Regional Greenhouse Gas Initiative (RGGI) Annual Report

March 2010

Submitted by:
Maine Department of Environmental Protection, and
Energy and Carbon Savings Trust

Contact:
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State of Maine

March 10, 2010

Senator Barry J. Hobbins, Chair
Representative Jon Hinck, Chair
Joint Standing Committee on Utilities and Energy
2 State House Station
Augusta, ME 04333

RE: Regional Greenhouse Gas Initiative (RGGI) Annual Report

Dear Senator Hobbins and Representative Hinck:

Public Law, Chapter 317 of the 123rd Legislature (replaced by Public Law, Chapter 372 of the 124th Legislature) directed the Department of Environmental Protection and the Trustees of the Energy and Carbon Savings Trust to annually submit a joint report to the Joint Standing Committee on Utilities and Energy. This letter serves as that report and addresses the seven elements the Legislature directed the Department and the Trustees to review. It is important to note that because the RGGI program is still in the beginning of the six-year initial emissions stabilization period, there are not yet meaningful statistics for certain items required to be addressed in the report. Subject to that qualification, the following are our responses to these seven elements:

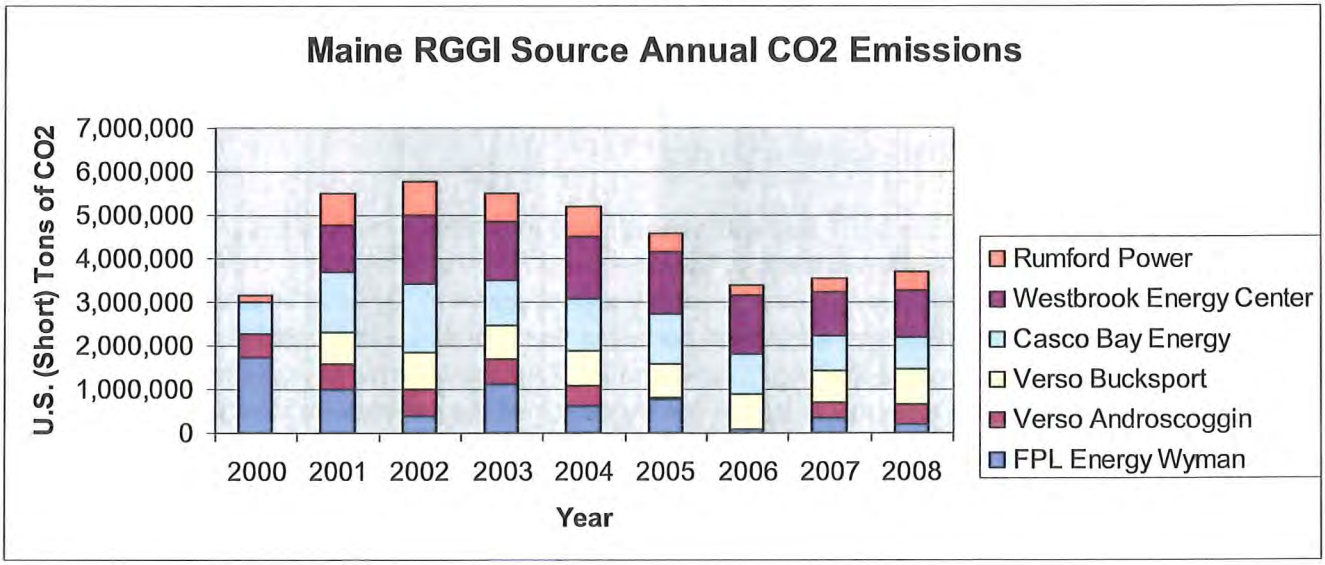
A. The reductions of greenhouse gas emissions from carbon dioxide budget units, conservation programs funded by the Energy and Carbon Savings Trust pursuant to Title 35-A, section 10008 and carbon dioxide emissions offset projects.

Reductions of greenhouse gas emissions from carbon dioxide budget units. The RGGI program is designed to stabilize carbon dioxide (CO_2) emissions from the CO_2 budget units (RGGI units) in the region from 2009 through 2014 until the annual cap begins to be reduced in 2015. Maine and the RGGI region have seen reductions in CO_2 emissions from the baseline period (2000 to 2005) even before the program began in auctions in 2008 (see Tables A1 and A2).

We believe these reductions are primarily due to a combination of factors, including fluctuating fuel prices, generally milder winters and cooler summers in the Northeast, weak economic conditions, and the increased availability and marketability of renewable energy sources such as wind and biomass. Maine's Climate Action Plan of 2004 included RGGI as one element among fifty-four and included other elements which in part have influenced this downward trend such as a renewable portfolio standards, system benefit charge, and renewable energy development. A word of caution is that the downward trend in CO_2

emissions from Maine's RGGI sources could reverse direction with an increase in demand for electricity in the region due to a warmer summer or colder winters or other factors. Further, as Maine and regional policies continue to shift to cleaner (less carbon intensive) sources of electricity this could result in a slight shift towards Maine sources since most of Maine's RGGI sources combust natural gas, which emits less CO_2 than coal or oil and as more renewable sources are built in Maine. In other words, because Maine's electrical generation mix is relatively clean and low-carbon, more generation from Maine units including wind and gas could help the region shift to a less intensive carbon footprint. The tables below contain CO_2 emissions data from 2000 thru 2008. Emissions data for 2009, although projected to be similar to 2008 emission levels, will not be complete until sometime in the second quarter of 2010, and so are not included with this report.

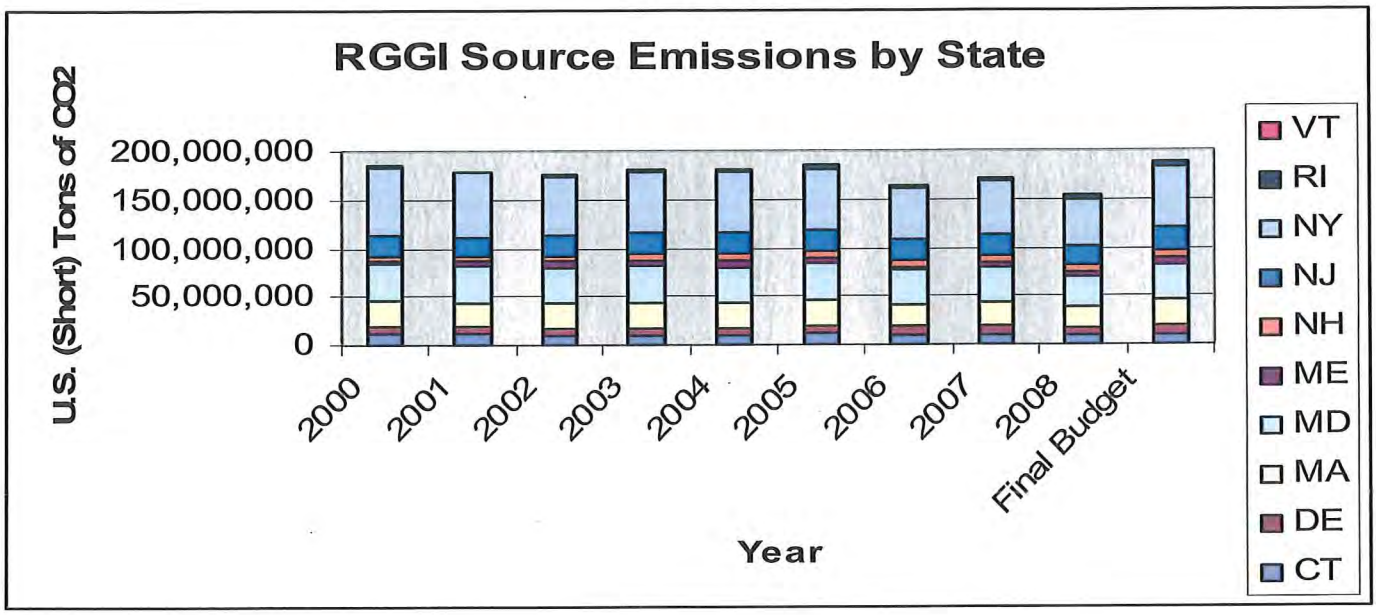
Table A1



RGGI Source	2000	2001	2002	2003	2004	2005	2006	2007	2008
FPL Energy Wyman	1,731,846	1,010,729	397,062	1,119,510	616,030	788,209	70,853	357,638	185,915
Verso Androscoggin	519,770	565,951	608,960	571,181	472,481	1,019	24,826	349,532	481,163
Verso Bucksport	0	731,450	829,490	778,527	810,749	792,796	780,609	708,412	796,139
Casco Bay Energy	744,689	1,402,914	1,582,011	1,025,612	1,178,901	1,153,173	946,041	831,251	730,736
Westbrook Energy Center	0	1,042,637	1,580,945	1,358,157	1,412,282	1,419,619	1,341,636	991,719	1,090,087
Rumford Power	153,306	762,634	782,900	661,740	701,496	432,298	207,857	294,645	407,238
Total	3,149,611	5,516,315	5,781,368	5,514,727	5,191,939	4,587,114	3,371,822	3,533,197	3,691,278

Note: For comparison purposes, emissions from the former Mason Station in Wiscasset are not included in this table.

Table A2



RGGI Source CO2 Emissions by State in U.S. (Short) Tons										
State	2000	2001	2002	2003	2004	2005	2006	2007	2008	Initial Annual Cap
CT	11,977,434	11,005,310	9,842,414	9,273,759	9,989,119	11,323,844	10,761,759	10,052,782	8,988,858	**10,695,036**
DE	7,308,248	7,612,366	7,616,896	7,628,367	7,884,001	8,300,628	7,561,295	8,744,154	7,615,966	**7,559,787**
MA	25,452,680	25,400,430	25,278,273	27,218,204	26,369,630	26,640,945	23,449,199	25,366,733	21,438,041	**26,660,204**
MD	38,446,856	36,980,555	37,084,544	37,064,738	36,281,466	37,263,686	35,233,070	35,700,194	32,383,517	**37,503,983**
ME	3,156,292	5,517,285	5,784,563	5,515,325	5,191,939	4,587,114	3,371,822	3,533,197	3,691,278	**5,948,902**
NH	5,178,731	4,862,445	5,556,992	8,478,382	8,812,538	8,972,027	7,568,884	7,314,954	7,095,147	**8,620,460**
NJ	21,954,959	20,177,621	21,145,667	20,543,331	21,133,145	21,937,521	20,224,255	21,515,622	20,601,805	**22,892,730**
NY	69,809,356	65,553,672	61,367,406	62,129,292	62,612,353	62,718,683	53,638,129	55,717,151	48,348,177	**64,310,805**
RI	2,959,594	1,782,110	3,254,015	2,668,990	2,219,100	2,692,228	2,625,422	3,161,200	3,292,517	**2,659,239**
VT	24,914	22,015	5,171	12,094	14,779	7,781	6,337	6,112	2,559	**1,225,830**
10 STATE TOTAL	**186,269,063**	**178,913,809**	**176,935,941**	**180,532,482**	**180,508,070**	**184,444,457**	**164,440,172**	**171,112,099**	**153,457,865**	**188,076,976**

Note: Maine's emissions for the years 2000 to 2003 are slightly higher than in Table A1 because emissions from the former Mason Station in Wiscasset are included in this table.

Reductions of greenhouse gas emissions from conservation programs funded by the Energy and Carbon Savings Trust.

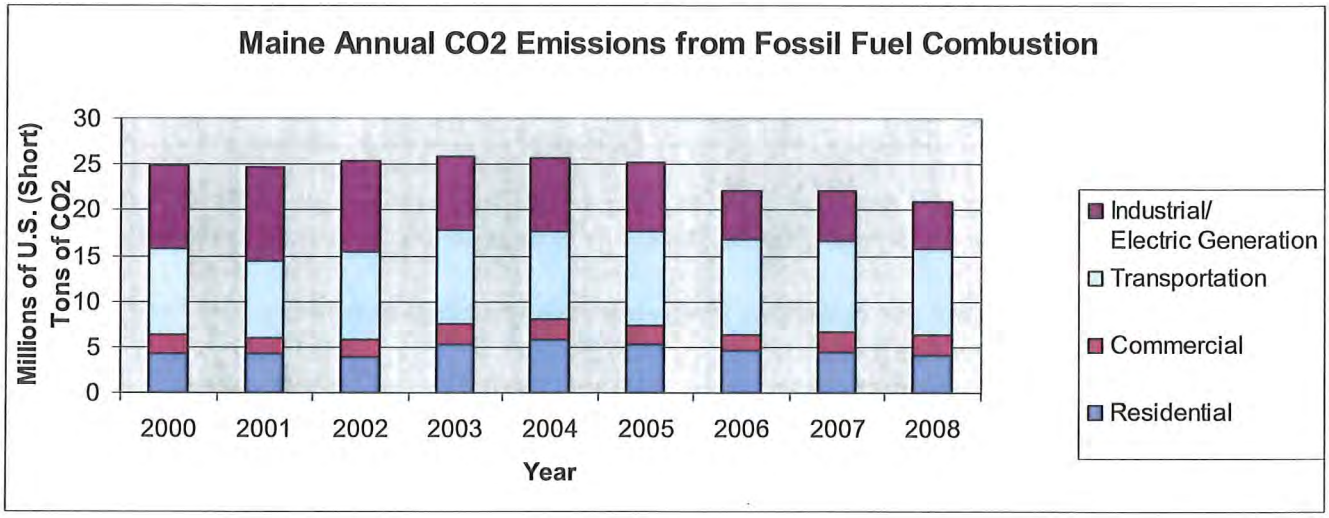
The carbon dioxide savings from conservation programs funded by the Trust to-date is estimated at 89,639 metric tons, from both direct fossil fuel reductions and reduced electricity use. It is important to note that the vast majority of Trust funds must be allocated towards electrical conservation projects and that no more than 15% of the funds are targeted specifically to fossil-fuel eligible projects that decrease greenhouse gas emissions by decreasing fossil fuel use. Electricity conservation projects result in substantially less reductions in carbon dioxide emissions per dollar invested than fossil fuel reduction projects. As currently mandated in statute, the primary purpose (85%) of this fund is to decrease electricity consumption with reductions in carbon dioxide emissions as a secondary purpose. Only the 15% of fossil-fuel eligible funding puts greenhouse gas reduction goals at equal weight to efficiency improvements.

Reductions of carbon dioxide emissions from offset projects.
The offset project certification and application process was implemented in June of 2009. Independent third-party verifier status has been approved for a private entity in three RGGI states. No third-party verifier has sought approval in Maine to date. Maine has received no applications for offset projects in Maine and there have been limited applications received by other RGGI states. No applications have completed the review process to date, therefore no offset projects have been approved under the RGGI program to date. The lack of significant interest in offset project applications being received within RGGI is believed to be due to the relatively low cost of CO_2 allowances at this time as a result of the supply of CO_2 allowances being greater than the demand in this stage of the program. If emissions from RGGI units were to increase then the demand for allowances would follow suit, raising the value of allowances thus making offset projects more attractive to apply for under the program.

B. The improvements in overall carbon dioxide emissions and energy efficiency from sources that emit greenhouse gases including electrical generation and fossil fuel fired units.

Improvements in overall CO_2 emissions from sources that emit greenhouse gases are indicated in Table B. We do not have access to the data needed to report back on energy efficiency improvements from sources that emit greenhouse gases as energy efficiency is not something that these sources typically report and there are many different ways to define and determine energy efficiency. Also, because the program began a little over a year ago and the cap will not ratchet down until 2015, it is difficult to assess whether any RGGI-motivated improvements in energy efficiency have occurred at this point.

Table B



Sector	2000	2001	2002	2003	2004	2005	2006	2007	2008
Residential	4.35	4.37	3.89	5.24	5.76	5.24	4.55	4.44	4.19
Commercial	1.96	1.60	1.97	2.38	2.32	2.12	1.85	2.17	2.08
Transportation	9.45	8.43	9.65	10.22	9.56	10.35	10.36	9.94	9.43
Industrial/ Electric Generation	9.06	10.31	9.80	8.03	8.01	7.55	5.28	5.55	5.16
Total	24.82	24.71	25.31	25.87	25.65	25.26	22.04	22.10	20.86

C. The maximization of savings through systemic energy improvements statewide

As described in more detail in section E, the Energy and Carbon Savings Trust worked closely with Efficiency Maine to deliver energy-efficiency programs. Review of Efficiency Maine's 2007, 2008 and 2009 annual reports clearly illustrates a strong statewide presence through program participation and vendor partnerships with a solid infrastructure to deliver energy efficiency programs.

D. Research and support of new carbon dioxide offset allowance categories for development in the State.

During the past year, the Department has continued to collaborate with the Maine Forest Service; Environment Northeast; and the Manomet Center for Conservation Sciences to develop a proposal for including new forest offset categories in RGGI. This project was initiated in response to a request by the RGGI Staff Working Group in March, 2007. The proposal would broaden the existing forest offset category, currently limited to afforestation, to include specific protocols for forest management; urban forestry; and avoided deforestation. If adopted, these would have the potential to generate an additional revenue stream for Maine forest land owners in order to keep forests as forest while increasing the active sequestration of carbon.

Initial recommendations were reviewed by a diverse group of stakeholders, including state foresters across the country and leading public interest groups involved in forest issues such as The Nature Conservancy, The Wilderness Society, and the Pacific Forest Trust, and the proposal was modified to account for many of their suggestions. Leading academic researchers were also consulted, and Maine's approach compared to similar efforts in California and Washington. The final draft recommendations were presented to RGGI for their consideration in the summer of 2009. The RGGI states and the stakeholders involved in developing the recommendations recognize that there is still much work to do to finalize the draft recommendations and that given the projected cost of CO_2 equivalent reductions generated by this type of forestry offset project would be in the range of $10 to $20 per ton (or per allowance) there may not be much demand for these projects with current RGGI CO_2 allowance costs hovering around $2 per allowance. However, work is expected to continue to develop the methods and procedures that these types of forestry offset projects would use to document the sequestration of greenhouse gases that these projects could produce. The groups involved also recognize that any resulting changes to the types of projects allowed to be considered under the RGGI program would have to be approved by each of the RGGI states, including governors and legislators as required in each state.

There have been numerous ongoing inquiries on potentially developing other offset categories including agriculture offsets and weatherization, and potentially other energy reduction technologies, however these offset project categories are still in the early phases of development.

E. Management and cost-effectiveness of the State's energy conservation and carbon reduction programs and efforts funded by the Energy and Carbon Savings Trust established pursuant to Title 35-A, section 10008.

As prelude to the formation of the Efficiency Maine Trust, the Energy and Carbon Savings Trust has worked closely with Efficiency Maine to deliver energy-efficiency programs over the last year.

By statute, there is a requirement that no less than 85% of RGGI funds go towards electrical efficiency and no more than 15% go towards fossil-fuel eligible greenhouse gas reduction efforts. In March of 2009, the Energy and Carbon Savings Trust adopted a one year plan developed by the Energy Conservation Board. The plan directed 50% of electrical efficiency funds be transferred to Efficiency Maine and split equally between the business and the residential programs, the next 25% to be allocated through a competitive bid process targeted towards industrial projects and that the final 25% be held in reserve to be disbursed based on the results of the already funded programs. The plan also directed that 75% of greenhouse gas reduction funds (this is 75% of the 15% of total proceeds allocated to greenhouse gas reductions) be targeted to industrial customers and the remaining 25% be held in reserve.

In June 2009, the major substantive rule drafted by the Trust and approved by the legislature, became effective. In July 2009, Efficiency Maine and the Energy and Carbon Savings Trust executed a MOU for the transfer of funds to Efficiency Maine for the Commercial and Residential programs. In addition, in September 2009, the Trust, in partnership with Efficiency Maine issued a request for applications to competitively award funding targeted to industrial facilities.

Table C lists the allocation of funding to date. Details on each of these major programs are described below the table. Because of the time required to complete a major substantive rule, complete the MOU between Efficiency Maine and the Trust, and to transfer the funds, these efficiency programs did not "hit the streets" until September 2009.

Table C: Energy and Carbon Savings Trust Funding Allocations.

Program	**Awarded Funds**
EM Business Program	$5.8 million
EM Residential Program	$2.9 million
Industrial Grants	$3 million
Low-Income Weatherization	$650,000
Administration	$460,000
Department of Environmental Protection[1]	$160,000
Maine Energy Conservation Board	$68,000
Total	**$12.8 million**

[1] No RGGI proceeds support the DEP directly, these are costs of regional administration of the RGGI auctions and program approved by the Energy and Carbon Savings Trust.

The Efficiency Maine Business Program
With the infusion of RGGI funds, Efficiency Maine's business program expanded in three ways:

a) Implemented a temporary incentive increase of 25% from September 1, 2009 through December 31, 2009.
b) Increased the annual incentive cap per business from $100,000 to $300,000
c) Allowed transmission and sub-transmission customers to be eligible for the program

These changes successfully spurred intense interest in the Efficiency Maine business program, and the number of applications received during this timeframe was 120% higher than the same timeframe in 2008, representing a $7.3 million increase in incentives requested. Efficiency Maine is reviewing the applications, based on previous experience, it can be assumed that some will not be funded and others will take time for the projects to be completed. To date, $2,944,031 of the funds have been expended with a lifetime savings of 120,126,419 kilowatt hours. Based on the awards-to-date, approximately 40.8 kilowatt hours will be saved per Trust dollar expended. Based on historical data from Efficiency Maine, The Energy and Carbon Savings Trust expects excellent results from this program.

As noted in c) above, transmission and sub-transmission customers are now eligible to participate in Efficiency Maine's business program and that customer class has demonstrated significant interest. Approximately $1.4 million in projects for 21 transmission and sub-transmission customers have been pre-approved by Efficiency Maine since September 2009.

Efficiency Maine Residential Program
Historically, Efficiency Maine has delivered a highly successful and cost-effective compact fluorescent bulb incentive program. With RGGI funds, Efficiency Maine was able to quickly initiate a rebate program for ENERGY STAR rated appliances, such as clothes washers, dehumidifiers and air conditioners. The program began on October 1, 2009. In just 5 months, over 200 locations across the state signed up to participate in the program, and nearly 10,000 rebates have been submitted, representing over $600,000. These 10,000 appliances are expected to save 23,235,628 kWh over their lifetime, yielding 38.6 kWh per dollar of Trust funds. Additional benefits include saving over 231 million gallons of water and reducing carbon-dioxide emissions by 8 million tons.

Large Energy-Efficiency and Conservation Grants (Industrial)
The Energy and Carbon Savings Trust partnered with Efficiency Maine to issue a request for applications for large energy efficiency and conservation grants, expected to range from $100,000 to $1 million for both reductions in grid electricity use and fossil fuel conservation. A total of sixteen grants were awarded, of which six are funded by RGGI. The six RGGI projects are expected to reduce 417 million kWh of grid electricity over an average 15 year lifetime of the projects, yielding 465 kWh per trust dollar. These projects also prevent the emission of 367,560 metric tons of carbon dioxide emissions over an average 15 year lifetime of the measures, yielding .11 tons per Trust dollar invested. Awarded projects range from installing variable speed drives, to heat recovery and combined heat and power systems. The following table reflects information from the winning applications with whom we are in the process of finalizing contracts.

Table D: Responses to Large Energy Efficiency and Conservation Projects RFA

Company	Project Type	Grant Request	Funding Source	Energy Category	Projected Lifetime kWh Saved	Projected Lifetime GHG Avoided
Bowdoin College	CHP	$400,000	RGGI	kWh	24,511,500	9,600
Fraser Masardis	Boiler Controls	$227,500	RGGI	kWh	5,476,575	2,805
Fraser Paper (KWh)	Drives	$198,240	RGGI	kWh	44,625,600	22,920
Katahdin Paper Company	VFDs	$235,200	RGGI	kWh	24,650,445	0
Madison Paper	Heat Recovery	$357,000	RGGI	ghg		92,475
Maine Renewable Energy Consortium	Biomass CHP	$1,000,000	RGGI	kWh	274,687,200	165,120
Prime Tanning Company	Consolidation	$667,500	RGGI	ghg/kwh	43,594,275	74,640
subtotals		**3,085,440**			**417,545,595**	**367,560**
Fairchild Semiconductor	PFC Emission	$537,000	ARRA	ghg		141,555
Fraser Paper (GHG)	Steam Reduction	$393,008	ARRA	ghg		116,040
Jackson Laboratory	Wood Pellet Conversion	$1,000,000	ARRA	ghg		201,450
Johnson Outdoors Watercraft, Inc	New Natural Gas Ovens	$113,000	ARRA	ghg		4,470
Lincoln Paper and Tissue	Combustion Air	$375,000	ARRA	ghg		17,670
NewPage	Heat Recovery	$300,000	ARRA	ghg		127,575
Old Town Fuel and Fiber	Combustion Air	$377,000	ARRA	ghg		27,180
Tex Tech Industries	Biomass	$746,776	ARRA	ghg		25,350
Verso Paper Corp.	Biomass CHP	$2,000,000	ARRA	ghg		1,857,105
Totals		**$8,259,724**			**373,951,320**	**2,885,955**

Weatherization
In the January and February of 2009, the Energy and Carbon Savings Trust contracted with the Maine State Housing Authority, Community Concepts Inc. and the Passamaquoddy Tribe to weatherize low-income homes. Maine State Housing Authority successfully weatherized 118 homes and Community Concepts Inc. weatherized 30 homes. Through mutual agreement, the contract with the Passamaquoddy Tribe was brought to a close before homes were weatherized. As a result of the two completed contracts, 148 homes were weatherized, preventing 6710 tons of carbon dioxide emissions over the life of the measures, yielding .014 tons per Trust dollar invested.

A summary of all program results are in Table E.

Table E: Energy and Carbon Savings Trust Program Results

Program	Funds expended to date	Lifetime kWh savings	KWh savings per Trust dollar	Lifetime CO2 savings metric tons	Tons of CO2/ Trust dollar
EM Business Program	$2,944,031	120,126,419	40.8	75,679	.026
EM Residential Program	$602,000	23,235,600	38.6	7,250	.012
Weatherization	$494,000	n/a	n/a	6,710	.014
Total or Avg	$4,040,031	143,362,019	39.7	89,639	.017

Measurement and Verification
Because the Energy and Carbon Savings Trust had to pass major substantive rules in order to deliver programs, the Trust programs have been in effect for less than a year. While the electricity and carbon dioxide reduction estimates are based on sound engineering and a depth of experience, it is important to note that the Trust's programs have not yet been subject to independent third-party verification. The estimated savings from the Commercial and Industrial program are based on the analysis of the applications through February 15, 2010 and savings from the Residential program are based on rebates received through February 15, 2010.

For the low income weatherization program, the Trust contracted with an independent consultant, Energy Solutions for Maine, to review all paperwork and reports submitted by Maine State Housing Authority (MSHA) and Community Concepts Inc. (CCI) for accuracy and consistency and to conduct onsite inspections of a sample of the homes weatherized by each organization. Approximately 15% of the homes weatherized by CCI were inspected. Minor corrective actions were recommended for two of the homes, which were quickly and thoroughly addressed by CCI. To date, onsite inspections were conducted at eight of the homes weatherized by MSHA. At least two more inspections are expected in the next week. As a result of the document and onsite reviews, the Trust's quality assurance contractor developed a list of questions for MSHA. MSHA is developing its response.

F. The extent to which funds from the Energy and Carbon Savings Trust established pursuant to Title 35-A, section 10008 serve customers from all classes of the State's transmission and distribution utilities.

Funding from the Energy and Carbon Savings Trust has been used to provide programs for residential, commercial and industrial customer classes, including transmission and sub-transmission customers as set forth in previous sections of this report.

G. The revenues and expenditures of the Regional Greenhouse Gas Initiative Trust Fund, established pursuant to Title 35-A, section 10109.

Revenues from the sale of Maine's allowances under RGGI have totaled $15.2 million to date ($5.6 million in 2008 and $9.6 million in 2009). The first regional auction of 2010 occurred on March 10th, however, the results of this auction were not available at the time this report was published. Expenditures of the Regional Greenhouse Gas Initiative Trust Fund are described in section E of this report.

Recommendations

The statutory reporting requirement also provides for the department and the trustees of the Energy and Carbon Savings Trust to propose changes to the program established under this chapter.

While the Trust is not recommending any specific changes at this time, it would like to emphasize that there is a high demand for fossil fuel reduction programs, which may constitute no more than 15% of all programs.

The Department believes that retiring unsold allowances for the current control period may be a consideration in the future as we get near the end of the 2009-2011 control period but does not require immediate legislative action at this time.

The Department and the Energy and Carbon Savings Trust will be available to present our report, and answer any questions you may have.

Respectively submitted,

David Littell, Commissioner
Maine Department of Environmental Protection

Thomas H. Tietenberg
Energy and Carbon Savings Trust