New Jersey State Employment and Training Commission
State Energy Sector Partnership (SESP) Council
February 22, 2011
Minutes

I. Welcome & Introductions - Dennis M. Bone, Chairman, New Jersey State Employment and Training Commission

The meeting was called to order at 8:40 am by Chairman Dennis Bone with a welcome to all, and a thank you to Sally Nadler and PSE&G for hosting the meeting.

Chairman Bone then reviewed the agenda. He discussed the SETC's governance of the U.S. Department of Labor (USDOL) grant of $6 million, which focuses on job development in Renewable Energy and Energy Efficiency, or "green" jobs. This is an important industry sector in New Jersey and is closely tied to the state's economic development. To date, the SETC has offered two Notices of Grant Opportunities (NGOs) and has allocated approximately $700,000 to sub-grantees for training in Renewable Energy and Energy Efficiency. However, the economy has shifted since the grant was awarded in 2009, and the industry and its associated jobs have changed. The Bureau of Labor Statistics has also provided a new, expanded definition of a "green job." Therefore, the Council will be reviewing a draft grant modification request today, which will adjust the grant parameters to accommodate these new conditions. All members will be asked to provide their input for this modification request, to be submitted to the USDOL.

Chairman Bone announced that the Council also would hear from an expert industry panel today; three business leaders will share their perspectives on the occupations and skills essential to their industries right now, and in the future.

A motion was made to approve the minutes from the October 19, 2010 meeting and the minutes were unanimously approved.

Roundtable introductions were initiated and Chairman Bone introduced the three energy industry panelists: Scott Needham, President of Princeton Air Conditioning, Terry Sobolewski, Business Development Manager for SunPower, and Robert Healey, President of Viking Alternate Energy (VAE) and Assistant to the Chairman of Viking Yacht.

II. Industry Panel: Discussion on Demand and Emerging Occupations/Skill Needs

Princeton Air Conditioning - Scott Needham, President:
Mr. Needham began his presentation by noting that Princeton Air Conditioning recently received an SESP grant, for Building Performance Institute (BPI) training. BPI is a governing body and a national standards organization. BPI offers certification for employees who conduct energy audits. The SESP grant to Princeton Air Conditioning was timely, as the late-

winter and early-spring are "shoulder" months, where business demand is lighter; the company is therefore able to schedule its employees to attend training now.

Mr. Needham indicated that 2009 and 2010 were the best years ever for Princeton Air Conditioning; the company grew by 20% and added 14 employees. This growth was partially the result of incentives offered to customers through federal and state programs. The incentive programs ended in April 2010 but business has continued to flourish. The company is now trying to determine what future demand will be, and what type of workforce and skills will be needed.

The current SESP grant provides Princeton Air Conditioning employees with training at Isles in Trenton, in the areas of energy auditor and heating professional. BPI has created "field certifications" for air-sealing and insulating homes. Until now, no standards or certifications existed for these areas. Mr. Needham also discussed the work of office staff at Princeton Air Conditioning who take the auditors' reports and load this information into building modeling software.

New areas for development at Princeton Air Conditioning include geothermal and solar thermal products. Mr. Needham noted that there is an existing 30% federal tax credit for geothermal components of their jobs, with no cap on the dollar amount. There is currently a strong market in New Jersey for geothermal products, since geothermal options are affordable for homeowners and show a real return on investment. HVAC contractors throughout the state are quickly getting into the geothermal business, since it is an easy upgrade from their current business.

SunPower – Terry Sobolewski, Business Development Manager:
Mr. Sobolewski provided background information on SunPower. The company was established in 1985 and has 5,500 employees. SunPower is a solar energy developer with 85 patents to date. The company focuses on large, non-residential projects – utility scale installations, grid link-ups and commercial installations. The company operates worldwide, and generated $1.5 billion in revenue in 2009. SunPower is based in California, but New Jersey is home to its East Coast region headquarters, with a fully-staffed office located in Trenton that includes general management, sales, project management and marketing staff.

The U.S. solar industry supported 17,000 new jobs in 2009. Mr. Sobolewski noted that New Jersey is the second largest solar energy market in the country; California is the largest. He indicated that New Jersey has had some utility-segment installations, but since land is at a premium here, it is not expected that there will be vast expanses of photo-voltaic (PV) fields located here.

The solar market in New Jersey is growing fast, with more than 3,500 direct jobs (not including manufacturing jobs) and more than 14,000 indirect jobs. As of 2010, there were 200 solar energy companies in New Jersey. Mr. Sobolewski recognized Petra Solar as a key solar manufacturer here in New Jersey; there are few solar manufacturers located in the state.

Despite this positive growth, Mr. Sobolewski noted that the market has transformed as the available customer rebates have decreased. However, the Solar Renewable Energy Certificate (SREC) market in New Jersey is now more scale-able and should support job growth and demand. Installations account for 75% of the solar jobs created in New Jersey. These are mostly construction and electrician jobs, which are local jobs that cannot be outsourced. The solar industry also creates some engineering, design and grid-integration jobs. Mr. Sobolewski remarked that solar energy is manpower-intensive and results in higher job creation than many other energy industries. Finally, Mr. Sobolewski referenced a 2005 study which found 42 energy component companies in New Jersey that could be serving the solar industry, showing that the solar market fuels job growth across multiple industries.

Viking Alternate Energy (VAE) and Viking Yacht - Robert Healey, President of VAE and Assistant to the Chairman of Viking Yacht:
Viking Yacht is a family company that has been operating for 47 years. It is located in New Gretna. Viking Yacht has 600 employees now, operating four yacht assembly lines. When operating at full capacity, the company employs 1,300 people.

Mr. Healey indicated that Viking Yacht has been working for years to "green" its manufacturing processes. The only pollutant still involved in the process is polyurethane, which is an air pollutant. Viking is currently switching to a vacuum process for the application of the polyurethane, which will result in 100% recapture.

Viking Alternate Energy is located in Lumberton. It is a relatively new business that focuses on solar power and serves both residential and commercial customers. Mr. Healey noted that Viking has good cash reserves which allow them to serve a variety of customers, since financing is often needed. The company also works with Wells Fargo bank; this is a valuable partnership since this lender has a full understanding of the SREC market. Mr. Healey indicated that it would be helpful if the State could educate more lenders about the SREC market, in order to support the solar industry. Mr. Healey indicated that PSE&G's loan program is a terrific tool, but is somewhat limited in its use since customers must provide 40% of the total cost in order to install the system; many customers do not have these resources. Mr. Healey noted that there is a state guaranteed funding mechanism, which provides a guarantee on loans made to customers for solar installation projects.

Finally, Mr. Healey discussed some challenges that impact the industry. In some areas, local ordinances in New Jersey may act as barriers to solar installation projects. Also, the length of time required to get a permit can vary widely from one town to another: one town may process a permit request within 2 weeks, while another may take 10 – 12 weeks, and in the worst cases, some towns may take as long as 36 weeks to respond.

The floor was then opened for questions. Members discussed the use of New Jersey manufacturers in the green energy supply chains. Gary Finger, attending on behalf of Lee Solomon, President of the NJ Board of Public Utilities (BPU), indicated that at a recent meeting with bankers, the BPU had discussed the need for loan programs to support solar energy installations, in place of the home equity loans that are typically used. The BPU staff

urged the lenders to consider creating such programs. The BPU also will be meeting with the NJ League of Municipalities in early March to work on local ordinance issues.

Mr. Needham noted that Princeton Air Conditioning had been working with AFC First Financial in Pennsylvania, which provides residential energy-efficiency and renewable lending and rebate programs. This would be a good model for New Jersey to replicate. Mr. Needham also discussed the need to collect data on Renewable Energy/Energy Efficiency loans, to ascertain whether these loans are better performing than other types of loans. This data could then be shared with the banking community, to bolster support for green energy installation loan programs.

Members asked the panelists if their companies were able to find well-trained candidates to fill their jobs in New Jersey. Mr. Sobolewski indicated that in terms of installation staff, the talent has been available, but the staff still needed training on internal policies and the SunPower Oracle system, which lengthened their ramp-up time.

Members asked the panelists to describe the skills needed for the office/support jobs at their companies. The needed skills include knowledge of e-mail systems, online forms, customer service, billing, and specific office systems like the "building modeling" software used by Princeton Air Conditioning. Mr. Needham noted that Princeton Air Conditioning relies on its existing staff to train new hires; this results in a temporary loss of productivity as it takes the staff away from their regular work. At SunPower, learning the Oracle system and its specific Renewable Energy/Energy Efficiency applications is critical. Although this is the same Oracle system used in other industries, such as pharmaceutical, the application in the solar industry is very different.

Members discussed the support provided to green energy industries by the NJ Department of Labor and Workforce Development (LWD) customized training program. Through this program, Princeton Air Conditioning hired seven trainees from Isles and the program covered 50% of the cost of the employee wages for six months. This was of great assistance to the company, and all seven employees are still with the company today. Maureen O'Brien Murphy noted that the grant modification request to be discussed later includes a new On-the-Job Training (OJT) component, which assists companies in much the same way as customized training.

Members asked the panelists to discuss the pipeline of future workers, and to share their projections for future demand and needed skills in the next 5, 10 and 15 years. The panelists agreed that construction jobs for green energy installations will continue to be in demand. Project management skills will be critical in the future as well. If Photo-Voltaic (PV)/solar manufacturing is supported in New Jersey, then workers with engineering degrees also will be in high demand. Electrical engineering skills will be needed, and may be obtained through vocational training or degree programs. Experience in PV array design, ground-mounted installations and geo-tech analysis were also noted as future demand skills. The panelists noted that strong interpersonal skills and math skills were vital for all jobs in the industry. Carpentry skills are applicable across many of the jobs in solar energy.

Finally, members discussed certifications for solar installers. There is a national certification agency for PV solar installers. Members asked whether state and local municipality projects require companies to employ certified PV solar installers in order to bid on their projects. State-funded projects typically require BPI accreditation for the company, which deals with oversight and auditing. Ms. O'Brien-Murphy indicated that the employers she has worked with have not indicated that specific solar installer certifications were needed in order for the companies to bid on contracts. The panelists noted that the scope of work for the project can impact the certification requirements for the bidders.

III. Review of Draft Project Modification – Robin M. Widing, Acting Executive Director, SETC and Maureen O'Brien-Murphy, Senior Policy Analyst, SETC

Proposed Project Modification: The draft modification request was provided to the Council members in their meeting packets. The modification request is being submitted to the USDOL as a result of the market changes which have occurred since the original grant application was submitted in 2009. The modification will fine-tune the grant and align it with the current market. There is a four- to eight-week process to get approval of the modification request. The grant modification should be as expansive as possible, to allow for fluctuations in this dynamic market.

Many of the jobs for which training courses were originally identified in the grant have not materialized, or the training programs were duplicative of other LWD and state programs. The Economic Development Authority (EDA) and LWD staffs have worked together to identify new areas of growth in the Renewable Energy/Energy Efficiency sectors, and have been redefining "green jobs" based on the new definition from the Bureau of Labor Statistics (BLS). Also, Bob Loderstedt has provided useful insights on the manufacturing industry, and the modification request will seek to include training programs to support manufacturers, like Viking Yacht, who are incorporating green processes in their business.

Maureen O'Brien-Murphy reviewed the modification request. The red text will be removed; the blue text represents modifications; and the green text represents new courses. She noted that in prior discussions, the Council members recommended against including project management and office skills in the training programs. These programs have therefore been marked for removal in the grant modification. Members discussed the need for project management skills, the resources to provide these skills already available in the market, and whether the grant should provide for such training. While all agree on the value of such skills, the SESP grant isn't an appropriate venue for these course, such courses will continue to be funded by other resources.

Members discussed other items modified in the request, including more BPI training and ISO training, the future need for geothermal heat pump training and the issue of solar credentialing. Ms. O'Brien-Murphy indicated that the bulk of the grant contracts to date were for BPI-related training, approximately $400,000 in total, justifying the need for increased allocations of funds in this area.

Members noted the need for employer, worker and general public awareness of green energy programs and job opportunities; this grant does not provide for such outreach activities but these are available through other state programs and grants, including the Regional Economic Development Initiative (REDI) grant in Middlesex. This grant, operated by the Middlesex County Department of Workforce Development, includes career information sessions for high school students and presentations with employers to develop business talent networks. Members then discussed the need for youth career pathways education and curriculum development, however it was noted the SESP grant is limited to providing training leading directly to employment, and to the upskilling of incumbent workers.

Shihab Kuran, President and CEO of Petra Solar, discussed the development of Smart Grid technology; it is expected that the new Energy Master Plan for the state will focus on this area. There is the potential for $20 billion to be spent on Smart Grid technology over the next 10 years. "Smart Grid" is the automation of an energy grid, coupling commercial and residential energy flow. It is driven by information technology (IT) in various applications. Smart Grid technology is security driven, and involves networking applications as well. Mary Grikas, Dr. Kuran's colleague at Petra Solar, will send information regarding job titles and skills sets relating to Smart Grid technology to Ms. O'Brien-Murphy. It was noted that solar training providers received federal grants last year to develop Smart Grid training curricula, however none of these training providers are located in New Jersey. Schools involved in the curricula development include LeHigh University, Drexel University, and Carnegie Mellon University.

Chairman Bone indicated that if the new Energy Master Plan is published by the next Council meeting, it will be discussed and the Council's efforts may be re-focused based on the plan. However the grant modification request must be moved forward now, to facilitate spending of the grant funds in a timely manner. The grant can be modified again at a later date, if needed.

Members discussed linking the grant with K-12 education programs, and forming partnerships with post-secondary educational institutions to provide training. The SESP grant currently provides funding for undergraduate and graduate student fellowships (internships). The grant also could be linked with the NJ PLACE program, which evaluates training programs for college credit; this program has agreements with all 19 community colleges in New Jersey. Members requested that language be added to the grant modification request concerning fellowships (internships). Judy Savage with the NJ Council of County Vocational Schools will send this draft language to Ms. O'Brien-Murphy.

The new BLS definition of green will allow green manufacturing job training to be included in the grant, through Lean manufacturing training and OJT program funding. Training for office and administrative staff involved with green manufacturing could also be included under the BLS definition. Chairman Bone noted that Viking Yacht's work to reduce its emissions would now qualify as green jobs, under the new BLS definition.

Members agreed that it was important to proceed with the grant modification request now, as about one-third of the grant time frame has passed and the amount currently encumbered

represents about 12% of the grant funds. A third NGO will be released in March, to continue the grant funding efforts, without waiting for the grant modification request.

Chairman Bone summarized the Council's discussion of the draft grant modification request: information regarding Smart Grid technology and internships will be provided by Ms. Grikas and Ms. Savage to Ms. O'Brien-Murphy for inclusion in the grant modification request. The updated grant modification request will them be e-mailed to the SESP Council members for their information, and then submitted to the USDOL for its approval.

IV. SESP Council Member Updates – Dennis M. Bone

Shihab Kuran reported on the Networked Solar conference held in Jersey City on January 25 and 26. This conference, the first of its kind, focused on the convergence of solar and Smart Grid, and was hosted by Petra Solar with Greentech Media. More than 200 people attended the conference, including utility executives from around the U.S., energy investors, and several state representatives from the NJ Department of Education, the NJ Board of Public Utilities and the Economic Development Authority.

Dr. Kuran also announced that Petra Solar has launched a new Network Operations Center (NOC) which monitors all solar/Smart Grid assets throughout the world. This creates a new type of job in the solar industry, which combines office and networking/IT skills to monitor such assets.

Marie Barry, from the NJ Department of Education (DOE), reported that six pilot schools in New Jersey will offer career/technical curriculums around green construction, energy and design, beginning in September 2011. The curriculums begin in Grade 9. Dr. Kuran indicated that Petra Solar is supporting a "solar decathalon" for college students, which will be a national competition. This could potentially be linked with New Jersey's K-12 programs.

Sally Nadler, from PSE&G, discussed the solar and wind energy programs that are being created at Rowan University's technology center. She also reported that PSE&G is using brownfields and remediation sites for solar deployment. PSE&G has new solar installations in Edison, in Linden (a remediation site) and in Mercer County.

Jaime Ewalt, from the NJ Department of Environmental Protection (DEP), reported on three major DEP projects. The first is Offshore Wind energy: the projections are that 1100 megawatts (MW) of offshore energy will be ready by 2015. New Jersey has committed to creating this capacity, as it will drive both the supply of energy to the state and our economic growth. The new Paulsboro port will part of this project. Also, DEP is in the process of identifying existing manufacturers that can retool their processes to use offshore wind in their supply chain. Ms. Ewalt noted that it will be vital to create offshore wind training curricula to support this industry. The second project is "greening" the hospitality industry in New Jersey, using customized training grants and USDOL programs. The redevelopment of brownfields sites is the third project: the DEP is working on a grant from the US Environmental Protection Agency, to focus on revitalizing sites in the Camden area, in partnership with Camden County College.

V. Next Meeting and Conclusion

The next SESP Council meeting is planned for April 5, 2011. An ethics training session for SESP members has been scheduled to immediately follow this meeting. This training is particularly important in light of the SESP's oversight role with the SESP grant. All members of the Council are expected to participate in this training, unless they have already received ethics training provided by the State Ethics Commission. The training session will last about 45 minutes.

Members also were advised that a third-round NGO of the SESP grant is planned to be issued in March.

Chairman Dennis Bone thanked the Council members and concluded the meeting at 10:40 am.

Member Attendees – February 22, 2011

Barry, Marie, NJ Department of Education (for Acting Commissioner Cerf)

Bone, Dennis, Verizon NJ

Brady, Jane, Middlesex County WIB

Brennan-Tonetta, Margaret, Rutgers The State University of New Jersey

Ewalt, Jaime, NJ Department of Environmental Protection (for Commissioner Martin)

Finger, Gary, NJ Board of Public Utilities (for President Solomon)

Ielmini, Pete, NJ State Building & Construction Trades Council (for Mr. Mullen)

Kuran, Shihab, Petra Solar

Loderstedt, Robert, NJ Manufacturing Extension Program, Inc.

Nadler, Sally (for Mr. LaRossa)

Rieti, Dante, Cumberland County Office of Workforce Development

Santare, Robert, Champion Fasteners and Burlington WIB

Savage, Judy, NJ Council of County Vocational Schools

Schiff, Jill, Building Contractors Association of NJ (for Mr. Kocsis)

Tomenchok, Joann, US Department of Labor

Weaver, Kathy, Newark Alliance

Zilai, Debbie, New Jersey Resources (for Mr. Downes)

Guest/Staff Attendees – February 22, 2011

Alcalde, Matthew, Middlesex County WIB REDI Grant

Healey, Robert, Viking Alternate Energy

Hutchison, Sheryl, NJ State Employment and Training Commission

Grikas, Mary, Petra Solar

Needham, Scott, Princeton Air Conditioning

O'Brien-Murphy, Maureen, NJ State Employment and Training Commission

Rosa, Robert, NJ Council of County Colleges

Sobolewski, Terry, SunPower

Widing, Robin, NJ State Employment and Training Commission

Valeriano, Michael, NJ Department of Labor and Workforce Development, Labor Planning and Analysis