Power Authority	✓	

Contractor Support & Other DOE Staff:

- Emily Zuccaro, SENTECH, Inc.
- Felicia Der, SENTECH, Inc.
- Melissa Totten, SENTECH, Inc.

Copies of all meeting presentations from the June meeting can be found online at www.STEAB.org

WELCOME & INTRODUCTION

- Janet Streff (JS), Chair of the STEAB, opened meeting by thanking everyone for coming and facilitated introductions around the room. All participants introduced themselves noting the organization they are with and stated they are from. JS noted Brookhaven National Lab would be the site of the next visit in October, and then reviewed the agenda for the day. JS also noted some Task Forces might not be meeting this afternoon and that time can be used for individuals and groups to accomplish STEAB related activities such as meeting one-on-one with EERE staff, or following-up on the outstanding items related to the State Energy Extension Partnership (SEEP) Working Group.

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- Gil Sperling (GS), DFO of the STEAB, was looking forward to the kick-off of the meeting and wanted STEAB to focus on cross-cutting programs with EERE. GS suggested there are areas STEAB need to focus more effort towards but overall is pleased with the direction of STEAB in FY 12.

Update on National SEP Evaluation

- JS introduced Martin Schweitzer with Oak Ridge National Lab. Lou Moore (LM) and Robert Jackson (RJ) provided a summary of previous calls with Mr. Schweitzer last week about the SEP Evaluation. The call resulted in no clarity on the types of questions that were being asked for from the states, so there were still outstanding issues the State Energy Program (SEP) Task Force thought needed addressing. LM asked RJ for additional information on the background and history of the Evaluation and why the evaluation group was making the request for additional questions or concerns.
- David Gipson (DG) was not present at the meeting, provided a handout of the presentation that was given out a year ago on July 2nd to submit any new questions to the evaluation task force. Paul Gutierrez (PG) asked about the status of the ultimate release for the final evaluation. David Terry's (DT) concern was that during the three to six months of gathering questions, he estimates it would then take about a year or a year and a half for states to answer. GS noted the SEP evaluation has been in progress for about 3 years. They are evaluating the Recovery Act (ARRA) and have changed a lot of the reporting requirements, and metrics in the past couple of years which is why there continues to be a delay in reporting and finalizing the evaluation.
- Mr. Schweitzer introduced the presentation provided an update on what is occurring at the ORNL now with regards to the evaluation. Mr. Schweitzer reintroduced the purpose of the evaluation; to quantify outcomes and what has been accomplished by quantifying energy and cost savings, job creation, renewable energy generation and carbon emissions reductions. The lab is really focused more on the reporting and evaluation not of individual state findings, but as the success of the broader program area as a whole. Currently, ORNL is working is working to receive approval from the privacy impact assessment. The evaluation groups met with OMB to discuss metrics and survey requirements and are waiting for final approval before moving forward. Mr. Schweitzer noted he and the rest of the team optimistic about the situation. The lab will receive final decision by the end of the month (June) from OMB.
- The next step for the evaluation team is to receive approval on its evaluation metrics and methodology from OMB. If it doesn't receive approval then the group has to go back and determine a new way to move forward. ORNL will start providing primary data covered by the ICR once OMB approval has occurred. There are a limited set of programmatic activities which have already begun, but again OMB approval is key. Other milestones for the evaluation team is that there is a committee meeting in July 2012 to look over the new questions submitted from states and stakeholders, and a peer review panel at the end of July. If all goes according to plan, the team will start analyzing data in August 2012. Ideally the evaluation team will start producing preliminary reports in October 2012, there will be in a draft report of findings in January 2013, and another peer review meeting is scheduled for February 2013 with a projected final report due in March 2013.
- John Davies (JD) asked what would happen to retired program managers from 2008, and are they aware of the challenges during 2008 spending and reporting since many of these folks have left their positions. Mr. Schweitzer responded saying ORNL will make every effort to locate the proper people to receive answers from the missing data 2008 activities. He mentioned that Tom Petit, a member of the KEMA team, has worked with DOE project officers on the beginning phases on information to be reconciled. Mr. Schweitzer noted the data collection is promising, although there was a high turnover rate in 2008, therefore it is pertinent to receive data from that year. DT suggested the implications of the evaluations for the grantees, and Mr. Schweitzer responded that there is attention towards the state grantees and making sure the evaluation looked at all applicable areas. JD asked if the grantees responses do not occur, what would happen. Mr. Schweitzer stated the state grantees are faced with a tough position and will need further assistance from the state. After talking with SEP, they will need to prioritize and allow this to be a reoccurring effort. Mr. Schweitzer was optimistic about assistance from the states to collect this information.
- GS directed to the Board to think about the theories behind energy markets and noted market transfer is occurring. If the federal government invests into the fifty states, how effective is the money into the different markets? Would the markets still be effective and is the program itself structured appropriately? Those are the types of questions the evaluation should be focusing on and that states need to consider when working with ORNL. Right now there is no comprehensive energy initiative that incorporates all states and DOE into a single plan. There is no debate or discussion happening right now about research and development and market transformation as a larger program. This is something the Board should look at and discuss.

Energy Education Implementation and Partnership

- Michelle Fox gave a presentation on EERE workforce and the education development program. The vision of EERE workforce and education development program is to support the growth of a capable and flexible workforce by providing

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quality education and training easily and efficiently through the advances of information technology and recommendations of learning science. The current challenge is that many firms and organizations are determining that there is no pool of skilled workers available to help work on EE and RE projects or staff jobs. The current educational system is not producing people with the skills needed to work on these clean energy projects.

- EERE's energy literacy program was built on existing efforts. They are in the process of producing a web-based document and creating a standard from grades K-12, with the hopes of lifelong learning skills for students and providing outlets to understand and conceptualize understanding from the physical, natural science. Utilizing this cross-cutting effort will help form partnerships, advance the use of information technology to help increase the efficacy of training, while building awareness that there is this void in the marketplace which needs to be filled. DOE developed the Energy Literacy plan to help improve public energy understanding and define what it means to be "energy literate." This program has a guiding document which outlines 7 principles of Energy Education.
- Once those guiding principles are published and established in the energy community the next steps is really Energy 101. This initiative focuses on creating a nationally recognized interdisciplinary general education energy course for community colleges and universities. Studies show that colleges have moved from teaching purely engineering or chemistry to teaching solely based on energy education. It is estimated within the next eight or nine years, energy education will become a core curriculum for community colleges and universities. The material will be well rounded for distant locations such as West Virginia where they began using modules as a teaching method to develop problem sets and modules. Although West Virginia is in their beginning stages and the University of Maryland is also starting this method of teaching.
- National Training Educational Resource (NTER) is an online tool which can develop high levels or tools and immediate feedback. The learning pyramid allows people to emerge and practice instead of lecturing. The vision of NTER is to use learning science and information technology effectively to support the creation of a well-educated talent pool, develop tools and engaging content, support existing online projects, and use the flexibility of an open source licensing to grow. There are mapping tools to track job creation and job retention in certain energy areas, as well as modeling programs to assist with training. Making all of this open source is important as well because it allows for buy-in from different communities as well as the opportunity to grow organically.
- Peter Johnson (PJ) asked if EERE plans on participating in new education standards and adhere with state standards. Ms. Fox responded they are implementing efforts individually with states as energy is an overlapping topic. There is some hesitation from teachers who are not being able to fit another topic in their lessons. PJ suggested teachers need more resources to involve and inform students about energy topics.
- Vaughn Clark (VC) noted the several discussions regarding employment. There are many jobs that become vacant because of a lack of standard math and science knowledge. If there is not a focus and enthusiasm on the core aspects of education, it can become a much larger problem. Ms. Fox stated 5th grade is really the time by when it is vital to instill enthusiasm for education about energy programs and issues.
- Frank Murray (FM) complimented EERE the enthusiasm being shown, and noted he and his state of New York have previously worked with department of labor. He continued by saying not only is it important for the younger generations to have math and science backgrounds, but training needs to include writing and communication skills as well. Duane Hauck (DH) asked if EERE is seeing RFAs with other federal agencies to focus on goals of this energy literacy initiative. Ms. Fox responded by saying the ultimate goal of the EERE is to have the inside track on what is going on between other federal agencies and if they are working together. Ms. Fox concluded her presentation by asking STEAB to help her group liaise with the states so that each SEO and Weatherization Program know that this effort is underway with DOE.

Board Discussion Regarding SEP and Energy Literacy

- GS returned the group to the topic of the State Energy Program. GS noted there is no advocate for SEP or weatherization within DOE and how can STEAB help showcase and elevate these programs within EERE. The question STEAB needs to look at is what is *not* addressed in the evaluation and how it is affecting jobs and attracting prospective businesses. If DOE asked these questions to SEP it would open up a new way of thinking at DOE. DT suggested this as an opportunity for an SEP Task Force focus.
- Duane Hauck (DH) told the Board what STEAB needs to do is look at the whole picture, not just one or two programs, but the impact of all EERE Programs on the states and how these programs have been impacted since ARRA. Tom Carey (TC) reminded the group that the Weatherization Evaluation looks nationally at the program. He believes SEP focuses on some national aspects, but mostly the evaluation seems to be looking state to state. The evaluations should look at the impact of energy education, energy programs, etc on the nation as a whole, instead of just individual state successes or failures. GS agreed that the SEP evaluation really is not looking at the program as a "whole" or taking a nation-wide focus. Because the evaluation is looking at certain metrics in certain areas, it most likely won't show to EERE how truly effective the SEP program is.

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- Vaughn Clark (VC) is concerned that the metrics, one approved by OMB, will not showcase all of the impacts SEP has had in the states. In Oklahoma, for example, there have been a lot of programs and development in the state since ARRA and he is not sure the SEP evaluation will capture all of that data. By missing this anecdotal evidence, DOE misses a huge part of the story. EJ agreed and said that right now the focus for SEP should be making sure the evaluation looks at what programs were created, what they accomplished, and why they are needed in the states. The last thing SEP or Weatherization needs now is more bad press.
- Lou Moore (LM) commented that while she appreciates the large-scale scope of this evaluation, what ORNL is not really doing a good job of is reaching out to the states to ask what they feel should be included as part of the evaluation. Also, who is asking questions about challenges, best practices, etc.? Phil Giudice (PGD) replied that a huge issue is a lack of understanding by the private sector as to what these programs can provide and do provide. The private sector does not realize that a demand for services is created by many of these programs. SEP and Weatherization have helped move the country forward, but trying to draw those cause and effects directly is difficult to quantify.
- The conversation continued by DT, EJ, Susan Brown (SB) and others noting the biggest challenge right now is proving to DOE the validity of these programs, and changing DOE's perspective about funding these programs for the future. A lot of the intellectual capital is leaving DOE now that ARRA is over so where are those lessons-learned and that historical knowledge going to be captured? DT concluded this statement by saying DOE sees states more as "grantees" instead of partners and that perception has to change in order to begin showing DOE and EERE the value of SEP and other programs.
- JS turned discussion to general Board issues. She asked if the scheduled monthly call times and dates were still acceptable. The Board said they were and the next teleconference is scheduled for 3:30 eastern time, on July 19, 2012.
- JS reminded STEAB there is a prospective meeting schedule in October, located at Brookhaven National Lab. GS informed the board that STEAB is in the process of renewing the Charter. One change in the charter is the annual budget is off by a third by the actual budget which is weighed heavily by the three meetings a year that STEAB schedules and the charter states only two meetings of a year are approved. As a Board, they need to consider reducing number of meetings to twice a year since travel costs consist of the majority of the budget for STEAB meetings.

Overview of OWIP, Status of WAP Looking Forward to 2015

- Bob Adams from EERE's OWIP program presented on the Weatherization Assistance Program. Currently, depending on new funding levels Weatherization could lose about 75% of the network including all the trained contractors and administrators. Currently DOE has a Weatherization Plus 2015 committee that is talking about the future of the program and is working on releasing a report in the fall about their finding. Key areas being discussed by the Weatherization Plus 2015 committee are communications and messaging, leveraging, consistent delivery of quality services, new markets and existing potential, as well as energy planning for low-income communities. This group is working with the network, determining current practices, identifying best practices, and will be developing the previously mentioned report. Hopefully this will provide ammunition to support weatherization through 2017 or 2020.
- DOE is coming up on the 1 millionth home weatherized which is a huge success for the program. The big issue now is trying to gain market penetration. Weatherization is very focused on low-income, but to make it successful nationwide, we need to encourage all economic levels of consumer to invest in their homes. EJ noted that weatherization community has different perspectives about where the funding should be focused and needs DOE to lead the charge with how to prioritize issues. GS asked what DOE was doing to help grow the residential market in a way that supports low-income weatherization while also funding other projects. Mr. Adams suggested the STEAB think of ways to accomplish this and provide a recommendation back to EERE about policy goals, and perhaps devoting more resources into residential market transformation efforts. The issue is low-income markets need to recognize and have the ability to spend money as long as it makes the community more safe and comfortable. GS commented DOE should not focus on the market, but instead focus on the effects on the community overall.
- Mr. Adams then discussed the Weatherization Innovation Pilot Program (WIPP). The Program aims to accelerate innovations for low-income families. Projects include new and non-traditional partners and weatherization service providers, leverage significant non-federal financial resources in addition to federal funds, and aim to improve the effectiveness of low-income weatherization through the use of new materials, technologies, behavior-change models, and processes. The first round of grants was announced in August 2010. The issue was WIPP provided a large amount of assistance and found it difficult to weatherize houses. One of the issues was the program could not establish successful reproduction. Successful factors in the program were the incorporation of volunteer projects, but the downside of this is the volunteer projects were not creating actual jobs. The future of WIPP is divided into five goals communications, leveraging, new markets, quality of services and community efficiency.
- Mr. Adams continued by saying OWIP contracting and monitoring responsibilities have now moved to NREL. The biggest aspect the program needs feedback on is whether you in your grant activities in the states are facing issues with reporting and

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feedback from NREL. OWIP needs to know if this change has made it harder or easier for states to have access to information. EERE wants to make sure there are no changes to procurement policies. There were delays in the April and July start-ups because of the transfers coming to Golden. Any suggestions or concerns should be directed to the states' project officer.

- JS noted that, yes, this change has been challenging to deal with from the state side. She and others will let the project officers know of any issues that continue to arise.

History of Brookhaven National Lab and Overview of Lab

- JS introduced Pat Looney (PL) from Brookhaven National Lab (BNL) presented an overview of the Lab to the Board members noting the main focus was to move toward applied sciences. There are two areas BNL focuses on and the first is applied science, the second is energy strategy which builds towards deployment pipelines, tools for a smarter grid, distributed generation and renewables integration. Mr. Looney also noted there are more people who use BNL to perform research than those employed at BNL. He indicated that when the Board is out at the Lab in October of 2012, they would probably like to take a look at the Long Island Solar Farm, the National Synchrotron Light Source II, the smart grid innovation work underway, as well as the BNL distribution system.
- National Synchrotron Light Source II will soon be the world's most advanced x-ray source, and is a \$960 million project creating hundreds of local jobs. It will deliver research advancements in energy, nanotechnology, medicine and other fields.
- In terms of partnerships, BNL and Stony Brook University in New York have partnered to create a center for computational science where two IBM supercomputers support broad range of research. Another partnership is between BNL, Long Island Power Authority (LIPA) and BP Solar which created and maintains the Long Island Solar Farm where there are 32MW of solar power generation. The Long Island Solar Form offers a unique research opportunity for solar variability & impact, grid integration, environmental impacts, string level monitors, and power quality monitors.
- SGRID3's mission is to lower the cost of electricity by 5-10%, and improve the quality and reliability of electric power. Additionally it is looking at ways to ensure the security of the Smart Grid, and develop capabilities to guide utility investments. SGRID3 is accomplished by grid performance data collection & analysis, advanced modeling, testing and demonstration of new technologies.
- Currently the Lab is looking to maintain preeminence in basic research and applied programs by leveraging BNL's core capabilities, focusing on energy, national security, biology & life sciences, and expanding impact through commercialization partnerships in NY and New England.
- Mr. Looney told the Board that BNL is looking forward to STEAB coming to the Lab in the fall. He is excited for BNL to showcase their value to the nation with regard to energy challenges.
- MK noted there is a substation is nearby to the lab but not located on the grid. The response was that there are three lines coming from the substation to BNL. LIPA has a power Purchase agreement with BNL and the Lab receives the research component. BNL monitors all the substations and the solar plant functions and helps with stimulation scenarios by establishing stability on distribution and providing voltage support.

Task Force Break-Outs and Discussion

- The final agenda item for the day were the Task Force break-out sessions. The Task Forces met as small groups for the remainder of the afternoon and promised to provide brief updates on Wednesday morning about the discussion and outcomes of their meetings.

Overview of Tuesday's Presentations and Review of Task Force Break-out Sessions

- The day began with brief overviews of the Task Force break-out sessions held Tuesday afternoon.
 - **Weatherization Task Force** – Met with Joel Eisenberg, Cynthia Simonson, and Bob Adams to discuss the future of Weatherization Plus 2015, and look toward sustaining the program in the short and long-term. The biggest concern now is what EERE thinks about the future of the Program and how to make EERE see the true value of Weatherization and what it means to low-income communities. The group is looking forward to an early July meeting of the Weatherization Plus 2015 working group in Baltimore to continue this dialogue.
 - **State Energy Program (SEP) Task Force** – Followed-up on the presentation from Mr. Schweitzer and expressed continued concern over the qualitative capture of SEP and if that will be included in the evaluation. The group will provide comments and follow-up questions to ORNL and KEMA as requested by the evaluation team. The Task Force will focus on how to incorporate the long-term accomplishments of the Program into the evaluation, and will work with contacts from the Cooperative Extension Service to determine how that evaluation ran and what anecdotal evidence was captured in order to tell a full and robust story of SEP in the way CES was able to capture successes and lessons-learned. The Task Force also determined EERE should establish partnerships in order to further their goals more effectively.

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They drew from the conversation Ms. Fox had with the Board about Energy Literacy and how by establishing partnerships at the federal level, it facilitated the creation of partnerships at the state level. Additionally, the Task Force is concerned with SEP funding and formula vs. competitive grants. The biggest concern is over how the competitive funding is approached and how can it be more streamlined by OWIP. The Task Force wants to work with Anna Garcia of OWIP as well as NASEO to discuss future funding options and discuss how proposals are managed and addressed by DOE. Finally, dealing with SEP reporting is an issue and the Task Force would also like to liaise more closely with NASEO to address these issues and possibly design new questions to guide a more focused analysis of SEP in a way that shows how the Program was aligned with the President's goals.

- **USDA/DOE Task Force** – Met and visited with Senators Bingaman and Conrad to provide an update on the current status of the MOU. The State Energy Extension Partnership (SEEP) Working Group continues to meet on a monthly basis to move this initiative forward within both federal agencies. The goal is to have the MOU signed by the end of the summer.

Update from the Solar Technologies Program

- Minh Le presented on the current status of the Solar Technologies Program of EERE. Two years ago Secretary Chu challenged DOE to focus on making solar energy affordable and competitive. The goal was to reduce costs by 75% in a decade and bring Residential Photo Voltaic (PV) to \$1.00/Watt, and to do that the Program looked at the different technology areas and determined where innovation would have the largest impact. The Program looked at barriers to market entry, and created targeted outcomes to overcome the challenge of “soft-costs” such as permitting and inspections. Out of this \$1/Watt challenge, known as the SunShot Initiative, DOE is working to revitalize American competitiveness in solar energy.
- Another focus of the Solar Technologies Program is the initiative for PV manufacturing. The US used to lead the world in PV manufacturing but have since lost a lot of the market share due to cheaper manufacturing costs in China and other overseas markets. DOE recently awarded \$25 million in funding via the SunPath initiative to scale-up a San Diego facility and enable a manufacturing capacity of 200MW of CPV modules.
- Last year DOE issued the Rooftop Solar Challenge which incentivizes local and state governments to adopt better solar PV siting, permitting and installation policies. It brings industry and community together to discuss best-practices and challenges. Additionally, the recently launched America's Most Affordable Rooftop prize which provides a \$10 million prize to the company or group which can achieve \$2/W installed PV without subsidies by 2015. Currently, the US sits at about \$6/W.
- Mr. Le did note one of the challenges facing the Solar Technologies Program is interfacing with utilities. How can the Program work with utilities to help them understand the benefits by integrating solar technology into the grid? How can the Program work with PUC's and other organizations to demonstrate and showcase the benefits to this technology not only to the utility but to consumers as well.

Welcome and Overview of EERE Programs and Strategic Direction

- GS introduced Dr. David Danielson, the Assistant Secretary for the office of EERE. Dr. Danielson opened his remarks noting he looks forward to establishing and solidifying the relationship between STEAB and EERE and is anxious to hear from the Board about the key issues EERE should focus on. He indicated EERE has a clear mission; create American leadership in the EE and RE fields, and assist with transitioning the country to a clean energy economy. He believes this can be accomplished in three ways through 1) sustainable transportation, 2) integrating renewable energy into the grid and applying end-use consumer energy efficiency practices, and 3) through buildings and industrial retrofits and manufacturing. Creating green manufacturing jobs is key to these accomplishments.
- Dr. Danielson went on to say STEAB can assist him with deployment efforts. His background is mostly in R&D but he recognizes the value and importance of deployment. EERE needs to find ways to get ahead of market barriers and make sure technology developed at the Labs and within EERE can get into the marketplace effectively. He noted he wants to see the National Labs as successful and entrepreneurial as MIT and Stanford so that the Labs have a larger national impact. In order to assist this endeavor he will be hiring a new Director of Commercialization who he hopes will be able to engage with this group. On the commercialization side, Dr. Danielson indicated EERE needs a new model. He is aware of the “valley of death” for commercialization, but encouraged the STEAB to look at creating a new sustainable model. If there is a role STEAB or DOE can play to help identify regional competitive advantage and help with economic development by way of state and local deployment, he would appreciate feedback from the Board.
- EJ provided the first comment during the question and answer portion of the presentation reiterating the value and importance of the Weatherization Program to EERE and to the states. Dr. Danielson answered that he is learning more about this Program and welcomes ideas about how to leverage federal funding since this is a Program that the Hill continues to cut. He encouraged the Board to send any success stories from Weatherization or other Programs to Jason Walsh, the new Director of Stakeholder Engagement for EERE.

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- MK informed Dr. Danielson of the Deployment White Paper which the Deployment Task Force wrote and presented to DOE 18 months before. A Director of Commercialization was one of the recommendations out of this white paper so the Board is pleased to hear this position has been created. MK went on to say it is vital for this role to interact with the states and engage with SEO's and the PUC's to work across the system as a whole to increase the effectiveness of technology transfer and deployment. Dr. Danielson agreed and asked if there was a single point of contact who coordinates all of these different entities. Does STEAB see a need for an engagement manager for each stakeholder, whether it be PUC, SEO, Mayor's, etc.
- Ashlie Lancaster (AL) asked about deployment and engagement on the EERE side with the National Labs. This is an issue STEAB has been addressing for some time and what is EERE looking at doing to better engagement between states the Labs? She suggested the creation of a model which can be applied to all Labs and all states to assist with finding competitive funding opportunities, encouraging engagement with the Labs and SEO's as well as private industry in a way which motivates all entities and creates change at the local level.
- Following-up on that comment Frank Murray (FM) reminded Dr. Danielson that states and SEO's are not stakeholders of DOE, but partners with the agency and it is key for DOE to understand and recognize that distinction. States can be assets and true partners to EERE and DOE with regards to commercialization because the state has a keen sense of both the technology needed and the economic situation of the times. Dr. Danielson was interested in hearing more about this topic and asked for feedback on key partners are and stakeholders to EERE.

Status of Current Initiatives and Projects with Regard to Clean Energy and Rural Development

- LeAnn Oliver, the Sr. Advisor for Clean Energy and Rural Development within EERE, briefly spoke to the Board and provided information on new initiatives and programs coming out of her focus area. She began by following-up on the USDA/DOE Task Force update regarding the MOU between USDA and DOE. Both agencies are excited about this initiative and are seeing success in the three states where pilot programs were launched last summer so the MOU should be signed shortly.
- Ms. Oliver then spoke to the Board about the number of organization she is currently working with and coordinating efforts with to bring EE and RE to rural communities. She works with agriculture groups in an effort to make connections to rural America about the importance of RE and EE and works to train a workforce to make advancements in these areas. She also works with rural water services talking to them about how to replace the outdated systems with more energy efficient ones. She liaises with Rural Electric Cooperatives to highlight the idea that energy efficiency retrofits and upgrades are valid expenses and to spend money on those types of changes now, saves money for the cooperative and consumers in the long-term.
- The critical part of her role is connection all of these groups together in a meaningful way. Making rural leaders understand the value of EE and RE technologies and practices is key to adoption in these communities.

Update from Office of Strategic Programs and Overview of Innovation and Deployment Efforts

- GS introduced JoAnn Milliken, Action Program Manager for the Office of Strategic Programs. Ms. Milliken provided an overview of innovation and deployment efforts from her Program area noting the mission is to provide a consistent, objective, credible supporting analysis for EERE, by promoting innovation, accelerating the adoption of energy efficiency and renewable energy technologies, advancing the progress of EERE's domestic R&D programs, accelerating global deployment of U.S. clean energy technologies through international collaboration, and providing accessible, sound, reliable information on energy technologies, systems and their evolution to promote energy awareness.
- The Program is focused on the following areas: strategic priorities and analysis, innovation and deployment (including commercialization), and communications and outreach. A major part of communication activity is the Innovation Ecosystem Initiative which started as a pilot program. Another was the National Clean Energy Business Plan Competition that took place as part of the White House Start-up America initiative in which more than 275 teams competed for the top spot. The goal of the competition was to convene venture capitalists, leaders from the energy industry and government, and bring the nation's most promising young business minds to facilitate connections and potential clean energy start-up companies. Due to its success, this has become a three year program with hopes of becoming an annual competition.
- The I6 Green Challenge partnered DOE with the Department of Commerce with plans to create a region-specific centers that provide services to clean energy ventures. Examples include a Washington center which focuses on energy efficiency in buildings, New England collaborating to focus on economic expansion throughout New England, Florida I2 CAN creating a "gap fund" to invest in clean energy startups, and other successes.
- EJ asked is there is a Strategic Plan for EERE being developed out of this office and if so, who will the contact be and when is the projected completion date for this Plan. Ms. Milliken stated a first draft is in the works and they look forward to partnering with STEAB to create a robust and comprehensive plan which ideally will roll-out by the end of the summer of 2012.

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- GS asked Ms. Milliken what the relationships are between SEO's and DOE, and where the higher level conversations are happening, if at all. Ms. Milliken responded that these conversations are not happening in her Program area, but that this is a key focus area for Strategic Programs.

Renewable Energy Programs and Initiatives

- Steve Lindenberg, Sr. Advisor from EERE, and Laura Morton, Sr. Advisor for EERE, discussed with the Board the larger picture of RE as they relate to EERE goals, and how EERE addresses market barriers to deploying RE technology. The goals for renewable energy is to have 80% of electricity by 2035 generated by renewables, and reduce our use of oil by 1/3 by 2025. The RE side of EERE represents a diverse portfolio that includes the following areas:
 - Solar – SunShot and SunPath have been successful and the Program continues to look at market barriers and how to make a push for residential solar PV.
 - Wind – Program is looking at how to bring technology into the marketplace at a competitive rate and participating in land and off-shore demonstrations.
 - Geothermal – Program is looking to expand their scale 10 fold but need to find the resources and investment to map the country and find geothermal resources. Currently the Program is doing a lot of work with hydrothermal and looking at ways to get technology into the marketplace.
 - Water Power – Currently the US is playing catch-up to the British. The Navy is starting to build a facility in Hawaii that is the first US test-based facility for equipment, but this technology is still emerging.
 - Fuel Cell – Program is working to bring pricing down and make the technology competitive. In the next five years we are hoping to see fuel cell vehicles on the roads.
 - Biomass – There is a lot of money into this program under ARRA. EERE has made great process on the cellulosic ethanol front. Now the Program is looking towards algae for a potential viable feedstock.
- The larger vision RE is looking towards is based off of a recently released NREL report that said America is blessed with a vast variety of RE resources. RE could supply base-load and variable energy for every hour of every day in demand projection for the year 2050. We have not studied whether we can meet the frequency and voltage requirements, but we know we can build the system to meet the demand for the year 2050.
- GS asked that while we know the potential, how do these RE goals align with the current state and utility policies? Mr. Lindenberg noted that DOE is meeting the policies halfway but has to work better to change or revise policy so all parties can work together. LM commented on the successes of the Solar Program with SunShot and SunPath to identify and mitigate soft-costs for deployment, and asked if other technology areas were focusing on this as well. The reply was in the affirmative and relayed that the Wind Program was working on this at the state level, and Geothermal was spending time in about 10 states where there are strong resources available. Right now, EERE is trying to make decisions based on how they see the market changing in the future.
- Laura Morton then addressed the group about her work in three primary areas combatting market barriers and soft-costs. Those areas are as follows:
 - Rapid Response Teams – Created in 2011. The goals are to help achieve the Administration's objectives of doubling clean energy by 2012 by ensuring close coordination among key federal agencies on siting and permitting of RE projects and help increase electric reliability and save consumers money by ensuring close coordination among key agencies on siting and permitting.
 - Presidential Memorandum on Speeding Infrastructure Development – The goal is to significantly reduce the time required to make decisions in the permitting and review of infrastructure projects, while improving environmental and community outcomes.
 - Exec Order 13604 - Builds upon the Presidential Memorandum and outlines 2 additional goals such as creating a more efficient and effective review of proposed large-scale and complex infrastructure projects, resulting in better projects, improved outcomes for communities, and faster permit decision-making and review timelines, and creating transparency, predictability, accountability, and continuous improvement of routine infrastructure permitting and reviews .
- All of these initiatives have resulted in interagency collaborations on RE including MOU's, interagency working groups, and co-funded R&D activities. There have also been guidebooks and checklists created as well.

Follow-up Board Discussion

- GS turned the meeting to general Board discussion and follow-up. He asked the Board about their preference on meeting three times a year and if they would prefer to drop that to twice a year. Steve Payne (SP), Peter Johnston (PJ), and PGD advocated for two meetings due to work commitments, but LM, EJ, MK, JD, DH, SB, and DT noted that three meetings a year help keep momentum moving with the Board and allow for 2 Washington, DC meetings and one Lab meeting a year. GS asked the Board to draft something which he can send to DOE advocating for three meetings a year instead of just the

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mandated 2 meetings, and JS added that right now STEAB is more connected than they have ever been and it is important to maintain this connection to EERE.

- To that point, PG asked about how STEAB can get involved with the Strategic Planning process that Ms. Milliken alluded to during her comments. PJ followed-up on that point asking about how best to get presenters from this STEAB meeting to continue engaging with the Board, and JD asked about how to get all the EERE Program Managers to recognize the value of STEAB and partnering with states.
- GS responded by saying that STEAB needs to demonstrate to EERE the value of actually creating a lasting and functional partnership with the states. If we can highlight the benefits to both groups, then we can open a dialogue with EERE about how to pursue establishing a partnership with SEO's and other entities. PDG suggested that perhaps in a thank you letter to Dr. Danielson the Board can outline the necessity for partnering with states and layout a framework of what that partnership looks like and how it could be mutually beneficial to both groups.
- GS then spoke to the Board regarding a brief history of the SEE Action Network and what its role is. SEE Action is the State and Local Energy Efficiency Action Network and is a state- and local-led effort facilitated by DOE and the U.S. Environmental Protection Agency (EPA) to take energy efficiency to scale and achieve all cost-effective energy efficiency by 2020. SEE Action offers information resources and technical assistance to state and local decision makers as they provide low-cost, reliable energy to their communities through energy efficiency.
- In the actual operations of SEE Action, there is an inevitable cross-over between State policy and Federal support of those programs. What is coming out of the working groups of SEE Action are recommendations for how the federal government should be working with the states on energy efficiency activities. The coordinator of SEE Action, Johanna Zetterberg, will be visiting STEAB on Thursday morning with a proposal to create a sub-committee to STEAB that is a SEE Action Sub-Committee. It would be comprised of those STEAB members already part of SEE Action. That way, recommendations out of the network would come through the Sub-Committee for consideration and eventually through STEAB for full Board discussion and debate. STEAB would focus on those recommendations would pass the most effective ones on to EERE.
- GS asked if there was a motion to establish a SEE Action Sub-Committee to the STEAB. FM motioned and PGD seconded. GS asked about any discussion or debate about this motion. TC asked to what extent the sub-committee would be interacting with other STEAB Task Forces or groups. GS indicated that SEE Action is heavily deployment focused, but not really involved with WAP. JS indicated that SEE Action does mostly blueprints and guidebooks. A lot of the ideas that grow out of that creation are policy ideas that need to go to DOE. That is the role the sub-committee would play.
- GS and JS called for a vote to establish this group. On Wednesday, June 27, 2012 the STEAB unanimously agreed to create a SEE Action Sub-Committee.

Overview of Activities Related to DOE Outreach and Public Engagement

- The next presenter was Jason Walsh. Mr. Walsh focuses on public engagement for EERE and is working on outreach from EERE. His goal in this role is to figure out how EERE can publicize and effectively tell the RE and EE story, while also building a better partnership with stakeholders to work together towards creating better policies for the deployment and implementation of RE and EE technologies and advancements. He recognized that DOE was not effectively telling the renewable energy story and often DOE reacted to press instead of creating their own. His goal is to make DOE proactive and affirmative, and then have those stories be repeatable at the state and local level so we can maintain momentum about the successes of clean energy.
- The other aspect of his job is how to use EERE to leverage and reinforce support for deployment efforts at the state, local and regional level. DOE does not have a clear vision about how to do this that is a major goal of Mr. Walsh's. He believes the best way to do this is to coordinate with STEAB and make sure EERE is taking advantage of the Board's expertise and contacts on the ground. That is the crux of stakeholder engagement and communication. It is all about changing DOE to be more outward facing and engaged with the invested partners and stakeholders.
- PGD asked about the Cathy Zoi initiative of the Energy Empowers website and how that site used to publish success stories online. He asked what became of that and was it successful as he and other members of the Board have not heard anything about that site for the last 18 months. Mr. Walsh responded by saying that site is no longer active, and the lesson learned there was that just by putting information up on a website did not generate the follow-on stories EERE was hoping for. Feeding the DOE Public Affairs folks stories doesn't work, so that is why his focus is engagement on the local level to find and promote public interest stories as well as true success stories about the creation of American jobs or actualized energy savings.
- MK commented that the concept of shared success, which Mr. Walsh is advocating, is key. DOE needs to tie in the success of federal programs to states. Partnership is founded on the basis of mutual trust and states need to trust DOE. He recommended the first thing to do is start placing value on this idea of mutual contribution and mutual gains, and to focus on

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a few concrete areas where this broad vision can reach a broad audience. Mr. Walsh agreed with MK and reiterated a sense of shared ownership on these success stories is needed.

Discussion on Energy Finance

- Richard Kauffman from DOE spoke to the Board about energy finance and what the end of ARRA means for EERE Programs and projects. Most of ARRA funding is going to be gone soon and the removal of support programs because of this shows what is going on with RE projects. With renewable energy we are financing with non-capital markets. We are finding extremely expensive finance mechanisms to fund these projects. We now have to worry about the capital for small loans because the amount of money needed for RE projects is huge, and small loans are not a long-term answer if RE needs to get to scale. EE and RE projects pay in yield and that is what investors want; investors look for yield. The challenge today is that money is not flowing into these yield projects and that is what Mr. Kauffman is working on.
- There has been a bill introduced in the Senate for a rate to be created for a certain portion of the RE industry. The key point is to create an evolution of financing from non-capital to capital market sources. The current financing structure does not really exist and does not operate like the rest of the economy with regard to EE and RE projects. Why isn't there a bond market for EE and RE projects? In order to create a bond market, you need to have the ability to aggregate projects together to create the size project that a bond market needs. Data is also needed. Another thing DOE is working on is with the Defense Department. Each branch of the service will procure a GW of RE, and start standardizing services as the small users in industry cannot stand up and leverage standard contracts with the utilities. Smaller RE end users are not big enough, but the different branches of the military can work on this together to help standardize practices and the integration of RE.
- The final thing DOE is working on is what is going on with states. In states, projects are local and regulation is local and it's easier to draw on private capital by public-private partnerships. Given that, there is a limited amount of money these areas to spend on RE projects. DOE has been working with a number of states interested in being the local authority. The idea is that DOE will work with different states to develop a standardized contract, data collection process, and financial as well as business models. Those can then be replicated in other areas. States are interested in how to actually do this, and so DOE is working on a playbook of how you implement different financing mechanisms. The goal is to figure out what the eventual architecture looks like for replicable programs like this, with the goal of it being a capital market solution.
- GS added that those states which have revolving loan funds or utility support for WAP, DOE is looking at existing cost funds instead of new funds, and shifting those funds from being utilized for direct loans to the investment authorities. DOE estimates it can get to critical mass and then into capital market entry. The key is to figure out how to bring all this to the table to get that capital market entry.
- DT mentioned that he encouraged DOE to utilize NASEO's task force to this end. These groups walk through the country state by state and that how-to helps NASEO answer a lot of these exact questions. One of the things that states need is peer-to-peer information and discussion is more helpful than a manual that DOE is thinking of providing.

STEAB Discussion on Next-Steps and Follow-Up

- Following-up on the financing presentation, the Board continued talking about making sure that any new financing mechanisms are standardized and data demonstrates an ROI on these investments. As Mr. Kauffman was discussing, there has to be a yield on these projects which can then lead to capital market share. TC asked if anyone has been looking at how to use carbon credits to finance projects. GS indicated he personally feels there is real money there but it has not been fully explored yet.
- JS then asked the Board to turn their attention back to focusing on the discussion of demonstrating the DOE the value of partnering with states and viewing states not as stakeholders but as partners. MK defined partnership as a shared vision, shared mutual interest and shared goals. JS reminded the group that PGD suggested writing a letter to Dr. Daneilson about partnership and provide examples of how this would be mutually beneficial. Conversation continued where comments were made by members such as "states are not stakeholders to EERE, but partners in the system." Members recognized that states are aware of local economic conditions and can act as strategic partners to EERE with regards to commercialization and deployment. Before that can happen, however, there has to be an attitudinal shift in thinking at DOE to where they see states as partners and understand the activities and resources of the SEO's and other offices.
- Additionally, during this discussion three key themes kept arising. These were as follows:
 - partnership,
 - deployment, and
 - innovative financing.
- These key areas are going to be integrated into a letter to Dr. Danielson immediately following the June meeting. DT, MK and FM will work on writing the letter and it will include information about STEAB's interest in being involved in the

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strategic planning process via a small contingent of STEAB members meeting with a small contingent of EERE Sr. staff to begin a dialogue about where STEAB feels EERE should be moving and get an idea of where EERE feels it wants to go.

- Comments specifically about partnership centered around making EERE see the value of the states, educating DOE about what occurs in the states and the resources which SEO's have access to that can aid and promote deployment and commercialization. Also, defining partnership as a "shared vision, shared mutual trust and shared goal" would demonstrate how connected states are to EERE already. Comments about deployment circled back to the Labs and the need for a single point of contact within EERE to liaise with Labs and states to promote deployment and assist with identifying test markets for emerging technologies. To facilitate deployment, commercialization has to also be a greater focus for EERE and new modeling or more innovative ideas are needed.

Wind and Water Program Overview

- Jose Zayas (JZ) presented on behalf of the Wind and Water Program (WWP). He gave a brief overview of the goals for the Program including generating 80% of the nations' electricity from clean energy sources by 2035, reducing carbon emissions, promoting energy security, improving performance, lowering costs and accelerating the deployment of Wind and Water Power technologies.
- The Wind Program Portfolio consists of land based, offshore wind and distributed wind generations. He noted the wind program is focused on transformational innovation. The Water Power Program consists of marine and hydrokinetics (MHK) and conventional hydropower (CH). The goal of that program is to research, test, and develop innovative technologies capable of generating RE and environmentally responsible electricity. The discussion turned to an overview of MHK technology and how early designs were very technologically different. DOE investment in MHK will identify leaders in R&D and leverage research pathways to create more efficient MHK designs. DOE is also looking at wave technology leaders in the US to determine the best capabilities of what is already in the marketplace. Significant sustainable wind resource potential, which is greater than 10 x the current total U.S. electricity consumption, has been determined based on wind resource studies.
- Mr. Zayas discussed ways that the EER Wind Program helps to increase the speed of innovation, and how it is collaborating with other offices and agencies to solve complex soft-cost issues like siting and permitting as well as addressing market barriers to the industry. There were major accomplishments under ARRA including the creation of the Continuous Reliability Enhancement for Wind (CREW) Database, and the creation of new testing facilities in Massachusetts, South Carolina, Minnesota and other locations. He did address some of the challenges including getting these technologies to scale, and dealing with meteorological issues.
- GS asked if WWP considering manmade waterways in the R&D and technology portfolio. Ms. Zayas responded they are ensuring manmade waterways in their portfolio and justifying them via a stable federal role. Mr. Zayas mentioned WWP accomplishments included finishing the peer review process for the Wind Peer Review. That was a public meeting held in Northern Virginia. There were several questions occurring during the peer review such as why are they doing such vast off-shore research, and why the wind power program going away. The response was that no, the wind power program will not be diminished. FY 12 will become a record year in the aspect of installations by launching an offshore program. The Program is currently in the process of reviewing four projects relevant to a win-plan performance.

SEE Action Network Activities

- Johanna Zetterberg from SEE Action spoke to the Board about the activities and recent happenings of the network. SEE Action was getting ready to host its large Executive Meeting later in the summer and Ms. Zetterberg is excited to hear the STEAB has created a SEE Action Sub-Committee to the STEAB. She is anxious to make this announcement at the upcoming meeting and will be sure that the working groups pass along any policy recommendations to the sub-committee for consideration. There are currently 8 working groups within SEE Action. They are the Existing Commercial Buildings, Customer Information and Behavior, Building Energy Codes, Financing Solutions, Industrial Energy Efficiency and Combined Heat and Power, Evaluation, Measurement and Verification group, the Driving Ratepayer-Funded Efficiency through Regulatory Policy group and the Residential Retrofit working group. She reminded the Board that SEE Action is a combined effort between DOE and EPA and that mostly these groups help to provide technical assistance and informational resources to states and entities who are looking for assistance in these areas.

Public Comments

- The meeting then turned to the STEAB public comments portion of the meeting. Seeing as there were no members of the public present at the meeting, and neither the DFO nor contractor support received information or comments from the public to be read at the meeting, GS asked for any final comments. Seeing as there were none, he then closed the meeting to public comments and moved on to any other STEAB wrap-up items.

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Board Wrap-Up

- GS asked if there were any additional business to discuss. JD reminded the group that there would be a SEEP Working Group call in July and hopefully the MOU between DOE and USDA would have been signed at that time and the group would provide an update to the Board on the July teleconference call.
- GS reminded the group that the July call would be held on July 19th at 3:30 pm eastern time.
- MK let the Board know that he and DT and FM would be drafting the letter to Dr. Danielson and that it would be circulated for comments before being sent out to EERE.
- GS thanked everyone for coming and asked if there was a motion to adjourn the meeting. VC motioned, and MK seconded. GS asked for a vote and the Board voted unanimously to adjourn the meeting at 11:00 am on Thursday, June 28th.

Minutes were scribed by Emily Zuccaro and Felicia Der, contractor support for the STEAB.