

Meeting Minutes – March 6, 2007
Sustainable Energy Utility Task Force
www.seu-de.org

Meeting Date: March 6, 2007

Meeting Location: Ewing Room, University of Delaware, Newark

Meeting Time: 11:30am

In Attendance

Task Force members:

Senator Harris McDowell, Chair

Dr. John Byrne, Co-Chair, Center for Energy and Environmental Policy

Representative Pam Thornburg

Representative Bethany Hall-Long

Representative Terry Schooley

Mr. Charlie Smisson, State Energy Coordinator

Mr. John Citrolo, representing the Public Advocate

Ms. Dominique Baron, Delaware Nature Society

Technical Consultant:

Ralph Nigro, Applied Energy Group and CEEP

Affordable Energy Working Group

Ken Davis, Delaware Weatherization Assistance Program Manager

Customer-Sited Renewable Energy Working Group:

Scott Johnson, Solar Dock

Brian Gallagher, Delaware Million Solar Roofs Coordinator

Members of the Public:

Representative John Kowalko

Bo Shen, Division of the Public Advocate

Steve Baccino, Delmarva Power

Paul Sample, Legislative Council

Ron Zink, Sierra Club

Joshua Cadoret, CEEP

John Flaherty, Common Cause

Mary Ann McGonegal

Task Force Staff:

Jason Houck, CEEP

Becky Walker, CEEP

MINUTES

Introduction

The Task Force adopted the February 20th meeting minutes.

Senator McDowell welcomed all present and introduced the day's speakers: Scott Johnson, Co-founder of Solar Dock, a Delaware-based solar installation company; Brian Gallagher, the Delaware Million Solar Roofs Coordinator; and Dr. John Byrne, Director of the Center for Energy and Environmental Policy. Each of their presentations is available at www.seu-de.org/documents.html.

Presentation

Scott Johnson, Co-Founder of Solar Dock, a local solar PV system installer, presented, "Photovoltaics for Delaware's Commercial Sector." (The slide presentation is available online at www.seu-de.org/documents.html.) Key points in the presentation included:

- A range of local commercial facilities currently host PV systems in Delaware. Examples of different commercial facilities include:
 - Owner occupied facilities (e.g. Allen Foods, AstraZeneca, DuPont, JP Morgan Chase)
 - Landlord or business owned facilities (e.g. McConnell Development, Harvey Development, Sara Lee, Chrysler)
 - Public facilities (State owned gov. facilities, schools, universities)
 - Brownfields
 - Offices (e.g. MBNA, Brandwine Realty Trust, Pettinaro)
 - Retail (e.g. Christiana Mall, Drug Stores, Local owners)
- Each of these facility types face challenges that prevent wider implementation of PV. Challenges:
 - Owner Occupied: Net-metering capacity limits; lack of rebates; payback periods; energy rates; coordinating with corporate facilities and finance departments.
 - Landlord/Business Owned: Net-metering capacity limits, lack of rebate; time to negotiate with various parties; warehouses pass-through electricity bills to tenants, but tenant leases are too short to encourage tenant investment; no concrete benefits for tenants.
 - Public Facilities: Net-metering capacity limits and rebate limits; public facilities cannot use tax benefits; facilities are prevented from signing long-term purchase power agreements; a REC program will encourage private investment
 - Offices: Net-metering and rebate limits, plus roof size may limit the value of power generated vs. power consumed.
 - Retail: Net-metering and rebate limits; electricity rates pass through to tenants.
 - Others (e.g. car dealers, hospitals, nonprofits, stand-alone buildings): Net-metering capacity limits are insufficient for facilities to use PV to alleviate demand charges.

- Electricity demand charges often represent a majority of a large facility's electricity bills. Current net-metering limits prevent many commercial facilities from installing PV system of sufficient size to help customers drop from one electricity demand class to another, sometimes eliminating demand charges altogether. Existing electricity rate structures can lower the value of PV for commercial customers since isolated instances of high demand can offset the peak-reducing value of solar PV.
- Considering only facilities with over 50,000 square feet of floor space, Delaware has 50 million usable square feet of roof space which can host 250 MW of solar PV systems. Delaware can host an additional 29 MW of PV systems on certified brownfields.
- Proposed changes to Delaware's PV regulations and incentives:
 - Increase net-metering capacity to 2MW like New Jersey, and allow large-scale solar installations. Benefit: Encourages more rapid development of local PV industry.
 - Create a solar REC market similar to New Jersey.
 - Create a solar set-aside in the State Renewable Portfolio Standard
 - Increase Green Energy Funding
 - Increase rebate caps for large commercial facilities.
 - Provide additional \$0.25/Watt rebate for locally made and installed PV.
 - Allow carry-over of net excess PV generation
 - Engage municipal electric companies
 - Allow state facilities to engage in long-term power purchase agreements for PV
 - Provide rebates for batteries to allow better demand-side management
 - Allow building owners to consolidate electric meters.

Presentation

Brian Gallagher's presentation, "Solar Hot Water in Delaware," also available at www.seu-de.org/documents.html, addressed the following topics:

- Brian provided background on solar thermal technology compared to solar PV.
- In the last 10 years, applications of solar thermal technologies have grown most rapidly in China, which now holds the majority of the world market.
- According to the 2003 Governor's Energy Task Force Report solar thermal has the potential to supply up to 25% of total residential energy sector energy use (50% of energy used for water heating, space heating and cooling).
- Solar thermal can supply up to 24% of the commercial sector's energy use, and 22% of the industrial sector's energy use (including process heating, refrigeration, space heating and cooling).
- Solar thermal is less expensive and requires less area per unit of energy than solar PV.
- Solar hot water technologies can heat water from 120° to over 200° F, and can be roof mounted or building integrated.
- Solar thermal is a good match for rental housing and leased commercial space.
- Purchased power agreements are increasingly common for solar thermal and PV.
- Barriers to increased use of solar thermal:

- Higher initial capital costs than traditional fossil fuel technologies
- History of inferior installations in the 70s and early 80s
- Lack of awareness of today's high quality and varied applications
- Allure of PV overshadows solar thermal
- Solar thermal not an eligible resource under Delaware Renewable Portfolio Standards
- Recommendations:
 - All solar thermal applications (except pool heating) should be eligible under the RPS since solar thermal can displace electricity use.
 - Require metering of solar thermal energy savings for RPS eligibility
- SEU Activities for Solar Thermal Applications
 - Market identification and assessment
 - Buying pool/aggregation of small users
 - Low-interest loans
 - Lease-to-buy for small users

Presentation

Dr. Byrne then presented, "Proposed SEU Operating Budget and Financing Mechanisms." The presentation is available at www.seu-de.org/documents.html. Dr. Byrne began the presentation with an overview of the SEU's market focus and goals. Key points addressed in the presentation include:

- SEU Energy Efficiency Performance Goals by 2015:
 - Help participating Delawareans use 30% less energy – in homes, businesses, and in cars and transportation services
 - Save more than 3.0 million metric tons of CO₂ through SEU-supported energy efficiency investments, a 15% cut in Delaware's Carbon footprint
- SEU Renewables Performance Goals by 2019:
 - Install over 300 MW of customer-sited renewables, including 200 MW from geothermal, wind, and solar thermal from an upgraded RPS, and 100 MW of solar electric from a new RPS solar carveout
 - Establish a 25 MW solar lifeline to serve 14,000 low and moderate income households with life-sustaining energy – 200 kWh per month at 5 cents/kWh
- Policy Agenda:
 - Upgrade the Renewable Portfolio Standard (RPS) to proven 'best practice': 20% by 2019 with a 2% solar carveout.
 - Increase the Green Energy Fund rate to 0.000356 cents per kWh – an 18 cent increase on the average customer's monthly bill.
 - Update net-metering standards
 - Create the Delaware Sustainable Energy Utility
- Assuming a 33% participation rate, the SEU's combined Energy Efficiency and Renewables Performance Goals can reduce Delaware's CO₂ emissions by 5.5 million metric tons by 2020
- Dr. Byrne then provided an overview of how Task Force Research Staff created one possible SEU operation scenario to demonstrate how the SEU can achieve energy savings targets using tax-exempt bonds rather than taxpayer support to

- finance SEU operations. He noted that the Task Force had instructed the Research Staff to find a financing model that would require no new taxes, no earmarks of State general revenues, and no general obligation bonding. Further, he noted that the Task Force indicated the model should depend, in the long run, on fees voluntary paid by clients for services rendered by the SEU.
- After reviewing bond-based financing used by the City of San Francisco, the State of Hawaii, and others to support market development of sustainable energy, Dr. Byrne and CEEP researchers investigated a strategy of floating a special purpose, tax-exempt bond, which they coined ‘Sustainable Energy Bonds.’
 - Modeling began with quantitative analyses of energy efficiency performance based on data and methodology established by the U.S. Energy Information Administration, the Delaware Climate Change Action Plan, and the Governor’s Energy Task Force.
 - Renewable energy market development was then quantitatively modeled using a new RPS schedule for Delaware (20% by 2019 with a 2% solar carveout) and results of from market penetration models used by the EIA to predict future RE sales.
 - Models were then created to process participation rate schedules (based on the experience of CA, CT, MA, NJ, NY and VT – see the Task Force’s *Briefing Book* for details; available at http://www.seu-de.org/docs/SEU_Full_Report.pdf), rebate schedules, equipment lifetimes and retirement rates, etc. for residential, commercial, industrial and transportation energy use in Delaware. When merged with the quantitative measurement tools created to estimate energy efficiency and RE development, a stream of program cost estimates was obtained.
 - Added to this stream were administrative, marketing and education expenses (based on the experience of the 6 above mentioned states)
 - Dr. Byrne then explained that the SEU has three service-based revenue sources to cover program expenses: fees from REC aggregation, shared energy savings, and the Green Energy Fund.
 - In its early years, SEU revenue from the GEF, shared energy savings agreements with the SEU and REC aggregation fees of the SEU will be insufficient to cover early SEU investment in services. This is due to the need to build a client base for the SEU and the need to pay fixed costs associated with start-up (including education and marketing).
 - During this period, to maintain positive cash-flow, the SEU can offer special purpose tax-exempt bonds. These bonds would not add to the State’s General Obligation Bond commitment. The SEU financial model presented to the Task Force shows that the SEU can achieve program targets with a total bond float of \$23 million (\$7.7 million at 5.2% over 5 years in Year 1 of SEU operation, and \$15.3 million at 4.9% over 8 years beginning in Year 5 of the SEU’s operations). A special purpose bond would not be subject to the State’s general obligation bonding cap. Interest rate assumptions are conservative given current municipal and corporate bond interest rates.
 - The Green Energy Fund plays a crucial role in supporting SEU programs in the first three program years, while shared energy savings and REC aggregation revenue accrues as the SEU reaches performance benchmarks.

Discussion

Representative Kowalko commented on the immediate need for low-income energy incentives. Dr. Byrne replied that the SEU proposal contains a plan for doubling the rate of weatherization of low- and moderate-income homes, as recommended by the Affordable Energy Working Group (chaired by Ken Davis). He also indicated that research was being conducted on the creation of a Solar Lifeline which would require no cost-shifting from one group of ratepayers to another (i.e., no subsidy to one group of ratepayers paid from higher prices to another ratepayer group). The Solar Lifeline program would seek to provide at least 200 kWh per month at an average price of 5 cents per kWh (current retail residential prices for electricity in Delaware are close to 15 cents per kWh), using solar electric systems which have the benefit of no fuel costs to be paid by consumers – ensuring stable long-term unit prices. The method of building this solar electric generation system to meet lifeline needs would involve business investment caused by incentives such as tax credits. Because a model for a Solar Lifeline is still under investigation, Dr. Byrne indicated that he could not give more detail at the meeting, but hoped to report on the idea at a future meeting of the Task Force.

Charlie Smisson, State Energy Coordinator, noted that Delmarva Power customers currently pay in the Green Energy Fund and he questioned if all Delawareans would be able to participate in SEU services. Senator McDowell replied that the Legislature will have to address this issue.

Senator McDowell then commented that the success of the SEU is dependent on four policy successes: passage of the SEU bill, upgrading the RPS with a solar carveout, doubling the Green Energy Fund, and improving net metering standards.

Senator McDowell emphasized that Delaware only risks the increase in the GEF. Since it would raise the average electric bill by only 18 cents per month, he called the SEU financing model presented by Dr. Byrne and the Research Staff “the 18-cent solution” to Delaware’s problem of unsustainable energy. He also noted that bond buyers would risk only \$7.7 million – the cost of the initial bond float – for a potential gain of the SEU and high performance achievements. If the SEU failed to meet its first 5-year goals, the 2nd bond float could be halted.

Dr. Byrne supplemented Senator McDowell’s remarks by noting that as modeled, early SEU success depends on attracting roughly 6% participation in SEU programs, a goal that should be readily realized if the experiences of the 6 states studied for the Task Force are considered to be applicable.

Senator Simpson asked about the sensitivity of SEU finances to participation in its programs. Dr. Byrne explained that participation, program expenses, revenue, and bond needs are all related. If participation is low, the SEU has lower program expenses and bond needs, but also has lower service-based income. Ultimately, the SEU must find ways to meet participation targets if it is to enjoy long-term viability. Senator Simpson’s concern is therefore a key one for the SEU Oversight Board to monitor.

In response to a question by Mary Ann McGonegal regarding how the Task Force can intervene in ongoing PSC hearings, John Citrolo, Division of the Public Advocate (DPA), commented that the DPA has already filed comments to the PSC. Mr. Citrolo indicated that even if half of the SEU's savings occur there will be no new need for HB6 generation.

Senator McDowell also noted that the Task Force has filed as an intervenor in the IRP docket and intends to present its findings and projections to the PSC.

The Task Force agreed to discuss the final report at the subsequent meeting at a date to be later determined.