

# QUARTERLY REPORT

*For the quarter ending September 30, 2002*

## **NEW YORK ENERGY \$MART<sup>SM</sup> PROGRAM EVALUATION AND STATUS REPORT**

*Quarterly Report to the New York State  
Department of Public Service*

**NYSERDA**



**New York Energy \$mart<sup>SM</sup>**  
**QUARTERLY PROCESS AND PROGRESS UPDATE**  
**For Quarter Ending September 30, 2002**

**INTRODUCTION**

This report updates the status of the eight-year **New York Energy \$mart<sup>SM</sup>** Program through September 30, 2002. The following information was updated: budget status; recent solicitations; anticipated energy and electric peak demand savings from committed funds; and energy and electric peak demand savings from installed measures.

**BUDGET STATUS**

Status of the eight-year budget (1998-2006) is shown by major funding category in Table 1. Also shown are the funds committed<sup>1</sup> and encumbered<sup>2</sup> as of September 30, 2002. Approximately \$555 million has been committed, representing nearly 60% of the 8-year budget. Nearly \$381 million, or 41% of the 8-year budget, has been encumbered. It is estimated that every dollar of **New York Energy \$mart<sup>SM</sup>** investment leads to approximately three dollars of outside investment in these projects. Therefore, total outside investment expected from funds encumbered is approximately \$1.1 billion. Nearly \$195 million, close to 21% of the 8-year budget, has been paid to program participants.

**Table 1: Budget Status by Program Area as of September 30, 2002 (\$ million)**

<b>Program Area</b>	<b>8-year Budget</b>	<b>Funds Committed</b>	<b>% Change From Previous Quarter</b>	<b>% of 8-year Budget Committed</b>	<b>Funds Encumbered</b>	<b>% of 8-year Budget Encumbered</b>
Business and Institutional	\$355.4	\$232.0	10%	65.3%	\$172.1	48.4%
Residential	\$165.3	\$98.5	16%	59.6%	\$92.7	56.1%
Low-Income	\$119.6	\$91.4	192%	76.4%	\$34.1	28.5%
R&D	\$210.8	\$108.9	31%	39.5%	\$57.9	24.9%
Environmental Disclosure	\$2.9	\$0.35	0%	12.0%	\$0.35	12.0%
Evaluation	\$15.6	\$1.4	0%	9.1%	\$1.4	9.1%
Administration	\$62.5	\$22.4	20%	29.9%	\$22.4	29.9%
<b>TOTAL</b>	<b>\$932.1</b>	<b>\$555.1</b>	<b>29.0%</b>	<b>59.6%</b>	<b>\$380.9</b>	<b>40.9%</b>

<sup>1</sup> Committed funds includes (1) encumbered funds and (2) funds set aside to meet applicants' incentive requests.

<sup>2</sup> Encumbered funds are funds associated with signed contracts and purchase orders, including funds awarded to implementation contractors for implementation services and participant incentives.

## SOLICITATIONS

Table 2 provides information on Requests for Proposals (RFPs) and Program Opportunity Notices (PONs) that were open during the third quarter of 2002.

**Table 2: Third Quarter 2002 Solicitations**

Solicitation Number	Solicitation Name and Purpose	Solicitation Closing Date
<b>Business and Institutional Program Area</b>		
PON 593-01 <sup>(1)</sup>	New Construction Program.	12/31/03
PON 700-02 PON 701-02	Technical Assistance. Combined Heat and Power and Renewable Generation Technical Assistance. Seeks feasibility study proposals of combined heat & power (CHP) and renewable generation projects.	11/20/02 11/20/02
PON 620-01	Peak Load Reduction Program. Seeks applications from eligible contractors to identify and implement projects that will result in reduced peak electric demand.	8/1/02
PON 660-02	Premium Efficiency Motors.	12/31/05
RFP 673-02	Comprehensive Energy Strategies. Seeks proposals from firms interested in providing services to NYSERDA in designing comprehensive energy strategies under the <i>Energy Smart Schools</i> program.	7/18/02
PON 677-02	Innovative Opportunities: C/I Sector and Upstream HVAC Initiatives. Seeks proposals for innovative projects that increase the availability, promotion, sale, or long-term performance of energy-efficient products and services.	8/7/02
PON 693-02	Smart Equipment Choices.	6/30/03
PON 695-02	Commercial/Industrial Performance.	6/30/03
RFP 678-02	Small Commercial Lighting Program Implementation. Requests proposals for implementation and development services for the <b>New York Energy \$mart<sup>SM</sup></b> Small Commercial Lighting Program.	8/14/02
RFP 697-02	Consulting and Support Services for the <b>New York Energy \$mart<sup>SM</sup></b> Loan Fund. Requests proposals from firms to provide consulting and support services to NYSERDA for the <b>New York Energy \$mart<sup>SM</sup></b> Loan Fund.	9/19/02
PON 671-02	Time Sensitive Pricing Demonstrations. Requests proposals that enhance customer choice and expand demand responsiveness in the retail electricity marketplace.	11/4/02
RFP 782-02	Technical Assistance for Peak Load Reduction: Seeks 6-10 contractors to provide technical assistance for NYSERDA's Peak Load Reduction Program.	10/31/02

(1) Funding for this solicitation consisted of \$27 million from the Business and Institutional Program area and \$3 million from the R&D Program area for photovoltaic (PV) installations.

**Table 2: Third Quarter 2002 Solicitations (Continued)**

Solicitation Number	Solicitation Name and Purpose	Solicitation Closing Date
<b>Residential and Low-Income Program Areas</b>		
RFP 658-01	Implementation Services for Small Homes ENERGY STAR® Programs. Seeks proposals to provide implementation services for two market transformation <b>New York Energy \$mart<sup>SM</sup></b> initiatives that target the new and existing residential homes marketplace: the New York ENERGY STAR® Labeled Homes Program and the Home Performance with ENERGY STAR® Initiative.	7/9/02
<b>R&amp;D Program Area</b>		
PON 682-02	Environmental Monitoring, Evaluation and Protection (EMEP). Seeks proposals for research activities aimed at providing policy-makers with scientifically credible and objective information on the impacts of pollution associated with electricity generation.	7/10/02
PON 704-02	Air Pollution Control & Monitoring Technology: Request proposals for projects that support the development, demonstration, and commercialization of innovative air pollution control and air pollution monitoring technologies in New York.	11/7/02
PON 731-02	Green Marketing Incentives Program. Requests proposals from marketing firms that promote, through direct sales, the retail consumption of qualified green power by retail consumers in New York.	11/8/02
PON 689-02	Accredited Training for Renewable Energy Practitioners. Requests proposals that will help New York technical schools, colleges, universities, and continuing education providers develop and implement training programs.	11/14/02
PON 690-02	PV and Wind Technical Support. Requests proposals to provide technical assistance services for NYSERDA's end-use PV and wind programs.	11/13/02

## PROGRESS SUMMARY

### Anticipated Electricity Savings

Tables 3 through 5 show electricity and demand savings for Business and Institutional, Residential and Low-Income, and Industry and Building R&D programs. Each table shows the anticipated electric savings from funds committed and from measures installed as of September 30, 2002. For some programs, energy savings from committed funds are not available and are denoted as To Be Determined (TBD).

**Table 3: Energy and Demand Savings from Business and Institutional Programs as of Sept. 30, 2002**

Program	Cumulative Funding (\$ Million)	Anticipated Savings		Spent Funding (\$ Million)	Achieved Savings		% Change From Prev. Quarter	
		GWh	MW		GWh	MW	GWh	MW
Advanced Monitoring	\$4.1	TBD	TBD	\$0	0	0	0	0
C/I Performance	\$80.8	489.1	116.1	\$33.5	232.3	51.1	1%	3%
New Construction <sup>(1)</sup>	\$63.9	289.4	38.1	\$10.1	37.1	3.9	358% <sup>(1)</sup>	30%
Smart Equipment Choices	\$4.1	14.5	6.9	\$1.9	6.6	3.2	100%	100%
Small Commercial Lighting	\$3.5	TBD	TBD	\$2.7	1.6	0.4	14%	33%
Commercial HVAC	\$1.6	TBD	TBD	\$0.8	0.3	<0.1	n/a	n/a
Cooling Recommissioning <sup>(2)</sup>	\$1.2	24.7	8.6	\$1.2	24.7	8.6	0%	0%
Peak Load Reduction Program	\$31.8	n/a	500.3	\$12.2 <sup>(3)</sup>	n/a	237.9	n/a	29%
Premium-Efficiency Motors	\$2.9	TBD	TBD	\$1.2	3.9	0.8	39%	14%
Technical Assistance	\$24.6	559.7	148.9	\$6.7	195.5	52.0	63% <sup>(4)</sup>	63% <sup>(4)</sup>
Loan Fund (C/I and Residential)	\$4.5	TBD	TBD	\$3.0	5.1	1.8	13%	0%
<b>Total</b>	<b>\$233.7</b>	<b>1,377.6</b>	<b>819.4</b>	<b>\$73.3</b>	<b>507.1</b>	<b>359.7</b>	<b>28%</b>	<b>28%</b>

TBD: To be determined.

n/a: Not applicable.

(1) Savings estimates for this program have been refined based on program experience. The high percent change for GWh is reflective of additional projects being counted that were completed, but not included, in last quarter's report. The actual percent change for GWh from last quarter to this quarter is closer to 10%.

(2) All projects funded through this program have been completed.

(3) Funds reported previous quarter did not reflect lowering of incentives effective May 31, 2002.

(4) Figures for the previous quarter were not updated, thus the 63% increase is comprised of 25% for this quarter and 28% for the previous quarter.

**Table 4: Energy and Demand Savings from Residential and Low-Income Programs as of Sept. 30, 2002**

Program	Cumulative Funding (\$ Million)	Anticipated Savings		Spent Funding (\$ Million)	Achieved Savings		% Change From Prev. Quarter	
		GWh	MW		GWh	MW	GWh	MW
ENERGY STAR® Products Program <sup>(1)</sup>	\$25.0	79.2	13.3	\$22.9	76.6	12.8	-3% <sup>(2)</sup>	-4% <sup>(2)</sup>
ENERGY STAR® Homes	\$5.7	TBD	TBD	\$4.8	0.27	0.2	0%	0%
Home Performance with ENERGY STAR®	\$8.6	TBD	TBD	\$8.0	0.58	0.1	42%	100%
Keep Cool	\$19.8	28.1	38.6	\$13.1	28.1	38.6	140%	131%
ENERGY STAR® Bulk Purchase	\$1.5	3.2	0.4	\$0.65	3.2	0.4	n/a	n/a
Comprehensive Energy Management	\$4.7	TBD	TBD	\$1.5	4.1	1.1	71%	57%
Publicly Assisted Housing	\$14.8	21.6	TBD	\$1.1	TBD	TBD	TBD	TBD
Low-Income Direct Installation	\$9.9	11.5	4.6	\$9.9	11.5	4.6	0%	0%
<b>Total</b>	<b>\$90.0</b>	<b>143.6</b>	<b>56.9</b>	<b>\$62.0</b>	<b>124.4</b>	<b>57.8</b>	<b>18%</b>	<b>63%</b>

TBD: To be determined.

(1) Formerly known as Appliance & Lighting/ENERGY STAR® Awareness.

(2) Multifamily activity formerly tracked through the ENERGY STAR® Products Program is now being tracked through a new program called ENERGY STAR® Bulk Purchase. This reporting change accounts for the decrease in achieved savings.

**Table 5: Energy and Demand Savings from Industry and Buildings R&D Programs as of Sept. 30, 2002**

Program	Cumulative Funding (\$ Million)	Anticipated Savings		Spent Funding (\$ Million)	Achieved Savings		% Change From Prev. Quarter	
		GWh	MW		GWh	MW	GWh	MW
Enabling Technologies for Price Responsive Load	\$1.5	n/a	107.0 <sup>(1)</sup>	\$0.8	n/a	67.1 <sup>(1)</sup>	n/a	0%
Distributed Generation/CHP Demonstration Projects	\$44.6	n/a	64.4	\$3.0	n/a	4.0	n/a	263%
<b>Total</b>	<b>\$46.1</b>	<b>n/a</b>	<b>171.4</b>	<b>\$3.8</b>	<b>n/a</b>	<b>71.1</b>	<b>n/a</b>	<b>4%</b>

n/a: Not applicable.

(1) Represents curtailable load and emergency generation capacity. Actual load reduction during an emergency is anticipated to be 60% of capacity.

Table 6 provides a summary of information presented in Tables 3 through 5. Total electricity and demand savings with deductions for program overlaps are shown separately for energy efficiency measures and curtailable load.

The anticipated electric savings from funds committed is 1,437 GWh per year. The associated annual electricity bill savings are \$167.5 million per year.<sup>3</sup> The anticipated demand savings is 992 MW, of which approximately 45% is from energy efficiency measures. The electric savings from measures installed is 601 GWh per year. The demand savings from installed measures is 466 MW, of which 40% is from energy efficiency measures and 60% is from curtailable load.

**Table 6: Summary of Energy and Demand Savings**

	Cumulative Funding (\$ Million)	Anticipated Savings		Spent Funding (\$ Million)	Achieved Savings		% Change From Prev. Quarter	
		GWh	MW		GWh	MW	GWh	MW
Business and Institutional	\$223.7	1,377.6	819.4	\$73.3	507.1	359.7	28%	28%
Residential	\$90.0	143.6	56.9	\$62.0	124.4	57.8	18%	63%
R&D Programs	\$46.1	n/a	171.4	\$2.2	n/a	68.1	n/a	0%
<i>Estimated Overlap</i> <sup>(1)</sup>	-	-84.0	-54.4	-	-30.7	-22.1	-	-
<b>Subtotal</b>	<b>\$359.8</b>	<b>1,437.2</b>	<b>992.3</b>	<b>\$139.1</b>	<b>600.8</b>	<b>466.4</b>	<b>20%</b>	<b>21%</b>
Load Reduction From Curtailable Load	-	-	546.4	-	-	279.0	-	22%
Load Reduction From Energy Efficiency	-	-	446.9	-	-	184.3	-	29%

n/a: Not applicable.

(1) The overlap represents the estimated electricity and demand reduction for projects that participate in both the Technical Assistance Program and other energy efficiency or peak load reduction programs. The overlap also includes projects that participate in both the Small Commercial Lighting Program and the Smart Equipment Choices Program. Additional overlap is currently being identified and quantified.

### Renewable Energy

Table 7 presents the energy generation from the renewable energy programs as of September 30, 2002. The energy and capacity is shown for two categories of outcomes: anticipated energy generation from funds committed and energy generation from equipment installed.

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<sup>3</sup> Based on a January and June 2002 weighted average electricity price of \$0.1166/kWh. This represents only the variable part of the electric bill.

**Table 7: Energy and Rated Capacity of Renewable Energy Generation Projects**

Program	Cumulative Funding (\$ Million)	Anticipated Savings		Spent Funding (\$ Million)	Achieved Savings		% Change From Prev. Quarter	
		GWh	MW		GWh	MW	GWh	MW
Wind Plant Demonstration	\$24.0	982	358	\$7.0	103.0	41.5	0%	0%
PV on Buildings	\$3.0	0.95	0.70	\$0.3	0.342	0.22	63%	47%
Residential PV	\$1.0	0.34	0.25	\$0.4	0.077	0.052	n/a	73%
High-Value Wind & PV	\$1.2	0.77	0.38	TBD	0.036	0.024	260%	140%
PV System and ENERGYSTAR®-Labeled Home Demonstration	\$0.4	0.033	0.024	-	-	-	-	-
Solar Schools PV Deployment	\$1.8	TBD	0.1	\$0.3	0	0	-	-
<b>Total</b>	<b>\$31.4</b>	<b>984.1</b>	<b>359.5</b>	<b>\$8.0</b>	<b>103.5</b>	<b>41.8</b>	<b>&lt;1%</b>	<b>&lt;1%</b>

TBD: To be determined.

#### Other Fuel Savings.

Several programs provide energy savings in addition to electricity savings. Anticipated natural gas and oil savings from these programs are reported in Table 8. From committed funds, the anticipated annual savings amount to 6.0 TBtu of natural gas and 1.0 TBtu of oil. The associated annual bill savings are \$55 million per year.<sup>4</sup>

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<sup>4</sup> Based on a Year 2000 sector-weighted average price of \$8.13 per mmBtu for natural gas and sector-weighted average price of \$6.40 per mmBtu for fuel oil.



**Table 8: Natural Gas and Oil Savings (MMBtu) as of September 30, 2002**

Program	Anticipated Savings From Committed Funds		Achieved Savings From Installed Measures			
	Natural Gas	Oil	Natural Gas	% Change	Oil	% Change
C/I Technical Assistance Programs	6,011,000	1,036,000 <sup>(1)</sup>	2,132,000	33%	364,000 <sup>(1)</sup>	-26%
Loan Fund	TBD	TBD	0.2	n/a	0	n/a
ENERGY STAR <sup>®</sup> Homes	TBD	TBD	11,849	0%	3,495	0%
Home Performance with ENERGY STAR <sup>®</sup>	TBD	TBD	31,085	30%	2,999	25%
Publicly Assisted Housing Program	0	9,133	TBD	n/a	TBD	n/a
<b>Total</b>	<b>6,011,000</b>	<b>1,045,133</b>	<b>2,174,934</b>	<b>35%</b>	<b>370,494</b>	<b>-25%</b>

TBD: To be determined.

(1) Decrease is due to a change in estimating calculations based on program evaluation and customer survey results.

Environmental and Economic Benefits

Anticipated reductions in nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), and carbon dioxide (CO<sub>2</sub>) emissions are presented in Table 9. Collectively, the annual CO<sub>2</sub> reduction is equivalent to removing approximately 350,000 automobiles from New York’s roadways. The cost savings from reduced energy use (all fuels) is expected to be approximately \$223 million per year, leading to the creation or retention of more than 7,100 jobs in New York’s service and retail trade sectors.<sup>5</sup>

**Table 9: Anticipated Annual Emission Reductions (in tons)**

Primary Pollutant	From Electricity Savings <sup>(1)</sup> (1,437 GWh)	From Natural Gas Savings (6.0 Tbtu)	From Oil Savings (1.0 TBtu)	From Clean Generation by Wind & PV (984.1 GWh)	All Sources <sup>(2)</sup>
NO <sub>x</sub>	1,078	301	63	738	2,179
SO <sub>2</sub>	2,156	0	120	1,476	3,752
CO <sub>2</sub>	784,627	351,644	84,656	537,314	1,758,241

(1) Emission reductions from electricity savings are estimated by applying factors to the energy savings expected from the **New York Energy Smart<sup>SM</sup>** Program. The factors for lbs. reduced per kWh saved are based on the average mix of generation in the State. These factors are periodically reviewed and updated to reflect changes in the average mix of generation.

(2) Totals may not sum due to rounding.

<sup>5</sup> These jobs will be supported annually for as long as the implemented energy efficiency measures remain in effect.

## SUMMARY

Table 10 provides a summary of the anticipated energy, environmental, and economic outcomes of the **New York State Energy \$mart<sup>SM</sup>** Program as of September 30, 2002.

**Table 10: Summary of Anticipated Energy, Environmental, and Economic Outcomes as of Sept. 30, 2002**

Outcome		Anticipated From Funds Committed	% Change from Last Quarter	Achieved	% Change from Last Quarter
Annual Electricity Savings (GWh)		1,437.0	26%	600.8	24%
Summer Peak Demand Reduction Potential (MW) <sup>(1)</sup>		993	25%	466.3	27%
Energy Generation from Renewable Energy (GWh)		984.1	0%	103.5	0%
Oil and Gas Savings (tBtu )		7.0	0%	2.5	21%
Annual Energy Bill Reduction (\$ million) - all fuels <sup>(2)</sup>		\$223.0	19%	\$90.1	25%
Annual Emission Reductions <sup>(3)</sup>	NO <sub>x</sub> (tons)	2,179	9%	659	-
	SO <sub>2</sub> (tons)	3,752	7%	1,099	-
	CO <sub>2</sub> (tons)	1,758,240	24%	541,161	-
Economic Benefits	Jobs per Year	7,135	90% <sup>(4)</sup>	2,882	-
	Market Value of NOx reduction (\$ million)	\$1.7 <sup>(5)</sup>	-	\$0.7 <sup>(5)</sup>	-

<sup>(1)</sup> Includes energy efficiency measures and curtailable load.

<sup>(2)</sup> Includes bill savings from electricity, oil, and natural gas.

<sup>(3)</sup> Emission reductions are estimated by applying factors to the energy savings expected from the **New York Energy \$mart<sup>SM</sup>** Program. The factors for lbs. reduced per kWh saved are based on the average mix of generation in the State. These factors are periodically reviewed and updated to reflect changes in the average mix of generation.

<sup>(4)</sup> The factor to determine jobs per \$ of energy savings was re-assessed, resulting in an increase in the anticipated jobs.

<sup>(5)</sup> The market-value of nitrogen oxide (NOx) reduction was calculated to be an economic benefit of the **New York Energy \$mart<sup>SM</sup>** program based on the following methodology and rationale: Methodology: The tons of NOx reduced, based on electricity savings of 1,437 Gwh, was multiplied by 5/12 to approximate NOx reduction between of the months of May through September, which corresponds to the ozone season when NOx controls are required to be in place (The ozone season reduction in GWh does not actually reduce NOx emissions from electricity generation, however, because there is a regulatory cap on NOx emissions. Consequently, NOx emissions will always be equal to the cap). The value was then multiplied by \$3,850/ton which represents the Cantor Fitzgerald 2002-2007 Market Price Index, (per the October 25, 2002 price report) to derive the market-value of what a NOx set-aside would be. This value, while calculated as an economic benefit, has not been actualized. NOx emissions will be actually reduced only in the event that the GWh electricity reductions are certified as NOx allowances. Rationale: The GWh reduction due to **New York Energy \$mart<sup>SM</sup>** program electricity savings will lower the need of generator owners to pay for the NOx controls or to purchase NOx allowances. Therefore the GWh reductions can be reasonably valued at the estimated cost of the NOx allowances that are equated to the 5-month GWh reduction. The NOx Set-Aside program has assigned the conversion factor of 1.5 lb/MWh. This is equivalent to the average emission factor by which allowances are allocated under the State's NOx budget beginning in 2003.