Maine Solar and Wind Energy Rebate Program

2008 Annual Report

Saving energy for Maine

Program of the Maine Public Utilities Commission

January 15, 2009

Submitted By:

Maine State Energy Program
Energy Programs Division
Maine Public Utilities Commission
242 State Street
Augusta, ME 04333-0018

I. INTRODUCTION

The Maine Public Utilities Commission (Commission) is pleased to present the third Maine Solar Energy Rebate Program Annual Report for program year 2008 which runs from July 1, 2007 through June 30, 2008.

The two primary goals of the Maine Solar Energy Rebate Program (hereafter referred to as the Program) are to:

1) Increase the use of solar photovoltaic (PV), solar hot water, and solar air systems by Maine residents; and

2) Promote the development of trained and certified renewable energy installers throughout the State of Maine.

The Program was established on June 29, 2005 as part of Governor Baldacci's Solar Initiative and enacted into law as ***An Act To Encourage the Use of Solar Energy*** which is codified at 35-A M.R.S.A.§3211-B.[1] The Program is administered by the Commission's Energy Programs Division and implemented under the Commission's Chapter 930 Solar Energy Rebate Program Rule.[2] During program year 2008, the Program provided rebates for the installation of PV, solar hot water, and solar hot air systems for Maine residents.

For the sake of clarity, we define these technologies as follows:

1. Solar thermal refers to the heating of water and air. Solar thermal systems collect the sun's heat and use it for domestic hot water or space heating in buildings. There is a broad variety of technologies that perform these functions efficiently.
2. Photovoltaic (PV) electrical systems generate electricity directly from the sun. There are also many product options in this evolving field.

The Program is funded through revenues raised by an assessment ($0.005/kWh rate) applied to each kilowatt-hour sold in Maine. The authorizing legislation initially allocated $500,000 per year for 3.5 years, and the Program originally had a sunset date of December 31, 2008. During the First Regular Session of the 123rd Legislature, the Program was extended to December 31, 2010 and the total allocation cap for the Program was increased to $2,750,000 (P.L. 2007, Chapter 158).

Section 3211-C(5) requires the Commission to submit annual reports to the Utilities and Energy Committee (Committee) that include a summary of actions taken by the Commission relating to the Program during the prior 12 months. The purpose of this report is to satisfy the reporting requirement in §3211-C(5).

[1] Pursuant to Reviser's Report 2005, Chapter 1, Section 17, §3211-B was re-allocated to 35-A M.R.S.A. §3211-C.
[2] Chapter 930 can be viewed on the Commission's web site at http://www.maine.gov/mpuc/doing_business/rules/part_9/chap_930.htm

Wind Rebate

In its 2008 session, the Legislature enacted a law that expanded the Program to include qualified wind energy systems: ***An Act to Implement Recommendations of the Governor's Task Force on Wind Power Development***, P.L. 2007, Chapter 661. Chapter 661 directed the Commission to establish a wind energy system rebate program that would allow a rebate if the applicant installs a qualified energy wind system in an area of "demonstrated wind power potential." Chapter 661 also provides that the Commission shall determine the allotment of the funds in each fiscal year between PV system rebates, solar thermal system rebates, and wind energy systems rebates provided that the Commission commits at least 20% of Program funds to each of the three system types.

Also during the 2008 session, the Legislature passed a law that was designed to offer installer training to specific professions related to renewable technology installations. The law is titled ***An Act to Clarify the Qualifications of Installers under the Solar Energy Program***, P.L. 2007, Chapter 493. Chapter 493 provides for the inclusion of qualifying boiler technicians, propane and natural gas technicians, and type II, III and universal refrigeration technicians as certified solar hot water system installers.

Temporary Suspension of Solar Thermal Rebates

Due to an unprecedented number of applications for solar thermal rebates in program year 2008 which exceeded the available funding, the Commission was forced to temporarily discontinue the provision of rebates for solar thermal systems. High fossil fuel prices, combined with increasing awareness of climate change, and growing concern about Maine's dependence on foreign oil prompted many Mainers to explore renewable energy options. As demonstrated by the flood of applications we received in the first half of calendar year 2008, solar thermal technology provided very attractive options. The federal government also offers rebates for certain solar thermal installations. With available state and federal rebates, many thermal systems had simple payback periods of between three and four years, placing this renewable technology within reach of many people who had, in past years, not considered installing solar thermal systems. By June 20, 2008, we had to stop accepting applications for calendar year 2008 because funding was exhausted. We will resume accepting applications and granting rebates for solar thermal systems in January 2009.

Adjustment of Rebate Levels

The Commission has made a variety of adjustments to the Program since temporarily suspending rebates for thermal systems in June 2008, beginning with the incentive levels. In 2007, the Commission was given authority to revise Program rebate levels through P.L. 2007, Chapter 29. Chapter 29 provides that in setting rebate levels, the Commission may consider market demand for qualified solar energy systems, program implementation experience, and other factors relevant to the solar energy rebate program. In January 2008, the Commission adopted new Program incentive levels for effect through December 31, 2008.

By Order dated December 18, 2008 in Docket No. 2008-498, the Commission made further adjustments to Program incentive levels. In this most recent incentive level adjustment, rebates for residential solar thermal systems were reduced from 30% of installed system costs or $2,500 (whichever is less) to 25% of installed system costs or $1,000 (whichever is less). Rebates for commercial solar thermal installations were reduced from 35% of installed system costs or $10,500 (whichever is less) to 25% of installed system costs or $1,000 (whichever is less). Our primary reason for reducing incentive levels is to ensure that rebates are distributed in a manner that reasonably maximizes the number of rebate recipients. Our decision to reduce the incentive levels was supported by comments we received from the public.[3]

Summary of Program Accomplishments from Inception Through June 30, 2008

Installations and Savings

- 446 systems received program rebates including:
- 347 thermal hot water
- 76 Photovoltaic systems
- 23 hot air systems
- Excellent geographical distribution of projects
- 9,315 tons of lifetime CO2 emissions eliminated through solar system installations

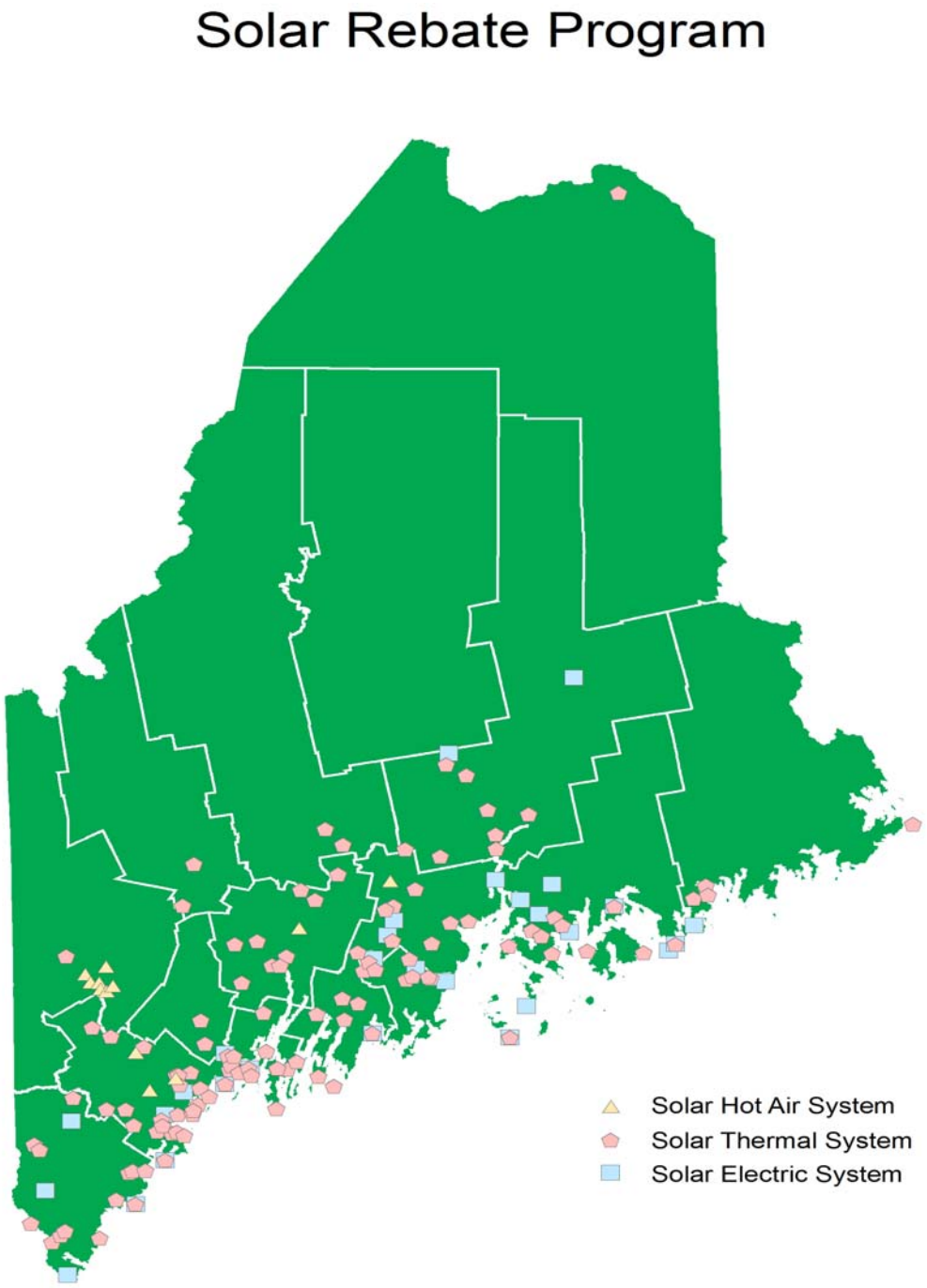
Training

- Training opportunities were opened up to architects, engineers, boiler technicians, refrigeration technicians and NG/LP technicians
- 189 solar thermal installers trained through Efficiency Maine-sponsored programs
- 45 PV installers received training by Kennebec Valley Community College
- 7 PV installers certified by North American Board of Certified Energy Practitioners (NABCEP)

The map on the following page shows the location of installations that were funded in program year 2008.

[3] Our December 18, 2008 Order in Docket No. 2008-498 contains additional details about our recent incentive level revisions. The December 18, 2008 Order can be found on the Commission's web site at http://www.state.me.us/mpuc

Program Year 2008
(July 1, 2007 through June 30, 2008)



II. FINANCIAL REPORT

A total of $1,750,000 was allocated for the Program through December 31, 2008. At that time, the allotment for Program funds through program year 2008 was established in statute at 75% for solar thermal system rebates and 25% for PV system rebates[4] 35-A M.R.S.A. §3211-C(3). This 75%- 25% breakdown resulted in authorized expenditures of $1,312,500 for solar thermal systems and $437,500 for PV systems through December 31, 2008.

When a reservation is awarded to an applicant, the money for that particular project becomes "reserved."[5] Of the $1,312,500 allocated for solar thermal systems through this program year, $1,142,652 was reserved by June 30, 2008. Of the $437,500 allocated for PV installations, $438,131 was reserved for PV systems.

Generally, it is four to six months before the project is completed and the reserved money is actually paid to the applicant. In some instances a reservation is awarded but the project is not installed. In these cases, the rebate amount is added back into the available fund for the next reservation. **Table 1** provides a summary of solar incentives through the end of program year 2008. Please note that "reserved" means money set aside for upcoming projects and "paid reservations" represents rebates paid for completed installations.

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[4] As noted above, the statutory breakdown for Program funds was amended in 2008 when rebates for qualifying wind systems were added to the Program. P.L. 2007, Chapter 661. Section 3211-C(3), as amended by Chapter 661, now requires that a minimum of 20% of Program funds be allocated to each of the three types of systems covered by the Program (PV, solar thermal (which includes solar hot water and solar hot air), and wind) and gives the Commission discretion to allocate the remaining 40% of Program funds. In the Commission's December 18, 2008 Order in Docket No. 2008-498, the Commission determined that commencing on January 1, 2009 and until further amendment, Program funding is allocated in the following manner: PV systems and wind systems each receive 20% of the fund and the remaining 60% of the fund is allocated to solar thermal. The Commission's rationale for this allocation is summarized in the December 18th Order which, as noted above, is available at http://www.state.me.us/mpuc/orders/orders.htm

[5] The reservation process performs two critical functions. First, the reservation informs the applicant that we have program money reserved for the proposed installation. Second, it provides us with an accurate method of tracking Program expenses, thereby allowing us to modify the Program as needed.

Table 1: Maine Solar Incentive Details - July 1, 2005 through June 30, 2008

System Type	Authorized Funding through 12/31/08	Reserved	Paid Reservations	Unpaid Reservations	Systems Installed	Available Funds Remaining	Percent Remaining
Solar Electric PV	$437,500	$438,131	$380,215	$57,916	74	$9,369	2%
Solar Hot Water	$1,312,500	$309,891	$311,045	$(1,154)	249	$92,415	7%
Solar Air		$10,069	$9,988	$81	19		
Residential Air		$14,854	$2,697	$12,157	3		
Residential Water		$526,925	$173,547	$353,379	72		
ENERGY STAR Air		$3,000	$ -	$3,000	0		
ENERGY STAR Water		$11,800	$ -	$11,800	0		
Maine Home Performance Air		$ -	$ -	$ -	0		
Maine Home Performance Water		$6,000	$3,000	$3,000	1		
Commercial Air		$4,200	$ 4,200	$ -	1		
Commercial Water		$255,913	$49,700	$206,213	8		
Total	$1,750,000	$1,580,783	$934,391	$646,392	427	$101,784	6%

* As of June 30, 2008, Commission staff time dedicated to Program management has been paid through a State Energy Program grant, and subsequently such time was not billed directly to the Solar Rebate Program. There is no guarantee that grant funds will continue to be available to cover the costs of managing the Program and if grant funds are discontinued, additional administration fees would be charged directly to the Solar Rebate Program. Administrative costs billed to the Program total $25,963 through June 30, 2008.

During the 2008 program year, customers continued to express significant interest in incentives for PV systems. Because the PV incentive money was reserved fairly quickly on a first-come first-served basis when the program began in 2005, PV incentives were limited. However, by mid-2007, PV money was becoming available from projects that did not go forward due to several authorized projects that were never installed. In all, an additional 35 incentives at the new $2,000 incentive level were awarded in the 2008 program year. The extension of the Program from the original sunset date of December 31, 2008 to December 31, 2010 by P.L. 2007, Chapter 158 will allow us to reserve additional rebates for PV systems from January 2, 2009 to December 31, 2010.

III. INSTALLATIONS

Solar Hot Water

In program year 2008, the Program awarded 195 solar hot water rebates. This represents an increase of 72 rebates over the 123 rebates awarded in program year 2007. **Table 2** below provides a summary of the solar hot water rebates awarded in 2008.

Table 2: Solar Hot Water Installations Receiving Rebates in Program Year 2008

Number of Companies	Number of Systems	Group Total	Percent of Total
22	1	22	11%
5	2	10	5%
2	3	6	3%
1	4	4	2%
1	5	5	3%
2	6	12	6%
1	8	8	4%
1	9	9	5%
1	119	119	61%
36	**157**	**195**	**100%**

Table 2 shows that the 195 solar hot water systems that received rebates in program year 2008 were installed by a total of 36 companies. One company installed 119 of the 195 systems that received rebates in 2008 (61%), while the next busiest company installed 9 systems. At the other end of the spectrum, 22 companies installed only one solar hot water system that received a rebate in program year 2008. These numbers suggest that the solar hot water system installation industry is still maturing. The numbers further suggest that many companies that install solar hot water systems in Maine do so as a secondary activity to their primary business focus, which might be heating or plumbing activities. However, we are starting to see companies beginning to focus more on solar hot water system installations as their primary business focus, but it will take additional time to see if these companies develop and thrive.

Solar Hot Air

In 2008, five solar hot air projects received rebates through our Program. One of these projects was a commercial project pictured later in this report. Solar air panels are a cost-effective and proven technology that simply do not appear to have the popularity of the solar water systems.

Photovoltaic

The Commission awarded rebates for 39 solar PV systems in program year 2008, compared to 15 rebates that were awarded in program year 2007. **Table 3** below provides a summary of the solar PV rebates awarded in 2008. **Table 3** shows that the 39 PV systems that received rebates in program year 2008 were installed by a total of 10 companies. As with the solar thermal installations, one company was conspicuously more active in PV installations that received rebates under the Program.

Table 3: Solar PV Installations Receiving Rebates in Program Year 2008

Number of Companies	Number of Systems	Group Total	Percent of Total
1	16	16	41%
1	5	5	13%
1	4	4	10%
2	3	6	15%
3	2	6	15%
2	1	2	5%
36	**31**	**39**	**100%**

IV. CUMULATIVE UPDATE

Solar Hot Water

By January 1, 2008, the remaining funds for hot water system rebates totaled $1,044,169, which amounted to 80% of the total 3.5 year allocation for these systems. It was clear that the original program rebate amount of $1,250 for residential systems was not sufficient to move the market. In an effort to stimulate the installation of hot water systems, in January of 2008, the Commission increased the incentive level to 30% of installed system costs or $2,500 whichever is less. At that time, the Commission also established a new commercial incentive of 35% of installed system costs or $10,500 (whichever is less) to stimulate solar hot water installations in the commercial sector. In response to the increase in rebate levels and other economic factors discussed above, we saw a dramatic increase in applications for solar hot water rebates during the second half of program year 2008.

As detailed in **Table 4** below, during the life of the Program, the number of hot water system rebates has nearly doubled from each previous year. This trend illustrates that solar hot water systems are viewed by many Mainers as a very popular way to reduce fossil fuel consumption. This year saw a marked increase of solar hot water systems replacing propane heating systems in particular. As noted above, a prime reason for the increase in applications for solar hot water rebates during program year 2008 was the spike in fossil fuel prices during the early and mid-summer months of 2008. During that period, we received an unprecedented number of applications for solar hot water rebates, resulting in the solar thermal portion of the Program having to be temporarily suspended on June 20, 2008.[6]

Appendix A of this report provides data about each solar hot water system that received a rebate since inception of the Program.

[6] June 20th was the last day applications were accepted because it was clear that applications were exceeding 2008 Program funding. The applications accepted through June 20 were allocated reservation numbers and were funded in large part with Program funding for the upcoming year (2009). This reduced the amount of funding available for the 2009 Program year.

Table 4: Solar Hot Water Installations Details

	7/01/2005-6/30/2006	7/01/2006-6/30/2007	7/01/2007-6/20/2008
Number of Installations	43	109	195
Average System Size MMBTUs/Year	16.60	25.25	27.33
Average Total Cost	$8,024.00	$12,603.00	$10,767.10
Average Rebate	$1,234.00	$1,245.00	$2,061.80
Average Cost after Rebate	$6,790.00	$11,357.00	$8,705.31
Percentage of System cost pd by Rebate	15%	10%	15%
Average System Cost w/o Commercial		$8,612.00	$10,283.59
Average Rebate w/o Commercial		$1,244.00	$1,814.11
Average Customer Cost w/o Commercial		$7,368.00	$8,816.73
Percent of System Cost paid by Rebate (w/o commercial)		14%	22%

Solar hot water system, Norway. Installed by Revision Energy of Portland

Solar Hot Air

Solar hot air systems are fundamentally simple and effective solar thermal systems. The systems capture solar radiation on a flat plate collector and circulate the heated air into the residence. Typically, the systems contain a thermostatically driven fan to circulate solar-heated air into the building, and automatically turn off when the panel no longer provides heat. Only five hot air systems received rebates in 2008; a marked reduction from the 14 hot air systems that received rebates during program year 2007. It appears that this technology simply doesn't enjoy the same level of public acceptance of the hot water systems, though it is simple and effective.

As detailed in **Table 5** below, the average production for hot air systems receiving rebates in program year 2008 is estimated at 12.077 million British Thermal Units (MMBTU) per year, with an average total installed cost of $4,546. The average installed cost for 2008 was more than double the 2007 average installation cost, due to the fact that one of the five installations in 2008 was a large commercial project.

Appendix B of this report provides data about each solar hot air system that received a rebate since inception of program.

Table 5: Solar Hot Air Installations Details

	7/01/2005-6/30/2006	7/01/2006-6/30/2007	7/01/2007-6/30/2008
Number Systems Installed	4	14	5
Average System Size MMBTUs/Year	10.2	9.6	12.077
Average Total Costs	$1,820.00	$2,080.00	$4,546.00
Average Rebate	$455.00	$552.00	$1,465.59
Average Cost after Rebate	$1,365.00	$1,560.00	$1,466.90
Percent of System Cost paid by Rebate	25%	25%	32.5%

Solar hot air flat plate panels, Gorham. Installed by Jim Robertson of Mainly Plumbing

Photovoltaic

Over the three program years, 76 PV systems have been installed with the support of the Program, detailed in **Table 6** below. In an effort to increase the number of PV system rebates available, in January of 2008, the Commission reduced the maximum rebate level for residential installation from $7,000 to $2,000. This

change is reflected in the reduced percentage of typical system cost paid by the incentive from 28 percent in 2007 to 18 percent in 2008.

The 39 systems receiving rebates in program year 2008 averaged slightly higher system wattages than corresponding systems in 2007. This reflects the slightly higher customer cost after the rebate. Average total installed costs increased slightly while the average rebate amount dropped by 30 percent. Customer interest in PV rebates remained strong during 2008, as did inquiries requesting additional funding for the coming years.

Appendix C to this report provides data about each PV system that received a rebate since inception of program.

Table 6: Solar PV Installations Details

	7/01/2005-6/30/2006	7/01/2006-6/30/2007	7/01/2007-6/20/2008
Number of Systems Installed	22	15	39
Average System Size (KW)	2.74	2.17	2.32
Average Total Cost	$23,889.00	$22,112.00	$22,717.00
Average Rebate	$6,027.00	$6,022.00	$4,135.82
Average Customer Costs After Rebate	$17,863.00	$16,090.00	$18,581.23
Percent of System Cost Paid by Rebate	25%	28%	18%
Installed Customer Cost/Watt Before Rebate	$8.91	$10.18	$9.78
Installed Customer Cost/Watt After Rebate	$6.35	$7.41	$8.00

1.2 KW System Installed by Moosehead Solar

V. HISTORICAL SAVINGS FROM SOLAR ENERGY PROGRAMS

In this section of the report, we summarize the historical fuel and carbon dioxide (CO_2) savings realized by the various components of the Program. We begin with a written description of the fuel and CO_2 savings during each program year. We then include a series of charts that graphically depict fuel and CO_2 savings associated with the various system types.

Program Year 2006 (July 1 2005 through June 30, 2006)

Graphs 1 through 5 on the following pages provide details regarding the 69 solar installations completed and receiving rebates during the first year of the Program - July 1, 2005 to June 30 2006. We estimate that PV systems installed in Maine during program year 2006 saved 76.2 Megawatt-hours (MWh) annually with lifetime savings of 1,524 MWh.

We estimate that solar hot water systems installed in program year 2006 saved 4,020 gallons of fuel oil, 3,141 gallons of propane, and 33 MWh of electricity that would have been used for heating water annually. In most of the applications we have observed solar hot water systems were installed to produce domestic hot water. In a few cases, the systems have been used to supplement household space heating requirements. Lifetime savings for solar hot water systems were estimated to include 80,406 gallons of fuel oil, 62,826 gallons of propane, and 663.2 MWh of electricity that would have been used for heating water. Combined, the annual CO_2 savings for all systems was 124 metric tons, with lifetime savings of 2,463 metric tons[7], which is equivalent to removing 449 cars from the road.[8]

Solar hot air systems are an economic substitute for offsetting fossil fuel for space heating, and have been installed mainly on residential buildings. With the advent of a commercial incentive in 2008, we expected to see an increasing number of solar hot air systems on commercial and institutional buildings, but this was not the case. Another surprise was the 66 percent overall reduction of hot air systems compared to the 2007 program year. This may be due in part to the fact that the hot air systems are not as widely promoted.

Program Year 2007 (July 1 2006 through June 30, 2007)

Graphs 1 through 5 on the following pages provide details regarding the 138 solar installations completed and receiving rebates during program year 2007. We estimate that PV systems installed in Maine during program year 2007 saved 51.8 MWh annually with lifetime savings of 1,036 MWh.

We estimate that solar hot water systems installed in program year 2007 saved 10,752 gallons of fuel oil and 7,852 gallons of propane annually. The 2007 thermal hot water electrical offset of 71.65 MWh of electricity nearly equaled last year's PV installations for electrical savings. Lifetime savings for solar hot water systems are

[7] For our analysis in this section of the report, we conservatively estimate all PV and thermal systems have a 20 year lifetime.
[8] For relating CO_2 savings to number of cars, we use EPA MOBILE6.2 fuel economy numbers.

estimated to include 215,040 gallons of fuel oil, 157,048 gallons of propane, and 1,433 MWh of electricity that would have been used for heating water.

Solar air systems offset more than 39,618 gallons of fuel oil and will reduce CO_2 emissions by more than 400 tons over the life of the panels.

The annual CO_2 savings relating to all systems receiving rebates increased 72% from 124 metric tons in 2006 to 211 metric tons in 2007. The projected lifetime savings of 4,234 metric tons of CO_2 is equivalent to removing 772 cars from the road.

Program Year 2008 (July 1 2007 through June 30, 2008)

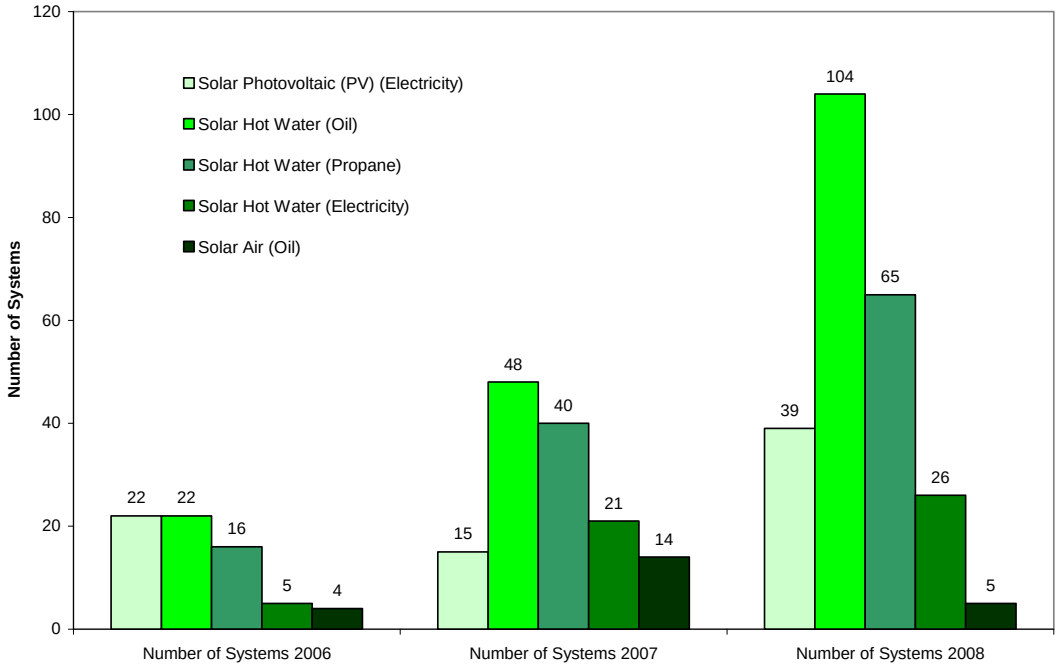
Graphs 1 through 5 on the following pages provide details regarding the 239 solar installations completed and receiving rebates during program year 2008. We estimate that PV systems installed in Maine during program year 2006 saved 110 MWh annually with lifetime savings of 2,785 MWh.

We estimate that solar hot water systems installed in program year 2008 saved 21,046 gallons of fuel oil and 21,650 gallons of propane annually. The 2008 thermal hot water electrical offset of 135 MWh exceeded both 2007 and 2008 PV installations for electrical savings. We estimate lifetime savings for solar hot water systems to include 420,920 gallons of fuel oil, 433,000 gallons of propane, and 5,485 MWh that would have been used for heating water.

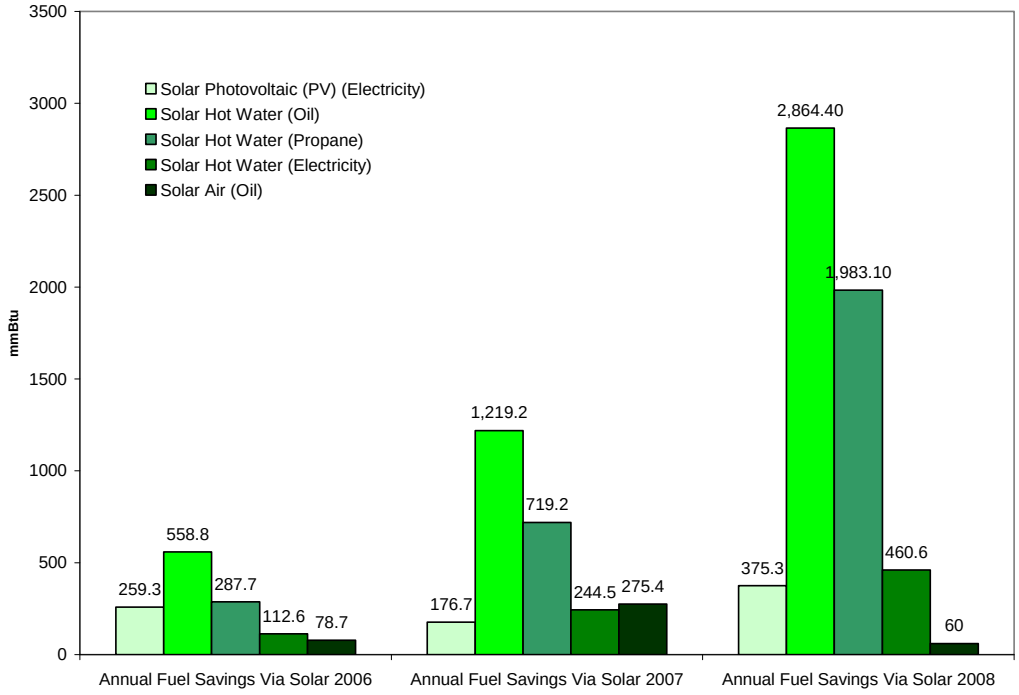
The solar hot air systems installed in the 2008 program year will save an estimated 8,640 gallons of heating oil and reduce CO2 emissions by more than 87 tons.

The program year 2008 CO_2 savings relating to all systems receiving rebates more than doubled since 2007, to 465 metric tons. The projected lifetime savings of 9,316 metric tons of CO_2 is equivalent to removing 1,700 cars from the road.

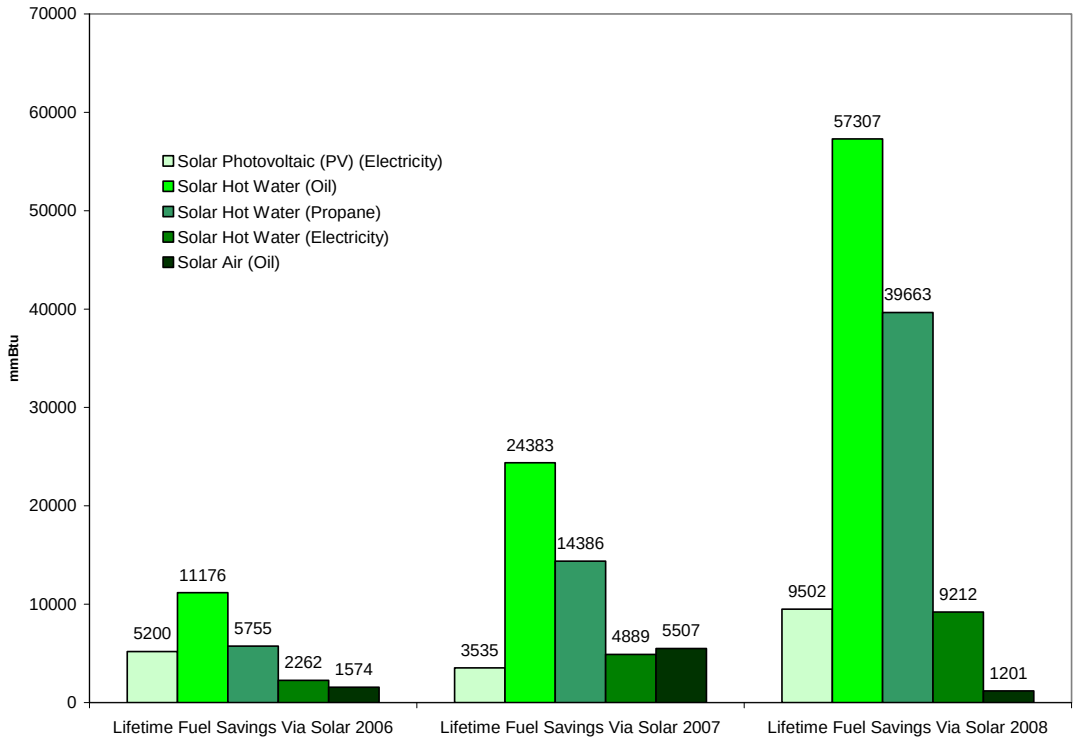
Graph 1 Solar Energy Systems that have Received Rebates and are in Use



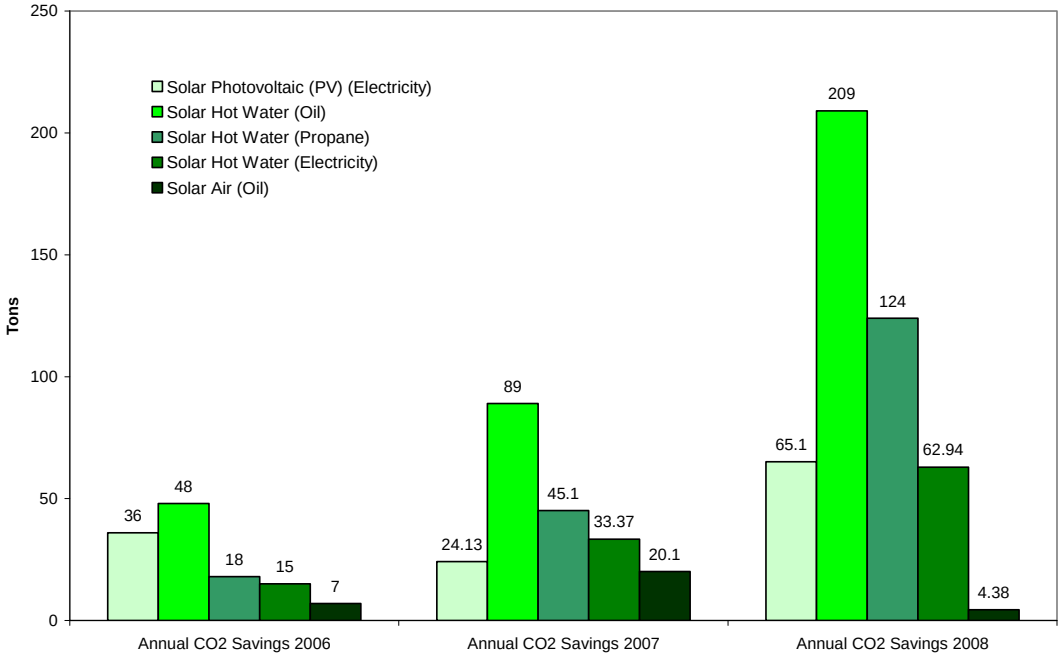
Graph 2 Annual Fuel Savings from Systems that have Received Rebates 2006-2008



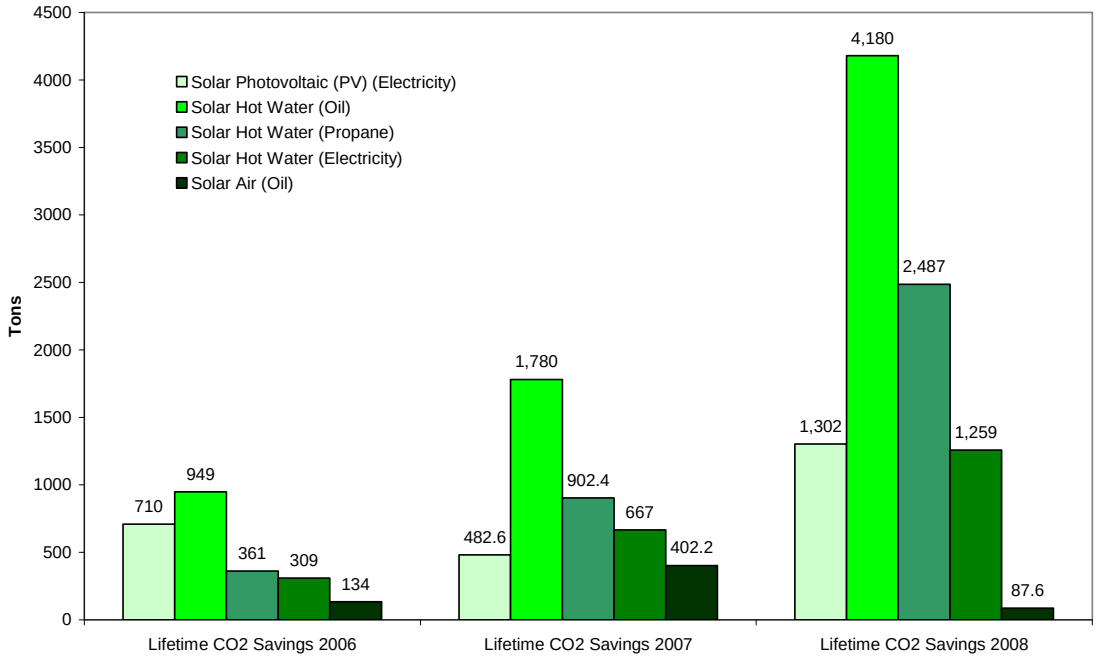
Graph 3 Lifetime Fuel Savings from Systems that have Received Rebates 2006-2008



Graph 4 Annual CO_2 Savings in Tons from Systems that have Received Rebates 2006-2008



Graph 5 Lifetime CO2 Savings in Tons from Systems that have Received Rebates 2006-2008



VI. INSTALLER TRAINING

Installer training is a critical component of market development and part of the Commission's statutory mandate. Training is central to developing a trained and certified force of competent installers able to provide high-level consumer information and perform quality installations.

Solar Thermal

We made major gains in the training of thermal installers during program year 2008. Starting in January 2008, thermal certification was opened to Master Boiler Technicians, Propane and Natural Gas Technicians, type II, III, and Universal Refrigeration Technicians, as well as architects and engineers. Installers of solar thermal systems are not currently required to be certified by the North American Board of Certified Energy Practitioners (NABCEP), but it is an attractive certification goal for Maine's renewable energy future. The number of installers completing Commission-sponsored training has nearly tripled from 66 individuals in 2006 to 178 certified individuals by June 30, 2008. In addition, we have partnered with the Kennebec Valley Community College in Fairfield to provide the solar training certification classes. The college has submitted the course curriculum for NABCEP certification and is anticipating the program evaluation.

Photovoltaic

Originally, PV installers were required to be NABCEP trained. However, starting in January 2008, NABCEP training and certification for PV installers was required by statute. Of the original 45 trained PV installers, only seven have been certified and are currently listed on our website as certified PV installers able to install PV systems. The remaining installers have the option of obtaining the NABCEP certification.

VI. CONCLUSION

The 2008 program year has proven to be a watershed year for our rebate Program. Since the Program was created, the solar industry has moved from being a relatively small component of our energy options to a credible, cost effective solution.

We do not in any way claim to be the central factor in this evolution. The modest rebates offered through our programs are designed to support the solar industry to the best of our ability, to encourage Maine residents to consider these options for their homes and businesses, and to assist in the acquisition of the systems through the financial incentives.

During the summer and fall of 2008, Maine citizens became acutely aware of the vulnerability brought about by our oil dependency. As prices crossed the four-dollar per gallon threshold, we experienced the alarming prospect of personal and financial stress on all levels of society. This realization was underscored by the prospect of a long, cold winter with continuing escalation of heating and travel costs. Individuals, homes, businesses, municipalities and entire communities were compelled to design emergency strategies to cope with these unknowns.

During this period, interest in solar energy reached a peak, and our program became oversubscribed for the first time. As the PUC exhausted Program funds, we scrambled to accommodate the rebate requests by reducing rebate amounts but increasing the number of rebates offered. At the same time, interest in solar installer training courses increased dramatically. Every class offered was quickly filled and new classes were promptly over-enrolled.

The lesson learned here is that Maine citizens reached a critical turning point by acknowledging our vulnerability to a fuel source over which we have little or no control. Renewable energies offer an appealing solution to energy independence while allowing us to retain more of the invested dollars in-state. The 2008 solar rebate Program is one clear example of a new eagerness to embrace renewable technologies, regain control over energy expense, and to cultivate the professional industry opportunities that will make the system purchase and installation accessible.

For more information, contact:
Tim Vrabel
Deputy Director, Energy Programs Division
Maine Public Utilities Commission
(207) 287-1366

Appendices

Attached to this report are three appendices detailing the completed installations that have been funded by the Program. **Appendix A** summarizes solar hot water installations, **Appendix B** addresses hot air systems, and **Appendix C** relates to solar PV systems

We look forward to working with the Committee on issues relating to the Program and would welcome the opportunity to meet to present this report and respond to any questions you may have about the report or the Program.

APPENDIX A: Solar Hot Water

Solar Hot Water System Installation Details – Program Year 2006

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
APPLETON	6.1	$10,975	$1,250	$9,725
ARROWSIC	30.0	$6,400	$1,250	$5,150
AUGUSTA	21.6	$5,711	$1,250	$4,461
BANGOR	9.3	$7,600	$1,250	$6,350
BAR HARBOR	9.3	$4,200	$1,050	$3,150
BLUE HILL	6.9	$5,054	$1,250	$3,804
BROOKSVILLE	28.9	$10,420	$1,250	$9,170
BROOKSVILLE	22.0	$14,828	$1,250	$13,578
BROOKSVILLE	8.8	$15,400	$1,250	$14,150
BROOKSVILLE	8.8	$8,400	$1,250	$7,150
BRUNSWICK	16.0	$8,000	$1,250	$6,750
CANAAN	18.6	$5,600	$1,250	$4,350
CLINTON	18.6	$6,300	$1,250	$5,050
CUMBERLAND FORESIDE	70.0	$22,682	$1,250	$21,432
DIXMONT	7.9	$4,945	$1,250	$3,695
FREEDOM	9.3	$6,800	$1,250	$5,550
FREEPORT	6.1	$8,250	$1,250	$7,000
GORHAM	19.7	$5,385	$1,250	$4,135
GOULDSBORO	10.5	$5,666	$1,250	$4,416
HOPE	55.5	$16,225	$1,250	$14,975
KENNEBUNK	10.0	$6,623	$1,250	$5,373
KENNEBUNKPORT	19.7	$9,471	$1,250	$8,221
KENNEBUNKPORT	19.7	$9,018	$1,250	$7,768
LEWISTON	9.3	$6,500	$1,250	$5,250
LIMINGTON	8.0	$5,734	$1,250	$4,484
MONTVILLE	9.3	$6,500	$1,250	$5,250
MOUNT DESERT	6.1	$8,700	$1,250	$7,450
OLD ORCHARD BEACH	8.0	$6,452	$1,250	$5,202
PORTLAND	20.0	$6,463	$1,250	$5,213
RAYMOND	12.9	$4,226	$1,056	$3,169
SARGENTVILLE	6.0	$3,800	$950	$2,850
SKOWHEGAN	18.6	$6,850	$1,250	$5,600

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
SOUTH HARPSWELL	20.0	$11,615	$1,250	$10,365
SOUTH PORTLAND	8.0	$6,534	$1,250	$5,284
STEUBEN	20.8	$9,600	$1,250	$8,350
THORNDIKE	9.3	$6,500	$1,250	$5,250
VINALHAVEN	6.1	$8,200	$1,250	$6,950
WALDOBORO	21.4	$6,666	$1,250	$5,416
WASHINGTON	6.9	$5,275	$1,250	$4,025
WEST BUXTON	22.0	$6,666	$1,250	$5,416
WOOLWICH	9.3	$6,000	$1,250	$4,750
YARMOUTH	32.0	$11,949	$1,250	$10,699
AVERAGE	**16.6**	**$8,024**	**$1,234**	**$6,790**
TOTAL	**715.3**	**$345,043**	**$53,056**	**$291,986**

Solar Hot Water System Installation Details - Program Year 2007

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
YARMOUTH	37	$10,376.00	$1,250.00	$9,126.00
MILBRIDGE	6.5	$6,494.98	$1,250.00	$5,244.98
PHIPPSBURG	22.4	$8,616.42	$1,250.00	$7,366.42
MILBRIDGE	9	$6,300.00	$1,250.00	$5,050.00
BAR HARBOR	6.1	$8,300.00	$1,250.00	$7,050.00
PLYMOUTH	18.6	$5,900.00	$1,250.00	$4,650.00
READFIELD	18.5	$6,356.72	$1,250.00	$5,106.72
HALLOWELL	45	$80,000.00	$1,250.00	$78,750.00
SOUTH HARPSWELL	6.1	$7,800.00	$1,250.00	$6,550.00
MONMOUTH	6	$7,500.00	$1,250.00	$6,250.00
BLUE HILL	6.1	$7,800.00	$1,250.00	$6,550.00
BRUNSWICK	6	$7,095.89	$1,250.00	$5,845.89
BERWICK	8.1	$4,460.00	$1,115.00	$3,345.00
WOOLWICH	0	$3,352.30	$838.00	$2,514.30
ARROWSIC	6.26	$7,868.32	$1,250.00	$6,618.32
WATERVILLE	19	$12,800.00	$1,250.00	$11,550.00
PHIPPSBURG	61	$19,000.00	$1,250.00	$17,750.00
JEFFERSON	50.5	$13,019.21	$1,250.00	$11,769.21
POWNAL	8.48	$6,485.00	$1,250.00	$5,235.00
ORONO	5.11	$8,616.32	$1,250.00	$7,366.32
CHARLESTON	11	$12,900.00	$1,250.00	$11,650.00
TENANTS HARBOR	6	$7,800.00	$1,250.00	$6,550.00
BIDDEFORD	11	$5,500.00	$1,250.00	$4,250.00
NORTH YARMOUTH	18.1	$13,486.91	$1,250.00	$12,236.91
BRUNSWICK	12	$6,100.00	$1,250.00	$4,850.00
BRUNSWICK	14	$8,500.00	$1,250.00	$7,250.00
EAST BLUE HILL	6	$7,100.00	$1,250.00	$5,850.00
BELFAST	18	$12,700.00	$1,250.00	$11,450.00
MADAWASKA	25	$10,738.81	$1,250.00	$9,488.81
SOUTH CHINA	6	$9,800.00	$1,250.00	$8,550.00
WEST BUXTON	23	$7,590.84	$1,250.00	$6,340.84
DURHAM	20	$6,567.05	$1,250.00	$5,317.05
HAMPDEN	11	$6,529.94	$1,250.00	$5,279.94
WALDOBORO	46	$12,495.00	$1,250.00	$11,245.00
WALDOBORO	35	$9,739.00	$1,250.00	$8,489.00
TENANTS HARBOR	23	$7,595.00	$1,250.00	$6,345.00

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
PALERMO	18.5	$5,643.90	$1,250.00	$4,393.90
WASHINGTON	20	$11,321.00	$1,250.00	$10,071.00
BLUE HILL	73	$34,000.00	$1,250.00	$32,750.00
SACO	0.9	$10,400.00	$1,250.00	$9,150.00
BOOTHBAY HARBOR	19	$6,077.34	$1,250.00	$4,827.34
NOBLEBORO	31	$20,500.00	$1,250.00	$19,250.00
NOBLEBORO	31	$20,500.00	$1,250.00	$19,250.00
SEARSMONT	23	$8,338.00	$1,250.00	$7,088.00
GLENBURN	42	$13,126.00	$1,250.00	$11,876.00
FALMOUTH	24	$5,830.00	$1,250.00	$4,580.00
SHAPLEIGH	8.58	$5,000.00	$1,250.00	$3,750.00
WASHINGTON	9	$12,000.00	$1,250.00	$10,750.00
JAY	14	$9,000.00	$1,250.00	$7,750.00
SOUTH BRISTOL	21.91	$15,304.03	$1,250.00	$14,054.03
READFIELD	9	$9,200.00	$1,250.00	$7,950.00
BROOKSVILLE	7.86	$5,758.81	$1,250.00	$4,508.81
CORINTH	12	$15,900.00	$1,250.00	$14,650.00
FALMOUTH	735	$10,621.00	$1,250.00	$9,371.00
PORTLAND	8.03	$5,279.25	$1,250.00	$4,029.25
RICHMOND	11	$9,200.00	$1,250.00	$7,950.00
SHAPLEIGH	13.93	$8,000.00	$1,250.00	$6,750.00
GORHAM	12.2	$6,500.00	$1,250.00	$5,250.00
MOUNT DESERT	21.9	$20,245.85	$1,250.00	$18,995.85
LIBERTY	6.1	$6,800.00	$1,250.00	$5,550.00
NAPLES	0	$8,000.00	$1,250.00	$6,750.00
STANDISH	10	$8,890.47	$1,250.00	$7,640.47
SOUTH BERWICK	9.6	$5,798.25	$1,250.00	$4,548.25
SOUTH BERWICK	7.357	$8,625.00	$1,250.00	$7,375.00
HALLOWELL	12	$11,000.00	$1,250.00	$9,750.00
FREEPORT	6	$7,147.43	$1,250.00	$5,897.43
BELMONT	12	$8,800.00	$1,250.00	$7,550.00
FARMINGTON	12	$9,100.00	$1,250.00	$7,850.00
BLUE HILL	68.18	$27,884.86	$1,250.00	$26,634.86
NORTH YARMOUTH	7.48	$8,264.90	$1,250.00	$7,014.90
KENNEBUNK	28.6	$25,800.00	$1,250.00	$24,550.00
BATH	11.58	$6,000.00	$1,250.00	$4,750.00
PORTLAND	8.95	$12,750.00	$1,250.00	$11,500.00
SOUTH BERWICK	11.3	$8,095.00	$1,250.00	$6,845.00
BATH	8.94	$8,750.00	$1,250.00	$7,500.00
SOUTH HARPSWELL	12.2	$6,400.00	$1,250.00	$5,150.00
CUMBERLAND CENTER	36.75	$24,000.00	$1,250.00	$22,750.00
CAPE ELIZABETH	90	$50,200.00	$1,250.00	$48,950.00
CAMDEN	13.8	$11,000.00	$1,250.00	$9,750.00
HOPE	9	$8,000.00	$1,250.00	$6,750.00
BROOKLIN	7.59	$8,181.25	$1,250.00	$6,931.25
LAMOINE	7.1	$6,848.00	$1,250.00	$5,598.00
SEARSPORT	18	$8,900.00	$1,250.00	$7,650.00
ALBANY TWP	11	$6,216.25	$1,250.00	$4,966.25
BROOKSVILLE	3.86	$6,736.77	$1,250.00	$5,486.77
ALNA	10.4	$8,897.24	$1,250.00	$7,647.24
LUBEC	63.5	$5,393.74	$1,250.00	$4,143.74
FREEPORT	12.2	$10,750.00	$1,250.00	$9,500.00
HARRISON	30	$96,111.00	$1,250.00	$94,861.00
NORTH EDGECOMB	7.4	$7,773.00	$1,250.00	$6,523.00

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
BRUNSWICK	9	$8,370.00	$1,250.00	$7,120.00
OAKLAND	18	$12,800.00	$1,250.00	$11,550.00
NORTH WHITEFIELD	30	$10,700.00	$1,250.00	$9,450.00
FALMOUTH	73	$47,038.00	$1,250.00	$45,788.00
SOUTH PORTLAND	6.1	$5,675.00	$1,250.00	$4,425.00
BATH	6.1	$10,000.00	$1,250.00	$8,750.00
YARMOUTH	9	$9,850.00	$1,250.00	$8,600.00
LUBEC	6.3	$18,429.00	$1,250.00	$17,179.00
LUBEC	6.35	$6,143.06	$1,250.00	$4,893.06
LUBEC	6.35	$6,143.06	$1,250.00	$4,893.06
OGUNQUIT	20	$6,578.58	$1,250.00	$5,328.58
BRUNSWICK	24	$31,345.00	$1,250.00	$30,095.00
WOOLWICH	12.2	$10,114.00	$1,250.00	$8,864.00
BRUNSWICK	12.2	$8,469.00	$1,250.00	$7,219.00
SCARBOROUGH	12.2	$11,800.00	$1,250.00	$10,550.00
FREEPORT	37	$28,627.77	$1,250.00	$27,377.77
NORTH YARMOUTH	12.2	$22,350.00	$1,250.00	$21,100.00
AVERAGE	**19.8**	**$11,207**	**$1,240**	**$9,967**
TOTAL	**1,070**	**$659,535**	**$66,953**	**$538,230**

Solar Hot Water Systems Installations: Program Year 2008

Town	Estimated Output (MMBTU/Yr.	Total Installed Cost	Rebate	Participant Cost Net of Rebate
SOUTH FREEPORT	48.8	$20,500.00	$1,250.00	$19,250.00
ARROWSIC	16	$7,667.77	$1,250.00	$6,417.77
BASS HARBOR	18.5	$5,800.00	$1,250.00	$4,550.00
PORTER	11.6	$9,650.00	$1,250.00	$8,400.00
ORRS ISLAND	11.6	$5,433.33	$1,250.00	$4,183.33
BRUNSWICK	16	$7,762.85	$1,250.00	$6,512.85
MOUNT VERNON	12	$11,300.00	$1,250.00	$10,050.00
BATH	13.8	$5,680.00	$1,250.00	$4,430.00
BRUNSWICK	8	$8,325.00	$1,250.00	$7,075.00
POWNAL	11.6	$9,865.00	$1,250.00	$8,615.00
BAR HARBOR	48	$18,500.00	$1,250.00	$17,250.00
ELIOT	42	$22,751.00	$1,250.00	$21,501.00
AUGUSTA	16.6	$10,450.00	$1,250.00	$9,200.00
NORTH BERWICK	16.75	$6,411.00	$1,250.00	$5,161.00
BROOKSVILLE	7.7	$8,985.15	$1,250.00	$7,735.15
YORK	9.7	$6,296.05	$1,888.82	$4,407.23
NORTH YARMOUTH	14.02	$9,526.50	$2,500.00	$7,026.50
BLUE HILL	6	$8,640.92	$2,500.00	$6,140.92
GRAND LAKE STREAM	26	$17,832.00	$6,241.00	$11,591.00
SEDGWICK	12	$8,900.00	$2,500.00	$6,400.00
NORTHPORT	16	$10,450.00	$2,500.00	$7,950.00
NEW HARBOR	7.357	$11,178.44	$2,500.00	$8,678.44
CAMDEN	12	$10,350.00	$2,500.00	$7,850.00
CUMBERLAND CENTER	16	$12,772.88	$2,500.00	$10,272.88
OAKLAND	25	$13,000.00	$2,500.00	$10,500.00
LINCOLN	8	$6,221.58	$1,250.00	$4,971.58

Town	Estimated Output (MMBTU/Yr.	Total Installed Cost	Rebate	Participant Cost Net of Rebate
DIXMONT	25.1	$5,521.88	$1,250.00	$4,271.88
WELLS	12.2	$10,438.18	$1,250.00	$9,188.18
ROCKPORT	37.23	$11,500.00	$1,250.00	$10,250.00
CUMBERLAND	36.6	$24,000.00	$1,250.00	$22,750.00
KENNEBUNK	16.06	$9,682.05	$1,250.00	$8,432.05
BATH	14.6	$8,122.58	$1,250.00	$6,872.58
CAPE ELIZABETH	13.641	$7,155.00	$1,250.00	$5,905.00
BELFAST	12	$8,792.26	$1,250.00	$7,542.26
GRAY	16	$7,075.00	$1,250.00	$5,825.00
BRUNSWICK	11.6	$8,714.28	$1,250.00	$7,464.28
AUBURN	24	$15,552.38	$1,250.00	$14,302.38
INDUSTRY	9	$10,000.00	$1,250.00	$8,750.00
SOUTH CHINA	9	$8,800.00	$1,250.00	$7,550.00
BATH	11.6	$8,445.95	$1,250.00	$7,195.95
LAMOINE	7.1	$7,284.00	$1,250.00	$6,034.00
PORTLAND	16	$8,850.00	$1,250.00	$7,600.00
ELLSWORTH	7.1	$7,655.00	$1,250.00	$6,405.00
CAPE ELIZABETH	16	$12,462.50	$1,250.00	$11,212.50
BOWDOINHAM	14.6	$10,000.00	$1,250.00	$8,750.00
EAST BLUE HILL	12	$9,650.00	$1,250.00	$8,400.00
SCARBOROUGH	16	$9,321.91	$1,250.00	$8,071.91
YARMOUTH	6	$10,500.00	$1,250.00	$9,250.00
RAYMOND	16	$11,689.19	$1,250.00	$10,439.19
SCARBOROUGH	11.6	$8,834.49	$1,250.00	$7,584.49
NAPLES	14	$7,000.00	$1,250.00	$5,750.00
BATH	8	$8,350.00	$1,250.00	$7,100.00
PORTLAND	24	$14,066.18	$1,250.00	$12,816.18
SOUTH THOMASTON	539	$9,500.00	$1,250.00	$8,250.00
JEFFERSON	735	$8,409.00	$1,250.00	$7,159.00
BROOKSVILLE	23.98	$8,704.39	$1,250.00	$7,454.39
LEWISTON	29.2	$11,850.00	$1,250.00	$10,600.00
FREEPORT	16	$8,766.17	$1,250.00	$7,516.17
CAPE ELIZABETH	16	$9,885.00	$1,250.00	$8,635.00
PORTLAND	11.6	$6,710.20	$1,250.00	$5,460.20
PORTLAND	13.3	$8,113.00	$1,250.00	$6,863.00
KENNEBUNKPORT	8.1	$4,639.98	$1,160.00	$3,479.98
CASTINE	7.9	$8,602.00	$1,250.00	$7,352.00
SOUTH PORTLAND	11	$8,895.00	$1,250.00	$7,645.00
FREEPORT	9	$8,610.00	$1,250.00	$7,360.00
LIVERMORE FALLS	10	$5,757.32	$1,250.00	$4,507.32
BRUNSWICK	14	$9,590.00	$1,250.00	$8,340.00
BROOKLIN	20.38	$23,443.67	$2,500.00	$20,943.67
BELFAST	24	$13,800.00	$4,830.00	$8,970.00
DEER ISLE	16	$8,350.00	$2,922.50	$5,427.50
BAR HARBOR	24	$7,154.71	$2,504.15	$4,650.56

Town	Estimated Output (MMBTU/Yr.	Total Installed Cost	Rebate	Participant Cost Net of Rebate
LEWISTON	16	$11,774.00	$4,120.90	$7,653.10
WELLS	134.36	$20,379.87	$7,132.95	$13,246.92
SACO	29.2	$30,400.00	$10,500.00	$19,900.00
BELGRADE	13.5	$10,550.00	$3,000.00	$7,550.00
BRUNSWICK	11	$10,120.00	$2,500.00	$7,620.00
FREEPORT	16	$9,955.00	$2,500.00	$7,455.00
GORHAM	11	$9,095.00	$2,500.00	$6,595.00
WOOLWICH	11	$9,825.00	$2,500.00	$7,325.00
CUMBERLAND CENTER	14	$8,365.00	$2,500.00	$5,865.00
ROCKLAND	27.7	$11,838.00	$2,500.00	$9,338.00
FREEPORT	16	$8,000.00	$2,400.00	$5,600.00
NORTH WATERBORO	16	$10,615.00	$2,500.00	$8,115.00
WOOLWICH	12	$9,800.00	$2,500.00	$7,300.00
BATH	12	$9,150.00	$2,500.00	$6,650.00
WATERVILLE	16	$10,800.00	$2,500.00	$8,300.00
ORONO	12	$10,450.00	$2,500.00	$7,950.00
PITTSTON	13.5	$11,300.00	$2,500.00	$8,800.00
WAYNE	24	$14,500.00	$2,500.00	$12,000.00
BOOTHBAY	16	$10,500.00	$2,500.00	$8,000.00
LINCOLNVILLE	12	$9,200.00	$2,500.00	$6,700.00
YORK	19	$5,371.35	$1,611.40	$3,759.95
NEWRY	11	$6,890.22	$2,067.07	$4,823.15
CAPE ELIZABETH	11.4	$9,095.00	$2,500.00	$6,595.00
SHAPLEIGH	7.86	$6,000.00	$1,800.00	$4,200.00
GARDINER	12	$9,100.00	$2,500.00	$6,600.00
BRUNSWICK	11	$7,285.00	$2,500.00	$4,785.00
MOUNT DESERT	12	$10,550.00	$2,500.00	$8,050.00
WALDOBORO	12	$9,785.00	$2,500.00	$7,285.00
WATERVILLE	16	$10,695.00	$2,500.00	$8,195.00
UNION	21	$5,516.00	$1,654.80	$3,861.20
BELFAST	12	$8,300.00	$2,490.00	$5,810.00
RAYMOND	12.94	$9,530.00	$2,500.00	$7,030.00
SOUTH PORTLAND	11.6	$10,532.00	$2,500.00	$8,032.00
BRUNSWICK	16	$10,150.00	$2,500.00	$7,650.00
PORTLAND	14.6	$10,975.00	$2,500.00	$8,475.00
FALMOUTH	11.6	$17,104.00	$2,500.00	$14,604.00
WINTERPORT	12	$10,350.00	$2,500.00	$7,850.00
EAST CORINTH	12	$10,059.00	$2,500.00	$7,559.00
CUMBERLAND FORESIDE	11.6	$9,853.00	$2,500.00	$7,353.00
SHAPLEIGH	15.93	$7,000.00	$2,100.00	$4,900.00
CUMBERLAND CENTER	16	$10,540.00	$2,500.00	$8,040.00
CORINNA	16.06	$6,694.90	$2,008.00	$4,686.90
YORK	16	$12,175.00	$2,500.00	$9,675.00
BANGOR	13.5	$10,794.00	$2,500.00	$8,294.00
WALDOBORO	6.6	$7,700.00	$2,310.00	$5,390.00

Town	Estimated Output (MMBTU/Yr.	Total Installed Cost	Rebate	Participant Cost Net of Rebate
WOOLWICH	16	$8,942.00	$2,500.00	$6,442.00
CUMBERLAND CENTER	12.94	$9,950.00	$2,500.00	$7,450.00
PORTLAND	12.94	$9,750.00	$2,500.00	$7,250.00
FREEPORT	12.94	$9,750.00	$2,500.00	$7,250.00
FAIRFIELD	24	$8,938.00	$2,500.00	$6,438.00
BELGRADE	12	$9,690.00	$2,500.00	$7,190.00
BENTON	10.95	$8,340.00	$2,500.00	$5,840.00
BELFAST	16	$11,500.00	$2,500.00	$9,000.00
BLUE HILL	9.125	$8,656.00	$2,500.00	$6,156.00
SOUTH THOMASTON	7.4	$7,257.00	$2,177.00	$5,080.00
SHAPLEIGH	18.28	$8,800.00	$2,500.00	$6,300.00
TOPSHAM	8	$7,850.00	$1,250.00	$6,600.00
TOPSHAM	7.3	$9,000.00	$1,250.00	$7,750.00
TOPSHAM	7.3	$9,000.00	$1,250.00	$7,750.00
PENOBSCOT	38.9	$19,118.00	$1,250.00	$17,868.00
BLUE HILL	28.9	$9,150.00	$1,250.00	$7,900.00
YORK BEACH	12.2	$9,277.88	$1,250.00	$8,027.88
WEST BOWDOIN	12.3	$13,241.00	$1,250.00	$11,991.00
BRUNSWICK	24.4	$11,450.00	$1,250.00	$10,200.00
BRUNSWICK	24.4	$6,300.00	$1,250.00	$5,050.00
WATERBORO	48	$9,123.75	$1,250.00	$7,873.75
NORTHPORT	9	$9,000.00	$1,250.00	$7,750.00
PORTLAND	11.6	$12,965.00	$1,250.00	$11,715.00
TROY	9	$9,600.00	$1,250.00	$8,350.00
POWNAL	8	$8,111.66	$1,250.00	$6,861.66
PEAKS ISLAND	8	$8,390.32	$1,250.00	$7,140.32
WINTERPORT	9	$8,400.00	$1,250.00	$7,150.00
WELLS	14	$8,000.00	$1,250.00	$6,750.00
LEVANT	40	$10,844.91	$1,250.00	$9,594.91
SOUTH PORTLAND	16	$32,837.44	$1,250.00	$31,587.44
FALMOUTH	16	$9,826.00	$1,250.00	$8,576.00
PORTLAND	18.3	$27,400.00	$1,250.00	$26,150.00
CAPE NEDDICK	8.01	$5,500.00	$1,250.00	$4,250.00
WALDOBORO	5.22	$4,872.00	$1,218.00	$3,654.00
FARMINGTON	23	$14,900.00	$1,250.00	$13,650.00
LYMAR	16	$9,763.24	$1,250.00	$8,513.24
RICHMOND	735	$10,213.43	$1,250.00	$8,963.43
CORNISH	32	$3,860.00	$1,158.00	$2,702.00
WALPOLE	73.5	$9,408.40	$1,250.00	$8,158.40
ROCKPORT	7.35	$11,085.00	$1,250.00	$9,835.00
BRISTOL	73.5	$9,186.31	$1,250.00	$7,936.31
LEBANON	16.41	$6,431.00	$1,250.00	$5,181.00
SWANVILLE	12	$10,600.00	$1,250.00	$9,350.00
BRUNSWICK	11.6	$9,296.00	$1,250.00	$8,046.00
SUNSET	30.82	$23,468.93	$1,250.00	$22,218.93

Town	Estimated Output (MMBTU/Yr.	Total Installed Cost	Rebate	Participant Cost Net of Rebate
SCARBOROUGH	16	$10,750.00	$1,250.00	$9,500.00
BIDDEFORD	14.6	$8,145.00	$1,250.00	$6,895.00
BAR HARBOR	47.96	$24,249.68	$1,250.00	$22,999.68
SACO	4	$19,800.00	$1,250.00	$18,550.00
UNION	5.6	$8,040.00	$2,412.00	$5,628.00
BATH	16.89	$7,067.57	$2,120.27	$4,947.30
SOUTH HARPSWELL	16	$10,900.00	$2,500.00	$8,400.00
ELIOT	42	$32,890.00	$10,500.00	$22,390.00
ELIOT	42	$34,000.00	$10,500.00	$23,500.00
CORNISH	24	$20,540.00	$7,189.00	$13,351.00
POLAND SPRING	21	$17,250.00	$2,500.00	$14,750.00
WEST BUXTON	16	$10,175.00	$2,500.00	$7,675.00
ORRINGTON	16	$10,200.00	$2,500.00	$7,700.00
MORRILL	10.4	$7,081.00	$2,124.30	$4,956.70
CHERRYFIELD	12	$9,000.00	$2,500.00	$6,500.00
CUSHING	12	$10,300.00	$2,500.00	$7,800.00
WALDOBORO	12	$9,050.00	$2,500.00	$6,550.00
FREEPORT	7.3	$9,000.00	$2,500.00	$6,500.00
SEDGWICK	24	$13,600.00	$2,500.00	$11,100.00
BRUNSWICK	8	$15,900.00	$2,500.00	$13,400.00
SOUTH PORTLAND	12	$8,240.00	$2,472.00	$5,768.00
WESTPORT ISLAND	12	$9,500.00	$2,500.00	$7,000.00
ROCKPORT	20.8	$10,806.00	$2,500.00	$8,306.00
SCARBOROUGH	11.6	$10,502.00	$2,500.00	$8,002.00
ELLSWORTH	18.25	$11,340.00	$2,500.00	$8,840.00
RICHMOND	24	$13,051.00	$2,500.00	$10,551.00
MOUNT DESERT	51	$3,959.85	$1,188.00	$2,771.85
FALMOUTH	24	$25,725.00	$2,500.00	$23,225.00
WATERVILLE	9.49	$8,758.00	$2,500.00	$6,258.00
AVERAGE	**27**	**$10,767.10**	**$2,061.80**	**$8,705.31**
TOTAL	**5,306**	**$2,089,852.20**	**$402,861.96**	**$1,686,990.25**

APPENDIX B: Solar Hot Air

Solar Hot Air System Installation Details – Program Inception through June 30, 2006

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
KITTERY POINT	9	$1,649	$412	$1,237
RAYMOND	22.8	$2,670	$668	$2,003
SIDNEY	3.8	$1,480	$370	$1,110
WINDHAM	5	$1,480	$370	$1,110
AVERAGE	**10.15**	**$1,820**	**$455**	**$1,365**
TOTAL	**40.6**	**$7,279**	**$1,820**	**$5,459**

Solar Hot Air System Installation Details July 1, 2006 through June 30,2007

Town	Estimated Output (MMBTU/yr)	Total Installed Cost	Rebate	Participant Cost Net of Rebate
NORWAY	3	$1,778	$445	$1,334
NORWAY	3	$1,778	$445	$1,334
NORWAY	3	$1,778	$445	$1,334
NORWAY	3	$1,778	$445	$1,334
NORWAY	3	$1,778	$445	$1,334
NORWAY	3	$1,778	$445	$1,334
SOUTH PARIS	3	$1,778	$445	$1,333
SOUTH PARIS	3	$1,778	$445	$1,333
SOUTH PARIS	3	$1,778	$445	$1,333
SOUTH PARIS	3	$1,778	$445	$1,333
NORWAY	3	$1,778	$445	$1,333
CUMBERLAND CENTER	3.8	$1,357	$339	$1,018
NORTH YARMOUTH	8	$5,135	$1,250	$3,885
UNITY	9	$3,065	$1,250	$1,815
AVERAGE	**3.84**	**$2,080**	**$552**	**$1,528**
TOTAL	**53.8**	**$29,118**	**$7,732**	**$21,386**

Solar Hot Air Systems Installation Details – July 1, 2007 through June 30,2008

Town	Estimated Output MMBTU/Yr.	Total Installed Costs	Rebate	Participant Cost net of Rebate
N YARMOUTH	1.5	$1,915.00	$574.50	$1,340.50
HAMPDEN	1.26	$1,745.00	$436.25	$1,308.75
GORHAM	29.2	$12,000.00	$4,200.00	$7,800.00
AUGUSTA	24.5	$2,637.00	$791.10	$1,845.90
BAILEY ISLAND	3.925	$4,437.00	$1,331.10	$3,105.90
AVERAGE	**12.08**	**$4,547**	**$1,467**	**$3,080**
TOTAL	**60.39**	**$22,734**	**$7,333**	**$15,401**

APPENDIX C: Solar Photovoltaic

Solar Electric System Installation Details – Program Year 2006

Town	Installed Watts	Total Installed Cost	Rebate	Participant Cost Net of Rebate	Installed cost/Watt Before Rebate	Installed cost/Watt After Rebate
BASS HARBOR	2100	$19,350	$6,100	$13,250	$9.21	$6.31
BLUE HILL	2100	$22,715	$6,100	$16,615	$10.82	$7.91
BLUE HILL	3690	$24,192	$7,000	$17,192	$6.56	$4.66
BRUNSWICK	2100	$23,200	$6,100	$17,100	$11.05	$8.14
BUCKSPORT	3690	$40,392	$7,000	$33,392	$10.95	$9.05
CAMDEN	10920	$87,273	$7,000	$80,273	$7.99	$7.35
CUMBERLAND CENTER	2250	$19,800	$6,250	$13,550	$8.80	$6.02
FREEPORT	3150	$23,400	$7,000	$16,400	$7.43	$5.21
GOULDSBORO	2100	$19,400	$6,100	$13,300	$9.24	$6.33

Town	Installed Watts	Total Installed Cost	Rebate	Participant Cost Net of Rebate	Installed cost/Watt Before Rebate	Installed cost/Watt After Rebate
KENNEBUNKPORT	480	$5,100	$1,440	$3,660	$10.63	$7.63
KITTERY	2280	$22,000	$6,280	$15,720	$9.65	$6.89
LAMOINE	2310	$18,325	$6,310	$12,015	$7.93	$5.20
LEBANON	1980	$12,669	$5,940	$6,729	$6.40	$3.40
LIMINGTON	2280	$20,200	$6,280	$13,920	$8.86	$6.11
MONTVILLE	2100	$15,300	$6,100	$9,200	$7.29	$4.38
NORTH VASSALBORO	480	$4,150	$1,440	$2,710	$8.65	$5.65
ORLAND	2100	$19,000	$6,100	$12,900	$9.05	$6.14
PORTLAND	3060	$33,244	$7,000	$26,244	$10.86	$8.58
STEUBEN	3000	$28,140	$7,000	$21,140	$9.38	$7.05
TENANTS HARBOR	3060	$26,178	$7,000	$19,178	$8.56	$6.27
WASHINGTON	2943	$23,013	$6,943	$16,070	$7.82	$5.46
WEST BOWDOIN	2100	$18,525	$6,100	$12,425	$8.82	$5.92
AVERAGE	**2,740**	**$23,889**	**$6,027**	**$17,863**	**$8.91**	**$6.35**
TOTAL	**60,273**	**$525,565**	**$132,583**	**$392,982**	**n/a**	**n/a**

Solar Electric System Installation Details Program Year 2007

Town	Installed Watts	Total Installed Cost	Rebate	Participant Cost Net of Rebate	Installed cost/Watt Before Rebate	Installed cost/Watt After Rebate
VINALHAVEN	1920	$16,766.00	$5,760.00	$11,006.00	$8.73	$5.73
SCARBOROUGH	1557	$20,535.00	$4,671.00	$15,864.00	$13.19	$10.19
WALDOBORO	1920	$43,355.00	$5,760.00	$37,595.00	$22.58	$19.58
YARMOUTH	2076	$25,683.00	$6,076.00	$19,607.00	$12.37	$9.44
LINCOLN	2070	$15,194.16	$6,070.00	$9,124.16	$7.34	$4.41
CHARLESTON	2250	$27,300.00	$6,250.00	$21,050.00	$12.13	$9.36
SPRINGVALE	2800	$10,520.00	$6,800.00	$3,720.00	$3.76	$1.33
WALDOBORO	2100	$17,850.00	$6,100.00	$11,750.00	$8.50	$5.60
MONTVILLE	2100	$18,600.00	$6,100.00	$12,500.00	$8.86	$5.95
HOPE	2380	$19,500.00	$6,380.00	$13,120.00	$8.19	$5.51
WINTER HARBOR	2100	$17,045.47	$6,100.00	$10,945.47	$8.12	$5.21
BRUNSWICK	2760	$21,700.00	$6,760.00	$14,940.00	$7.86	$5.41
KENNEBUNKPORT	2880	$25,145.40	$6,880.00	$18,265.40	$8.73	$6.34
STONINGTON	2200	$29,695.00	$6,200.00	$23,495.00	$13.50	$10.68
ELLSWORTH	1476	$22,796.50	$4,428.00	$18,368.50	$15.44	$12.44
AVERAGE	**2,173**	**$22,112**	**$6,022**	**$16,090**	**$10.62**	**$7.81**
TOTAL	**32,589**	**$331,686**	**$90,335**	**$241,351**	**n/a**	**n/a**

Solar Electric Systems Installation Detail Program Year 2008

Town	Installed Watts	Total Installed Costs	Rebate	Participant Cost Net of Rebate	Installed Cost/Watt Before Rebate	Installed Cost/Watt After rebate
PENOBSCOT	1,000	$9,876.00	$1,760.00	$8,116.00	$9.88	$8.12
LIBERTY	2,004	$22,200.00	$480.00	$21,720.00	$11.08	$10.84
LIBERTY	800	$27,800.00	$2,000.00	$25,800.00	$34.75	$32.25
LIBERTY	1,400	$15,500.00	$2,000.00	$13,500.00	$11.07	$9.64

Town	Installed Watts	Total Installed Costs	Rebate	Participant Cost Net of Rebate	Installed Cost/Watt Before Rebate	Installed Cost/Watt After rebate
LIBERTY	500	$5,400.00	$900.00	$4,500.00	$10.80	$9.00
BLUE HILL	1,720	$30,133.44	$2,000.00	$28,133.44	$17.52	$16.36
LIBERTY	7,610	$74,800.00	$2,000.00	$72,800.00	$9.83	$9.57
LIBERTY	1,000	$17,140.00	$2,000.00	$15,140.00	$17.14	$15.14
PORTLAND	1,050	$17,940.00	$2,000.00	$15,940.00	$17.09	$15.18
PORTLAND	890	$17,940.00	$2,000.00	$15,940.00	$20.16	$17.91
LIBERTY	1,520	$12,050.00	$2,000.00	$10,050.00	$7.93	$6.61
LIBERTY	3,305	$35,100.00	$2,000.00	$33,100.00	$10.62	$10.02
WARREN	1,500	$14,846.00	$4,500.00	$10,346.00	$9.90	$6.90
ARUNDEL	2,700	$21,660.04	$6,700.00	$14,960.04	$8.02	$5.54
ARUNDEL	2,700	$37,482.50	$6,700.00	$30,782.50	$13.88	$11.40
BLUE HILL	2,496	$17,277.30	$6,496.00	$10,781.30	$6.92	$4.32
WALDOBORO	3,000	$26,155.00	$7,000.00	$19,155.00	$8.72	$6.39
ARUNDEL	4,800	$48,627.70	$7,000.00	$41,627.70	$10.13	$8.67
LIBERTY	2,040	$19,350.00	$6,040.00	$13,310.00	$9.49	$6.52
LIBERTY	2,100	$19,425.00	$6,100.00	$13,325.00	$9.25	$6.35
PENOBSCOT	1,320	$15,733.06	$3,960.00	$11,773.06	$11.92	$8.92
OWLS HEAD	2,000	$17,524.00	$6,000.00	$11,524.00	$8.76	$5.76
N YARMOUTH	2,970	$16,607.12	$6,970.00	$9,637.12	$5.59	$3.24
N YARMOUTH	1,980	$17,164.31	$5,940.00	$11,224.31	$8.67	$5.67
LIBERTY	2,076	$18,750.00	$6,076.00	$12,674.00	$9.03	$6.11
BRUNSWICK	3,600	$19,545.00	$7,000.00	$12,545.00	$5.43	$3.48
LIBERTY	2,720	$22,700.00	$6,720.00	$15,980.00	$8.35	$5.88
LIBERTY	2,040	$18,000.00	$6,040.00	$11,960.00	$8.82	$5.86
ARUNDEL	960	$9,176.08	$2,880.00	$6,296.08	$9.56	$6.56
BRUNSWICK	600	$17,045.47	$600.00	$16,445.47	$28.41	$27.41
DAMARISCOTTA	2,520	$15,930.79	$6,520.00	$9,410.79	$6.32	$3.73
DAMARISCOTTA	1,195	$9,520.00	$3,585.00	$5,935.00	$7.97	$4.97
LIBERTY	2,100	$19,000.00	$6,100.00	$12,900.00	$9.05	$6.14
PENOBSCOT	2,160	$22,262.90	$6,160.00	$16,102.90	$10.31	$7.46
PENOBSCOT	950	$7,679.25	$2,850.00	$4,829.25	$8.08	$5.08
PENOBSCOT	440	$5,891.70	$1,320.00	$4,571.70	$13.39	$10.39
WALDOBORO	9,000	$65,000.00	$7,000.00	$58,000.00	$7.22	$6.44
WALDOBORO	2,000	$18,646.24	$1,900.00	$16,746.24	$9.32	$8.37
BLUE HILL	5,840	$59,086.20	$2,000.00	$57,086.20	$10.12	$9.78
AVERAGES	**2,323**	**$22,717**	**$4,136**	**$18,581**	**$11.29**	**$9.18**
TOTALS	**90,606**	**$885,965**	**$161,297**	**$724,668**	**n/a**	**n/a**