THE SUSTAINABLE ENERGY UTILITY:
A DELAWARE FIRST

A Report to the Delaware State Legislature
by the
Sustainable Energy Utility Task Force

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TABLE OF CONTENTS

Volume I: Final Report

LIST OF TABLES

LIST OF FIGURES

"ENERGY EFFICIENCY – OUR CHEAPEST AND CLEANEST ENERGY SOURCE."

"RENEWABLE ENERGY – SUSTAINABLE POWER MADE IN DELAWARE."

Senator Harris B. McDowell, III
Chair, Sustainable Energy Utility Task Force
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I. SUSTAINABLE ENERGY POLICY AGENDA FOR DELAWARE

Energy is a critical part of our modern economy. For over a century, the energy used to generate electricity, heat homes and businesses, and power our transportation system has come mostly from fossil fuels – coal, oil, and natural gas. As supplies of fossil fuels decline and prices rise and become more volatile,[1] and as the environmental problems associated with these fuels become evident,[2] the economic and environmental unsustainability of our current energy system is increasingly revealed.

Delaware felt the burden of unsustainable energy in 2006 when electricity prices in the State increased by nearly 60 percent. At the same time, world petroleum prices tripled to over $70 per barrel, driving up the costs of gasoline, diesel fuel, heating oil and propane. In June 2006, the Delaware General Assembly passed Senate Concurrent Resolution No. 45, creating the Sustainable Energy Utility (SEU) Task Force.[3] The purpose of the SEU Task Force is to conduct analyses leading to a policy agenda for a *sustainable energy utility*[4] for the State.

The key feature of the SEU Task Force's approach is its organization of a competing utility to harness cost-effective, end-use energy efficiency and conservation options and customer-sited renewable energy applications[5] across all sectors and fuels, including transportation. This is a major departure from conventional approaches addressing specific segments of the supply infrastructure or limited "silos" of end users. The SEU Task Force captures these alternatives by enabling and funding a competitive utility to cover the full incremental costs between standard and high-efficiency technologies and standard fuel services and those provided by distributed renewable energy applications. As described below, it accomplishes this with *no new taxes, no new bureaucracy and without the heavy hand of command-and-control regulation*.[6]

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[1] Between 1998 (when electricity and natural gas deregulation were legislated) and 2006, U.S. residential electricity prices increased by 38%, residential natural gas prices by 99%, residential heating oil prices by 200%, and gasoline prices (regular grade) by 146%. See U.S. Energy Information Administration, *Short Term Energy Outlook – Monthly Prices*. Available at: http://tonto.eia.doe.gov/steo_query/app/pricepage.htm

[2] The most recent report of the Intergovernmental Panel on Climate Change indicates evidence in support of a finding of human impact on climate that exceeds a 90% probability standard. See IPCC, (2007). *Climate Change 2007: The Physical Basis – Summary for Policymakers.* Available at: http://www.ipcc.ch/SPM2feb07.pdf Over 70% of the observed warming effect is attributable to fossil fuel combustion.

[3] Documents, minutes, agendas, and presentations prepared for the Task Force are available at: http://www.seu-de.org/index.html

[4] The *sustainable energy utility* (SEU) concept is defined in Section C on p. 1 of the Sustainable Energy Utility Task Force (hereinafter referred to as the SEU Task Force) *Briefing Book.* Available at: http://www.seu-de.org/docs/Section_C.pdf

[5] Customer-sited renewables are often called "distributed renewable energy sources" or "distributed renewables" – see the 2005 report by the University of Delaware's Center for Energy and Environmental Policy (CEEP), *Policy Options to Supported Distributed Resources*. Available at: http://ceep.udel.edu/publications/energysustainability/2005_es_policy_options_distributed%20resources%5B1%5D.pdf
Key advantages of customer-sited renewables are: decongestion of transmission and distribution lines, allowing the postponement or cancellation of costly upgrades; reduced outage rates; and reductions in energy related emissions (while new utility-scale renewable energy plants built to serve expected demand growth can slow the rate of future increases in CO_2 (for example), customer-sited renewables reduce the need for existing plant operation and avoid the need for future capacity increases, thereby directly lowering actual emissions).

[6] The SEU Task Force identifies a comprehensive mechanism for public oversight, with the Delaware Energy Office, under the direct supervision of the State Energy Coordinator, protecting the public interest as the sustainable energy utility evolves to serve the energy needs of Delawareans.

1.1 The SEU Defined

Energy efficiency and renewable energy have traditionally been associated with program-based education and incentives administered through utilities or government agencies. Programs of this type are driven by regulatory mandates, and focus mainly on regulated electricity and natural gas services. Programs distribute funds collected from utility ratepayers in the form of system benefit charges (SBCs) or other sources. Programs administered by utilities and government agencies accomplish a measure of efficiency improvements largely based on the amount of public funds given them. But incentives to respond to market pressure and to create sustainable energy businesses are not included and experience to date is that these develop haphazardly, if at all. In fact, for utilities there are often inherent conflicts with energy efficiency and customer-sited renewables.

Conventional energy suppliers are highly organized and able to market and deliver their products.[7] By contrast, energy users who are interested in improving energy efficiency or using renewable energy are faced with a fragmented array of equipment distributors, consulting firms, contractors, and energy services companies. The traditional approaches for supplying sustainable energy services do not address this problem.

The most important feature of the SEU is that energy users can build a relationship with a single organization whose direct interest is to help residents and businesses *use less energy* and *generate their own energy cleanly*. Directly put, the SEU becomes the point-of-contact for efficiency and self-generation in the same way that conventional utilities are the point-of-contact for energy supply.

- The SEU does not supplant other private-sector activities, but complements them by providing a focal point for energy efficiency and renewable energy information, expertise, and incentives. The SEU model will encourage inventors, adaptors and entrepreneurs to bring their innovations to the marketplace.

- The SEU is a public/private partnership that uses public funding sources and consumer savings, combined with private sector funds and management skills, to address the shortcomings of traditional approaches.

Figure 1.1 describes the structure of the SEU as conceived by the SEU Task Force.

[7] The energy supply industry in the U.S. and elsewhere has received significant and sustained subsidies over the past century. See, for example: Richard F. Hirsh (2002) *Technology and Transformation in the American Electric Utility Industry* (NY: Cambridge Press); Vaclav Smil (2005) *Energy in World History* (Boulder, CO: Westview Press); and Byrne et al, eds. (2006) *Transforming Power: Energy, Environment and Society in Conflict* (New Brunswick, NJ and London: Transaction Publishers). The achievements and current costs of this industry depend upon past and current subsidies.

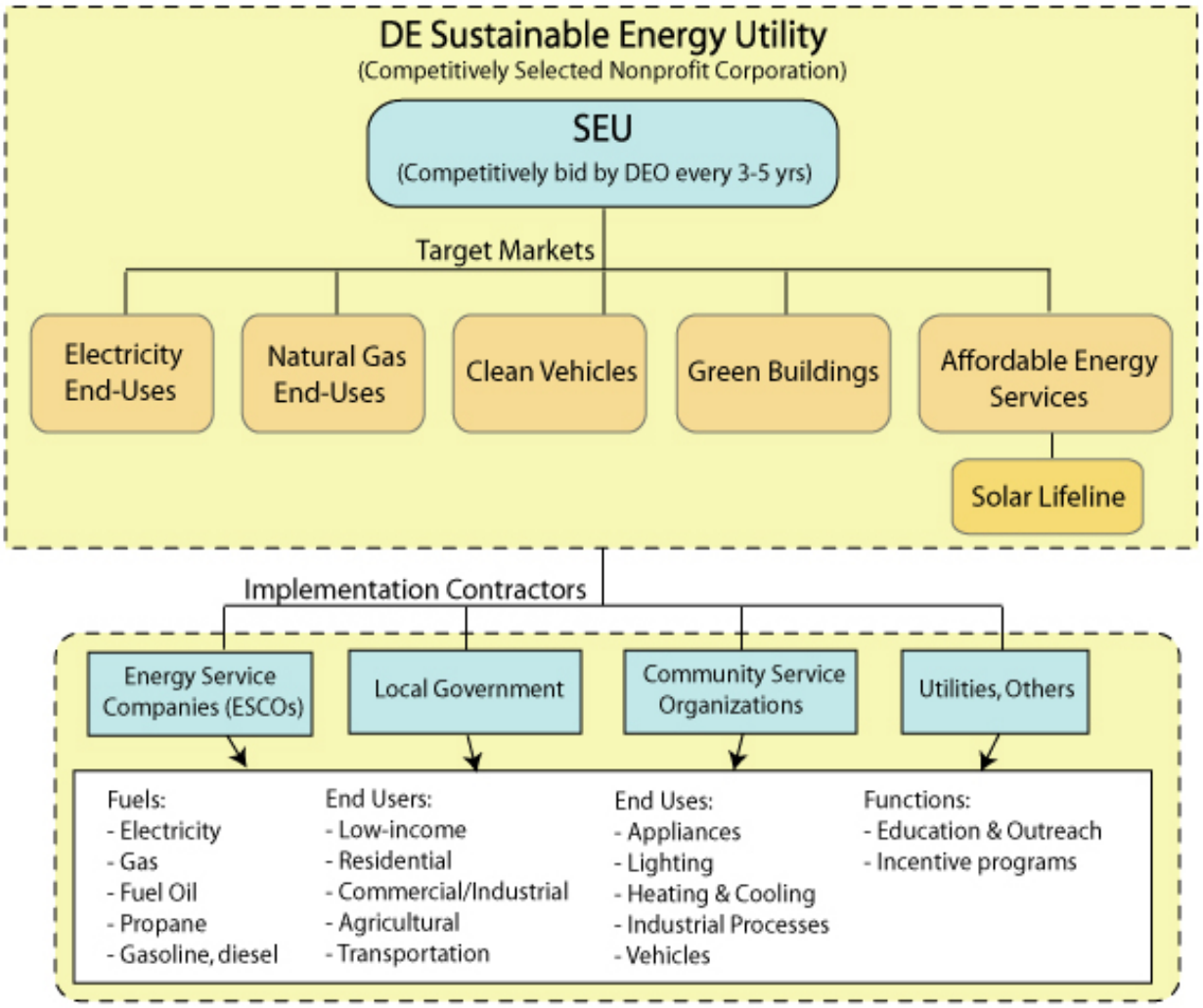


Figure 1.1 Organizational Chart of the Delaware Sustainable Energy Utility

1.2 The SEU's Goals

1.2.1 Energy Efficiency and Affordable Energy

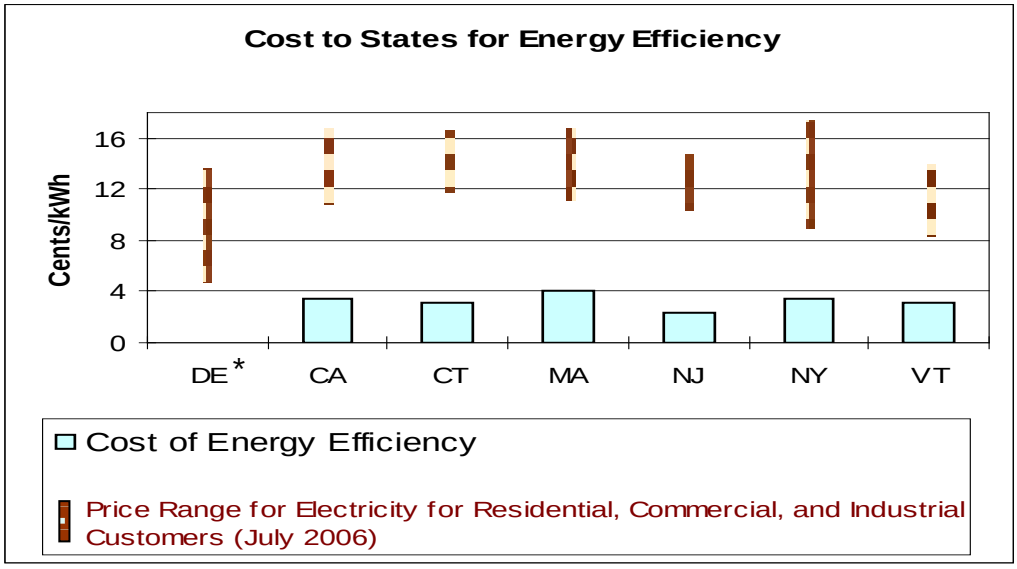
Based on statistics developed by the U.S. Department of Energy's Energy Information Administration (EIA), as well as analyses performed for the State's 2000 *Climate Change Action Plan* and the 2003 *Governor's Energy Task Force Report*,[8] Delaware can significantly improve statewide energy efficiency and decrease fossil fuel emissions while also reducing price volatility and avoiding energy price spikes.

[8] Both documents place the cost-effective potential for reducing energy waste in residences and businesses, using current technology, at 30%. Prepared by CEEP, the *Delaware Climate Change Action Plan* is available at the website of the SEU Task Force: http://www.seu-de.org/docs/DE_Climate_Change_Action_Plan.pdf The *Conservation and Efficiency Working Group Report* of the Governor's Energy Task Force is similarly available on the website of the Task Force: http://www.seu-de.org/docs/Governors_Energy_TF_EE_Report.pdf

Based on detailed analyses provided to the Task Force,[9] members adopted the following initial *Energy Efficiency Goal*:

- The SEU will produce a 30% reduction in energy waste by 2015 for each participant. The target assumes that approximately 33% of the State's households and businesses will be convinced by the SEU to participate by 2015. Savings will be distributed in approximately equal proportions across the residential, business, and transportation sectors.

Many states in the Northeast region consume far less energy per capita than Delaware, in part because they have created aggressive energy efficiency programs. These states include New Jersey, New York and most of the New England states. Task Force research indicates there is a sizable amount of "low hanging fruit" that can be harvested to reduce energy waste. In fact, the cost of saving energy is much lower than the cost of supplying additional energy, making energy efficiency the most cost-effective options. Based on the experience of 6 leading states in the development of energy efficiency programs – California, Connecticut, Massachusetts, New Jersey, New York and Vermont (each of which has operated programs for more than 8 years),[10] CEEP research for the Task Force estimates the cost of *saving electricity to be 3-5 cents per kWh*, while *electricity typically costs consumers 8-15 cents per kWh* (Figure 1.2).



* No data available. Delaware did not fund energy efficiency until July 1, 2006.

Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 1.2 Cost of Energy Efficiency vs. Price of Retail Electricity

[9] Analyses conducted for the Task Force were supervised by its co-chair, Dr. Byrne, the director of CEEP, and Ralph Nigro, Vice President of Applied Energy Group, who served as Technical Consultant to the Task Force. Research staff were: Jason Houck (who has also served as intern to the Delaware Senate Energy and Transit Committee), Rebecca Walker, Jackson Schrieber, Lado Kurdgelashvili, Huei Wong, Eric Partyka, and Ryan Harry (all are CEEP graduate students); and Dr. Aiming Zhou, CEEP Policy Fellow.

[10] See Sections F, G and H of the Task Force *Briefing Book*, available at http://www.seu-de.org/docs/SEU_Full_Report.pdf

As part of its toolkit, the SEU will also use incentive funds to encourage whole-building strategies to improve energy performance. Its Green Building Initiative will work with architects and building developers to identify special projects that merit SEU investment. This program will likewise observe a 30% energy savings goal, which is consistent with the *2030 Challenge* adopted by the American Institute of Architects.[11]

The second *Energy Efficiency Goal* focuses on the need for affordable energy for low and moderate income households:

- Energy costs for low income households account for a much larger proportion of household income than for others. Low income renters and homeowners also reside in homes that consume significantly more energy per square foot than other housing.[12] At the same time, there is a backlog of about five years for low income consumers eligible for weatherization projects to improve home energy efficiency. The rate of low income household weatherization should be doubled to address this backlog and increase home energy efficiency.[13]

1.2.2 Customer-sited Renewable Energy

The SEU Task Force considered the experience of 23 states who have adopted Renewable Portfolio Standards (RPS)[14] and assumes that the Delaware General Assembly in evaluating options for a renewable energy target for the SEU. Members adopted a 'best practice' policy competitive with New Jersey and other Mid-Atlantic states, which would mean an increase of the 2019 Delaware target to 20% of electricity sales and would include a 2% Solar Carveout[15] (which matches New Jersey's policy).

Based on this policy commitment, the Task Force set the following initial *Distributed Renewable Energy Goal*:

- The SEU will assist Delaware households and businesses in installing at least 300 MW of customer-sited renewable energy by 2019 through the use of incentives and other policy

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[11] See the presentation by David Wrightson of the Green Buildings Advisory Group to the Task Force. Available at http://www.seu-de.org/docs/Wrightson_AIA_Presentation_2-20.pdf

[12] See, for example, the recent report of the Oak Ridge National Laboratory (2007) *National Evaluation of the Weatherization Assistance Program*, available at http://weatherization.ornl.gov/pdf/Prelim%20Eval%20Plan-Feb%202007.pdf; and for Delaware, CEEP (2006) *Energy, Economic, and Environmental Impacts of the Delaware Low-Income Weatherization Assistance Program*, available at http://ceep.udel.edu/energy/publications/2006_es_weatherization%20program_evaluation_Delaware.pdf

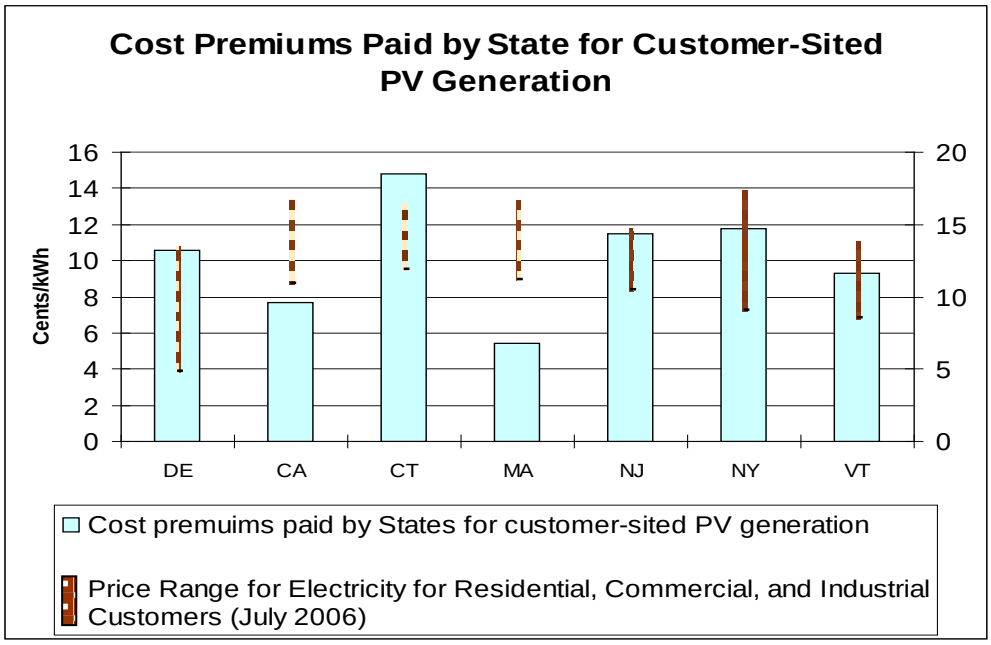
[13] The estimated backlog and recommended doubling of weatherization rates for low and moderate income households is based on the work of the Affordable Energy Advisory Group of the SEU Task Force, chaired by Ken Davis, Manager, Delaware Weatherization Assistance Program, Office of Community Services, State of Delaware – see http://www.seu-de.org/docs/Affordable_Energy.pdf

[14] See the website of the Database of State Incentives for Renewables and Efficiency at http://www.dsireusa.org/documents/SummaryMaps/RPS_Map.ppt

[15] A Solar Carveout has been adopted by 5 states (see http://www.dsireusa.org/documents/SummaryMaps/solar_DG%20RPS%20set%20asides.ppt) and requires electricity providers to obtain a fixed percentage of their electricity supply to a state by solar photovoltaic technology (commonly known as 'solar cells', which convert sunlight to electricity).

measures. These renewable energy systems will include at least 100 MW of solar photovoltaics and at least 200 MW of solar thermal, wind, geothermal, and other renewable resources.

To accomplish this goal, the SEU Task Force investigated policies and programs of the same 6 pioneer states – California, Connecticut, Massachusetts, New Jersey, New York and Vermont. who have successfully attracted rapid development of distributed renewable energy options. Based on CEEP research for the Task Force, it was found that cost premiums paid by states of 5-15 cents for electrical generation of solar electric systems are sufficient to allow the technology to compete with conventional generation (Figure 1.3). Much lower cost premiums are needed for solar thermal, wind and geothermal applications (in the range of 3 to 8 cents per kWh equivalent).[16]



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 1.3 State-paid Cost Premiums Needed to Match Retail Electricity Prices from Conventional Energy Sources

1.2.3 The SEU Policy Agenda

To create Delaware's *Sustainable Energy Utility*, the following Policy Agenda has been adopted by Task Force members:

- First, enact legislation creating Delaware's Sustainable Energy Utility. The SEU's charter will be based on three major goals:

[16] Based on presentations by members of the Customer Renewable Energy Group. See the report to the Task Force of Brian Gallagher, Delaware Million Solar Roofs Coordinator, available at (http://www.seu-de.org/docs/Solar_Thermal_Presentation_Gallagher_3-06.pdf); and the report of Scott Johnson, Partner, SolarDock, available at (http://www.seu-de.org/docs/Solar_Electric_Presentation_Johnson_3-06.pdf).

- Provide market development for residential and business purchases of high-efficiency alternatives in energy-using equipment to enable 30% savings in household and company energy use, with 33% of Delawareans participating by 2015 – this is estimated cut annual household energy costs by $1,000
- Provide expanded weatherization services to residences, with a focus on the needs of low- and moderate-income families, doubling the number of annually weatherized units by 2015
- Promote at least 300 MW of customer-sited renewable energy applications.

- Second, upgrade Delaware's Renewable Portfolio Standard to "best practice", using New Jersey as the State's benchmark. This would require an increase in renewable energy purchases by the State's electric utilities from 10% to 20% by 2019. Two percentage points of the new target will be reserved for solar photovoltaics. The Solar Carveout will provide a significant boost to PV technology, with the potential to increase investment in local PV manufacturing capacity.

- Third, increase the Green Energy Fund mill rate to $0.000356 per kilowatt-hour. Currently, Delaware has the second lowest wires charge for incentivizing renewable energy, energy efficiency and low-income energy weatherization among the 23 states that have enacted such charges. By increasing the mill rate, the average residential customer would see an increase of 18 cents to the typical monthly electric bill. The small proposed increase would enable sufficient 'equity' investment by the State of Delaware to attract capital market investment in a "special purpose," tax-exempt Sustainable Energy Bond series managed by the SEU (see below).

- Fourth, update Delaware's Net Metering Policy to encourage larger scale customer-sited renewable energy applications that contribute to long-term development of sustainable energy supply. Delaware's current policy limits customer-sited installations to 25 kW. In many cases, this limitation makes it unattractive for larger commercial customers to install PV or other customer-sited renewable energy systems.

- Finally, furnish the SEU with authority to offer and manage "special purpose," tax-exempt bonds in an amount not to exceed $30 million during the initial five years of its operation. The Sustainable Energy Bond series will create the necessary working capital to aggressively build the sustainable energy markets called for by this Policy Agenda. The Sustainable Energy Bond and other features of SEU funding are discussed in the following section in more detail.

1.3 Funding the SEU

The proposed bill enabling the creation of the SEU will establish bonding authority with a cap of $30 million to support SEU programs and operations. The proposed bonding would be "special purpose" and would not add to the State's General Obligation bonding. Bonds would be sold in two or more offerings to match expected expenditures.

Revenue sources contributing to the SEU for the purpose of paying off bond debt and helping the SEU to grow will include:

- Shared savings agreements with participants
- Partial proceeds from the sale of Renewable Energy Credits in local and regional markets
- Green Energy Fund monies.

Each is discussed below, as well as the Sustainable Energy Bond.

1.3.1 Shared Savings Agreements

The SEU will cover at no charge to participating households and businesses the full incremental cost of high-efficiency versus standard efficiency equipment and measures. This includes the difference in price between qualifying Energy Star© [17] and standard appliance and equipment models, and the difference in price between average and high-efficiency passenger vehicles.

In return for this investment by the SEU, its clients enter into a shared savings agreement[18], pledging to share 33% of the estimated savings created by the installed measures for a period of 3-5 years. Thus, the client reaps 67% of the gains from energy efficiency upgrades during the first 3-5 years of operation without the obligation to cover the incremental investment cost for their installation. In other words, the client incurs no added investment cost and for years 3-5 of the shared savings agreement experiences a revenue flow in the amount of 67% of total savings; after year 3 or 5 (depending on the measures involved), the client reaps 100% of the gains from the investment.[19]

Employing the shared savings model, the SEU is able to substantially increase Delaware's investment in energy efficiency in a short period of time (Figure 1.4 – currently, the State has continuously funded public energy efficiency incentive program).

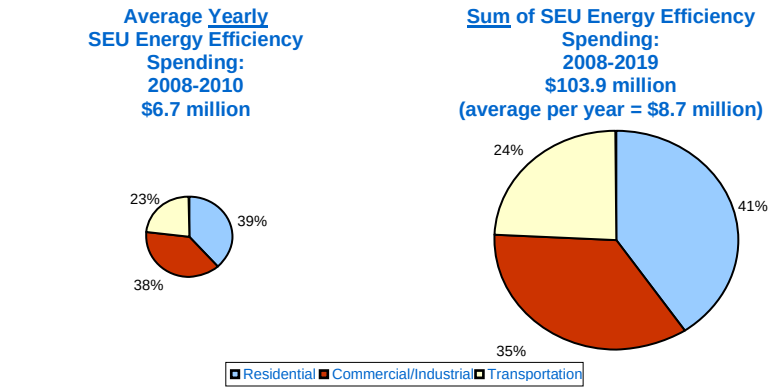


Figure 1.4 Projected SEU Investments in Energy Efficiency

[17] The Energy Star© rating was developed jointly by the U.S. Department of Energy and the U.S. Environmental Protection Agency. See the following website for details: http://www.energystar.gov/

[18] Shared savings agreements have been used for several years by energy services companies (ESCOs), utilities and municipalities to secure investments in energy efficiency. See, for example, the program by Madison Gas & Electric http://www.mge.com/images/PDF/Brochures/Business/SharedSavingsOverview.pdf

[19] This assumes the client maintains or decreases energy consumption for the affected use(s) (i.e., appliances, vehicles, building envelope, etc.) during the lifetime of the installed measures.

Projected SEU investments in energy efficiency are based on detailed analyses of Delaware appliance, equipment and vehicle stocks. The methodology used for the Task Force is discussed in Section III. Briefly, databases were created to identify the number of devices of interest in each end-user sector (i.e., residential, commercial, industrial, transportation, agricultural), their age, and the savings associated with their replacement with high-efficiency models. The two-part Table 1.1 depicts summary estimates for residential appliances using electricity.

Table 1.1 Estimates of Annual Electricity Savings for Targeted Residential Appliances

Part a. Residential Energy Efficiency Potential - Targeted Appliance Turnover Estimates

		Delaware Appliance Stock		Existing Appliance Sales Rate				
	Appliance Type	Total % of households with 1 or more appliances[1]	Estimated Total No. of Appliances Based on No. of Delaware Households (assumes 1 per household)[2]	Average National Replacement & New Sales Rate[1]	Estimated Delaware Sales for Replacement & New Sales	% of 2004 Sales that are Energy Star rated[3]	Targeted Energy Star Replacement rate (%)	Incremental Energy Star Replacement (no. of units)
Electricity	Refrigerators	100%	382,828	10%	39,151	30%	60%	11,745
	Clothes Washers	85%	325,404	10%	34,145	26%	50%	8,195
	Central AC w/o Heat Pump	51%	195,242	12%	23,306	33%	66%	7,691
	Central AC w/ Heat Pump	8%	30,626	17%	5,112	33%	66%	1,687
	Freezers	33%	126,333	7%	9,295	30%	66%	3,346
	Room AC	14%	53,596	32%	17,130	30%	66%	6,167
	Water Heaters - Electric	69%	264,151	11%	29,613	30%	66%	10,661

1. Based on EIA Residential Energy Consumption Survey, South Atlantic Region, 2005.
2. Based on U.S. Bureau of Census, 2008 (which provides the estimated number of Delaware households in 2006).
3. Based on U.S. DOE Energy Star and EIA.

Part b. Residential Energy Efficiency Potential - Targeted Appliance Turnover Estimates

		Increase In Older Appliance Turnover			Annual Energy Savings		
	Appliance Type	Approximate No. of Appliances > 10 years old (i.e. likely to be replaced)[4]	Targeted Increase in Replacement Rate (%)	Targeted Incremental Replacements, Units > 10 years old (no. of units)	Total Targeted Energy Star Sales per year	Average Annual Electricity Savings per unit (kWh) (difference between E-Star and >10yr-old appliance)[5]	Total Annual Energy Savings (kWh/yr)
Electricity	Refrigerators	134,078	15%	20,112	29,277	750	21,957,808
	Clothes Washers	86,445	15%	12,967	19,361	815	15,779,573
	Central AC w/o Heat Pump	63,370	15%	9,505	15,507	1,794	27,819,788
	Central AC w/ Heat Pump	38,952	15%	5,843	7,159	1,511	10,817,399
	Freezers	79,389	15%	11,908	14,520	609	8,842,425
	Room AC	10,232	15%	1,535	6,347	385	2,443,587
	Water Heaters - Electric	97,648	15%	14,647	22,966	375	8,612,300
	Total	510,114	N/A	76,517	115,137	.....N/A	96,272,880

4. Based on EIA Residential Energy Consumption Survey, South Atlantic Region, 2005. To create an estimate for 2006, the growth in Delaware households for the period 2004-2006 was applied.
5. Based on Database for Energy Efficiency Resources (DEER) California; EIA Buildings Energy Data Book 2005, Energy Star. Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

From analyses of the type shown in Table 1.1, it is possible to forecast 30% household and business energy savings from SEU energy efficiency investments, equivalent to an annual savings of $1,000 per residential participant.[20]

The decision to participate in the SEU Shared Savings from Energy Efficiency Program is entirely voluntary.

1.3.2 SEU Fees for Renewable Energy Credits

Delawareans who site renewable energy on their premises will be eligible to receive SEU incentives equal to the difference in incremental cost of conventional energy supply and that provided by renewables. The planned investment in customer-sited solar thermal, wind, geothermal and solar electric technologies is significant. The forecast of SEU-incentivized purchases is given in Figure 1.5.

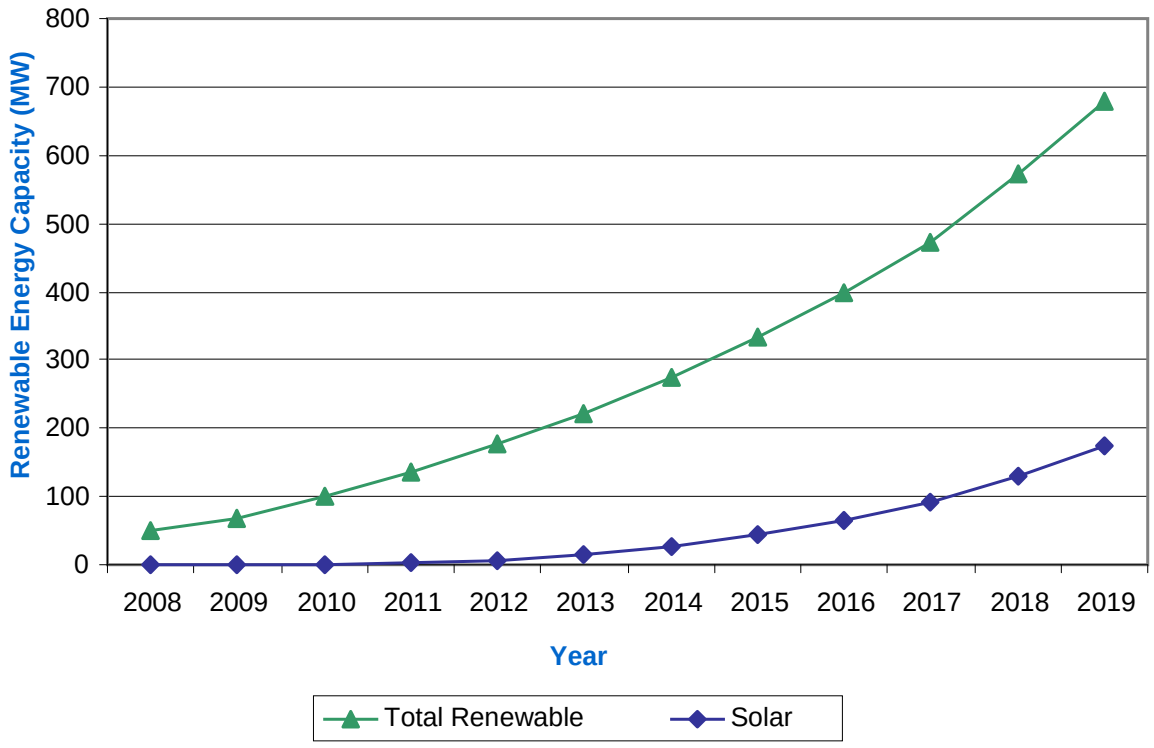


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Figure 1.5 Cumulative Installed Capacity from SEU Investments Customer-sited Renewable Energy Systems

In return, the SEU will seek 25% of the proceeds from the sale of Renewable Energy Credits (RECs) for systems in which it invests. RECs are a commodity separate from the actual power produced by a renewable energy system. Producers of "green" power can sell RECs and utilize

[20] Because it is assumed that 33% of households and businesses will participate in shared savings agreements with the SEU by 2015, the impact on Delaware energy use will not equal 30% of a business-as-usual forecast.

the energy generated by their system. REC buyers include companies seeking to improve their public image and utilities seeking to comply with RPS obligations. When RECs are traded, the entity purchasing the REC gains the right to claim associated environmental benefits.

REC markets are well-established in the Mid-Atlantic region with multi-year contracts being the norm. When Delaware's RPS policy is upgraded to a 'best practice' benchmark represented by New Jersey, it will be able to take advantage of this new market.

The SEU can save owners of small- to medium-scale renewable energy systems the administrative costs of qualifying their systems for REC trading and can aggregate them to lower transaction costs to buyers. In this way, the Delaware owner is benefited and the SEU earns its 25% share of REC revenue created by its incremental investment on behalf of SEU clients. Estimates of the yearly revenues earned by the SEU from its Distributed Renewables Program are summarized in Table 1.2.

Table 1.2 Estimated Revenues from a 25% Fee Assessed by the SEU on its Distributed Renewable Energy Investments

	Year	Installed Capacity From Rebate Program (kW)	Cummulative Capacity From Rebate Program (kW)	Cummulative Electricity From Rebate Program (MWh)	REC Price ($/MWh)	REC Sales ($)	SEU Aggregation Fee	SEU REC Income ($)
PV RECs	2008	80	700	1,002.40	$200	$200,480	0.25	$50,120
	2009	178	878	1,257.51	$200	$251,502	0.25	$62,876
	2010	315	1,193	1,708.65	$200	$341,729	0.25	$85,432
	2011	2,127	3,320	4,754.28	$180	$855,770	0.25	$213,943
	2012	3,741	7,061	10,110.92	$170	$1,718,856	0.25	$429,714
	2013	7,617	14,678	21,018.78	$150	$3,152,816	0.25	$788,204
	2014	11,992	26,670	38,191.90	$125	$4,773,987	0.25	$1,193,497
	2015	16,683	43,354	62,082.24	$100	$6,208,224	0.25	$1,552,056
Sub-totals		42,734				$17,503,365		$4,375,841
	2016	20,778	64,131	91,836.00	$75	$6,887,700	0.25	$1,721,925
	2017	27,332	91,463	130,975.58	$50	$6,548,779	0.25	$1,637,195
	2018	39,679	131,143	187,796.12	$50	$9,389,806	0.25	$2,347,452
	2019	43,897	175,039	250,656.51	$25	$6,266,413	0.25	$1,566,603
Totals		174,419				$46,596,063		$11,649,016

	Year	Installed Capacity From Rebate Program - Non-PV Renewables (MW)	Cummulative Capacity From Rebate Program - Non-PV Renewables (MW)	Cummulative Electricity From Rebate Program (non-PV RE) (MWh)	REC Price ($/MWh)	REC Sales ($)	SEU Aggregation Fee	SEU REC Income ($)
Wind, Geothermal, Solar Thermal and Other RE RECs	2008	7	20	52,727.80	$35	$1,845,473	0.25	$461,368
	2009	14	34	89,840.13	$35	$3,144,404	0.25	$786,101
	2010	19	53	138,888.70	$35	$4,861,105	0.25	$1,215,276
	2011	22	75	196,320.08	$30	$5,889,603	0.25	$1,472,401
	2012	25	100	262,567.46	$30	$7,877,024	0.25	$1,969,256
	2013	28	128	336,881.62	$30	$10,106,449	0.25	$2,526,612
	2014	31	159	419,159.99	$25	$10,479,000	0.25	$2,619,750
	2015	34	194	509,357.59	$25	$12,733,940	0.25	$3,183,485
Sub-totals		181				$56,936,996		$14,234,249
	2016	38	231	607,964.26	$20	$12,159,285	0.25	$3,039,821
	2017	40	272	713,611.87	$15	$10,704,178	0.25	$2,676,044
	2018	51	323	848,383.90	$15	$12,725,759	0.25	$3,181,440
	2019	56	379	995,389.84	$10	$9,953,898	0.25	$2,488,475
Totals						$102,480,117		$25,620,029

Note: Installed capacity of PV systems is based on the proposed Solar Carveout to be submitted as an amendment to the State's current RPS policy. Installed capacity of non-PV renewable energy systems is based on the proposed upgrade of the RPS schedule, also to be submitted as an amendment to SB 161.

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The decision to participate in the SEU Distributed Renewables Program is entirely voluntary.

1.3.3 Green Energy Fund

As noted earlier, Delaware's Green Energy Fund (GEF) collects revenue from electricity sales of its default electricity provider (Delmarva Power)[21]. While a modest assessment by comparison to other states' policies[22], it represents a strategic investment fund in a sustainable energy future. The Task Force is recommending an increase in the rate from its current 0.000178 cents per kWh sold to 0.000356 cents per kWh sold. This will add approximately 18 cents to the monthly bill of the typical residential electricity customer.

This increase is needed to assure bondholders of the State's interest in a sustainable energy transition (see 1.3.4 below for a discussion of SEU bond needs). Moreover, GEF revenues will play a strategic role in meeting the early financial needs of the SEU. This can be shown by comparing the relative shares of SEU finances received from shared savings agreements, REC sales and the GEF during 2008-2010 and comparing these shares to the out-years of SEU operations (Figure 1.6).

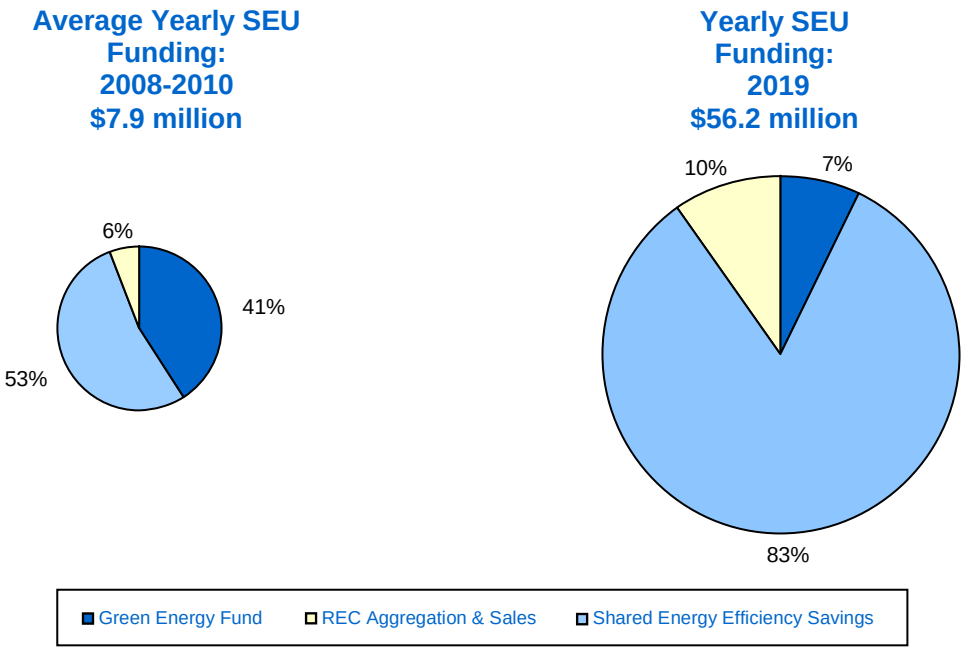

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Figure 1.6 Changes in SEU Revenue Shares

1.3.4 Sustainable Energy Bond

The Task Force has decided the most appropriate method of obtaining working capital for the SEU in its early years of operation is the authorization of a "special purpose," tax-exempt bond

[21] Municipalities and the Delaware Electric Cooperative are not obligated to contribute to the Green Energy Fund. But several of these electricity providers have chosen to create their own versions of this Fund.
[22] Among the 23 states with system benefit charges, only New Mexico currently has a smaller assessment.

which does not add to the State's General Obligation bonding and is not tied to a specific revenue source.

On November 6, 2001, San Francisco voters overwhelmingly approved a landmark $100 million Solar Bond initiative that provides funds for investment in customer-sited and public facilities-sited solar electric systems, energy efficiency and wind turbines. The measure pays for itself entirely from energy savings at no cost to taxpayers. After investigating the action of the City of San Francisco and a recently submitted bill in the Hawaii Legislature to authorize a special purpose, tax-exempt bond series for investments in sustainable energy facilities, the Task Force requested an analysis of its feasibility for capitalizing the SEU.

Assuming the revenue streams described in 1.3.1-1.3.3 above, the CEEP research team built a financial model to estimate SEU costs, revenues and early capital investment needs. The cash flow output of the model is provided below.

Table 1.3 Projected Cash Flow of the SEU

	Expenditures					Revenues	Balance
Year	SEU Contract	SEU Program Costs (Rebates, Incentives, EM&V, etc.)	SEU / DEO Education & Marketing	Bonus Fund	Expenditure Totals	SEU Revenues: 0.25RECs + 0.33SS (yrs 1-5) + GEF Revenues	Annual Cash Balance
2008	-$800,000	-$5,953,981	-$300,000	-$100,000	-$7,153,981	$3,140,411	-$4,013,569
2009	-$816,000	-$8,823,059	-$300,000	-$175,000	-$10,114,059	$7,630,898	-$2,483,161
2010	-$832,320	-$10,520,922	-$300,000	-$192,962	-$11,846,205	$12,864,141	$1,017,936
2011	-$848,966	-$17,429,788	-$261,447	-$288,291	-$18,828,492	$19,219,402	$390,910
2012	-$865,946	-$21,628,684	-$432,574	-$392,609	-$23,319,812	$26,173,902	$2,854,090
2013	-$909,243	-$32,364,351	-$647,287	-$664,624	-$34,585,505	$33,231,192	-$1,354,313
2014	-$954,705	-$38,569,611	-$771,392	-$759,003	-$41,054,712	$37,950,155	-$3,104,557
2015	-$1,002,440	-$42,212,500	-$844,250	-$841,412	-$44,900,602	$42,070,590	-$2,830,012
Sub-totals	-$7,029,621	-$177,502,896	-$3,856,950	-$3,413,900	-$191,803,367	$182,280,690	-$9,522,677
2016	-$1,052,562	-$41,052,588	-$821,052	-$937,295	-$43,863,498	$46,864,759	$3,001,262
2017	-$1,105,191	-$44,887,443	-$897,749	-$1,020,003	-$47,910,386	$51,000,162	$3,089,776
2018	-$1,160,450	-$45,173,259	-$903,465	-$1,068,534	-$48,305,708	$53,426,697	$5,120,989
2019	-$1,218,473	-$42,744,016	-$854,880	-$1,123,466	-$45,940,835	$56,173,305	$10,232,470
Totals	-$11,566,296	-$351,360,203	-$7,334,096	-$7,563,199	-$377,823,794	$389,745,614	$11,921,820

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As is commonly seen in start-up operations, the SEU has negative cash flow in its initial two years (Table 1.3). When projected investments in distributed renewables ramp up in the 6th program year[23], negative cash balances reappear. By the 9th year of its operations, however, the SEU is earning positive cash balances at a compound rate.

To address its early working capital needs, the financing model solved for a bond series, capped at $30 million, that would result in a solvent, self-supporting SEU by its 10th year of operation. The result is a bonding need of $23 million, with the first issue floated in the start-up year of the SEU's operation (with a 5-year maturity) and a second issue floated in the 5th year of operation (with an 8-year maturity). Yields were assumed to be above those paid by corporate bonds of

[23] Logically, the SEU is expected to concentrate its attention in the first 5 years of operation on energy efficiency market development.

comparable maturities[24]. As Table 1.4 indicates, the SEU appears to be readily self-supporting by its 9th year of operation.

Table 1.4 An SEU Prospectus

	Net SEU Revenues (before Debt Service)	SEU Bond Debt Service								Net SEU Revenue (after Debt Service & Bond Retirement)	SEU Bottom Line
Year	Balance of SEU Costs and Revenues	Tax Exempt Bond Floats		Annual Interest Cost for Bond 1 (Yield = 5.20%)	Annual Interest Cost for Bond 2 (Yield = 5.0%)	Annual Interest Cost for Bond 3 (Yield = 4.90%)	Annual Interest Cost for Bond 4 (Yield = 4.90%)	Bond Management	Debt Totals	SEU Balance + Bond Interest Cost + Bond Principal	Cumulative Cash Flow
2008	-$4,013,569	Bond 1: 5 yr Maturity Yield = 5.20%	$7,700,000	-$400,400				-154000	-$554,400	$3,132,031	$3,132,031
2009	-$2,483,161			-$400,400					-$400,400	-$2,883,561	$248,469
2010	$1,017,936	Bond 2: Yield = 5.00%	$0	-$400,400	$0			$0	-$400,400	$617,536	$866,006
2011	$390,910	Bond 3: Yield = 4.90%	$0	-$400,400	$0	$0		$0	-$400,400	-$9,490	$856,515
2012	$2,854,090	Bond 4: 8 yr Maturity Yield = 4.90%	$15,300,000	-$400,400	$0	$0	-$749,700	-$306,000	-$1,456,100	$8,997,990	$9,854,505
2013	-$1,354,313				$0	$0	-$749,700		-$749,700	-$2,104,013	$7,750,492
2014	-$3,104,557				$0	$0	-$749,700		-$749,700	-$3,854,257	$3,896,235
2015	-$2,830,012				$0	$0	-$749,700		-$749,700	-$3,579,712	$316,523
Sub-totals	-$9,522,677			-$2,002,000	$0	$0	-$2,998,800	-460000	-$5,460,800	$316,523	
2016	$3,001,262				$0	$0	-$749,700		-$749,700	$2,251,562	$2,568,084
2017	$3,089,776				$0	$0	-$749,700		-$749,700	$2,340,076	$4,908,161
2018	$5,120,989				$0	$0	-$749,700		-$749,700	$4,371,289	$9,279,450
2019	$10,232,470				$0	$0	-$749,700		-$749,700	-$5,817,230	$3,462,220
Totals	$11,921,820			-$2,002,000	$0	$0	-$5,997,600	-460000	-$8,459,600	$3,462,220	
									All Bond Interest		
									-$7,999,600		
									Total Bond Float		
									$23,000,000		

* Revenue Assumptions
$25 million in Sustainable Energy Special Purpose Bonds are authorized.
GEF mill rate is doubled.
Revenues from 33% Shared Savings Agreements for energy efficiency investments are received as projected.
REC revenues are received as projected based on declining price schedule.

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Based on a conservative analysis of revenues and financing, and using upper-bound expectations of program and administration costs, the SEU's cash flow is expected to be positive after approximately two years. Thereafter, the SEU will be self-sustaining.

Discussions with bonding experts have indicated that the proposed SEU can be bonded at rates similar to conventional municipal, tax-free bonds (below those assumed in the analysis).

[24] See http://finance.yahoo.com/bonds/composite_bond_rates for a summary of current bond yields. The rates modeled for the Task Force are above those for A-rated, 5-year corporate bonds, indicating a conservative approach that almost certainly overestimates annual debt the SEU must finance.

1.4 Economic, Energy and Environmental Impacts of the SEU

Through the implementation of a series of energy efficiency, affordable energy and renewable energy programs across all sectors, the SEU is expected to deliver significant economic, energy and environmental impacts. A summary of these impacts is shown below:

- An average participating household will be able to reduce annual energy expenditures by more than $1,000. Reductions of this magnitude have important positive implications for the local economy.

- The State will be made less vulnerable to fossil fuel and electricity price spikes in the future. Energy efficiency and renewable energy provide "hedges" against future price increases and will help to dampen price volatility.

- Energy efficiency and customer-sited renewables on the State's electrical network will help to reduce congestion and it associated costs. Congestion is a phenomenon usually caused by the heavy use of electricity within certain geographic regions, often during peak demand periods. Congestion costs are borne by electricity ratepayers in the form of higher rates, regardless of supplier. Pressure on the transmission and distribution systems can be reduced by lowering demand and installing customer-sited generation.

- Aggressive, energy efficiency and customer-sited renewable energy development can also stimulate thousands of new jobs in Delaware. These jobs would be in the critical manufacturing sector, historically a source of stable, high-paying employment.[25]

- Delaware is unique in applying the SEU concept to transportation. Many of the State's air quality problems can be traced to emissions from gasoline and diesel-fueled vehicles. In fact, about 30% of fossil fuel emissions originate in the transportation sector, and motor fuel costs account for a similar share of household energy budgets. The State will benefit from lower vehicle emissions caused by the SEU's Green Vehicles Incentive Program, thereby having better capacity to meet EPA Clean Air standards.

Finally, the State's Carbon Footprint will be reduced by 33% due to SEU-sponsored investments in energy efficiency and customer-sited renewables, amounting to a cut in 2020 emissions compared to business-as-usual of 5.5 million metric tons of CO_2. Strategies that build cleaner energy facilities to meet future demand growth can slow, delay or even flatten future CO_2 releases. The SEU *cuts* carbon emissions by lowering the utilization of or eliminating altogether the need for current, as well as future, energy supply facilities. The impacts on carbon emissions are shown in the following figure.

[25] CEEP's 2005 Briefing Paper on RPS impacts reviews several studies showing job growth associated with sustainable energy market development. Available at http://ceep.udel.edu/energy/publications/2005_es_Delaware%20Senate_RPS%20briefing%20paper.pdf (see especially, pp. 9-12 of the Briefing Paper).

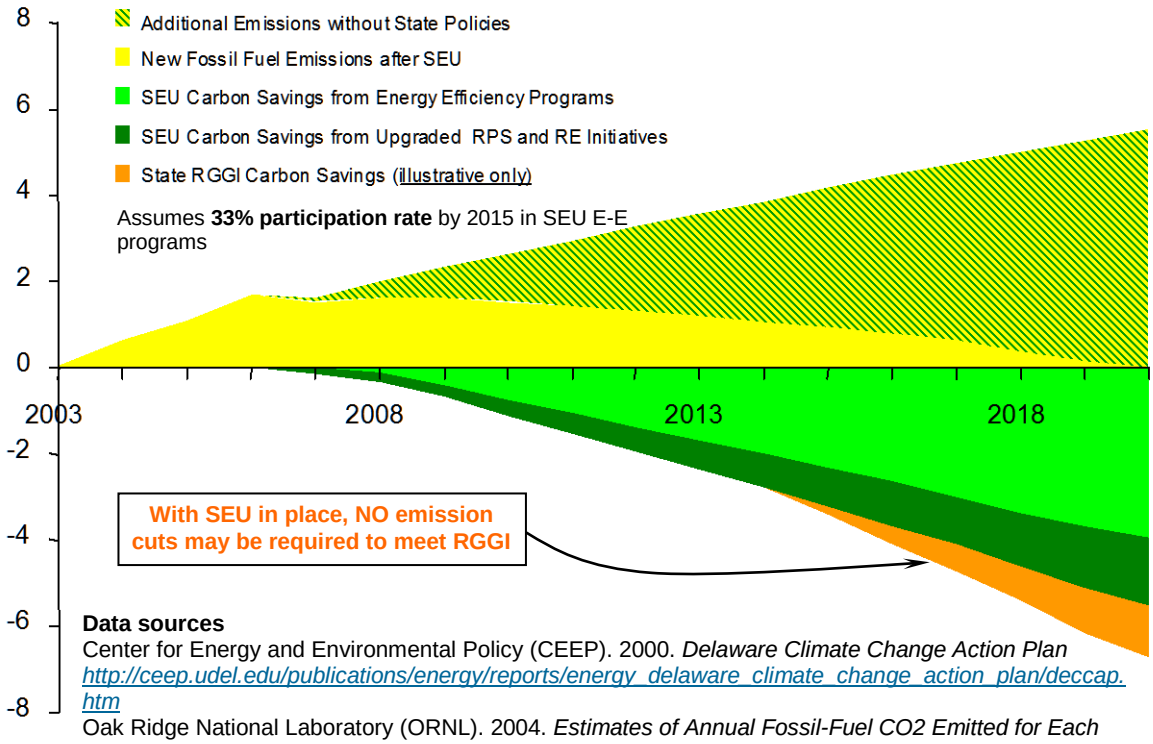

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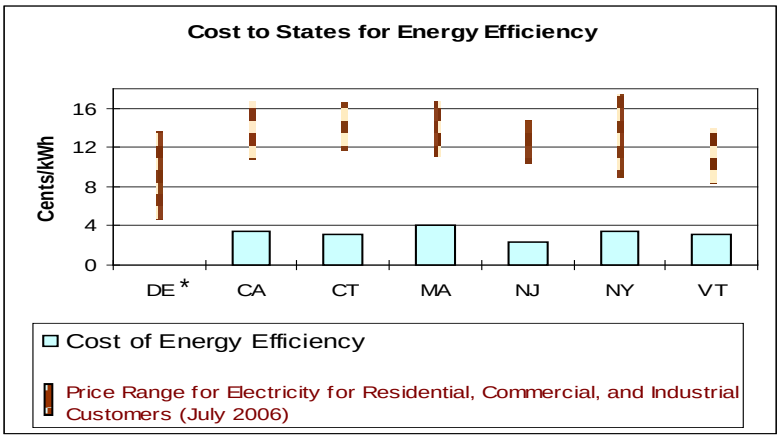
Figure 1.7 The Delaware Sustainable Energy Utility: Our Best Environmental Policy

II. LEARNING FROM STATE PIONEERS IN SUSTAINABLE ENERGY DEVELOPMENT

Delaware is not alone in recognizing the need for comprehensive energy efficiency, renewable energy, and affordable energy service goals for the state. In preparation for the SEU Task Force, researchers at the Center for Energy and Environmental Policy (CEEP) selected six states that are leaders in promoting sustainable energy and prepared a detailed profile of each state (see Volume 2, SEU Briefing Book for the full document). California, Connecticut, Massachusetts, New Jersey, New York, and Vermont were selected using the following criteria. Each state has greater than five years of experience in offering programs promoting energy efficiency and/or customer-sited renewable energy. In addition, each state is an acknowledged leader in the field of sustainable energy development[26]. CEEP researchers also considered the applicability of the state programs to Delaware's unique political, technical, and demographic situation. This consideration lead the researchers to emphasize programs in Vermont, where state size and rural/urban population figures are similar to Delaware, and New Jersey, where energy generation and transmission constraints are similar because both states are in the PJM power pool. The next two sections of this report summarize the findings from the state analyses in energy efficiency and customer-sited renewable energy.

2.1 Lessons for Improving State Energy Efficiency

The six state leaders demonstrate that the cost of saved energy is between 3-5 cents per kilowatt-hour versus 9-15 cents per kilowatt-hour for supplied energy (Figure 2.1 below). By creating a Sustainable Energy Utility with independently monitored and verified performance, Delaware can also help households and businesses cut energy waste at a cost significantly less than the price of retail energy.



* No data available. Delaware did not fund energy efficiency until July 1, 2006.

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Figure 2.1 Cost of Energy Efficiency vs. Price of Retail Electricity

[26] See the following references: Blumstein, Carl, et al (2005) « Who should administer energy efficiency programs?" *Energy Policy* 33: 1053-1067; CEEP (2000) *Environmental policies for a restructured electricity market: A survey of state initiatives*. http://ceep.udel.edu/publications/energy/reports/2000_energy_restructured_market.pdf; CEEP (2004) *Transportation strategies to improve air quality*. http://ceep.udel.edu/publications/sustainabledevelopment/reports/sd_transport_strategies/2004_transport_strategies.pdf; CEEP (2001) *Planning for sustainable communities: A survey of sustainable practices among twelve communities in the United States*. http://ceep.udel.edu/publications/sustainabledevelopment/reports/sd_sustainable_communities/2001_sustainable_communities.pdf

Each state differs somewhat in the organizational design, financing, and scope of its energy efficiency programs. The sections below highlight several salient features of each state's energy efficiency programs and their importance for the SEU.

2.1.1 California

Building-based Energy Efficiency
California has the longest energy efficiency program history of any state. The California Public Utilities Commission (CPUC) oversees all electricity and gas efficiency programs in the service territory of California's four regulated utilities. The CPUC is responsible for establishing program targets, approving program budgets and service categories, and monitoring and evaluating the utilities' portfolio of energy efficiency programs. In recent years, the CPUC has made efforts to encourage wider use of third-party implementers, including local governments, to deliver energy efficiency programs. Regulated utilities are required to competitively bid at least 20% of efficiency portfolios to third-party contractors. The SEU will also rely on competitive contracts and performance incentives to implement programs.

California's statewide energy efficiency marketing campaign, Flex Your Power, is administered by the California Energy Commission (CEC) and is conceived as the unifying information clearinghouse for all California energy efficiency programs, though program implementation is coordinated on a regional basis by each of the four regulated utilities. Delaware's SEU model relies on the Delaware Energy Office to oversee statewide outreach, marketing, and policy research support, a role similar to the California Energy Commission.

The CPUC and CEC have established several energy efficiency program targets:

- Meet 50% of future electricity load growth and reduce electricity demand by 1,500MW by 2009
- Achieve savings of $2.7 billion for consumers and decrease average customer bills by 2% between 2006 and 2009.
- Update building appliance standards to avoid 2,500 MW in the next 10 years and to reduce bills by $3.3 billion.
- Achieve 90% of the remaining cost-effective end-use energy efficiency resource potential by 2013.

In addition, the CPUC has established a loading order to specify how regulated utilities are to meet new demand: first through energy efficiency, conservation, and demand response, then renewables including distributed generation, and finally the cleanest available fossil fuel generation. An SEU would give Delawareans the means to capture their heretofore untapped cost-effective end-use energy efficiency potential.

California's efficiency programs are funded through an energy efficiency public goods charge of roughly 1.3 mills per kWh, equivalent to 1% and 0.7% of a customer's respective electricity and gas bills. Utilities are also allowed to raise demand rates as necessary to meet the difference in available public goods funding and approved efficiency program budgets. The total 2006-2008 budget for utility administered efficiency programs is $2.14 billion with expected benefits for ratepayers of $5 billion. Delaware's SEU can expect a similar, if not higher, benefit-cost ratio.

Low-Income Energy Services

California's Department of Community Services and Development administers both the federal Low Income Home Energy Assistance Program (LIHEAP) and the Weatherization Assistance Program (WAP), which are implemented by local governments, nonprofits, or local agencies.

California's Low-Income Energy Efficiency Program (LIEE) began in 1980. LIEE offers a standardized package of services designed to provide each participating low-income household with all feasible measures for maximum benefit. Similarly, the SEU's building-based energy efficiency approach is designed to offer a customer all feasible measures. LIEE is funded through state-wide public goods charges. Approved state LIEE funding in 2006 dwarfs federal WAP funding: California allocated $131 million for LIEE, while federal WAP money amounted to $7 million. The California Alternative Rates for Energy program (CARE) provides LIHEAP-like energy support for low-income households, and is funded through regulated utilities' customer rates.

The recently California Solar Initiative, begun in 2007, allocates 10% of total program funding or $280 million through 2017, for solar energy installations specifically for existing low-income housing and new affordable housing.

Clean Vehicle Services

California introduced low emissions vehicle (LEV I) regulations in 1990, and adopted second-generation LEV regulations (LEV II) in February 2000. Manufacturers must demonstrate that their overall fleet for a given model year meets specified phase-in requirements according to the fleet average hydrocarbon requirement for that year. LEV II programs seek to reduce emissions of global warming pollutants by approximately 30 percent once they are fully phased in by 2016.

In addition to strict vehicle emissions standards, California has also enacted policies to support hybrid and electric vehicles. Efficiency hybrids can use HOV lanes without regard to the number of passengers in the vehicle. Hybrid vehicles receive free metered parking in certain municipalities. Electric vehicles may recharge at discounted electricity rates in most areas. The SEU will build on these experiences to reduce the cost-gap between conventional vehicles and high-efficiency vehicles.

2.1.2 Connecticut

Connecticut's energy efficiency program, the Connecticut Energy Efficiency Fund (CEEF), was established in 1998 during utility deregulation. The CEEF is similar in structure to California's utility-administered programs, the chief difference being Connecticut's multi-stakeholder Energy Conservation Management Board, which serves as an Advisory Board to the DPUC, and is responsible for reporting to the legislature on the effectiveness of efficiency programs and policies. The SEU's Oversight Board will fulfill a similar role to ensure that the Delaware Energy Office and the SEU successfully meet performance targets.

The CEEF offers a range of programs including appliance energy efficiency, appliance retirement, green buildings, weatherization, education, and free energy audits for businesses. Connecticut's energy efficiency programs are funded through a system benefits charge of 3.0

mills per kWh, yielding $80 million in 2005. Funds marked for energy efficiency have apparently been diverted in the past to cover Connecticut's budget deficit. Vermont's third-party Financial Agent, an element borrowed by the SEU, is a more effective means to manage sustainable energy funds.

Low-Income Energy Services

In addition to the federal LIHEAP and WAP programs, each of Connecticut's regulated utilities implements its own low-income energy efficiency program funded through a system benefits charge and overseen by the Department of Public Utility Control. Total 2005 program funding for low-income energy efficiency services was $5.8 million, which served 18,421 households. Estimated lifetime energy savings for the 2005 program measures are 144 million kWh, and $18 million for customers.

Clean Vehicle Services

To encourage the purchase of hybrid vehicles in the state, all hybrid-electric vehicles with an average fuel economy greater than 40 mpg are exempted from the state's 6% sales tax. In addition, the fleet average for all cars and light-duty trucks purchased by the state must have an EPA estimated fuel economy of at least 40 mpg.

2.1.3 Massachusetts

All gas and electric investor-owned and municipal utilities in Massachusetts have provided energy efficiency programs to their customers since 1980. An overhaul in 2000 shifted the program toward increased emphasis on incentives for efficiency upgrades. The overhaul created the MassSAVE program, which is now the statewide clearinghouse for all utility-provided energy efficiency services. Funding for gas utility programs is built into energy rates, while funding for electric utility programs is from an energy efficiency system benefit charge (SBC) of 2.5 mills per kWh. The recent 10-year plan, unveiled in 2006, aims to reduce energy consumption, diversify supply, and promote an advanced energy technology sector, all goals equally achievable by the Delaware SEU. As the home of General Electric's U.S. solar manufacturing plant, nationally recognized solar energy research facilities at the University of Delaware, and a large population of distinguished researchers, Delaware already has the beginnings of an advanced sustainable energy sector.

Low-Income Energy Services

The Massachusetts Legislature created the Low-Income Energy Affordability Network (LEAN) in 1997 as a collaborative organization with representatives of all low-income agencies in the state to oversee all low-income energy services. LEAN ensures that all services are coordinated, cost-effective, high-quality, convenient, and accessible. Utility low-income energy efficiency programs are funded from an earmarked portion of the efficiency SBC: 0.25 mills per kWh of a total 2.5 mill surcharge. The benefit-cost ratio for low-income programs ranges from 1.59 for the NSTAR Gas Residential Low-Income Program for multi-family units, and 2.06 for NSTAR's single-family programs, to 2.56 for the Appliance Management Program. State and federal programs combined help 134,000 households annually to reduce their bills on average between 20%-42%.

Clean Vehicle Services

Massachusetts has recently considered a range of incentives for hybrid-electric or alternative fueled vehicles, with much legislation apparently still pending. SB 2220 would allow those who purchase hybrids and certain alternative fuel vehicles to benefit from an income tax deduction of $2000, the right to travel in HOV lanes regardless of passengers for three years following the enactment of the bill, and discounts or free parking in municipalities which choose to participate.

2.1.4 New Jersey

New Jersey's Clean Energy Program (NJCEP) is currently transitioning away from the utility-administered models of California, Connecticut, and Massachusetts, toward a competitive model that relies on third-parties to coordinate and design both energy efficiency and renewable energy programs. New Jersey's Office of Clean Energy oversees the Clean Energy Program. A multi-stakeholder Clean Energy Council advises the BPU on design, budget, goals, and administration of the Clean Energy Program.

The Office of Clean Energy contracts a third-party Program Coordinator to develop policies and programs to carry out the Clean Energy Program and to meet performance targets. The Program Coordinator works with three competitively contracted Market Managers – Residential, Commercial and Industrial, and Renewable Energy – who design and deliver actual services. Building upon New Jersey's Clean Energy Program, Delaware's SEU will develop a competitive market approach that serves all energy end-users and addresses all fuels.

The Office of Clean Energy also contracts an independent Fiscal Agent, who controls and disburses Clean Energy Program trust funds, and an independent entity to fulfill evaluation, monitoring, and verification responsibilities. Like Vermont and New Jersey, SEU also maintains independence between program implementation, fiscal oversight, and program evaluation responsibilities.

NJCEP's energy efficiency programs are funded through an energy efficiency Societal Benefits Charge (SBC) of approximately 1.22 mills per kWh collected from New Jersey's regulated electric and gas utilities. New Jersey's low-income SBC is 0.14 mills per kWh, and its renewable energy SBC is 0.41 mills. Total SBC funding is equivalent to 1.89% of utility revenues.

Low-Income Energy Services

New Jersey has three low-income energy programs: the Universal Service Fund, which helps low-income households pay no more than 6% of their annual income on combined gas and electric services, up to a cap of $1,800 per household; the New Jersey Lifeline, which provides low-income seniors and disabled residents with a $225 yearly credit on utility bills; and New Jersey Comfort Partners, which provides weatherization services. New Jersey's Department of Human Services administers each program. To improve synergy between building-based energy efficiency and customer-sited renewable energy programs available to all Delawareans, the SEU will also offer services targeted specifically to low-income households.

Clean Vehicle Services

New Jersey has taken several steps to encourage clean vehicles in the state. Hybrid vehicles may use the HOV lanes on the NJ Turnpike regardless of number of passengers inside. New Jersey also has the Clean Car Bill, which will implement California's LEV II standards for light duty vehicles starting in 2009 and the Alternative Fuel Vehicle (AFV) Rebate Program. The AFV Rebate Program, funded by a federal Congestion Mitigation and Air Quality Improvement grant, offers rebates of up to $12,000 to local government entities that either purchase AFVs or hybrids or convert conventional fuel vehicles to AFVs.

2.1.5 New York

New York has three organizations responsible for energy efficiency: the New York State Energy Research and Development Authority (NYSERDA), the Long Island Power Authority (LIPA), and the New York Power Authority (NYPA). NYSERDA, a public benefit corporation established in 1975, administers statewide energy efficiency programs for New York's regulated utilities, while NYPA oversees the power needs of New York's public facilities and some municipalities, and LIPA operates as its own nonprofit energy supplier.

NYSERDA operates with a memorandum of understanding with New York's Public Service Commission. NYSERDA's statewide energy efficiency program, Energy $mart, is as a result ultimately responsible to the State through NYSERDA's Board of Governors, rather than to the PSC. Over 97% of Energy $mart programs are implemented by competitively selected contractors. An SEU will implement much of its services through competitive markets with the intent, like New York, of developing a self-sustaining industry of energy service providers.

NYSERDA's energy efficiency programs are funded through revenue bonds raised by NYSERDA and through a system benefits charge (SBC) of 1.02 mills per kWh, or 1.42% of utility revenues. As a nonprofit entity, Delaware's SEU can similarly take advantage of tax-exempt activity bonds to finance sustainable energy services.

Low-Income Energy Services

NYSERDA's statewide low-income energy services are designed to reduce energy burdens by improving end-use and building energy efficiency. Low-income services also include bulk-fuel purchases, awareness campaigns, and a public low-income forum on energy.

Clean Vehicle Services

New York was one of the first states to encourage clean vehicles with its Alternative Fuel/Clean Fuel Vehicle Tax Incentive (A04456), which offered tax credits and a tax exemption for purchasing new hybrid electric vehicles or alternative fuel vehicles. However, this incentive expired on December 31, 2006.

2.1.6 Vermont

Vermont electric and gas utilities were first required to offer comprehensive energy efficiency services in 1991. With over 21 distribution utilities in Vermont, program coordination was confusing for customers and inefficient for utilities to administer. In 1999 the regulated utilities

and the Department of Public Service developed a memorandum of understanding which led to the creation of a statewide energy efficiency utility (EEU), later called Efficiency Vermont. Efficiency Vermont and New Jersey's Clean Energy Program together are the most significant influences on the Delaware SEU model.

Vermont's goals for the EEU include (1) maximizing societal net benefits while acquiring comprehensive cost-effective electric efficiency savings; (2) using markets to increase the level of and comprehensiveness of energy efficiency services; (3) effectively capturing lost opportunity markets; and (4) striving for distributional equity across customer classes and geographic regions. In 2003 Efficiency Vermont shifted focus from a program approach to a market approach. The reasoning for doing so included:

> "simplifying customer and strategic partner participation, working more effectively throughout supply chains to impact energy affecting decisions, and eliminating gaps in services. Service gaps occurred when customers did not fall into the traditional residential or business segments, (and) did not fit pre-conceived 'program' definitions…Efficiency Vermont has transitioned organizationally to this market-focused perspective by developing a team approach to better serve the breadth of the markets…" (2004 Annual Plan).

Delaware's SEU has the potential to address these goals more effectively than Vermont's EEU, which is limited to providing electric energy efficiency services. In reality, the EEU model can and should be expanded to address all energy end-use markets, including all end-use fuels, clean vehicles, and customer-sited renewables.

The Energy Efficiency Utility operates as an independent contractor to the Public Service Board under the name Efficiency Vermont. The Vermont Department of Public Service (DPS) is an executive agency that evaluates the EEU's performance and makes recommendations to the Board. The Board contracts with the EEU to run Efficiency Vermont for three-year contracts, with the option of renewal after the first three years. If renewed, the contract must be put out to bid again after the sixth year. The nonprofit Vermont Energy Investment Corporation won the contract for 2000-2002, had their contract renewed for 2003-2005, and again won the contract for 2006-2008. In addition to the EEU, the Board also hires a Contract Administrator to administer the Board's contract with the EEU, and a Fiscal Agent to receive and disburse funds. The Board also appoints a multi-stakeholder Advisory Committee. Under the Delaware Energy Office, Delaware's SEU can expand upon Vermont's EEU to effectively capture lost-opportunity markets and provide truly comprehensive energy services for all energy end-uses.

Vermont's EEU is financed by an energy efficiency charge equivalent on average to 2.82% of total electricity payments, or 3.2 mills per kWh. In August 2006 the Board expanded the allowable EEU budget from the original $17.5 million cap to $19.5 million for 2006, $24 million for 2007, and $30.75 million for 2008. The Board is examining long-term finance options, including establishing an entity with bonding authority to implementing EEU financing, securitization, commercial financing, and reduced cost funding under the Sustainable Priced Energy Enterprise Development (SPEED) program. As a nonprofit under contract to the Delaware Energy Office, the SEU can from the outset have long-term finance options, including

authority to raise activity bonds to finance sustainable energy services with minimal public burden.

From 2000 to 2005, Vermonters paid approximately $77 million via the EEU and the EEU has saved Vermonters over $220 million (2003 dollars) in total benefits.

Low-Income Energy Services

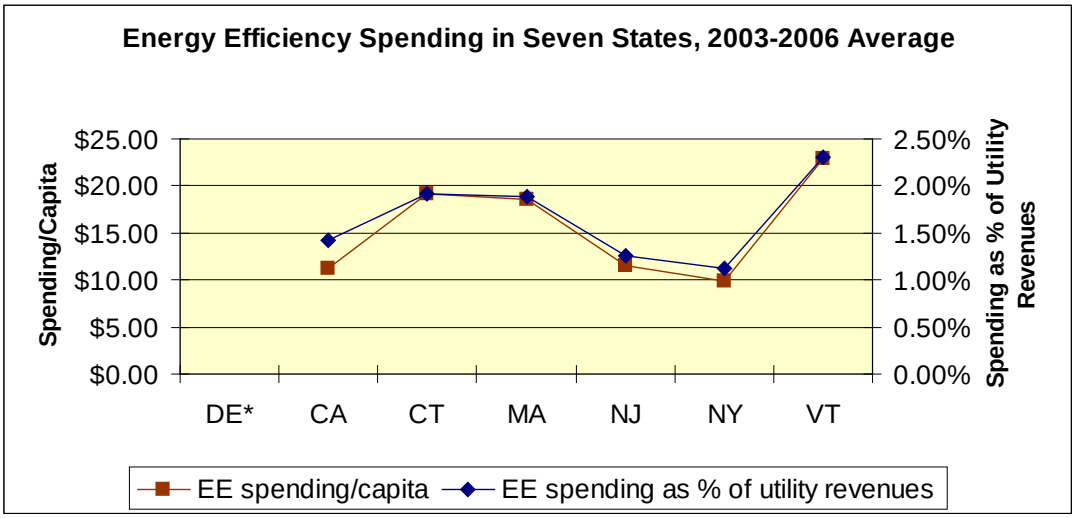
Vermont's statewide low-income energy programs include the Weatherization Trust Fund and EEU programs. The Trust Fund is financed through a 0.5% gross receipts tax on regulated utilities and all non-transportation fuels except wood ($4 to $6 million annually). Trust Fund money represents 83% of state monies for low-income weatherization, whereas federal WAP money comprises 17% of the total available funding. Average weatherization participants save $234 per year.

The EEU contract stipulates that 15% of funds must be spent on low-income services ($2.23 million in 2006). The EEU's programs target low-income single-family homes and multifamily homes. Each of these programs offers weatherization services. The EEU weatherizes approximately 1,000 low-income single-family homes each year, in addition to almost all subsidized affordable multifamily housing.

Clean Vehicle Services

Currently, under Vermont law, there are no government incentives to buy clean vehicles. This is mostly due to the current backlog of orders to purchase hybrid vehicles in the state. Some government officials have interpreted this backlog to mean that no further incentives are needed. However, in his 2007 inaugural address Governor Jim Douglas proposed a percentage point reduction in the purchase and use tax on hybrid and fuel-efficient vehicles.

2.1.7 Energy Efficiency Summary



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 2.2 Energy Efficiency Spending

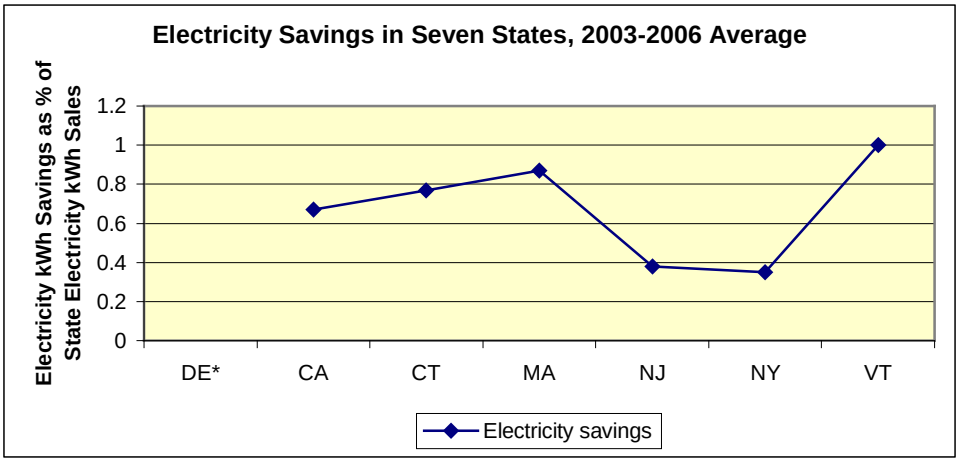


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Figure 2.3 Electricity Savings

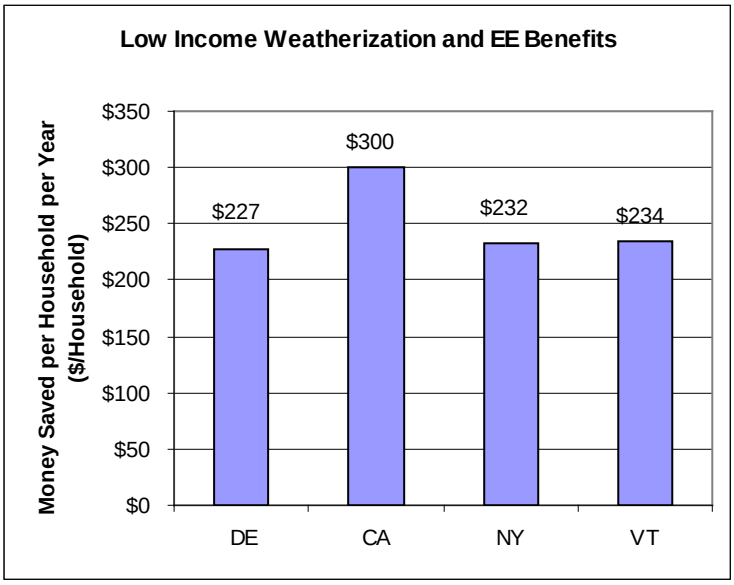

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Figure 2.4 Low Income Weatherization and Energy Efficiency Benefits

2.1.8 Delaware's Weatherization Opportunity

Like many of the state leaders described above, Delaware has a high-performing low-income weatherization program. Delaware households that receive weatherization save on average 16%-18% of their annual household energy usage, or $227 annually.[27] These benefits accrue for years after the initial efficiency improvements. Delaware's Weatherization Assistance Program benefits not only low-income households, but the entire State, achieving a societal benefit-cost

[27] CEEP (2006) *Energy, Economic and Environmental Impacts of the Delaware Low-Income Weatherization Assistance Program, Final Report*, page 2. Available at: http://ceep.udel.edu/energy/publications/2006_es_weatherization%20program_evaluation_Delaware.pdf

ratio of 3.4.[28] Additionally, the U.S. Department of Energy has found that 52 direct jobs are created for every million dollars invested in weatherization programs.[29]

Unlike these state leaders, however, Delaware has significantly under-invested in low-income weatherization programs. Delaware currently augments federal funding for its Weatherization Assistance Program by a weatherization surcharge on electricity rates of $0.000095 per kWh (about $800,000 annually). Combined federal and state funding allows the Delaware Office of Community Services to weatherize 500 low-income households per year. Though 500 households are weatherized each year, 750 households at 200% of the federal poverty level are added to the WAP waiting list each year, 120 households at 60% of state median income are expected to be added to the wait list next year, no households at 80% of the state median income are currently served, and no households in rental units are served, though many states have demonstrated techniques to successfully leverage landlord contributions to weatherization assistance.[30] The SEU Task Force Affordable Energy Working Group noted the SEU's opportunity to serve at least 800 additional households per year. The Working Group recommended that the SEU expand cost-effective, weatherization services to income tiers up to 80% of the state median income, and to both single and multi-family rental units.

2.1.9 A Buildings-Based Energy Efficiency Model for Delaware

As state sustainable energy programs have evolved over the last three decades, they have begun to reorganize to emphasize competitively selected third-party program implementers and comprehensive services that cross fuels and energy end-uses. This strategy is particularly important considering that buildings are responsible for almost half of U.S. energy consumption, and three-quarters of U.S. electricity consumption.[31] And yet, buildings also have tremendous potential to consume less energy and to be producers of clean, renewable energy. The American Institute of Architects presented to the SEU Task Force its recommendations that new buildings and major renovations should consume 50% less than the national average for that building type, and buildings should be carbon neutral by 2030.[32] To achieve this goal requires building-based energy efficiency for all fuels and end-uses including weatherization and other building envelope improvements, customer-sited renewable energy, and clean vehicles, an intimate part of daily household and business life.

Delaware's SEU completes the model for competitively delivered sustainable energy services begun chiefly by Vermont and New Jersey. Though both Vermont's EEU and New Jersey's Clean Energy Program are remarkably successful, they have yet to capture the synergistic benefits of having a single statewide clearinghouse coordinate sustainable energy services across all end-use markets and all end-use fuels. The SEU model will use competitive contracts and performance incentives to build in-state markets for energy services. The SEU can leverage private sector investment in public purpose energy services to help overcome disincentives that

[28] Ibid, page 2.
[29] Ibid, page 5.
[30] Ken Davis, Chair, SEU Task Force Affordable Energy Working Group. Presentation to the Task Force, February 6, 2007. Available at: http://www.seu-de.org/docs/Affordable_Energy.pdf.
[31] Dan Wrightson (for the American Institute for Architects), Presentation to the Task Force, February 20, 2007. Available at http://www.seu-de.org/docs/Wrightson_AIA_Presentation_2-20.pdf
[32] Ibid.

prevent people from benefiting from the cost-saving and carbon-saving energy improvements available in other leadership states. As a comprehensive market resource, the SEU will minimize administrative costs compared to other states with multiple administrators. It will also provide Delawareans with a single point-of-contact to maximize public participation.

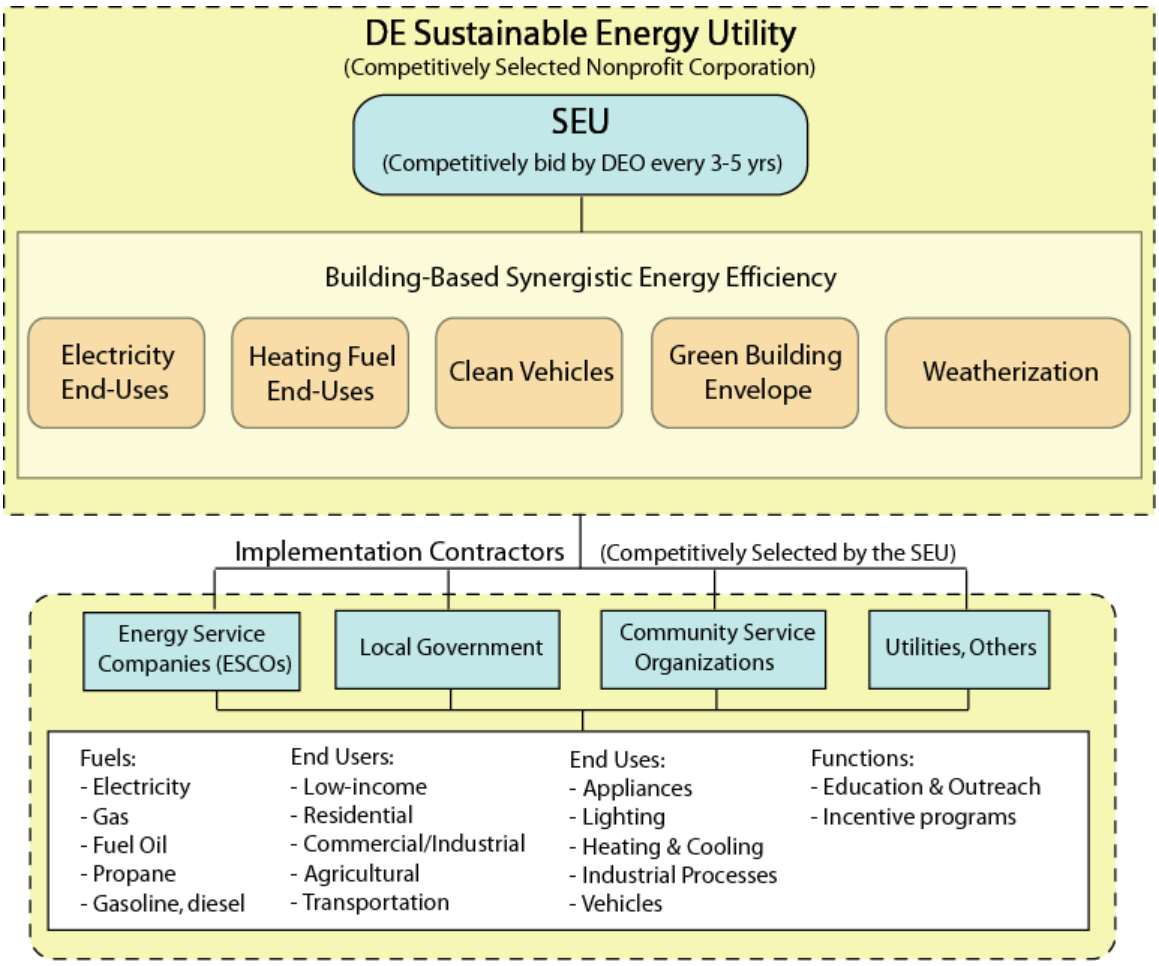

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Figure 2.5 A Buildings-Based Model for the SEU

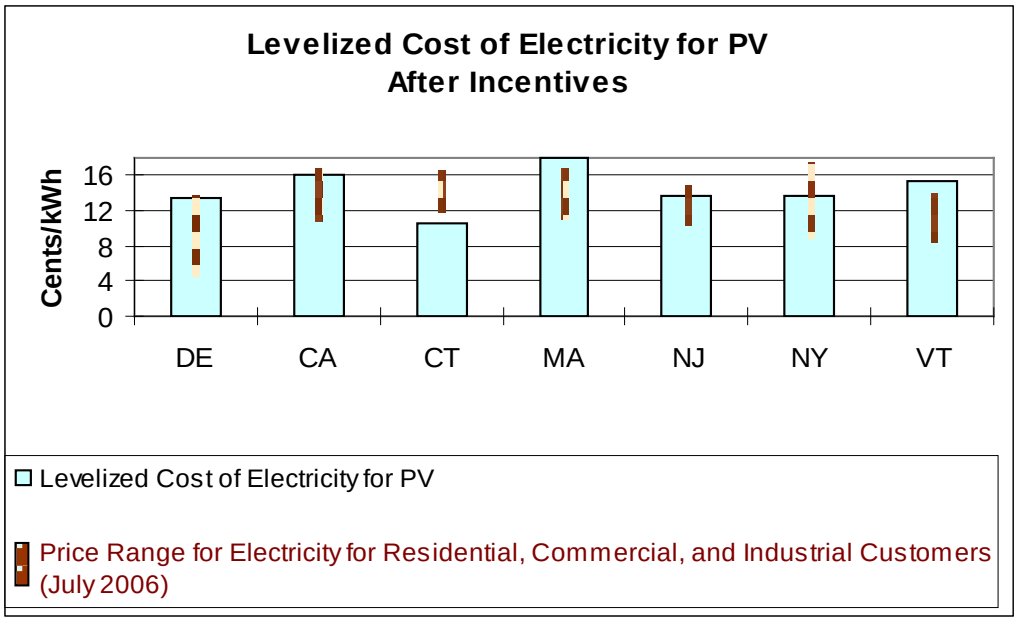
2.2 Lessons for Promoting Customer-Sited Renewable Energy

With good policy and effective incentive programs, states can allow customer-sited renewable energy technologies to compete with retail conventional electricity. All but one of the six states reviewed by the Task Force have well-established and successful programs for customer-sited renewables[33]. All of the states use incentives to lower barriers that prevent households and businesses from benefiting from renewable energy systems. As shown in Figure 2.6, these

[33] The exception is Vermont, which began providing state incentives for renewables in 2003 but only established a renewable energy fund in 2005 with the creation of its Clean Energy Development Fund.

incentives help to cover most of the incremental costs for purchasing renewable energy, thereby making renewable energy generation competitive with retail electricity. The Task Force recommends that SEU incentives, combined with a viable REC market, cover the entire incremental cost between customer-sited renewable energy systems and conventional retail energy. The following sections highlight the organizational structure, level of and sources of funding, and accomplishments of each state's renewable energy programs.

Customer-sited renewable energy has several unique benefits compared to utility-scale renewables and conventional power plants. Because customer-sited renewables are located at the point of energy use, they can greatly reduce transmission and distribution line congestion that results from transporting electricity over long distances. Customer-sited distributed energy improves electricity reliability and voltage stability with the positive effects of reducing the potential for power outages and improving electricity quality. By generating electricity at the customer's point of use during times of high peak system demand, customer-sited renewables, solar in particular, can reduce both peak and overall demand for conventional primary energy sources, thereby driving down the retail energy costs, offering protection against price spikes, and creating an immediate and tangible reduction in CO_2 emissions.[34]



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 2.6 State-Paid Cost Premiums Needed to Match Retail Electricity Prices from Conventional Energy Sources

2.2.1 California

California has one of the longest-running and most successful renewable energy programs in the country. California began collecting a system benefit charge for renewables in 1996. Two

[34] Utility-scale renewable energy projects may not result in an immediate cut in CO_2 emissions because no less electricity is being generated from fossil fuel sources. Utility-scale renewables therefore normally offset potential future emissions. Customer-sited renewables, by contrast, create an actual reduction in electricity generated from conventional plants by reducing or eliminating demand for electricity from the grid.

agencies oversee California's renewable energy programs: the California Energy Commission (CEC) and the California Public Utilities Commission (CPUC). Prior to 2007, the CEC provided financial incentives for renewable energy systems less than 30 kW in size, while the CPUC and utilities administered incentives for systems greater than 30 kW. The California Solar Initiative reorganized these programs in the beginning of 2007. Now the CPUC oversees all solar incentive programs in addition to other renewables greater than 30 kW, while the CEC administers a new Solar Homes Partnership and non-solar incentives for systems less than 30 kW.

Both the CEC and CPUC programs are funded through a public goods charge of approximately 0.8 mills per kWh, plus incremental demand rates from investor-owned utility ratepayers. Municipal utilities and electric cooperatives may choose to participate in these programs by collecting an equivalent surcharge. Total funding for the California Solar Initiative is $2.167 billion from 2007 to 2017. Average annual spending for renewable energy programs from 2003-2006 was $220 million, equivalent to $6.09 per capita, or 0.77% of utility revenues.

Solar

California's incentives have been tremendously successful in encouraging customer-sited renewable energy development, particularly solar PV. The CEC's programs helped fund over 107 MW of customer-sited PV through 2006. The California Solar Initiative will add 3,000MW of new in-state solar capacity by 2017. California's incentives help customers purchase solar systems at about 16¢/kWh, which is less than the California's average residential retail price for electricity. These incentives cost the state approximately 8¢/kWh. Like California, the SEU can effectively cover the full incremental cost for customer-sited solar to help spur rapid growth of customer-sited PV.

2.2.2 Connecticut

The Connecticut Clean Energy Fund (CCEF) is run by a quasi-public organization called Connecticut Innovations since 1998. Connecticut Innovations administers the CCEF with oversight from the Department of Public Utility Control and the Energy Advisory Board. The CCEF is funded through a systems benefit charge of 1 mill per kWh, which averaged to $34.1 million annually for 2003-2006. This funding level equals $9.71 per capita and 0.97% of utility revenues. Through renewable incentive programs such as rebates and grants, the CCEF has helped to fund over 2 MW of renewables from 2004-2006.

On-site Renewable Distributed Generation

Connecticut's On-site Renewable DG Program is a $21 million program that funds CCEF central goal of promoting clean energy generation in Connecticut. Through the On-site Renewable DG Program, CCEF offers financial support to buy down the cost of renewable energy generating equipment. The level of support for individual awards varies based on the specific economics of the installation. Funding is available for wind, solar, fuel cells, biomass, landfill gas, and small hydropower.

Solar Thermal

Realizing the energy saving potential of solar thermal technologies, Connecticut has made a variety of incentives available. The CCEF provides low-interest loans for solar thermal systems

in pre-development, grants for on-site installations of small to medium size, and for systems larger than 1 MW, a premium of 5.5¢ per kWh for up to a 10-year contract. The SEU will likewise promote the establishment of a solar thermal market in Delaware through incentives and education and awareness campaigns.

2.2.3 Massachusetts

Massachusetts' Renewable Energy Trust, like the CCEF, is run by a quasi-agency called the Massachusetts Technology Collaborative (MTC), which is overseen by its own board of directors with no direct oversight from any other state agencies. MTC administers its programs through grants, solicitations, and other incentive agreements. The Trust is funded through a systems benefit charge of 0.5 mills per kWh for investor-owned utilities and municipal utilities that choose to participate. MTC spend an average of $48 million annually for 2003-2006, which amounts to $7.56 per capita or 0.77% of utility revenues.

Massachusetts' accomplishments in promoting customer-sited renewable energy include the installation of nearly 6 MW of onsite renewables and grants to help 16 schools become green schools, with many more in-line to receive these incentives in the coming years.

Community Wind
One of Massachusetts' innovative programs is the Community Wind Collaborative. Through this program MTC provides technical assistance and financial support for community-level wind projects, usually of 1-3 turbines. MTC uses their expertise in wind development, permitting, and financing to help towns and cities navigate the sometimes difficult journey to installing turbines. These projects help create strong community support for renewables by connecting a community directly with a renewable energy source. The SEU should focus on the many creating opportunities for distributed community- and farm-owned wind projects.

2.2.4 New Jersey

New Jersey's Clean Energy Program (CEP) encompasses both energy efficiency and renewable energy programs. The program is undergoing a transition to a third-party management structure. In the new structure, the Office of Clean Energy hires a state-employed Contract Manager, who in turn contracts for a Fiscal Agent and a third-party Program Coordinator. Under the supervision of the Program Coordinator are three third-party Market Managers (Residential, Commercial and Industrial, and Renewable Energy) who design and carry out the CEP initiatives.

The CEP is funded through a system benefits charge of 0.41 mills per kWh, with which an average of $28 million annually was spent on renewable energy from 2003-2006. This amounts to $3.20 per capita and 0.35% of utility revenues. The CEP incentives have encouraged the installation of over 26 MW of renewable energy since 2001. The CEP has set a goal to install at least 90 MW of solar PV by the end of 2008.

Solar
New Jersey has seen an incredible increase in solar PV installations recently, due largely to its progressive renewable portfolio standard (RPS), which contains a separate solar requirement that

energy suppliers must comply with or face stiff compliance payments. Because of this policy, solar renewable energy certificates (SRECs) in New Jersey sell on an open market for $200-$250/MWh. These REC payments direct financial benefits back to the system owners, often residential customers, and enable an increasing number of people to afford solar panels. The Task Force strongly recommends that Delaware adopt a similar RPS policy with a solar carve-out and high alternative compliance payments.

2.2.5 New York

New York's major renewable energy programs are split between three entities: the New York State Energy Research and Development Authority (NYSERDA), the New York Power Authority (NYPA), and the Long Island Power Authority (LIPA). NYSERDA administers energy efficiency and renewable energy programs for several utilities, while NYPA administers programs to state and local government entities and LIPA administers programs on Long Island.

NYSERDA renewable energy programs are funding through a systems benefit fund which varies from utility to utility, but averages to approximately 0.16 mills per kWh for renewable energy. LIPA receives part of this funding as well, with the two organizations spending approximately $48 million annually in 2003-2006. This represents $2.52 per capita and 0.29% of utility revenues.

NYPA, by contrast, is funding fully through private investment bonds. NYPA spends around $100 million a year on energy efficiency and renewable energy projects. The Clean Water/Clean Air Bond Act of 1996 authorized bonding of $75 million for low-emission buses and electric vehicles, $125 million for a Clean Air for Schools program, and $55 million for state agencies to have clean-fuel vehicles and mass transit options. The Task Force recommends that the SEU should have bonding authority of up to $30 million to take advantage of these types of programs that have stable and significant pay-backs.

Together these three programs have helped to install 8.7 MW of renewables in New York since 1996.

2.2.6 Vermont

Like Delaware, Vermont has a relatively new program for promoting renewable energy. The Clean Energy Development Fund (CEDF), which began in 2005, is administered by the Department of Public Service. The main program of the CEDF is the Solar and Small Wind Incentive Program, a rebate-style incentive program for solar and wind systems. The Fund receives money from two Memoranda of Understanding between the state and Entergy over issues with the utility's nuclear facility. Funding will be between $6.2 and $7 million annually until 2012. As a result of patchy funding in the past, the Solar and Small Wind Incentive Program has helped to install only 434 kW of renewables since 2003.

Like Delaware, Vermont realizes it can do more to promote renewable energy. Currently the State Legislator is considering H127, which greatly increase Vermont's RPS so that renewable resources will make up 25% of the state's load by 2012, and 40% by 2018. If passed, this will be

one of the strongest RPS laws in the nation. The Task Force recommends a relatively modest RPS increase for Delaware, to 20% renewable sources of electricity by 2019.

2.2.7 A Model for Delaware

Based on extensive research into each of the leading states, the Task Force determined a number of important characteristics which together should serve as a model for Delaware in designing the SEU. In each of these states a system benefits charge has provided an essential funding source. Delaware's current mill rate of 0.178 mills per kWh for both energy efficiency and renewable energy programs is considerably smaller than most of the states' mill rate for renewable energy alone. These states have shown that a commitment to renewable energy funding through a strong mill rate can provide the consistency and support needed to promote customer-sited renewables.

New Jersey's incredible recent growth in solar PV installations is in part thanks to a solar carve-out in their Renewable Portfolio Standard. By requiring that a certain percentage of the state's electricity come only from solar and setting a high alternative compliance payment, the New Jersey legislature created a market for solar renewable energy credits that sell for $200 per MWh. This REC market has in turn boosted the state's solar market, so that it is now the fastest growing in the nation. In presentations from the Customer-sited Renewable Working Group to the Task Force, both Brian Gallagher and Scott Johnson emphasized the need for Delaware to create a similar RPS policy.

Most of the states researched by the Task Force are structured so that semi-independent or fully independent entities administer the renewable energy programs. Connecticut and Massachusetts' programs are run by quasi-agencies with independence from other state entities. New Jersey is transitioning toward a model pioneered by Vermont in energy efficiency, in which third-party organizations are independently contracted to administer the whole or parts of the programs. New York, New Jersey, and Connecticut have also found that housing renewable energy and energy efficiency programs under one overarching organization is a way to ensure cross benefits and reduce administration costs and customer confusion. Delaware's has an opportunity to learn from these experiences by structuring the SEU so that it is independently contracted, competitively bid, and comprehensive of all areas of sustainable energy.

III. DELAWARE'S SUSTAINABLE ENERGY OPPORTUNITY

Compared to the state leaders described in Section II, Delaware does not currently have the policy infrastructure to fully realize its sustainable energy options. Each of these leadership states created a complementary set of long-term goals, strategies, performance benchmarks, and monitoring and verification mechanisms to drive the development of statewide sustainable energy services. The SEU is a means to place Delaware among, if not above, the best-practice standards set by leadership states.

All leadership states require the use of systematic planning and evaluation to help residents and businesses benefit from sustainable energy options. Delaware has performed significant preliminary planning in the form of the Climate Change Action Plan and the Governor's Energy Task Force, both of which demonstrate Delaware's vast potential for energy efficiency savings.

3.1 Estimating Delaware's Energy Efficiency Potential

The Delaware SEU can save 30% in total statewide energy use within the next 8 years by using a building-based approach to saving energy in all sectors and for all fuels.

Delaware's Climate Change Action Plan of 2000 (DCCAP) examined Delaware's immediate potential to cut CO_2 emissions across all sectors and fuels and supports the SEU's initial performance targets. DCCAP found that Delaware has the potential to reduce CO_2 emissions by 32% by 2010, or 7% lower than 1990 levels[35], with existing technologies and best-practices. The Governor's Energy Task Force found in 2003 that Delaware has the ability to reduce energy consumption per capita by 30%, a target that "corresponds with the level of reduction suggested by the Delaware Climate Change Action Plan."[36] Delaware has yet to establish an aggressive sustainable energy program on the scale of the SEU; thus the potential reported by these comprehensive studies still remains.

3.2 Delaware's Building-Based Efficiency Potential

The SEU will use incentives to eliminate the cost-difference between Energy Star and conventional appliances. Appliance efficiency programs, for example, use incentives to create energy savings in two ways: by increasing the percentage of sales that are Energy Star-rated, and by increasing the overall appliance turnover rate. Figure A shows the energy savings that result from increasing the percentage of Energy Star sales in Delaware. Figure B shows the cumulative savings from increased Energy Star sales and increased turnover of old appliances.

SEU Task Force Research Staff estimated Delaware's recoverable energy efficiency potential with an SEU program model and existing technologies. The sample analysis below borrows from the methodology of the Climate Change Action Plan and the Governor's Energy Task Force.

[35] Delaware Climate Change Action Plan, 2000, page 7. Available at: http://www.seu-de.org/docs/DE_Climate_Change_Action_Plan.pdf

[36] Governor's Energy Task Force, Conservation and Efficiency Working Group, Final Report, 2003, page 4. Available at: http://www.seu-de.org/docs/Governors_Energy_TF_EE_Report.pdf

Research Staff assessed all fuels in the residential, commercial and industrial sectors, and also examined vehicle efficiency, green buildings, and weatherization. The Staff used EIA data to identify trends in energy use, Energy Star use, equipment replacement rates, and energy use forecasts by fuel and sector. Figures 3a and 3b below illustrate sample calculations of the SEU's energy savings potential, considering a portion of residential electricity market. Table 3.1 in the following section translates these savings into consumer cost-savings and SEU operating revenue.

Table 3.1 Estimates of Annual Electricity Savings for Targeted Residential Appliances

Part a. Residential Energy Efficiency Potential - Targeted Appliance Turnover Estimates

		Delaware Appliance Stock		Existing Appliance Sales Rate				
	Appliance Type	Total % of households with 1 or more appliances[1]	Estimated Total No. of Appliances Based on No. of Delaware Households (assumes 1 per household)[2]	Average National Replacement & New Sales Rate[1]	Estimated Delaware Sales for Replacement & New Sales	% of 2004 Sales that are Energy Star rated[3]	Targeted Energy Star Replacement rate (%)	Incremental Energy Star Replacement (no. of units)
Electricity	Refrigerators	100%	382,828	10%	39,151	30%	60%	11,745
	Clothes Washers	85%	325,404	10%	34,145	26%	50%	8,195
	Central AC w/o Heat Pump	51%	195,242	12%	23,306	33%	66%	7,691
	Central AC w/ Heat Pump	8%	30,626	17%	5,112	33%	66%	1,687
	Freezers	33%	126,333	7%	9,295	30%	66%	3,346
	Room AC	14%	53,596	32%	17,130	30%	66%	6,167
	Water Heaters - Electric	69%	264,151	11%	29,613	30%	66%	10,661

1. Based on EIA Residential Energy Consumption Survey, South Atlantic Region, 2005.
2. Based on U.S. Bureau of Census, 2008 (which provides the estimated number of Delaware household in 2006).
3. Based on U.S. DOE Energy Star and EIA.

Part b. Residential Energy Efficiency Potential - Targeted Appliance Turnover Estimates

		Increase In Older Appliance Turnover			Annual Energy Savings		
	Appliance Type	Approximate No. of Appliances > 10 years old (i.e. likely to be replaced)[4]	Targeted Increase in Replacement Rate (%)	Targeted Incremental Replacements, Units > 10 years old (no. of units)	Total Targeted Energy Star Sales per year	Average Annual Electricity Savings per unit (kWh) (difference between E-Star and >10yr-old appliance)[5]	Total Annual Energy Savings (kWh/yr)
Electricity	Refrigerators	134,078	15%	20,112	29,277	750	21,957,808
	Clothes Washers	86,445	15%	12,967	19,361	815	15,779,573
	Central AC w/o Heat Pump	63,370	15%	9,505	15,507	1,794	27,819,788
	Central AC w/ Heat Pump	38,952	15%	5,843	7,159	1,511	10,817,399
	Freezers	79,389	15%	11,908	14,520	609	8,842,425
	Room AC	10,232	15%	1,535	6,347	385	2,443,587
	Water Heaters - Electric	97,648	15%	14,647	22,966	375	8,612,300
	Total	510,114	N/A	76,517	115,137	.....N/A	96,272,880

4. Based on EIA Residential Energy Consumption Survey, South Atlantic Region, 2005. To create an estimate for 2006, the growth in Delaware household for the period 2004-2006 was applied.
5. Based on Database for Energy Efficiency Resources (DEER) California; EIA Buildings Energy Data Book 2005, Energy Star. Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

3.3 Delaware's Customer-Sited Renewable Energy Potential

Delaware can create vibrant markets for customer-sited renewable energy with effective policy based on current best practices. Delaware's proposed renewable portfolio standard (RPS) upgrade would require electricity providers to procure 20% of their electricity from renewable resources by 2019, with a 2% solar photovoltaics (PV) carve-out. This upgrade would bring Delaware into alignment with New Jersey's nation-leading solar market, which is growing annually at over 50% and has sustained solar renewable energy certificate (REC) prices of over $0.20 per kWh.

With an SEU-managed Delaware Green Energy Fund and a robust RPS, the SEU can use both incentives and competitive market forces to make customer-sited renewable resources fully competitive with retail electricity.

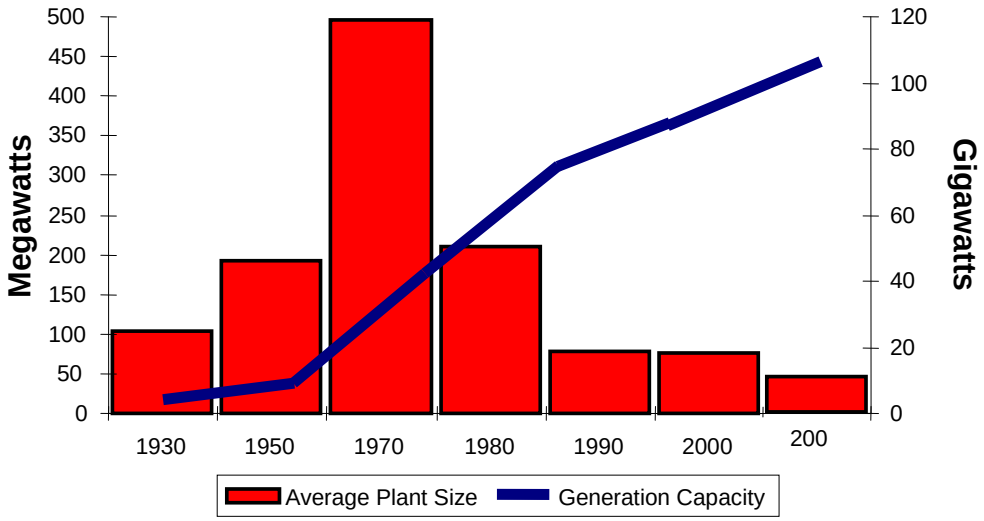
Several other states are working along similar paths. The Vermont legislature is currently considering legislation that would require 40% of its electricity resources to be produced from local renewable resources by 2018. Maryland's legislature is considering a bill that would create a 2% solar carve-out by 2022. California is working to increase its RPS to 33% by 2020.

Table 3.2 Proposed Delaware Solar Carveout

Year	Percent of Delaware Electricity Sales	Cumulative Installed PV Capacity (kW)	Annual Installed PV Capacity (kW)
2008	0.011%	700	80
2009	0.014%	878	178
2010	0.018%	1,193	315
2011	0.048%	3,320	2,127
2012	0.099%	7,061	3,741
2013	0.201%	14,678	7,617
2014	0.354%	26,670	11,992
2015	0.559%	43,354	16,683
2016	0.803%	64,131	20,778
2017	1.112%	91,463	27,332
2018	1.547%	131,143	39,679
2019	2.000%	175,039	43,897

By further encouraging utilities to meet RPS requirements with customer-sited resources Delaware can install over 100 MW of customer-sited solar electric systems, plus an additional 200 MW or more of customer-sited geothermal, solar thermal, and wind systems on homes, businesses, and farms. These combined resources would provide Delawareans with at least 300 MW of customer-sited renewable resources by 2019.

The emphasis on distributed renewables is consistent with power plant capacity trends in the U.S. Since the 1970s, unit capacity of generating facilities has declined greatly (Figure 3.1).



Sources: T. R. Casten (1995) *The Energy Daily* (September 7), Hirsh. 1999: 274; and *EIA Electric Power Annual* (1981, 1990, 2000, 2006)

Figure 3.1 Trends in U.S. Power Plant Capacity

3.4 SEU Economics

SEU Task Force Research Staff developed an economic model for the SEU. This model examines the estimated costs of building efficiency programs in the residential and commercial/industrial sectors, transportation energy efficiency programs, renewable energy programs, marketing and education, and SEU administration. The Staff then examined four potential funding sources: the green energy fund, sales from RECs, an energy shared savings programs, and tax-exempt activity bonds. The model demonstrates how the SEU can meet ambitious performance targets with minimal public liability and maximum leveraged private participation. Low-income programs were considered in a separate financing analysis.

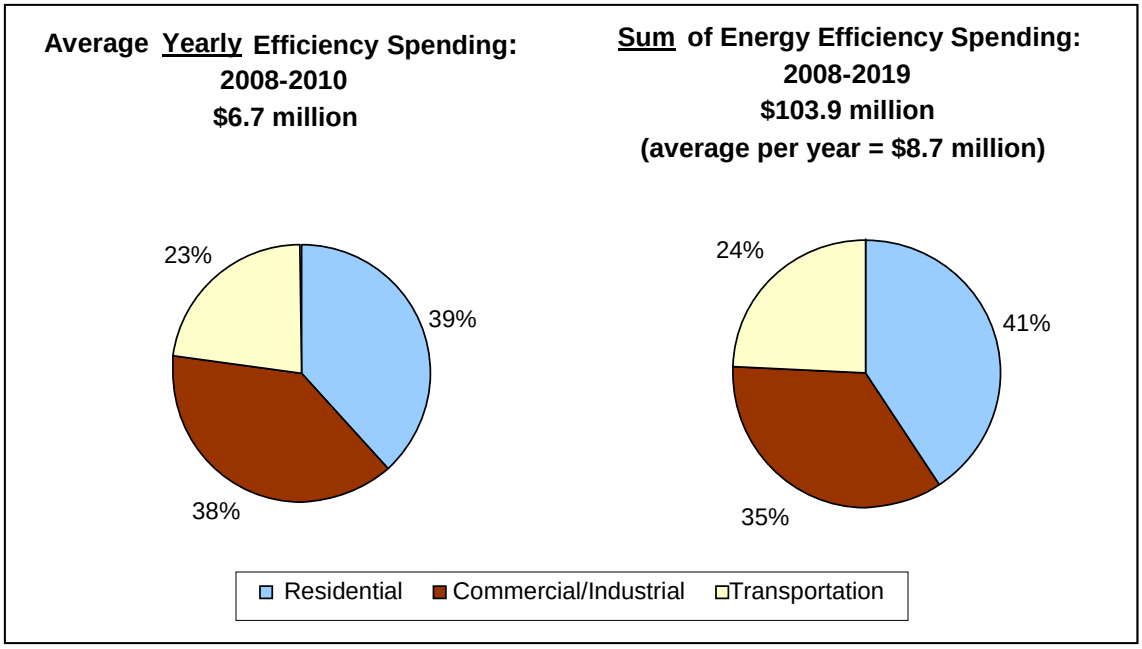
To estimate the costs of providing building-based energy efficiency services capable of saving participating households and businesses 30% of their energy use by 2015, Staff assumed a reasonable participation rate increase from just 3% in the SEU's first year to 33% by 2015 and 50% by 2019. Using the average cost per unit saved estimates from other states (increasing yearly as 'low-hanging fruit' are captured), Staff determined the incremental cost of the efficiency upgrades. A large portion of this cost represents the price to deliver packaged building-based energy services which will be paid upfront by the SEU. A portion of the savings value will "shared" with customers for the first five years of savings, thus creating a "shared savings" funding stream to repay initial SEU investment. Other efficiency upgrades not part of packaged services would be given incentives at lower amounts. Added to this cost are implementation costs and rate of return for the contractors doing the on-the-ground work, resulting in the total costs.

Table 3.3 Residential Sector Efficiency Savings in Electricity

Year	Consumption[1] (million MWh)	Participation Rate	Savings Target[2] (million MWh)	Cost/Unit-Saved[3] ($/kWh)	Incremental Cost of High Efficiency Option	Public $ for EE Incentives[4]	Implementation Costs & Rate of Return for Contractors	Incentives & Implementation Costs
2008	4.425575976	0.03	0.039830184	$0.030	$1,194,906	$1,075,415	$268,854	$1,344,269
2009	4.474257312	0.035	0.046979702	$0.035	$1,644,290	$1,479,861	$369,965	$1,849,826
2010	4.523474142	0.04	0.05428169	$0.040	$2,171,268	$1,737,014	$434,254	$2,171,268
2011	4.573232358	0.04	0.054878788	$0.040	$2,195,152	$1,756,121	$439,030	$2,195,152
2012	4.623537914	0.043	0.059643639	$0.045	$2,683,964	$1,878,775	$469,694	$2,348,468
2013	4.674396831	0.044	0.061702038	$0.045	$2,776,592	$1,943,614	$485,904	$2,429,518
2014	4.725815196	0.046	0.06521625	$0.045	$2,934,731	$2,054,312	$513,578	$2,567,890
2015	4.777799163	0.052	0.074533667	$0.048	$3,577,616	$2,504,331	$626,083	$3,130,414
totals		0.33	0.457065957		$19,178,517	$14,429,443	$3,607,361	$18,036,803
2016	4.830354954	0.05	0.072455324	$0.048	$3,477,856	$2,434,499	$608,625	$3,043,124
2017	4.883488859	0.045	0.0659271	$0.048	$3,164,501	$2,215,151	$553,788	$2,768,938
2018	4.937207236	0.04	0.059246487	$0.050	$2,962,324	$2,073,627	$518,407	$2,592,034
2019	4.991516516	0.035	0.052410923	$0.050	$2,620,546	$1,834,382	$458,596	$2,292,978
totals		0.5			$31,403,744	$22,987,102	$5,746,775	$28,733,877

1. Based on U.S. EIA State Energy Data Systems (SEDS) data.
2. Based on SEU target of 30% savings through energy efficiency upgrades multiplied by the appropriate participation rate.
3. Based on survey of six "Best Practice" states.
4. 100% rebate equal to the incremental cost of the high efficiency option (capped by size/capacity of the device in order not encourage purchase of above-average equipment). Taken from 'Best Practice' State survey.

Table 3.3 shows the calculations for the residential electricity sector as an example. These same calculations were repeated for residential natural gas and oil and propane as well as for commercial sector electricity, natural gas, and oil and propane. Similar calculations were also done for transportation efficiency and renewable energy to determine a cost for each of these program areas. Through 2019, the average annual cost of funding the SEU is estimated to be $8.7 million. Figure 3.2 shows the relative costs of energy efficiency spending in the residential, commercial/industrial, and transportation sectors. The cost of renewable energy programs each year through 2019 is shown in Figure 3.3.



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 3.2 SEU Energy Efficiency Spending

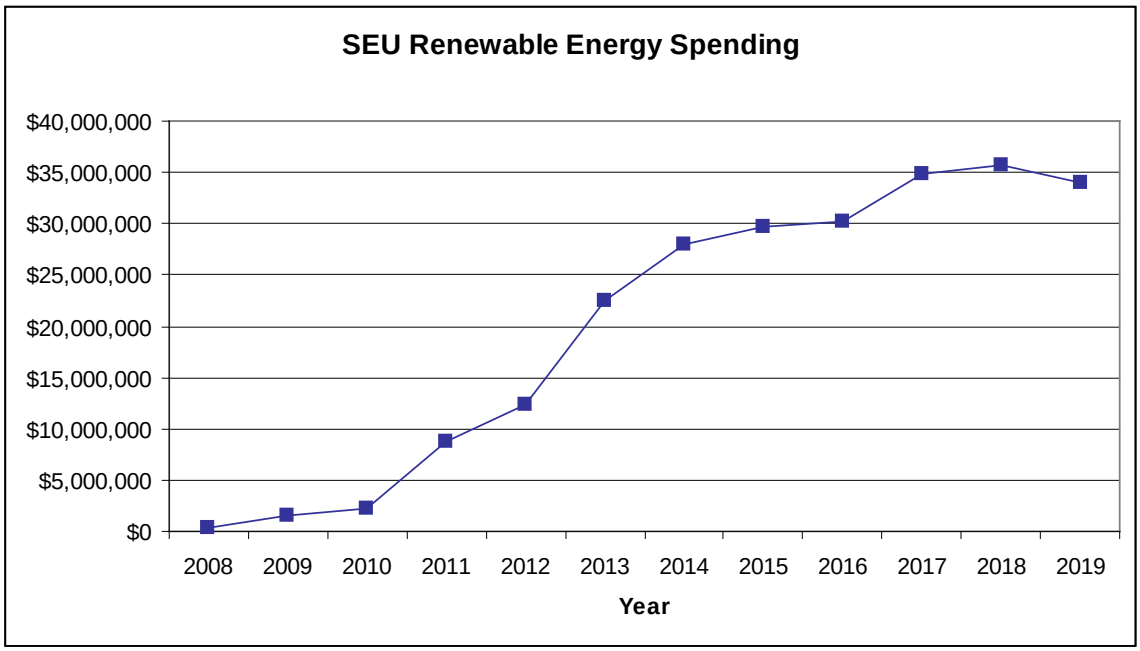


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Figure 3.3 SEU Renewable Energy Spending

Table 3.4 shows an example of SEU revenue from REC aggregation. The value of REC aggregation is small in the early years, but increases with the growth of Delaware's solar capacity as a result of the upgraded Renewable Portfolio Standard.

Table 3.4 REC Revenue Calculations

	Year	Installed Capacity From Rebate Program (kW)	Cumulative Capacity From Rebate Program (kW)	Cumulative Electricity From Rebate Program (MWh)	REC Price ($/MWh)	REC Sales ($)	SEU Aggre-gation Fee	SEU REC Income ($)
PV RECs	2008	80	700	1,002.40	$200	$200,480	0.25	$50,120
	2009	178	878	1,257.51	$200	$251,502	0.25	$62,876
	2010	315	1,193	1,708.65	$200	$341,729	0.25	$85,432
	2011	2,127	3,320	4,754.28	$180	$855,770	0.25	$213,943
	2012	3,741	7,061	10,110.92	$170	$1,718,856	0.25	$429,714
	2013	7,617	14,678	21,018.78	$150	$3,152,816	0.25	$788,204
	2014	11,992	26,670	38,191.90	$125	$4,773,987	0.25	$1,193,497
	2015	16,683	43,354	62,082.24	$100	$6,208,224	0.25	$1,552,056
Sub-total		42,734				17,503,365		4,375,841
	2016	20,778	64,131	91,836.00	$75	$6,887,700	0.25	$1,721,925
	2017	27,332	91,463	130,975.58	$50	$6,548,779	0.25	$1,637,195
	2018	39,679	131,143	187,796.12	$50	$9,389,806	0.25	$2,347,452
	2019	43,897	175,039	250,656.51	$25	$6,266,413	0.25	$1,566,603
Total		131,686				29,092,698		7,273,175

	Year	New Installed Capacity From Rebate Program - Wind, Geothermal, Solar Thermal (MW)	Cumulative Capacity From Rebate Program - Wind, Geothermal, Solar Thermal (MW)	Cumulative Electricity From Rebate Program (non-PV RE) (MWh)	REC Price ($/MWh)	REC Sales ($)	SEU Aggre-gation Fee	SEU REC Income ($)
Wind, Geothermal, Solar Thermal, and Other RE RECs	2008	7	20	52,727.80	$35	$1,845,473	0.25	$461,368
	2009	14	34	89,840.13	$35	$3,144,404	0.25	$786,101
	2010	19	53	138,888.70	$35	$4,861,105	0.25	$1,215,276
	2011	22	75	196,320.08	$30	$5,889,603	0.25	$1,472,401
	2012	25	100	262,567.46	$30	$7,877,024	0.25	$1,969,256
	2013	28	128	336,881.62	$30	$10,106,449	0.25	$2,526,612
	2014	31	159	419,159.99	$25	$10,479,000	0.25	$2,619,750
	2015	34	194	509,357.59	$25	$12,733,940	0.25	$3,183,485
Sub-total		181				56,936,996		14,234,249
	2016	38	231	607,964.26	$20	$12,159,285	0.25	$3,039,821
	2017	40	272	713,611.87	$15	$10,704,178	0.25	$2,676,044
	2018	51	323	848,383.90	$15	$12,725,759	0.25	$3,181,440
	2019	56	379	995,389.84	$10	$9,953,898	0.25	$2,488,475
Total		185				45,543,120		11,385,780

Shared energy efficiency savings comprise the SEU's greatest revenue. The Task Force envisions that the SEU will provide 'high efficiency' services for a portion of the residents and businesses in Delaware, meaning multiple efficiency upgrades will be made at once to produce a dramatic reduction in energy use for the building. The SEU will initially pay for the full incremental costs of these upgrades. To recapture some of the benefit created by this program, the SEU will share the monetary savings with the customer by claiming 1/3 of the savings for the

first five years after the renovations. The customer will keep 2/3 of the savings for five years, and will receive the full savings benefits thereafter.

Table 3.5 Projected Cash Flow of the SEU

	Expenditures					Revenues	Balance
Year	SEU Contract	SEU Program Costs (Rebates, Incentives, EM&V, etc.)	SEU / DEO Education & Marketing	Bonus Fund	Expenditure Totals	SEU Revenues: 0.25RECs + 0.33SS (yrs 1-5) + GEF Revenues	Annual Cash Balance
2008	-$800,000	-$5,953,981	-$300,000	-$100,000	-$7,153,981	$3,140,411	-$4,013,569
2009	-$816,000	-$8,823,059	-$300,000	-$175,000	-$10,114,059	$7,630,898	-$2,483,161
2010	-$832,320	-$10,520,922	-$300,000	-$192,962	-$11,846,205	$12,864,141	$1,017,936
2011	-$848,966	-$17,429,788	-$261,447	-$288,291	-$18,828,492	$19,219,402	$390,910
2012	-$865,946	-$21,628,684	-$432,574	-$392,609	-$23,319,812	$26,173,902	$2,854,090
2013	-$909,243	-$32,364,351	-$647,287	-$664,624	-$34,585,505	$33,231,192	-$1,354,313
2014	-$954,705	-$38,569,611	-$771,392	-$759,003	-$41,054,712	$37,950,155	-$3,104,557
2015	-$1,002,440	-$42,212,500	-$844,250	-$841,412	-$44,900,602	$42,070,590	-$2,830,012
Sub-totals	-$7,029,621	-$177,502,896	-$3,856,950	-$3,413,900	-$191,803,367	$182,280,690	-$9,522,677
2016	-$1,052,562	-$41,052,588	-$821,052	-$937,295	-$43,863,498	$46,864,759	$3,001,262
2017	-$1,105,191	-$44,887,443	-$897,749	-$1,020,003	-$47,910,386	$51,000,162	$3,089,776
2018	-$1,160,450	-$45,173,259	-$903,465	-$1,068,534	-$48,305,708	$53,426,697	$5,120,989
2019	-$1,218,473	-$42,744,016	-$854,880	-$1,123,466	-$45,940,835	$56,173,305	$10,232,470
Totals	-$11,566,296	-$351,360,203	-$7,334,096	-$7,563,199	-$377,823,794	$389,745,614	$11,921,820

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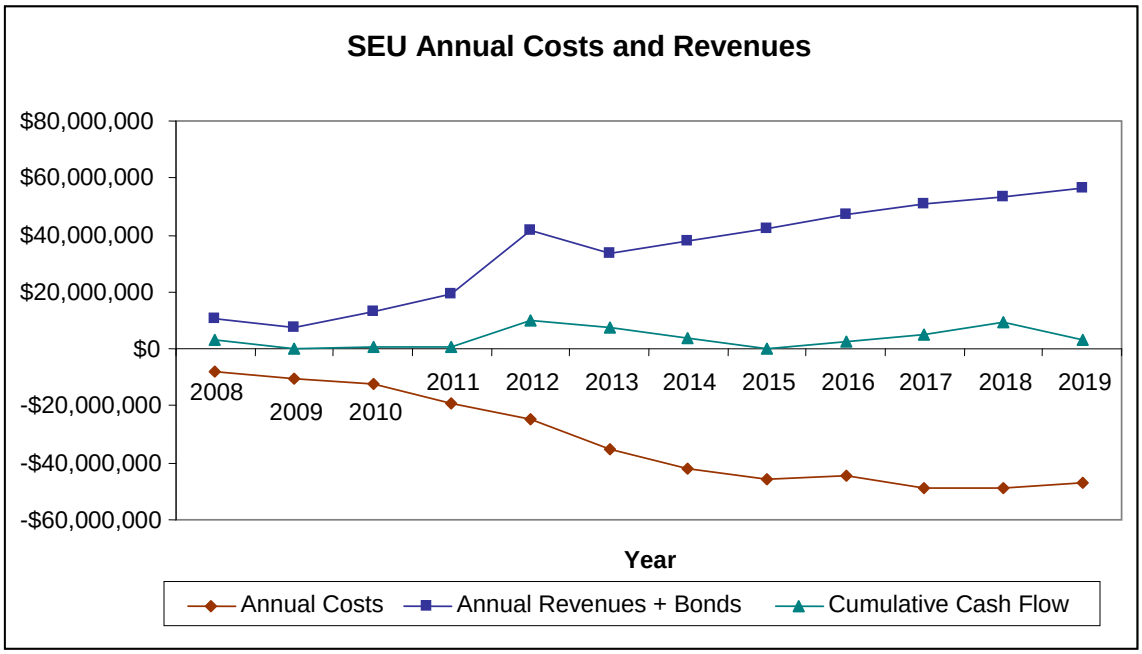
Table 3.6 An SEU Prospectus

	Net SEU Revenues (before Debt Service)	SEU Bond Debt Service								Net SEU Revenue (after Debt Service & Bond Retirement)	SEU Bottom Line
Year	Balance of SEU Costs and Revenues	Tax Exempt Bond Floats			Annual Interest Cost for Bond 1 (Yield = 5.20%)	Annual Interest Cost for Bond 2 (Yield = 5.0%)	Annual Interest Cost for Bond 3 (Yield = 4.90%)	Annual Interest Cost for Bond 4 (Yield = 4.90%)	Bond Management	Debt Totals	SEU Balance + Bond Interest Cost + Bond Principal	Cumulative Cash Flow
2008	-$4,013,569	Bond 1: 5 yr Maturity	Yield = 5.20%	$7,700,000	-$400,400				-154000	-$554,400	$3,132,031	$3,132,031
2009	-$2,483,161				-$400,400					-$400,400	-$2,883,561	$248,469
2010	$1,017,936	Bond 2:	Yield = 5.00%	$0	-$400,400	$0			$0	-$400,400	$617,536	$866,006
2011	$390,910	Bond 3:	Yield = 4.90%	$0	-$400,400	$0	$0		$0	-$400,400	-$9,490	$856,515
2012	$2,854,090	Bond 4: 8 yr Maturity	Yield = 4.90%	$15,300,000	-$400,400	$0	$0	-$749,700	-$306,000	-$1,456,100	$8,997,990	$9,854,505
2013	-$1,354,313					$0	$0	-$749,700		-$749,700	-$2,104,013	$7,750,492
2014	-$3,104,557					$0	$0	-$749,700		-$749,700	-$3,854,257	$3,896,235
2015	-$2,830,012					$0	$0	-$749,700		-$749,700	-$3,579,712	$316,523
Sub-totals	-$9,522,677				-$2,002,000	$0	$0	-$2,998,800	-460000	-$5,460,800	$316,523	
2016	$3,001,262					$0	$0	-$749,700		-$749,700	$2,251,562	$2,568,084
2017	$3,089,776					$0	$0	-$749,700		-$749,700	$2,340,076	$4,908,161
2018	$5,120,989					$0	$0	-$749,700		-$749,700	$4,371,289	$9,279,450
2019	$10,232,470					$0	$0	-$749,700		-$749,700	-$5,817,230	$3,462,220
Totals	$11,921,820				-$2,002,000	$0	$0	-$5,997,600	-460000	-$8,459,600	$3,462,220	

All Bond Interest
-$7,999,600

Total Bond Float
$23,000,000

With a $23 million special purpose tax-exempt bond the SEU can overcome a negative cash balance in early years (see Table 3.5) and maintain positive cash flow through 2019. The SEU finance model assumes the SEU will float two bonds, each with conservative interest rates. The final cash flow for the SEU is shown in Table 3.6 as the SEU Bottom Line. Annual costs, revenues, and net cash balances are shown in Figure 3.4.



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 3.4 SEU Annual Costs and Revenues

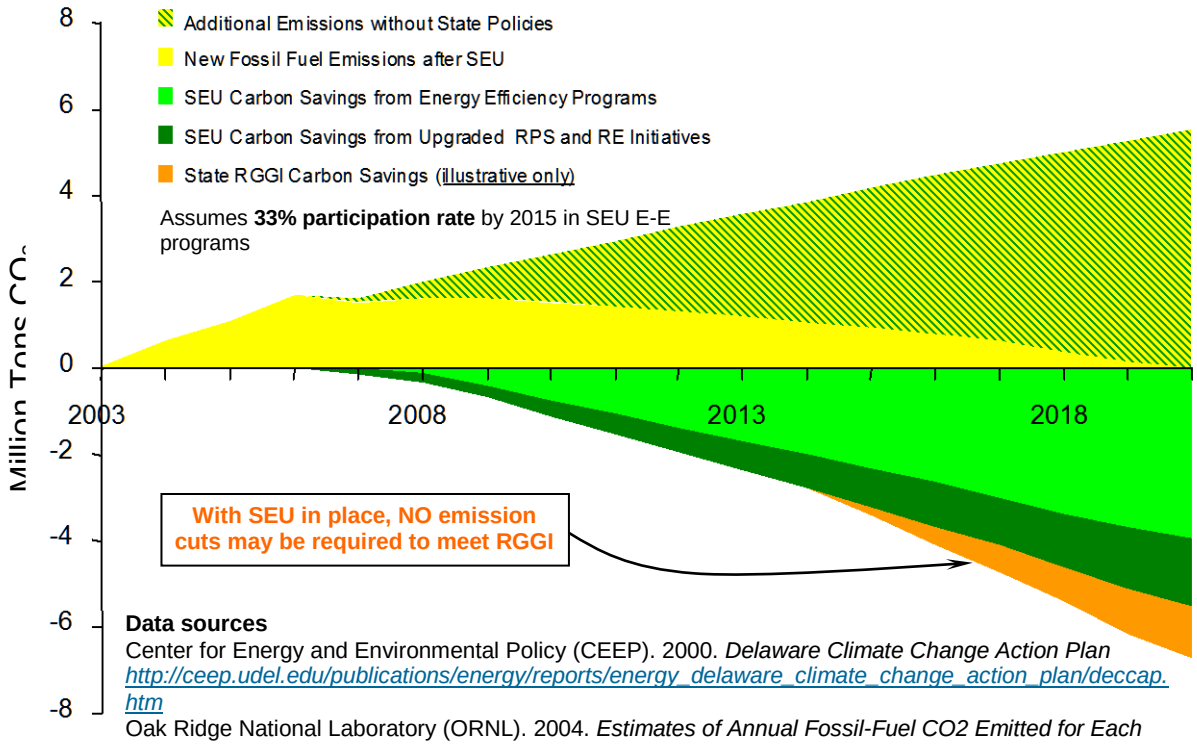
3.5 SEU CO_2 Impacts

The SEU will create real, measurable, and verifiable CO_2 savings from its first year of operation. With only 33% of Delaware households and businesses participating in SEU programs by 2015, the SEU can save Delaware 5.5 million metric tons of CO_2 emissions by 2020, or 33% of the State's current carbon footprint. This includes CO_2 savings from the SEU's building-based energy efficiency programs plus savings from the Task Force's proposed upgrades to RPS and renewable energy initiatives.

The SEU's building-based and vehicle energy efficiency programs will cut CO_2 emissions by improving services while directly reducing the amount of fossil fuels burned to provide those services. The SEU's customer-sited renewables initiatives will cut CO_2 emissions by reducing overall demand for conventional, brown energy.

The illustration below shows, in yellow and hatched yellow, an EIA and Oak Ridge National Laboratory projection of Delaware's CO_2 business-as-usual scenario. Without an SEU, Delaware's emissions are projected to grow by over 6 million metric tons by 2020 from 2003 levels. With the SEU's statewide programs in place to improve energy services in all sectors for

all fuels, Delaware can halt CO_2 growth and actually reduce emissions. The SEU savings represented in light and dark green avoid virtually all of Delaware's forecasted CO_2 growth under a business-as-usual scenario.



Data sources

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Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 3.5 Projected SEU CO_2 Impacts

IV. MODEL LEGISLATION

After carefully researching and discussing the feasibility of a sustainable energy utility in the State of Delaware, as mandated by Senate Concurrent Resolution No. 45, the Task Force recommends a suite of four pieces of legislation that together build a viable, nation-leading Sustainable Energy Utility. With this suite of legislation in place, the SEU can cut Delaware's energy waste by 30% by 2015 and promote 300 MW of new customer-sited renewable energy by 2019. The four pieces of legislation described below and included in full in Appendix I will raise the RPS and create a solar PV carve-out, bringing it to par with national best-practice; increase the Green Energy Fund and Low Income Energy Efficiency Fund rates, adding only 18 cents and 9 cents, respectively, to the average customer's monthly energy bills; update the net metering policy; and create a Sustainable Energy Utility with activity bonding authority capped at $30 million.

4.1 Raising the Renewable Portfolio Standard

Aggressive Renewable Portfolio Standards are a lead policy tool to develop in-state renewable energy resources. California and New Jersey have used their RPS and complimentary incentive programs with particular effectiveness. New Jersey, a state with similar solar resources as Delaware, has become the fastest growing solar market in the country due largely to good policy. New Jersey's RPS includes a solar carve-out and a high Solar Alternative Compliance Payment (SACP), which creates a vibrant market for solar RECs.

The SEU Task Force proposes amendments to Chapter 1, Title 26 to increase Delaware's RPS to 20% by 2019 and to require a Minimum Percentage from Solar Photovoltaics, increasing from 0.011% in 2008 to 2.00% in 2019. To encourage compliance, the bill increases alternative compliance payment (ACP) rates for each year a retail supplier fails to comply. It also sets a solar alternative compliance payment (SACP) beginning at $250/MWh and increasing each year of noncompliance. Finally, the bill revises the section on multiple credits (§356) so that *in-state* solar PV resources receive a 300% credit towards meeting non-PV generation requirements.

4.2 Increasing the Green Energy Fund and Low Income Energy Efficiency Fund

Each of the six Best Practices states examined by the Task Force has a significantly higher system benefits charge than Delaware – in some cases 10 to 20 times greater than Delaware. These funds are a key to providing meaningful incentives to help states capture the benefits of end-use energy efficiency and customer-sited renewable energy.

The Task Force proposes that Delaware double the existing Green Energy Fund to $0.000356/kWh, or 0.356 mills per kWh. This will only increase the average ratepayer's monthly bill by 18 cents per month, but will provide a stable backbone for SEU programs in their early years of operation.

Additionally, the Task Force proposes that Delaware double the Low Income Energy Efficiency Fund to $0.00019/kWh, which will add only 9.5 cents to the average customer's monthly energy bills.

4.3 Updating Net Metering Policies

The Task Force's Customer-Sited Renewables Working Group reported that well-crafted net metering laws must be in place to encourage the development of customer-sited renewables. The Task Force recommends increasing the net-metering cap to 2 MW for Delmarva Power & Light, 1.5 MW for the

Delaware Electric Cooperative, and 500 kW for Municipal Electric Companies. Proposed legislation will credit net-metered energy at a rate equal to the sum of the Delivery Service Charges and Supply Service Charges, thus giving full value to customer-sited electricity. Excess net-metered energy credits will be carried over each month until the end of the calendar year, at which time unused credits will be forfeited exclusively for Delaware's Weatherization Assistance Program or the Green Energy Fund.

4.4 Creating Delaware's Sustainable Energy Utility

The model SEU legislation creates an SEU overseen by the Delaware Energy Office, lead by the State Energy Coordinator, and an Oversight Board. The SEU is an independent nonprofit entity unaffiliated with any Delaware utility. The Energy Office will hire the SEU Contract Administrator through a competitive bidding process. The SEU Contract Administrator will plan all SEU programs and will competitively select Implementation Contractors to deliver actual services. The Energy Office will also contract for an independent Fiscal Agent who will act as the treasurer of the SEU funds. An Oversight Board will oversee the SEU's operations to ensure compliance with performance targets and to provide policy support to the legislature.

Delaware Energy Office Responsibilities
The Delaware Energy Office shall be responsible for the following:

- Preparing requests for proposals to contract the SEU Contract Administrator and the Fiscal Agent
- Determining the contract terms, including length of contract (3-5 years) and performance incentives
- Reporting biannually to the Oversight Board
- Ensuring congruity between contract periods

Oversight Board
The Oversight Board shall be made up of 15 members. It shall be responsible for the following:

- Reviewing and approving RFPs for the Contract Administrator and the Fiscal Administrator
- Reviewing and approving contract SEU performance targets recommended by the Contract Administrator
- Reviewing and approving modifications to performance targets or program designs
- Contracting with an independent agency to monitor and verify results reported by the SEU Contract Administrator.

Fiscal Agent
The Fiscal Agent will act as the SEU's treasurer. The Fiscal Agent will be responsible for receiving and disbursing SEU funds, interacting with bond and revenue authorities, and overseeing REC and solar lifeline financial transactions.

SEU Contract Administrator
The Contract Administrator shall be responsible for program research and design; administration of implementation contracts; and oversight, monitoring, and verification. Within each of these broad categories the proposed bill requires the SEU to consider overall program efficacy while also balancing services between customer classes, energy sectors, income levels, and technology types. The work of the SEU must be fuel neutral; efficiency improvements in electricity, natural gas, oil, propane, and gasoline must all be addressed. The SEU is required to maintain a high level of customer satisfaction by creating a comprehensive virtual utility that acts as a clearinghouse for all the SEU's services.

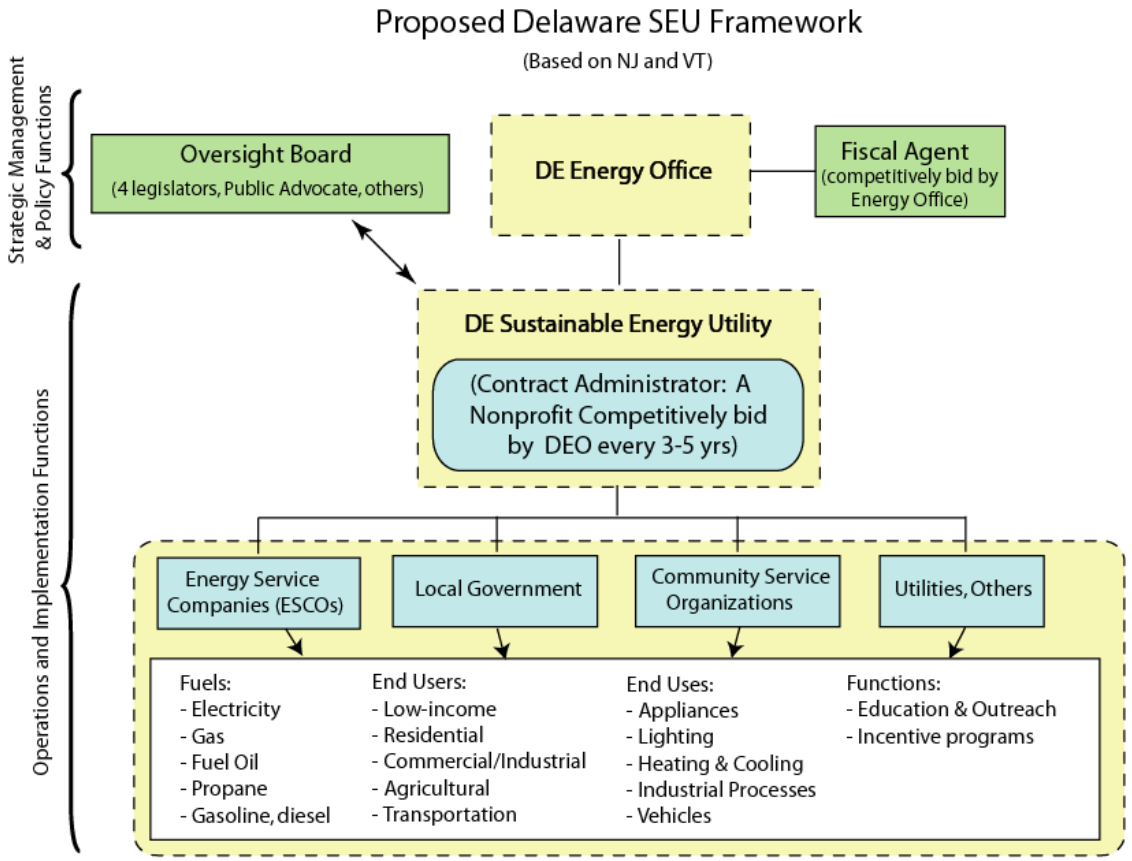

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Figure 4.1 Proposed SEU Framework

V. A DELAWARE FIRST

Delaware is justifiably known as the *First State* for being the first among the original 13 states to ratify the U.S. Constitution. Its action on December 7, 1787 assured its place in history.

Delaware now has an opportunity to create the first Sustainable Energy Utility at a time in our State's and our country's history when a new energy direction is needed.

Currently, the First State lags behind other states in the promotion and use of sustainable energy resources. After reviewing the best practices of six leading states in the nation, the Task Force believes the SEU is the proper vehicle for Delaware to catch up with existing best practices, and in fact to advance national best-practice standards by combining the most successful policy features of these states into a more comprehensive and synergistic model. We are encouraged by the recent assessment of the SEU model by a pioneer in the field, *Efficiency Vermont* (see Appendix II).

We must understand the need to set ambitious targets for the SEU and to provide it with the means to innovate on a large scale. We can gauge the extent of our challenge and the enormous benefits we will realize by pursuing the SEU model through comparing the energy intensity of Delaware's residential and commercial buildings sectors, and the comparable energy intensity of states with the necessary policies, programs and funding to enable their citizens to invest in sustainable energy options.

5.1 Delaware's Abundant Energy Efficiency Opportunities

The abundance of demand-side resources to affect Delaware electricity prices and long-term electricity needs, and the role of policy in capturing them, must be placed in perspective. For this purpose, the Task Force asked the Center for Energy and Environmental Policy to develop an econometric comparison of Delaware's performance with the six states whose policies are nationally recognized. CEEP research staff has extensively documented the energy efficiency programs and policies of California, Connecticut, Massachusetts, New Jersey, New York and Vermont, all of which are acknowledged leaders in the field of sustainable energy.[37] By contrast, Delaware and Pennsylvania have modest programs and policies with only recently supported initiatives. [38]

Thus, an analysis of the period of 2001-2005 can capture the effects of energy policies and programs in the six pioneering states and compared to the energy efficiency performance of Delaware and Pennsylvania, which have currently have comparatively minor policy and program commitments.[39]

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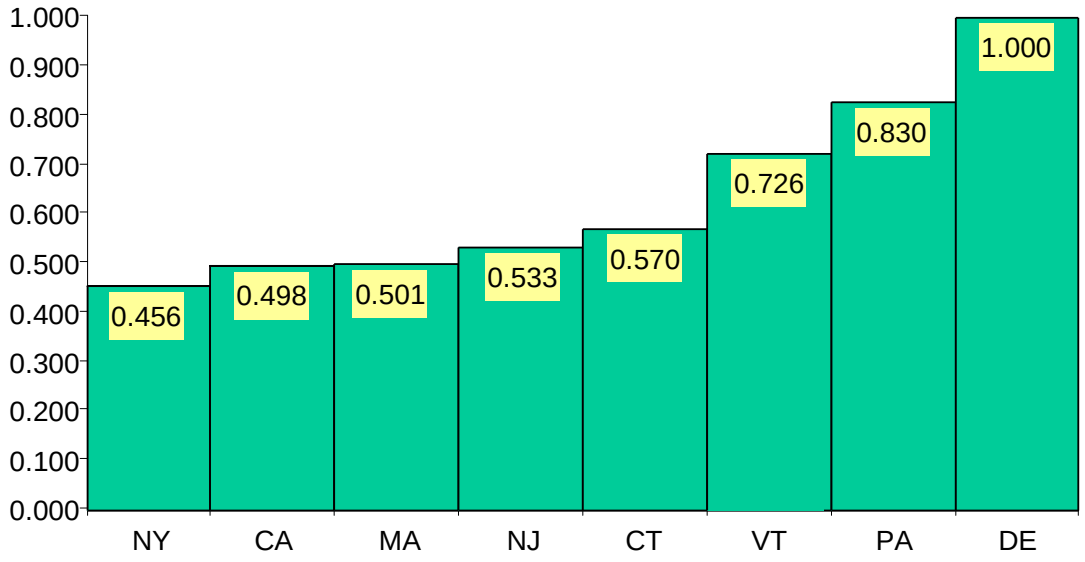
[37] See also the Task Force *Briefing Book*, Sections F and H, and Appendix A for details. Available at: http://www.seu-de.org/documents.html

[38] The econometric model prepared by CEEP researchers predicts State residential electricity intensity as a function of prices, weather conditions, and policy/program infrastructure. State residential electricity consumption and price data for 2001-2005 were gathered from the U.S. Energy Information Administration. State income data were obtained from the U.S. Bureau of Economic Analysis for the same period. Weather data (heating and cooling degree days) for each state were taken from the U.S. National Oceanic and Atmospheric Administration's records. For electricity consumption and price data, see: Energy Information Administration (EIA). 2006. *Electric Power Annual 2005 - State Data Tables.* For income data, see: Bureau of Economic Analysis (BEA). 2007. *Regional Economic Accounts*. For weather data, see: National Oceanic and Atmospheric Administration. 2007. *Historical Climatological Series 5-1* and *Historical Climatological Series 5-2*. Including Pennsylvania in the model with Delaware allows a cross-check of the model's predictions.

[39] The model of energy intensity predicted by prices, weather and policy/program commitments, successfully explains 99.5% of the variance in State electricity intensity data; all estimates of the explanatory variables are robust and all act in



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 5.1 Comparison of State Residential Sector Electricity Intensities (DE = 1.000)

The results are sobering: Delaware has the *highest* residential sector electricity intensity among the eight states. New York, California, Massachusetts and New Jersey households use *one-half or less* of the electricity used by Delaware homes, thanks to well-funded and broad-based energy efficiency and conservation policy regimens. Because their programs were more recently created, Connecticut and Vermont residences use more electricity than those in the four best-performing states. Still, their homes consume only *55-70%* of the electricity of their Delaware counterparts. Only Pennsylvania is statistically near the rate of energy inefficiency of the Delaware residential electricity sector.

A comparable analysis of the commercial buildings sectors in the eight states finds Delaware again the most energy inefficient.[40] In the commercial sector, Connecticut, California, Massachusetts and New York are leaders in electricity efficiency, using 50-70% of the electricity that Delaware buildings consume to serve customers. Vermont and New Jersey are not far behind, using only 75% of Delaware's consumption and Pennsylvania's commercial buildings use only about 80% as much electricity as those in Delaware. Here, the difference in building code standards, as well as targeted incentives, account for part of the difference in energy efficiency.

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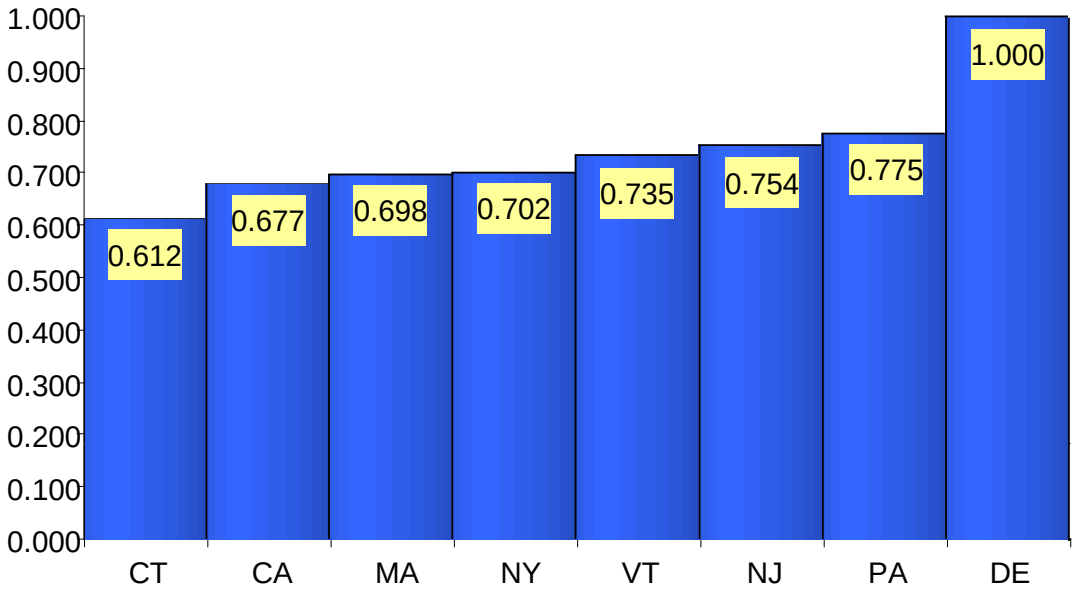
the expected manner. Using the model's results and setting Delaware's electricity intensity at 1.000, we can numerically compare the effects of policy and program commitments *after* adjusting for price and weather differences among the states.

[40] Once more, the model provides a robust estimate of electricity intensity, explaining 95.7% of the variance in the data and providing statistically significant estimates of the policy/program effects by State after price and weather differences are considered.



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 5.2 Comparison of State Commercial Sector Electricity Intensities (DE = 1.000)

Eventually, diminishing returns will mitigate further reliance on energy efficiency options to stabilize conventional energy prices. At that point, long-term needs may then require consideration of major additions to central station power plant capacity. But the above estimates of c*omparative energy inefficiency in Delaware* suggest we are far from that day.

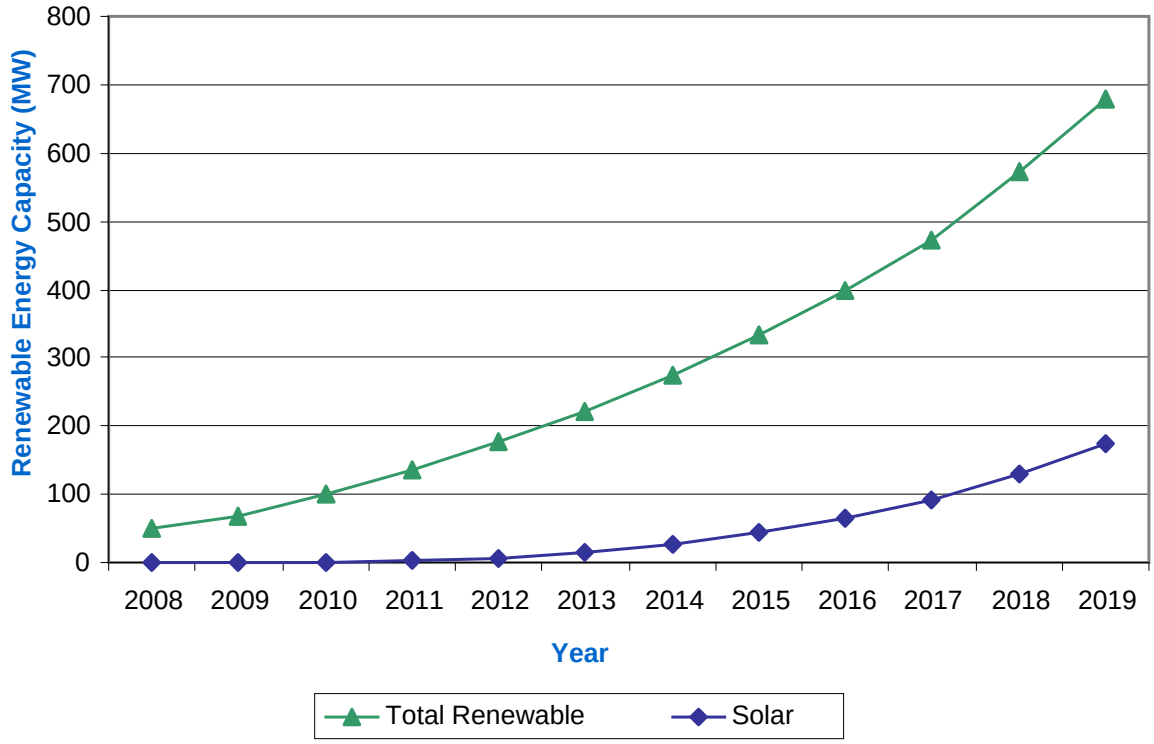
5.2 Delaware's Abundant Renewable Energy Opportunities

The Task Force recognizes the importance of both customer-sited renewables and utility-scale renewables because both can stabilize energy prices and encourage a rapid transition toward clean, distributed energy generation. The question is which menu of options can accomplish these goals wile saving Delawareans money and keeping our economy competitive.

The SEU supports the development of renewables in a way that leads to real CO_2 savings and bill savings without subjecting Delawareans to needless risk. In this vein, proposals to add new, large-scale electricity and other energy capacity depend for their economics on locking in long-term contracts of 20-25 years to produce the necessary revenues for multi-billion dollar investments. The Task Force observes that the energy sector is undergoing dramatic technology change and long-term contracts for captive power capacity may therefore discourage the rapid diffusion of better technology in the ensuing years. The SEU model focuses on appropriate scale, flexibly expanded technologies whose economics are modular (i.e., earnings are based on adding capacity when and as necessary in increments to meet growth and no more).[41]

[41] For a discussion of the difference between traditional economies of scale (the basis for development of large, central station technologies) and the modular economics of distributed technologies (the basis for development of so called distributed resources), see: http://ceep.udel.edu/publications/energysustainability/2005_es_renewables&risk.pdf.

By encouraging utilities to meet RPS requirements with customer-sited resources, the Task Force has determined that Delaware can install over 100 MW of customer-sited solar electric systems, plus an additional 200 MW or more of customer-sited geothermal, solar thermal, and wind systems at homes, businesses, and farms. These combined resources would provide Delawareans with at least 300 MW of customer-sited renewable resources by 2019.



Prepared for the Delaware Sustainable Energy Utility Task Force by the Center for Energy & Environmental Policy.

Figure 5.3 Cumulative Installed Capacity from SEU Investments in Customer-sited Renewable Energy Systems

5.3 Delaware's Sustainable Energy Benchmark

When the SEU's renewable energy targets are combined with Delaware's massive cost-effective energy efficiency opportunities – for all fuels and energy end-use sectors – Delaware has the means to:

- Eliminate the need for *any* new electricity generation built outside of Delaware's RPS requirements
- Save participating households $1,000 annually on their energy bills
- Reduce statewide CO_2 emissions by 5.5 million metric tons by 2020 (more than any other proposal, and enough to reduce Delaware's projected 2020 emissions to below 2003 levels).

The SEU can achieve these targets by leveraging $30 million of private-sector investments in special purpose tax-exempt bonds that pose no risk to State general funds. By using competitively selected contractors and investment by private capital markets, the SEU model invites new technologies to rapidly enter our State, encourages the growth of new energy service markets in Delaware and creates

thousands of new permanent, high quality jobs.[42] As Delaware's clearinghouse for sustainable energy services, the SEU gives Delawareans the means to make meaningful choices about their energy use. The SEU is the benchmark for Delaware's energy future.

[42] See: 1) Kammen et al. 2004. *Putting Renewables to Work: How Many Jobs Can the Clean Energy Industry Generate?* Berkeley: Renewable and Appropriate Energy Lab. 2) Geller, Howard. 2003. *Energy Revolution.* Washington, DC: Island Press. Dr. Geller was Executive Director of the American Council for an Energy-Efficient Economy, founding its Washington, DC office in 1981 and serving in that position until 2001. 3) Barrett, James P., Andrew Hoerner, Steve Bernow and Bill Dougherty. 2002. *Clean Energy and Jobs: A Comprehensive Approach to Climate Change and Energy Policy*. Washington, DC: Economic Policy Institute and Center for Sustainable Economy. 4) Apollo Alliance. 2007. *The Impact of the Proposed Apollo Project on the Economy of Delaware (Average of 10-Year Investment Cycle and Permanent Effects (In Constant 2004 Dollars))—Detailed Sectoral Results.* Available at: http://www.apolloalliance.org/state_and_local/delaware/dejobs.cfm

APPENDIX I

A.I.1 Senate Concurrent Resolution No. 45, Passed July 1, 2006.

SPONSOR: Sen. McDowell & Rep. Spence
Sens. Henry, Copeland, Sokola, Cloutier, Marshall; Reps. DiPinto, McWilliams, Plant, Johnson, Keeley, Buckworth

DELAWARE STATE SENATE

143rd GENERAL ASSEMBLY

SENATE CONCURRENT RESOLUTION NO. 45

ESTABLISHING A BLUE RIBBON TASK FORCE TO INVESTIGATE AND MAKE RECOMMENDATIONS THERETO AS TO THE FEASIBILITY OF DEVELOPING A SUSTAINABLE ENERGY UTILITY WITHIN THE STATE OF DELAWARE.

WHEREAS, the cost of energy in the State of Delaware is stretching the budget of every Delawarean; and

WHEREAS, energy costs are soaring in part because of local reliance on volatile foreign commodities and fossil fuels; and

WHEREAS, our neighboring states are exploring the establishment of energy efficiency utilities which are significantly less reliant on foreign commodities and fossil fuels; and

WHEREAS, the State of Delaware will be well served by identifying best practices for renewable energy and energy efficiency programs; and

WHEREAS, motivating private sector investment in renewable energy and energy efficiency can lead to the development of a sustainable energy market; and

WHEREAS, a sustainable energy utility could combine the experience of other states and the innovation and efficiency of industry; and

WHEREAS, the use of a Tax Reduction Partnership to create a Solar Lifeline can foster investment in renewable energy and provide benefits to moderate and low income families in Delaware, whose energy costs make up a larger portion of their budget than the median household; and

WHEREAS, it is in the best interests of the State of Delaware and every Delawarean that this General Assembly explore the possible establishment of a sustainable energy utility within the State;

NOW, THEREFORE:

BE IT RESOLVED by the Senate of the 143rd General Assembly of the State of Delaware, the House of Representatives thereof concurring therein, that there is hereby created a Sustainable Energy Utility Task Force to be comprised of the following members:

(1) Three (3) members of the Senate appointed by the Senate President Pro Tempore, one (1) to serve as Chairperson;

(2) Three (3) members of the House of Representatives appointed by the Speaker of the House;

(3) The State Energy Coordinator, or his or her designee;

(4) The Director of the University of Delaware's Center for Energy and Environmental Policy, who shall serve as Co-chairperson of the Task Force; and

(5) The Public Advocate, or his or her designee.

(6) Two (2) members of the public, one (1) appointed by the Senate President Pro Tempore and one (1) appointed by the Speaker of the House.

BE IT FURTHER RESOLVED that the Delaware State Senate shall provide administrative staffing for the Task Force.

BE IT FURTHER RESOLVED that the Task Force shall investigate the feasibility of developing a sustainable energy utility within the State of Delaware and shall report its findings and conclusions to both chambers of the General Assembly no later than December 15, 2006. The Task Force may present partial findings and conclusions prior to December 15, 2006, and is encouraged to do so, if feasible.

SYNOPSIS

This Resolution creates a Blue Ribbon Task Force to explore the feasibility of the development of a Sustainable Energy Utility in the State of Delaware. A short term goal of the Task Force is to study the possible establishment of Tax Reduction Partnership to Create a Solar Lifeline.

Author: Senator McDowell

A.I.2. Senate Concurrent Resolution No. 6, Passed January 25, 2007

SPONSOR: Sen. McDowell

DELAWARE STATE SENATE
144th GENERAL ASSEMBLY

SENATE CONCURRENT RESOLUTION NO. 6

EXTENDING THE REPORTING DATE OF THE SUSTAINABLE ENERGY UTILITY TASK FORCE

WHEREAS, the Sustainable Energy Utility Task Force was established under SCR No. 45 of the 143rd General Assembly to investigate the feasibility of developing a sustainable energy utility within the State of Delaware and to make findings and recommendations based on the study; and

WHEREAS, the Task Force was directed to submit its findings and recommendations report to both Chambers of the General Assembly by December 15, 2006;and

WHEREAS, the Task Force has worked diligently on its study, but is not yet prepared to submit its report; and

WHEREAS, the amount of work needed to completed the report is significantly larger than originally thought; and

WHEREAS, the members of the Task Force sincerely believe that they will be able to submit the report by April 30, 2007;

NOW, THEREFORE:

BE IT RESOLVED by the Senate of the 144th General Assembly of the State of Delaware with the House of Representatives concurring therein that the date by which the findings and recommendations report of the Sustainable Energy Utility Task Force is due be extended to April 30, 2007.

BE IT Further RESOLVED that the President Pro Tem may add 1 additional member of the Senate, and 2 additional members of the public to the Task Force.

BE IT FURTHER RESOLVED that the Speaker of the House may add 1 additional member from the House of Representatives to the Task Force.

SYNOPSIS

This resolution extends the due date of the findings and recommendation report of the Sustainable Energy Utility Task Force from December 15, 2006 to April 30, 2007. This resolution also allows the President Pro Tem to add 1 new member from the Senate, and 2 additional members from the general public to the Task Force. The resolution also allows the Speaker of the House to add 1 additional member to the Task Force.

Author: Senator McDowell

A.I.3. Renewable Portfolio Standard Model Legislation

AN ACT TO AMEND THE DELAWARE CODE TO INCREASE THE RENEWABLE ENERGY PORTFOLIO STANDARD.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE:

Section 1. Amend §352(1) of Title 26 of the Delaware Code by:

(a) Striking "minimum percentage of" and replacing it with "Minimum Percentage from".

Section 2. Amend §352(6)(a) of Title 26 of the Delaware Code by striking it and replacing it with "a. Solar photovoltaic or solar thermal energy technologies that employ solar radiation to produce electricity or to displace electricity use."

Section 3. Amend §352 of Title 26 of the Delaware Code by renumbering the current "(22)" to "(24)" and inserting after part (21) two new parts as follows:

"(22) "Solar Alternative Compliance Payment" means a payment of a certain dollar amount per megawatt-hour, which a Retail Electricity Supplier or Municipal Electric Supplier may submit in lieu of supplying the Minimum Percentage from Solar Photovoltaics required under Schedule I in §354 of this title."

"(23) "Solar Renewable Energy Credit" ("SREC") means a tradable instrument that is equal to 1 megawatt-hour of retail electricity sales in the State that is derived from Solar Photovoltaic Energy Resources and that is used to track and verify compliance with the provisions of this subchapter."

Section 4. Amend §354(a) of Title 26 of the Delaware Code by:

(a) Inserting "and Solar Photovoltaics" after "Eligible Energy Resources".

(b) Striking Schedule I and replacing it with the following to be effective for the compliance year starting on June 1, 2007:

SCHEDULE I		
Compliance Year (beginning June 1st)	Minimum Percentage from Solar Photovoltaics	Minimum Percentage from Eligible Energy Resources*
2007	--	2.0%
2008	0.011%	3.0%
2009	0.014%	4.0%

2010	0.018%	5.5%
2011	0.048%	7.0%
2012	0.099%	8.5%
2013	0.201%	10.0%
2014	0.354%	11.5%
2015	0.559%	13.0%
2016	0.803%	14.5%
2017	1.112%	16.0%
2018	1.547%	18.0%
2019	2.005%	20.0%

*Minimum Percentage from Eligible Energy Resources Includes the Minimum Percentage from Solar Photovoltaics.

Section 5. Amend §354(c) and (d) of Title 26 of the Delaware Code by striking the figure "10%" as it appears therein and substituting in lieu thereof the figure "20%".

Section 6. Amend §356(a) by:

(a) Inserting "Minimum Percentage from Eligible Energy Resources of Schedule I of the" after "toward meeting the".

(b) Striking parts (1) and (2) and replacing them with:

" (1) Customer-sited solar photovoltaic physically located in Delaware; or

(2) A fuel cell powered by Renewable Fuels."

Section 7. Amend §358(d) by:

(a) Striking the figure "$35" in subparagraphs (1) and (2) and replacing it with "$50.00".

(b) Striking the figure "$45" in subparagraphs (2) and (3) and replacing it with "$75.00".

(c) Striking the figure "$50" in subparagraph (3) and replacing it with "$100.00".

(d) Striking the first instance of the figure "$50" in subparagraph (4) and replacing it with "$100.00".

(e) Striking the second instance of the figure "$50" in subparagraph (4) and replacing it with "$150.00".

(f) Striking the figure "$50" in subparagraph (5) and replacing it with "$150.00".

Section 8. Amend §358 by inserting after (d) a new part (e) as follows:

"(e) In lieu of standard means of compliance with this statue, any Retail Electricity Supplier may pay into the Fund a Solar Alternative Compliance Payment of $250 for each megawatt-hour deficiency between the credits available and used by a Retail Electricity Supplier in a given compliance year and the credits necessary for such Retail Electricity Supplier to meet the year's Renewable Energy Portfolio Standard. The Delaware Energy Office may set the Solar Alternative Compliance Payments at an amount higher than, but not more than 20% higher than, the estimated competitive market cost of a Solar REC, determined by the quarterly weighted average cost of meeting the requirement through purchase of a Solar REC. A Municipal Electric Company may pay the solar alternative compliance payment into a fund established by its municipal members. In subsequent years, the solar alternative compliance payments for any Retail Electricity Supplier or Municipal Electricity Company shall increase as follows:

(1) If a Retail Electricity Supplier has paid a Solar Alternative Compliance Payment of $250.00 for each megawatt-hour in any previous year, then the solar alternative compliance payment shall be $300.00 for each megawatt-hour.

(2) If a Retail Electricity Supplier has paid a Solar Alternative Compliance Payment of $300.00 for each megawatt-hour in any previous year, then the Solar Alternative Compliance Payment shall be $350.00 for each megawatt-hour.

(3) If a Retail Electricity Supplier has paid a Solar Alternative Compliance Payment of $350.00 for each megawatt-hour in any previous year, then the Solar Alternative Compliance Payment shall be $400.00 for each megawatt-hour.

(4) Solar Alternative Compliance Payments shall not be more than $400.00 for each megawatt-hour.

Renumber the current part "(e)" to "(f)."

Ssynopsis

This bill will amend existing law by increasing the required minimum percentage of electrical energy sales to Delaware end-use customers from renewable energy resources through the year 2019. This increase will bring Delaware's renewable energy portfolio standard closer to those in nearby states, including New Jersey (which has a goal of 22.5% by 2021) and New York (which has a goal of 24% by 2013). This Bill will help protect Delaware's consumers by transitioning the state towards homegrown energy sources that are more secure, less vulnerable to price fluctuations, and less damaging to the environment.

The bill also requires that between 2009 and 2019, the minimum percentage of sales from solar photovoltaics shall increase from 0.03% to 2%. The Bill also sets a solar annual compliance payment and allows it to be adjusted by the Delaware Energy Office at an amount higher than, but not more than 20% higher than, the estimated competitive market cost for purchasing RECs.

By increasing the renewable portfolio standard, creating a solar set-aside, and increasing the alternative compliance payment, Delaware citizens will be able to sell solar RECs into New Jersey's SREC market, thus increasing the value of solar photovoltaics for Delaware citizens

A.I.4. Green Energy Fund Increase Model Legislation

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE:

Section 1. Amend Subsection 1014(a) of Title 26 of the Delaware Code by striking the figure "$0.000178" in the first sentence thereof and replacing it with the figure "$0.000356".

SYNOPSIS

This bill increases the system benefit charge for the Green Energy Fund by adding 18 cents per month to the average residential customer's electricity bill. The Green Energy Fund helps stimulate the local renewable energy sector. Increased funding will allow more Delaware households and businesses benefit from renewable energy.

A.I.5. Net-Metering Update Model Legislation

SUBSTITUTE TO SENATE BILL NO. 8

Section 1. Amend §1014(d), Title 26, Delaware Code by inserting in the first sentence "and municipal electric companies" after "Commission", and by striking "residential and small commercial" from the same sentence.

Section 2. Amend §1014(d)(1), Title 26, Delaware Code by striking it in its entirety and inserting in lieu thereof the following:

"(1) Has a capacity that:

(a) For residential customers of DP&L, DEC, and municipal electric companies, has a capacity of not more than 25 kW.

(b) For non-residential customers, is not more than 2 megawatts per DP&L meter, 1 megawatt per DEC meter, and 500 kW per municipal electric company meter. DEC and municipal electric companies are encouraged to provide for net metering up to a capacity of not more than 2 megawatts for non-residential customers;".

Section 3. Amend §1014(d)(2), Title 26, Delaware Code by striking "or other forms of renewable energy" and inserting in lieu thereof ", a fuel cell powered by renewable fuels, or gas from the anaerobic digestion of organic material".

Section 4. Amend §1014, Title 26, Delaware Code by inserting the following section:

"(e) The rules and regulations promulgated for net energy metering by the Commission and municipal electric companies shall:

(1) Provide for customers to be credited in kilowatt-hours (kWh), valued at an amount per kilowatt-hour equal to the sum of Delivery Service Charges and Supply Service Charges, for any excess production of their generating facility that exceeds the customer's on-site consumption of kWh in a billing period. Excess kWh credits shall be credited to subsequent billing periods to offset a customer's consumption in those billing periods until all credits are used or until the end of the calendar year. The Electric Supplier shall carry forward any excess kWh credits for use against consumption in a 12 month accrual period that corresponds to the calendar year. Any unused credits not offset by consumption at the end of the calendar year will be forfeited to the Electric Supplier for use solely to augment existing funding for low-income energy assistance programs. Any excess kWh credits shall not reduce any fixed monthly customer charges imposed by the electric supplier.

(2) Ensure that Electric Suppliers provide net-metered customers electric service at nondiscriminatory rates. Electric Suppliers shall not charge a net-metering customer any stand-by fees or similar charges.

(3) Use as a guide the Interstate Renewable Energy Council's Model Interconnection Rules to ensure that net metering customers meet applicable safety and performance standards. Municipal electric companies shall establish interconnection rules no later than 12 months after the enactment of this bill. Electric Suppliers shall not require eligible net-metering customers who meet all applicable safety and performance standards to install excessive controls, perform or pay for unnecessary tests, or purchase excessive liability insurance."

Section 4. Amend §1014, Title 26, Delaware Code by inserting the following section:

"(f) The Commission shall periodically review the impact of net-metering rules in this section and recommend changes or adjustments necessary for the economic health of utilities."

SYNOPSIS:

Net energy metering is a means to encourage private investment in renewable energy resources, stimulate in-state economic growth, enhance continued diversification of Delaware's energy resource mix, and reduce costs of interconnection and administration.

This Act amends net energy metering standards to increase the net-metering capacity limit for non-residential facilities to 2 megawatts per DP&L meter, 1 megawatt per DEC meter, and 500 kilowatts per municipal electric meter. The Act also allows all net-metering customers to carry over excess energy credits from month to month during the calendar year to account for seasonal variance in generation and energy consumption. To encourage generation to meet only existing customer demand, all unused credits at the end of the calendar year are forfeited to utilities to augment existing funding for low-income energy assistance programs.

A.I.6. Model SEU Enabling Legislation

AN ACT TO AMEND TITLE 29 OF THE DELAWARE CODE TO CREATE A SUSTAINABLE ENERGY UTILITY IN THE STATE OF DELAWARE.

BE IT ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF DELAWARE:

Amend Title 29 of the Delaware Code by inserting a new § 8059 as follows:

"§ 8059. Sustainable Energy Utility.

(a) Definitions

As used in this section:

(1) "Sustainable Energy Utility" ("SEU") means a nonprofit entity under contract to the Delaware Energy Office to develop and coordinate programs for energy end-users in Delaware for the purpose of promoting the sustainable use of energy in Delaware.

(2) "Fiscal Agent" means an entity or person contracted by the Delaware Energy Office to assist in the financial management of the SEU.

(3) "Contract Administrator" means an entity or person contracted through competitive bid by the Delaware Energy Office that manages the functions and responsibilities of the SEU.

(4) "SEU Oversight Board" ("the Board") means a board comprised of public, academic and private sector representatives that acts to establish and revise SEU performance targets and to oversee SEU program planning, implementation, and evaluation to ensure compliance with performance targets.

(5) "Implementation Contractor" means any entity competitively contracted by the SEU to implement specific programs and services.

(b) Intent of Legislation

The Delaware General Assembly finds that there remain in Delaware significant, cost-effective opportunities to acquire end-user energy efficiency savings that can lower customers' bills and reduce the environmental impacts of energy production, delivery, and use. Delaware has an opportunity to create new markets for customer-sited renewable energy generation that will help build jobs in the State of Delaware, improve our national security, keep value within the local economy, improve energy reliability, and protect Delawareans from the damaging effects of recurrent energy price spikes.

(c) Sustainable Energy Utility Administrative Organization

(1) This Act creates the "Sustainable Energy Utility" ("SEU"). The SEU shall design and deliver comprehensive end-user energy efficiency and customer-sited renewable energy services to Delaware's households and businesses. The SEU shall be an independent nonprofit entity, unaffiliated with any of the State's electric or gas utilities, public or private, and it will operate under contract to the Delaware Energy Office ("Energy Office" or "DEO") under the direction of the State Energy Coordinator. The SEU shall be known by a trade name to be determined by the Delaware Energy Office.

(2) Routine administration of the SEU shall be managed by a Contract Administrator. The funds to support the SEU's activities shall be managed by a Fiscal Agent. This institutional structure, with ultimate responsibility for oversight residing with the Delaware Energy Office under the direction of the State Energy Coordinator and the Oversight Board, as detailed in subsections (d) and (e), is intended to protect not only the SEU's independence, but also to assure that its performance is continually and closely monitored and that it always has the strongest incentives to operate as efficiently as possible. The SEU Contract Administrator ("CA") and Fiscal Agent ("FA") will be selected by the Delaware Energy Office through an open, competitive bidding process.

(d) Responsibilities of the Delaware Energy Office

The Delaware Energy Office shall assume the following responsibilities relating to the development, implementation, and monitoring of the SEU:

(1) The Energy Office shall prepare Requests for Proposals (RFPs) to solicit bid proposals to engage each of the two administrator contractors: the SEU Contract Administrator and the Fiscal Agent. The RFPs shall be open to public comment, amended if necessary, and then submitted to the Oversight Board for approval prior to release. To maintain independence between each of the administrative functions, any bidder for an administrator contract, and any bidder's affiliate, shall not concurrently hold or be awarded the other administrator contract. Neither shall any bidder for the Contract Administrator be affiliated with a utility, public or private, that operates in Delaware, or any agency of the State of Delaware, or any entity providing power or fuel to Delaware's distribution utilities or residents.

a. The Energy Office shall determine and describe in detail in the RFPs the following: the roles of each contracted position; the relevant performance targets set by legislation, the Energy Office or the Oversight Board; the bidding and contract procedures; the criteria for evaluation of bid proposals; and the annual reporting requirements. In addition, the Energy Office shall define performance incentives such that if the SEU exceeds program targets by 120% it shall receive a bonus, and if the SEU achieves less than 80% of program targets it shall be charged a penalty. By written agreement between the DEO and the SEU,

performance incentives may be passed through to Implementation Contractors when the DEO and SEU decide this is in the best interest of the State's development of sustainable energy resources.

b. The Energy Office must require bidders for the SEU Contract Administrator to present, in their proposals, plans including, but not limited to: evaluation, monitoring and verification of program performance; data collection and management; and financial management.

c. The Energy Office shall ask bidders for the SEU Contract Administrator to describe how they will obtain information from, and be responsive to, the public, and how bidders intend to resolve disputes with stakeholders and customers.

d. The Energy Office shall evaluate the proposals based on criteria outlined in the RFP and then select and hire the contractors for the two positions.

e. The Energy Office shall determine the contract period for each administrator position, but such periods shall be no less than three years and no more than five years. The Energy Office may offer a renewal contract to a current contractor for one additional contract term, provided the contractor has met or exceeded expectations and the Advisory Board approves of the renewal. The contract must be open to the public through the RFP process after two consecutive terms by one contractor.

(2) The Energy Office shall report biannually to the Oversight Board on the progress of the SEU and the management of the Contract Administrator and Fiscal Agent contracts.

(3) The Energy Office shall ensure continuity of program implementation and sufficient carry-over funding during the transition period between the end of one SEU contract term and the beginning of another SEU contract term, so that Delawareans may still have regular access to sustainable energy services during transitional periods.

(4) The Energy Office must use the appropriate responsibilities outlined in the subsections (f) and (g) to develop additional RFP guidelines for each contractor.

(5) The Energy Office shall develop appropriate means to issue Renewable Energy Certificates and Solar Renewable Energy Certificates, as defined in Title 26 § 352 of the Delaware Code, for renewable energy technologies sited in Delaware.

(e) SEU Oversight Board

(1) There is hereby created the SEU Oversight Board which shall, from passage of this Act until January 31, 2008, consist of all members of the Sustainable Energy Utility Task Force ("Task Force") appointed pursuant to Senate Concurrent Resolution 45 from the 143rd General Assembly and Senate Concurrent Resolution 6 from the 144th General Assembly. By December 31, 2007 the Task Force shall recommend to the General Assembly the composition of the Board to serve after January 31, 2008.

(2) The Chair of the Sustainable Energy Utility Task Force shall preside as Chairperson of the Board or shall appoint a presiding officer for the Board from among the members.

(3) Board Members shall serve without compensation except for travel allowed in paragraph (6) of this subsection.

(4) The Board shall adopt by-laws, within three months from the enactment of this section, to govern itself.

(5) The Board shall have the following responsibilities:

a. Review and approve Requests for Proposals developed by the Energy Office for the contracts of the SEU Contract Administrator and Fiscal Agent.

b. Review and approve the annual and contract-term SEU performance targets recommended by the Contract Administrator.

c. Review and approve any proposed modifications to SEU performance targets or program designs during the contract term of the Contract Administrator.

d. Contract an independent professional agency to monitor and verify results reported by the Contract Administrator in annual and contract-term reports.

e. Receive biannual reports from the Energy Office, as described in subsection (d)(2), and offer recommendations to the Energy Office regarding the management of the SEU.

(6) In order for the Board to meet its obligations, the SEU shall annually set aside a budget at the beginning of the State fiscal year not to exceed seventy-five thousand real 2007 dollars, and not to be less than fifty thousand real 2007 dollars. Use of these funds shall be limited to the following:

a. Payment of consultant fees for independent analyses of policy and program options to improve SEU performance voted by two-thirds of Board members.

b. Supported travel by Oversight Board members to conferences and workshops of direct relevance to sustainable energy market development and performance. Supported travel is capped for individual members at three thousand real 2007 dollars and only one supported travel can be requested by a member in a fiscal year.

c. Sponsorship of annual statewide competitions by elementary, middle and/or high school students in the State of Delaware to recommend SEU service logos, mottos or new sustainable energy measures.

d. Other uses as voted by two-thirds of the members of the Oversight Board that can be shown to directly improve the performance of the SEU and/or the State's development of sustainable energy resources.

(f) Responsibilities of the Fiscal Agent

The Fiscal Agent shall assist the Energy Office with the financial management of the SEU program. The Fiscal Agent is the SEU's "Treasury." The FA may be contracted by fee only or by a fee-plus-incentive structure as determined by the Energy Office. The primary responsibilities of the Fiscal Agent are to:

(1) Receive funds for the SEU from the funding sources outlined in subsection (j), disburse these funds to the SEU Contract Administrator under the direction of the Energy Office, and keep accurate records of such transactions;

(2) Interface with bonding and revenue authorities;

(3) Oversee financial transactions involving renewable energy certificates (RECs) and possible Solar Lifeline activities; and

(4) Pay SEU invoices.

(g) SEU Contract Administrator Responsibilities

The SEU Contract Administrator will manage the day-to-day functions and responsibilities the SEU. The Contract Administrator's chief responsibilities are program research and design, administration of the Implementation Contracts, and oversight to ensure the Implementation Contractors meet appropriate performance and budgetary targets. The Contract Administrator may be contracted by fee only or by a fee-plus-incentive structure as determined by the Energy Office.

(1) Program Research and Design

a. The Contract Administrator shall undertake a comprehensive resource analysis ("Analysis") to support initial program planning for the SEU. The Analysis must include demographic energy use assessments, population and economic growth estimates, energy consumption forecasts, regional energy efficiency trend analyses, technical and economic potential estimates, and market potential assessments. The comprehensive resource analysis must:

1. assess energy end-user markets, including electricity end-uses, natural gas end-uses, clean vehicles, green buildings, weatherization, and affordable energy services;

2. assess energy end-user demographic sectors, including low-income, residential, commercial, industrial, agricultural, and transportation sectors; and

3. assess energy end-use equipment, including appliances, lighting, heating, cooling, industrial processes, and vehicles.

b. Using the results from the Analysis from subparagraph (1)(a) of this subsection, the Contract Administrator shall select markets, end-users, and end-use equipment for the SEU to target through its programs.

c. The Contract Administrator shall develop a comprehensive suite of program designs based on the Analysis and selected markets, end-users, and end-use equipment, as described in subparagraphs (1)(a) and (1)(b) of this subsection. Each program design must specify, at minimum, program goals, performance targets, an estimated budget, an implementation strategy, and an evaluation strategy. The Contract Administrator is not required to design or initiate all programs at once, but it must demonstrate

how each program fits within the Contract Administrator's overall strategy to meet its own performance targets as well as the SEU's long-term performance targets established in subsection (i) of this Act.

d. The Contract Administrator is expected to fulfill the following responsibilities through program designs, RFPs for Implementation Contractors, and program implementation:

1. to be responsive to customers and market forces in implementing and redesigning the programs it delivers;
2. to design a portfolio of programs to allow all energy end-users, regardless of electricity or gas retail providers, and regardless of market segment or end-use fuel, to participate in the SEU programs;
3. to promote program initiatives and market strategies that address the needs of persons or businesses facing the most significant barriers to participation;
4. to promote coordinated program delivery, including coordination with low income weatherization programs, other efficiency programs, and utility programs;
5. to coordinate with relevant regional and national energy efforts and markets, including markets for pollution emissions offsets and credits, and renewable energy credits;
6. to consider innovative approaches to delivering sustainable energy services, including strategies to encourage third party financing and leveraged customer contributions to the cost of program measures, as consistent with principles of sound program design;
7. to offer "one-stop shopping" and be the point-of-contact for sustainable energy services in Delaware;
8. to create a comprehensive website that provides easy access to SEU programs and information for all Delawareans, allowing them to participate in SEU programs electronically;
9. to emphasize "lost opportunity" markets, which are sustainable energy measures that can only be cost-effectively captured at particular times, such as during new construction or extensive remodeling; and
10. to emphasize market strategies to deliver services.

e. The Contract Administrator shall continue to research and assess the resources and market needs for sustainable energy services in Delaware, as described in subparagraph (1)(a) of this section, while program implementation is ongoing. The Contract Administrator and other stakeholders will use this research to assess the impacts and effectiveness of SEU programs; to make adjustments to SEU program performance targets; to reassess targeted markets, end users, and end uses; and to recommend further policy initiatives for consideration by the Delaware Legislature.

(2) Administration of Implementation Contracts

a. With the exception of education and public outreach programs, which the Contract Administrator may implement itself with approval of the Energy Office and Oversight Board, all other SEU programs must delivered by competitively selected Implementation Contractors.

b. The SEU shall propose rules to guide the bidding process and criteria to guide bid selection. The RFPs shall specify a contract term of no less than two years, and, in order to ensure program continuity during transition periods, no longer than six (6) months beyond the Contract Administrator's contract term with the Energy Office.

c. The Contract Administrator shall be responsible for selecting winning Implementation Contractor bids.

d. Any entity, including electricity or gas utilities in the State of Delaware, may bid for an Implementation Contract. If an affiliate of the Contract Administrator bids, or intends to bid, for an Implementation Contract, both the Contract Administrator and its affiliate must ensure that the affiliate does not benefit from any unfair advantage resulting from insider information.

e. RFPs for competitively bid Implementation Contracts should include provisions for performance-based incentives as appropriate to ensure that program targets are achieved or exceeded.

f. If an Implementation Contractor is not successfully selected through the RFP bidding process, the Contract Administrator may implement its own program delivery process subject to approval by the Energy Office and Oversight Board.

(3) Oversight, Monitoring, and Verification

a. The Oversight Board must review the Contract Administrator's proposed program designs, performance targets, and RFPs before the Contract Administrator submits RFPs for bid. When reviewing and approving the SEU's programs and RFPs, the Oversight Board must ensure that program coordination between the Contract Administrator, Implementation Contractors, and customers is as streamlined and simple as possible from the customer's perspective. The Oversight Board shall ensure that the SEU's programs will provide packaged-services. Rather than simply providing the most cost-effective or easiest-to-provide services, packaged-services must be designed to provide customers with as many relevant end-use services at once, each time the Contract Administrator or the Implementation Contractors have contact with a customer.

b. The Contract Administrator must develop and maintain information services to collect all performance, market, and financial data necessary to monitor and evaluate SEU performance as specified in its contract with the Energy Office. The Contract Administrator must make such data available to the Energy Office and Oversight Board upon request.

c. Consistent with the specific terms of its contract and generally accepted accounting principles, the Contract Administrator must prepare and submit detailed documentation and invoices for administrative, management, and program costs to the Fiscal Agent for review in order to receive payment.

d. The Contract Administrator must develop appropriate mechanisms to accurately evaluate, monitor, and verify program performance and Implementation Contractor performance.

e. The Contract Administrator shall have 30 days to respond to complaints from, or disputes among, affected persons or entities. After 30 days any unresolved complaints shall be presented to the Energy Office and Oversight Board.

f. The Contract Administrator shall submit to the Oversight Board for approval any reports produced by the Contract Administrator that codify current practices or detail new practices or substantive changes in the SEU's implementation of programs and services.

g. The Contract Administrator shall conduct site visits and review the files of the Implementation Contractors as necessary to ensure contract compliance.

(h) Evaluation, Monitoring, and Verification

(1) The Energy Office must ensure that adequate evaluation, monitoring, and verification mechanisms are in place so that:

(a) The Energy Office and Oversight Board can verify that both SEU and Implementation Contractor expenditures result in verifiable energy savings over the expected lifetime of each energy-saving measure.

(b) Mechanisms are in place to hold the SEU and Implementation Contractors responsible for the energy savings reportedly achieved through program activities and expenditures.

(i) SEU Initial Program Targets

(1) Energy Efficiency

By December 31, 2015, the SEU shall have achieved an average 30% reduction in annual energy usage for SEU participants, with a target of one-third (1/3) of the participant savings occurring for residential clients, based on January 1, 2006 baseline levels. The Energy Office and Oversight Board may increase or accelerate this target if a comprehensive resource analysis indicates a greater cost-effective end-user energy efficiency potential exists or if the SEU achieves performance targets ahead of schedule.

(2) Delaware Solar Lifeline

For the purposes of this subsection, a low-income household shall be defined as a household that qualifies for Low-Income Home Energy Assistance Program (LIHEAP) assistance in the State of Delaware. The SEU shall have the authority to administer the Delaware Solar Lifeline program, which shall provide, by December 31,

2015 each low-income household with a life-sustaining supply of at least 200 kilowatt-hours per month of low-cost electricity not to exceed 5 cents per kWh in real 2007 dollars from in-state solar electric resources, the electricity generated thereof dedicated entirely for use by low-income households in the Solar Lifeline program. The Energy Office shall devise annual Solar Lifeline program goals that specify a targeted amount of installed photovoltaic capacity and a targeted number of households to be served. Such targets shall increase at a reasonable rate each year until sufficient in-state photovoltaic capacity has been installed to provide, by December 31, 2015, each low-income household with at least 200 kilowatt-hours per month of low-cost solar electricity. Implementation of the Solar Lifeline program and the obligation to meet the December 31, 2015 target shall depend upon the DEO and SEU obtaining the approval of the Oversight Board, as voted by a majority of Board members. The chief criterion for Board approval shall be that the DEO and SEU have identified self-sustaining funds for the program or that the Delaware Legislature has approved designated funds for the purpose of maintaining the Solar Lifeline program.

(3) Affordable Energy

The SEU shall assess strategies and funding mechanisms to weatherize at least eight hundred (800) low-income households per year, not counting those households served with federal Weatherization Assistance Program funding. The SEU shall target services to households living in single-family owner-occupied units and mobile homes, single-family rental units, rental buildings with five (5) units or less, and large multifamily buildings with greater than five (5) units. The SEU shall target three low-income levels: 200% of the federal poverty level, 60% of the state median income, and 80% of the state median income.

(4) Green Buildings and Clean Vehicles

a. The Delaware Energy Office shall define “Green Buildings” and “Clean Vehicles” as appropriate to meet statewide energy efficiency targets established in paragraph (1) of this subsection, and with consideration for current best-practice definitions.

b. To establish initial SEU performance targets for Clean Vehicles and Green Buildings programs, the Delaware Energy Office, under the leadership of the State Energy Coordinator, and the Oversight Board shall either:

1. Determine appropriate initial SEU performance targets for Clean Vehicles and Green Buildings market programs to be included in the SEU Contract Administrator request for proposal,

2. Or the Energy Office and the Oversight Board may require that bidders for the SEU Contract Administrator propose appropriate such performance targets.

(5) Customer-sited Renewable Energy

Targets and rebate levels for Customer-sited Renewable Energy Technologies (“Customer-sited Renewables”) shall be established by the DEO, under the direct supervision of the State Energy Coordinator. Customer-sited

Renewables shall include solar electric, solar thermal, geothermal and wind energy systems not to exceed in capacity the levels specified in net-metering regulations of Title 26 § 1014 of the Delaware Code. Under the direct supervision of the State Energy Coordinator, the DEO shall develop incentive tiers for different Customer-sited Renewables and customer classes based on identified state best practices. Rebates shall not exceed fifty percent (50%) of the incremental cost of Customer-sited Renewables compared to the retail cost of electricity. Rebates shall decline over time unless the DEO and SEU agree that doing so will prevent SEU clients from maximizing installed capacity of Customer-sited Renewable Energy in a least-cost manner. Under the direct supervision of the State Energy Coordinator, the DEO shall specify a certain fraction of SEU-supported Customer-sited Renewables to be located at residential locations. The SEU shall furnish three services to participants who purchase Customer-sited Renewables. First, it shall provide incentives sufficient to cover the incremental cost of investing in Customer-sited Renewables, in accord with DEO incentive tiers and current retail energy prices. Second, the SEU shall obtain, on behalf of participants, Renewable Energy Certificates ("RECs") and Solar Renewable Energy Certificates ("SRECs"), as defined in Title 26 § 352 of the Delaware Code. Third, the SEU shall negotiate the wholesale price for RECs and SRECs for SEU participants, using its ability to aggregate Customer-sited Renewables to the best advantage of SEU participants. For these services, the SEU shall charge a fee sufficient to pay its costs and to maintain incremental cost investments in Custoemr-sited Renewables. This fee can be assessed as a one-time charge or an annual payment subject to the mutual agreement of the SEU and the participant. The Energy Office, under direct supervision of the State Energy Coordinator, shall determine a fair and reasonable rate that the SEU may charge for aggregating RECs and SRECs. The SEU fee shall not exceed 35% of the retail value of RECs or SRECs.

(j) Funding for the SEU

(1) The SEU shall administer Green Energy Funds on behalf of the Delaware Energy Office.

(2) The Delaware Energy Office, on behalf of the SEU, has authority to raise a series of special purpose tax-exempt bonds with a cumulative initial value between 2007 and 2015 capped at thirty million real 2007 dollars ($30 million 2007). Any such bond monies shall only be used to fund the SEU Contract Administrator and its Implementation Contractors to meet responsibilities outlined in this subtitle, including administrative costs and overhead, implementation costs including the cost of contracting Implementation Contractors, operating expenses, and incentive costs. Bond monies shall not fund the Fiscal Agent, nor internal Energy Office responsibilities or staff, nor duties required of the Oversight Board, including independent SEU evaluation, monitoring, and verification. All bond monies shall be held and disbursed by the Fiscal Agent as defined in this subsections (a) and (f). The State of Delaware's general funds shall not be liable for the

repayment of any special purpose tax-exempt bonds raised by the Delaware Energy Office on behalf of the SEU.

SYNOPSIS

This Act represents the work of the Sustainable Energy Utility Task Force. It creates the Delaware Sustainable Energy Utility (SEU), a competitively selected nonprofit under contract to the Delaware Energy Office, to coordinate and promote the sustainable use of energy in Delaware. The SEU will use competitive markets and leveraged private-financing to deliver cost-effective end-use energy services that allow Delawareans to save 30% of their annual energy usage. The SEU will coordinate services that target residential, commercial, industrial, and transportation energy end-users in all energy markets, including electricity, heating fuels, green buildings, clean vehicles, customer-sited renewable energy, and affordable energy. The SEU will serve as a comprehensive statewide information clearinghouse, or the "one-stop-shop" for sustainable energy services in Delaware. The SEU will use competitively selected Implementation Contractors to deliver services.

This Act creates a Fiscal Agent to serve, under contract to the Energy Office, as the SEU's "treasury." The Act also creates an Oversight Board to ensure that the SEU meets responsibilities and performance targets enumerated in its contract with the Energy Office.

This Act creates initial performance targets for the SEU as well as evaluation and monitoring mechanisms to ensure that SEU energy savings are verifiable. The SEU may receive performance incentives such that if it exceeds program targets by 120% it will receive a bonus, and if it achieves less than 80% of program targets it will be penalized. This Act gives the Delaware Energy Office, on behalf of the SEU, the authority to raise a series of special purpose tax-exempt bonds with a total value capped of $30 million between 2007 and 2015. Any such bonds may only be used to fund SEU contractors and programs. The State of Delaware will not be liable for repayment of any such bonds.

APPENDIX II

A.II. LETTER FROM *EFFICIENCY VERMONT*

Efficiency Vermont
your resource for energy savings

www.efficiencyvermont.com

255 South Champlain Street, Suite 7 • Burlington, VT 05401-4894 • phone: 802-860-4095 • toll-free: 888-921-5990 • fax: 802-658-1643

April 5, 2007

Charlie T. Smisson, Jr.
State Energy Coordinator
Delaware Energy Office
146 South Governors Avenue
Dover, DE 19904

Dear Charlie:

Thank you for giving me the opportunity to review a copy of the Task Force's report on the proposed Sustainable Energy Utility for Delaware. I found this to be an enormously exciting and promising development that could bring Delaware to a leading position as a national model for how states can act to reduce energy use and our national carbon footprint.

We are flattered that you have chosen a fundamental financial structure based on the model that has proven to be so successful here in Vermont. Efficiency Vermont has clearly demonstrated that an independent entity dedicated to delivering energy savings is effective, trusted, accountable, and cost-efficient.

Delaware's approach of extending its demand-side utility activity to encompass non-regulated fuels, transportation, and the development of renewables, while also including electrical energy efficiency, is a logical and critically important next step. We would be very enthusiastic about sharing our experience, documents, and lessons learned with whoever is selected to operate the utility.

In addition, we look forward to learning from Delaware as you further this well-thought-out initiative. Please do not hesitate to contact me if we can provide any additional assistance.

Sincerely,

Blair Hamilton
Director