



**Delaware  
Sustainable Energy Utility  
Program Portfolio  
Operating Plan**

January 2016

**Delaware Sustainable Energy Utility  
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## Portfolio Summary

### Participation

Table 1 summarizes the participation estimates for each SEU program and the overall portfolio for 2016-2018.

Table 1. 2016-2018 DSM Program Portfolio Participation Summary

Program	Participation Units	Number of Participants			
		2016	2017	2018	2016-2018
<b>Residential Services</b>					
HPwES Program	audits	1,214	1,942	1,942	5,098
	projects	503	874	874	2,251
Green for Green Program	homes	40	5	-	45
<b>Commercial and Nonprofit Services</b>					
Revolving Loan Program	projects	9	12	19	40
SIE Program	audits	3	4	5	12
Performance Contracting Program	projects	10	10	10	30
Nonprofit Energy Assessment Program	audits	14	15	17	46
Loans for Communities in Need	projects	2	4	8	14
Delaware Pathways to Green Schools	audits	11	10	10	31
Faith Efficiencies Partnership Program	audits	14	15	17	46
<b>Renewable Energy Services</b>					
SREC Upfront Purchase Program	systems	480	480	480	1,440
Solar Thermal and Geothermal C&I Program	projects	4	8	8	20
<b>Total DSM Program Portfolio*</b>		<b>1,801</b>	<b>2,505</b>	<b>2,516</b>	<b>6,822</b>

\* Total does not include the number of jobs in the HPwES program (already accounted for in the number of audits).

### Program Impacts

Table 2 summarizes the savings estimates for SEU programs by sector and for the overall portfolio for the three-year planning period (2016-2018). The SEU will measure program performance during the three-year planning period by monitoring achievement of these energy savings goals and tracking trends over time. The methodology used to determine these program impacts is detailed in **Error! Reference source not found.**

Table 5. 2016-2018 DSM Program Portfolio Summary\*

Program	Energy Savings	% Energy Savings	Peak Demand Reduction	Gas Savings	% Gas Savings	Propane/Oil Savings	% Propane/Oil Savings	Total Energy Savings	% Total Energy Savings
Units	kWh	kWh	kW	therms	therms	MMBtu	MMBtu	MMBtu	MMBtu
<b>Residential Services</b>									
HPwES Program	4,423,926	4%	1,129	120,622	5%	260	<1%	27,417	4%
Green for Green	68,508	<1%	17	590	<1%	1	<1%	293	<1%
<b>Commercial and Nonprofit Services</b>									
Revolving Loan	16,316,982	14%	6,006	264,729	11%	22	<1%	82,169	12%
SIE Program	0	0%	0	0	0%	0	0%	0	0%
Performance Contracting	73,399,899	64%	27,016	1,791,861	74%	75,446	99%	505,072	71%
Nonprofit Energy Assessments	3,422,226	3%	1,260	121,265	5%	72	<1%	23,875	3%
Loans for Communities in Need	0	0%	0	0	0%	0	0%	0	0%
Pathways to Green Schools	1,612,767	1%	626	101,919	4%	0	0%	15,695	2%
Faith Efficiencies Partnership	395,641	<1%	154	24,073	1%	0	0%	3,757	1%
<b>Renewable Energy Services</b>									
SREC Upfront Purchase	13,752,000	12%	5,062	0	0%	0	0%	46,922	7%
Solar Thermal and Geothermal C&I	557,786	<1%	205	9,418	<1%	132	<1%	2,977	<1%
<b>Total DSM Program Portfolio</b>	<b>113,949,734</b>	<b>100%</b>	<b>41,474</b>	<b>2,434,477</b>	<b>100%</b>	<b>75,933</b>	<b>100%</b>	<b>708,177</b>	<b>100%</b>

\* Totals may not sum exactly due to rounding.

Table 7. Annual DSM Program Portfolio Cost-Effectiveness Summary\*

Program	2016						2017						2018					
	TRC		SCT		TRC		SCT		TRC		SCT		TRC		SCT			
	NPV (\$)**	BCR	NPV (\$)**	BCR	NPV (\$)**	BCR												
<b>Residential Services</b>																		
HPwES Program	921,281	0.40	1,351,415	0.59	769,614	0.23	1,217,603	0.37	1,048,185	0.32	1,595,194	0.48						
Green for Green	74,707	0.16	116,835	0.25	6,696	0.04	10,955	0.06	0	0.00	0	0.00						
<b>Commercial Services</b>																		
Revolving Loan	5,849,998	1.35	9,039,338	2.09	5,782,234	1.21	9,204,165	1.92	7,327,994	1.34	11,604,764	2.12						
SIE	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00						
Performance Contracting	26,370,673	3.48	41,844,420	5.53	26,324,909	3.48	41,904,014	5.53	26,854,924	3.55	42,528,016	5.62						
Nonprofit Energy Assessments	1,731,828	3.82	2,633,281	5.80	1,227,383	2.56	1,953,750	4.08	1,341,530	2.65	2,124,475	4.20						
Loans for Communities in Need	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00						
Pathways to Green Schools	994,733	3.25	1,507,052	4.92	570,936	2.01	907,504	3.19	583,717	2.05	922,441	3.25						
Faith Efficiencies Partnership	135,042	1.64	213,973	2.59	145,248	1.68	230,872	2.67	159,107	1.75	251,435	2.77						
<b>Renewable Energy Services</b>																		
SREC Upfront Purchase	5,460,175	0.32	9,301,942	0.54	5,364,296	0.31	9,042,984	0.52	5,368,617	0.31	8,878,990	0.51						
Solar Thermal and Geothermal C&I	979,385	2.42	1,387,013	3.43	1,099,207	1.58	1,578,349	2.27	1,104,040	1.59	1,584,039	2.28						
<b>Total Portfolio</b>	<b>42,517,823</b>		<b>67,395,270</b>		<b>41,290,523</b>		<b>66,050,196</b>		<b>43,788,114</b>		<b>69,489,353</b>							

\* Totals may not sum exactly due to rounding.

\*\* The present value of avoided energy and capacity costs includes an impact of line losses at 8.1% to account for avoided line losses occurring from reductions in customer energy use, as well as avoided transmission and benefits.

**Table 8. 2016-2018 DSM Program Portfolio Cost-Effectiveness Summary\***

Program	TRC		SCT	
	NPV (\$) **	BCR	NPV (\$) **	BCR
<b>Residential Services</b>				
HPwES Program	2,542,819	0.31	4,033,116	0.47
Green for Green	80,933	0.11	127,461	0.17
<b>Commercial Services</b>				
Revolving Loan	17,559,900	1.30	28,884,147	2.05
SIE Program	0	0.00	0	0.00
Performance Contracting	74,057,823	3.50	122,497,477	5.56
Nonprofit Energy Assessments	4,032,518	3.02	6,526,924	4.68
Loans for Communities in Need	0	0.00	0	0.00
Pathways to Green Schools	2,030,086	2.49	3,255,072	3.83
Faith Efficiencies Partnership	407,608	1.69	674,445	2.68
<b>Renewable Energy Services</b>				
SREC Upfront Purchase	15,087,892	0.31	26,426,095	0.52
Solar Thermal and Geothermal C&I	2,955,629	1.79	4,408,118	2.55
<b>Total DSM Program Portfolio</b>	<b>118,755,208</b>		<b>196,832,854</b>	

\* Totals may not sum exactly due to rounding.

\*\* The present value of avoided energy and capacity costs includes an impact of line losses at 8.1% to account for avoided line losses occurring from reductions in customer energy use, as well as avoided transmission and benefits.

**Error! Reference source not found.** provides the total program-level costs for the portfolio overall. Note that these budgets do not reflect loan dollars provided by the SEU (primarily through the Revolving Loan Program) as loan dollars do not impact program or portfolio cost-effectiveness. Additionally, program revenue offsets program administration costs.

**Table 9. 2016-2018 DSM Program Portfolio Costs by Program\***

Program	2016	2017	2018	2016-2018
<b>Residential Services</b>				
HPwES Program	\$840,471	\$841,636	\$841,636	\$2,523,743
Green for Green	\$136,466	\$136,466	\$136,466	\$409,399
<b>Commercial and Nonprofit Services</b>				
Revolving Loan	\$174,478	\$174,478	\$174,478	\$523,435
SIE Program	\$48,466	\$48,466	\$48,466	\$145,399
Performance Contracting	\$116,319	\$116,319	\$116,319	\$348,957
Nonprofit Energy Assessments	\$96,932	\$96,932	\$96,932	\$290,797
Loans for Communities in Need	\$29,080	\$29,080	\$29,080	\$87,239
Pathways to Green Schools	\$67,080	\$67,080	\$67,080	\$201,239
Faith Efficiencies Partnership	\$28,186	\$28,186	\$28,186	\$84,559
<b>Renewable Energy Services</b>				
SREC Upfront Purchase	\$96,932	\$96,932	\$96,932	\$290,797
Solar Thermal and Geothermal C&I	\$113,466	\$113,466	\$113,466	\$340,399
<b>Total DSM Program Portfolio</b>	<b>\$1,747,876</b>	<b>\$1,749,041</b>	<b>1,749,041</b>	<b>\$5,245,963</b>

\* Totals may not sum exactly due to rounding.

## Proposed Quick Energy Check Up Program

The Quick Home Energy Check-up (QHEC) program is a flexible program that can target a specific customer (i.e. renters), property type (i.e. apartment complexes), or sectors of the market (i.e. agricultural). The program covers the broadest range of customers if it is implemented in two different building types: single family houses and multifamily properties. Single family homes are treated individually and are more labor intensive to complete; however, the customer educational experience is far more detailed. Multifamily properties offer the opportunity to complete an entire property in a condensed period of time but the customer is frequently not involved in the process. In both tracks, savings are generated through the installation of direct install measures and can be captured regardless of the fuel used in the customers' home. Additionally, the list of measures offered during the QHEC can be expanded beyond standard direct install measure offerings (listed below) to include smart, two-way thermostats, ShowerStart thermostatic control valves, and tier 2 smart strips, depending on the goals of the program.

### Measures Promoted

The QHEC typically includes the following measures: CFLs, LEDs, faucet aerators, efficient-flow showerheads, water pipe insulation, and smart power strips. Additional measures that can be considered are Showerstart thermostatic control valves, two-way, smart thermostats, and tier 2 smart power strips. In an effort to reduce duplication between the QHEC and HPwES DIMS (which are the same), the QHEC program will offer a limited number of measures so that there are still opportunities for the HPwES customer to receive measures during the audit.

The QHEC is a free service to Delawareans; the costs for the visit and measures is covered by incentive funds paid directly to the contractor on a bi-weekly basis based on the following schedules:

SF QHEC DIMS	Max/QHEC	Savings (kWh)	Savings (kW)	Measure cost	Installation cost
LEDs (9w)	6	25.981	0.003	\$ 3.80	\$ 1.25
Showerheads (1.5 GPM)	2	287.729	0.024	\$ 2.84	\$ 10.00
Aerators (1.0 GPM)	2	34.240	0.004	\$ 0.45	\$ 2.00
Pipewrap	1	132.785	0.0152	\$ 0.23	\$ 10.00
Showerstarts (w/ 1.5 GPM Showerhead)	1	49.947	0.004	\$ 15.50	\$ 5.00

MF QHEC/Property DIMS	Max/QHEC	Savings (kWh)	Savings (kW)	Measure cost	Installation cost
LEDs (9w)	12	25.981	0.003	\$ 3.80	\$ 1.25
Showerheads (1.5 GPM)	2	287.729	0.024	\$ 2.84	\$ 10.00
Aerators (1.0 GPM)	2	34.240	0.004	\$ 0.45	\$ 2.00
Pipewrap	1	132.785	0.015	\$ 0.23	\$ 10.00
Showerstarts (w/ 1.5 GPM Showerhead)	1	49.947	0.004	\$ 15.50	\$ 5.00

Contractors are also paid for the service of providing the QHEC. For single family customers and customers living in multifamily properties who request a QHEC contractors are paid \$125 and \$100 respectively. For multifamily properties that are scheduled by the contractor through the property owner, contractors will be paid \$75 per QHEC.

## Expected Impacts

This section will include a table that shows key program impacts including: savings, participants, measures, incentive costs, implementation costs, cost-benefit ratios. Full data tables will be included in Appendix A.

**Table 1. Planned Program Outcomes**

QHEC	2016	2017	2018	Total
Annual MWh/Therm Savings	5,265.68	5,571.34	5,124.32	15,961.33
Single Family	1,326	2,216	2,674	6,215.70
Multifamily Properties	3,940	3,355	2,450	9,745.63
Annual MW Savings	0.56	0.59	0.55	1.70
Participants	8,900	9,700	9,130	27,730.00
Single Family	2,500	4,250	5,150	11,900.00
Multifamily Properties	6,400	5,450	3,980	15,830.00
Incentive Costs	\$ 1,447,627.00	\$ 1,636,162.25	\$ 1,583,229.65	\$4,667,018.90
Single Family	\$ 470,155.00	\$ 803,783.75	\$ 975,364.25	\$ 2,249,303.00
Multifamily Properties	\$ 977,472.00	\$ 832,378.50	\$ 607,865.40	\$ 2,417,715.90
Administrative Costs	\$ 528,914.00	\$ 383,857.00	\$ 420,247.00	\$1,333,018.00
Total Program Costs	\$ 1,976,541.00	\$ 2,020,019.25	\$ 2,003,476.65	\$6,000,036.90

Program	Budget (\$thousand)	Energy Savings (MWh/Therms)	Peak Demand Savings (MW)	Net Benefits (\$thousand)	TRC
QHEC	\$6,000,036.90	15,961.33 MWh	1.70 MW	\$7,748.02	2.37

### Benefit/Cost Notes

- Based on Avoided costs from Optimal Potential study and assumes flat load shape for all measures
- Assumes weighted average of 10 year measure life for each QHEC
- Assumes 3% Discount Rate in accordance with Optimal Potential Study
- Assumes 7.87% Line Loss Factor (for both Energy and Demand) in accordance with Optimal Potential Study
- Assumes NTG Ratio of 0.90 in accordance with Optimal Potential Study
- Does Not include any benefits for non electric fuels