Delaware Sustainable Energy Utility Oversight Board
Executive Committee Meeting
Room 219, Trabant Center, University of Delaware, Newark
9:00 am, May 9, 2009

ATTENDANCE

Executive Committee Members
Sharron Cirillo, Public Accountant
Collin O'Mara, Secretary, Department of Natural Resources and Environmental Control
John Byrne, Center for Energy and Environmental Policy, Co-Chair
Senator Harris McDowell, Co-Chair

Board Staff
Frank Murphy, Attorney to the Board (called in)
Sean Finnigan, Delaware State Senate

Scribes
Anne Smart, Center for Energy and Environmental Policy
Cara Lampton, Center for Energy and Environmental Policy

Members of the Public
Casey Grabowski, TetraTech
Pat Todd, League of Women Voters
Brian Yerger, AERCA
Tom Noyes, Delaware Environmental Summit Organizing Committee
Mike Kretzger, Sol Sage Energy
Branch Heller
Brian Kramer, League of Women Voters
Scott Bradley, Bestfield Homes/Home Builders Association of Delaware
John Flaherty
Alan Muller, Green Delaware
Carol Overland, Legalectric.org

I. Welcome and New Business

Dr. Byrne began the meeting with an explanation of its purpose: to discuss the role of the SEU as an aggregator in the SREC market. A handout was distributed detailing a preliminary analysis by the SEU Contract Administrator (CA) which indicates the SREC market could be saturated quickly due to several upcoming large projects in the state. This could hinder the ability of residents and businesses to become investors in renewable energy if in-state SREC demand is materially reduced. The CA has recommended that the SEU address the need to maintain a reasonable Delaware SREC price. Dr. Byrne suggested that the SEU could employ its responsibility to aggregate SRECs in order to ensure a stable SREC market in Delaware.

To elaborate, Dr. Byrne provided a handout with calculations of the impact of 15 MW of PV projects on the near-term SREC market, which is a possible scenario based on current demand and proposed projects in the state. This evaluation indicates that there could be an oversupply of SRECs through 2015, which would limit the ability of residents and businesses to sell SRECs in the state.

Dr. Byrne proposed that a portion of the SRECs for larger projects could be assigned to the SEU and then banked and sold three-five years later when the RPS ramps up utility demand. This would preserve the opportunity for residents and businesses to sell SRECs over the next three-five years at a reasonable price. Another option would be for the SEU to aggregate and sell SRECs into the Pennsylvania compliance market.

This issue must be addressed in a timely manner because the City of Dover is about to announce a large solar project that could potentially flood the SREC market in the future.

Secretary O'Mara agreed that near-term action is likely to be needed, and he also suggested that there may need to be a longer-term conversation.

Dr. Byrne asked for permission for the SEU co-chairs to communicate with the City of Dover regarding the possibility for the SEU to aggregate a percentage of the project's SRECs for sale at a later date to Delmarva Power or other buyers.

The Executive Committee agreed that the co-chairs can communicate with the City of Dover on the subject.

Dr. Byrne said that the size and financing of the project needs the SEU to be involved.

Secretary O'Mara asked about SRECs on the market right now. Dr. Byrne noted that Mr. Nigro in his letter indicated that 22 cents/kWh are the regional price for SRECs and those from Delaware are currently sold mainly to Pennsylvania.

II. Additional New Business

Secretary O'Mara presented a recent version of the McKinsey curve and suggested that the SEU package projects in a similar way so that it follows a "loading order" that gives priority to the most cost effective energy efficiency projects. Dr. Byrne stated that such an exercise was completed for the University of Delaware Carbon Footprint Study. He also noted that Dr. Arthur Rosenfeld, not the McKinsey consulting firm, should be credited with creation of the curve concept.

Senator McDowell stated that a mandatory audit for renewable energy projects might help.

Dr. Byrne recommended that an SEU program is designed in which renewable energy projects are bundled with an efficiency effort because this would lead to greater savings for the home or business. The SEU Executive Committee agreed to explore this idea.

III. Public Comment

Tom Noyes asked if Dover was interested in the SEU. Dr. Byrne reported that Dover is interested in using the SEU model during the early stages of this project.

There was concern that given the array of state, federal, and international agreements to bolster renewable energy investments, the SEU may face significant financial risk attempting to sell SRECs in the future. Dr. Byrne stated that the SRECs held by the SEU would depend upon there being a parallel contract with Delaware Power or another buyer to buy the credits at a later date. The SEU would not participate in SREC speculation; instead, the SEU would create a long-term contractual relationship to sell SRECs for compliance.

Carol Overland stated that there appears to have been decreasing demand for energy in the state. Some commenters posited that it was due to the state of the economy. Senator McDowell and Secretary O'Mara suggested that in addition to the effects of the economic downturn, this decrease also could be in part due to proactive efforts to increase energy efficiency and energy conservation.

Alan Muller asked if the SEU Board was proposing to slow down the Dover project. Dr. Byrne stated that the intent is to make the project serve the public purpose and saturating the SREC market would not best serve the public. He noted that the Board has no interest in slowing down the project. Rather, its mandate is to encourage projects, which requires that a healthy SREC market is operating.

Motion to adjourn passed unanimously at 11:44 am.

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May 7, 2009

Senator Harris McDowell, III
Secretary Collin O'Mara
Dr. John Byrne
Ms. Sharon Cirillo

SUBJECT: Solar Renewable Energy Credits for SEU

To the SEU Executive Committee,

Applied Energy Group, Inc. (AEG) was asked by the SEU Executive Committee to address how the SEU might play a role in aggregating and selling Solar Renewable Energy Credits (SRECs). As you know, the potential exists for the construction of several large, multi-megawatt, photovoltaic power systems in the near future.

There are currently two markets for all types of renewable energy credits, including SRECs. These are usually described as compliance and non-compliance markets. In this region, demand for SRECs is driven almost exclusively by compliance markets, which are tied to state renewable portfolio standards.

Our preliminary analysis of the regional SREC market outside of New Jersey indicates that prices typically range between $200 and $250 per megawatt-hour. Non-solar RECs sell at much lower prices, usually in the $4 to $20 range, depending on the resource. Although New Jersey SREC prices are substantially higher, they are not included in the regional averages due to a requirement in their state law for alternative compliance payment reciprocity. This has not been adopted by surrounding states, including Delaware. In Delaware, total PV installations are approximately 2.2 MW. This installed capacity is more than adequate to meet current SREC requirements of about 900 MWh per year.

We believe that the most logical first step is to establish the SEU as the State's SREC aggregator. As an aggregator, the SEU would purchase SRECs from voluntary participants, regardless of system size, and re-sell them to the highest bidders inside and outside of Delaware. This is currently the way that most SRECs are sold. In fact, some SRECs from Delaware are already being sold to buyers in Maryland and Pennsylvania. The SEU would retain a portion of SREC transactions in the form of a service fee. In this case, the SEU is providing a service that would allow easier access to the market for

SREC "generators." Using this approach, the SEU would not interfere with existing buyer/seller contracts, but would afford new participants easier access to the market. To encourage small system investments, the SEU could include a minimum floor price or fixed, up-front payments to acquire SRECs.

One immediate concern is that a single large PV project would cause an oversupply of SRECs, which would adversely impact the economics of PV systems by depressing SREC prices for in-state compliance in the short run. Using the SEU as an aggregator could help to mitigate this risk. The SEU could purchase "excess" SRECs and sell them in the regional market in the near term, but maintain the ability to sell them into the Delaware market when they are needed in later years. This could be accomplished through contracts with the major purchasers for future SRECs.

We expect to address implementation details as we move forward with our analysis of the SREC market, but we believe that the SEU can play an important role in the local and regional SREC markets.

If you have any questions, please feel free to contact me.

Sincerely,

Ralph M. Nigro, PE
Vice President
Applied Energy Group, Inc.

cc: S. Finnegan
F. Murphy

CEEP RPS Calculator

Initial Evaluation: Impact of 15 MW of PV Projects installed during 2009-2012
Prepared for the Delaware Sustainable Energy Utility Oversight Board

Year	kWh Sales	kWh Sales	RPS Solar %	Solar kWh	Solar kWh	Solar MW	Solar MW
Annual Sales Growth	2%	-1%		2% Growth Scenario	-1% Growth Scenario	2% Growth Scenario	-1% Growth Scenario
2007	6,571,829,203	6,571,829,203	0.000%	-	-	-	-
2008	6,703,265,787	6,506,110,911	0.011%	737,359	715,672	0.6	0.6
2009	6,837,331,103	6,441,049,802	0.014%	957,226	901,747	0.7	0.7
2010	6,974,077,725	6,376,639,304	0.018%	1,255,334	1,147,795	1.0	0.9
2011	7,113,559,279	6,312,872,911	0.048%	3,414,508	3,030,179	2.6	2.3
2012	7,255,830,465	6,249,744,182	0.099%	7,183,272	6,187,247	5.5	4.8
2013	7,400,947,074	6,187,246,740	0.201%	14,875,904	12,436,366	11.4	9.6
2014	7,548,966,016	6,125,374,272	0.354%	26,723,340	21,683,825	20.6	16.7
2015	7,699,945,336	6,064,120,530	0.559%	43,042,694	33,898,434	33.1	26.1
2016	7,853,944,243	6,003,479,324	0.803%	63,067,172	48,207,939	48.5	37.1
2017	8,011,023,128	5,943,444,531	1.112%	89,082,577	66,091,103	68.5	50.8
2018	8,171,243,590	5,884,010,086	1.547%	126,409,138	91,025,636	97.2	70.0
2019	8,334,668,462	5,825,169,985	2.005%	167,110,103	116,794,658	128.5	89.8

Year	Solar MW	SREC Demand MWh (compliance)	SRECs Created MWh	SREC Over-Supply	Solar MW	SREC Demand MWh (compliance)	SRECs Created MWh	SREC Over-Supply
Annual Sales Growth	2% Growth Scenario	2% Growth Scenario	15 MW Projects (3 yrs)	2% Growth Scenario	-1% Growth Scenario	-1% Growth Scenario	15 MW Projects (3 yrs)	-1% Growth Scenario
2007	-	-						
2008	0.6	737.36			0.572760191	715.67		
2009	0.7	957.23	6,500.00	(5,542.77)	0.750836542	901.75	6,500.00	(5,598.25)
2010	1.0	1,255.33	13,000.00	(11,744.67)	0.994322106	1,147.80	13,000.00	(11,852.20)
2011	2.6	3,414.51	19,500.00	(16,085.49)	2.731071384	3,030.18	19,500.00	(16,469.82)
2012	5.5	7,183.27	19,500.00	(12,316.73)	5.801819772	6,187.25	19,500.00	(13,312.75)
2013	11.4	14,875.90	19,500.00	(4,624.10)	12.13283583	12,436.37	19,500.00	(7,063.63)
2014	20.6	26,723.34	19,500.00	7,223.34	22.00932637	21,683.82	19,500.00	2,183.82
2015	33.1	43,042.69	19,500.00	23,542.69	35.79748544	33,898.43	19,500.00	14,398.43
2016	48.5	63,067.17	19,500.00	43,567.17	52.96554961	48,207.94	19,500.00	28,707.94
2017	68.5	89,082.58	19,500.00	69,582.58	75.54747435	66,091.10	19,500.00	46,591.10
2018	97.2	126,409.14	19,500.00	106,909.14	108.253688	91,025.64	19,500.00	71,525.64
2019	128.5	167,110.10	19,500.00	147,610.10	144.5120258	116,794.66	19,500.00	97,294.66
			Over-Supply =	(50,313.76)			Over-Supply =	(54,296.67)