

NEW YORK ENERGY \$MARTSM PROGRAM QUARTERLY EVALUATION AND STATUS REPORT

QUARTERLY REPORT TO THE PUBLIC SERVICE COMMISSION

QUARTER ENDING JUNE 30, 2007

FINAL REPORT

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NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY



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Introduction

This report provides an update on the progress of the **New York Energy \$martSM** Public Benefits Program (Program) toward meeting its stated goals. It contains evaluation results on Program activities through the quarter ending June 30, 2007. The last full annual report on progress (through December 31, 2006) was issued in March 2007, and the last quarterly progress report was issued in May 2007.¹

The 13-year Program, funded by a System Benefits Charge (SBC) and administered by the New York State Energy Research and Development Authority (NYSERDA), was initiated in 1998 by order of the New York State Public Service Commission² (the Commission) and has included three funding cycles.³ The Program portfolio consists of numerous initiatives promoting energy efficiency and demand management, facilitating renewable energy development, providing energy services to low-income New Yorkers, and conducting research and development. The activities pursued by the Program include disseminating information to increase consumer energy awareness, marketing, providing financial incentives, developing and testing new products, commercializing new technologies, and gathering data and information.

1.1 Organization of the Report

This report was prepared by NYSERDA staff with contributions from a team of independent third-party evaluation specialty contractors. The contractors work closely with NYSERDA's program implementation staff and contractors, customers, and market and trade allies to develop an understanding of the Program offerings and to conduct independent assessments of the Program's impacts and progress toward its established public policy goals. The evaluation functions covered by the specialty contractor teams are: measurement and verification (M&V); market characterization, assessment and causality (MCAC) evaluation; process evaluation; and program theory and logic modeling. The evaluation functions are currently being reorganized and transitioned to the following major categories: impact evaluation; market characterization and assessment; and process assessment and evaluation management. This transition will be complete within the next quarter.

¹ New York State Energy Research and Development Authority, *New York Energy \$martSM Program Evaluation and Status Report, Final Report, March 2007 and New York State Energy Research and Development Authority, New York Energy \$martSM Program Quarterly Evaluation and Status Report, Final Report, May 2007.*

² Case 94-E-1052, *et al.*, In the Matter of Competitive Opportunities Regarding Electric Service, Opinion 98-3, issued January 30, 1998.

³ The most recent cycle was initiated with the New York State Public Service Commission order in Case 05-M-0900, In the Matter of the System Benefits Charge III, Order Continuing the System Benefits Charge (SBC) and the SBC-funded Public Benefit Programs, issued and effective December 21, 2005.

The report is divided into the following sections: Section 1 Introduction Section 2 Portfolio-Level Reporting Section 3 Commercial/Industrial Programs Section 4 Residential and Low-Income Programs Section 5 Research and Development Programs Appendix A Program Logic Models

Portfolio-Level Reporting

2.1 Budget and Spending Status

This section presents the financial data for the **New York Energy \$martSM** Program from 1998 through June 30, 2007. Of the \$1.87 billion, thirteen-year budget, \$1.68 billion is allocated to four major program areas – Commercial/Industrial, Residential, Low-Income, and Research and Development (R&D) – and a general awareness campaign. The percentage of each program area budget spent to date is: 45.3% for Commercial and Industrial, 61.3% for Residential, 38.4% for Low-Income, and 33.7% for Research and Development. Budgets and spending for these program areas are presented in Table 2-1 along with costs for program administration, evaluation, the Environmental Disclosure Program¹, and the New York State Cost Recovery Fee². Table 2-2 shows the budget and spending for the individual programs in the **New York Energy \$martSM** Program portfolio.

	Total 13-	Funds Spent			
	Year Budget ¹	SBC I & SBC II ²	SBC III ³	Total Spent	% of Budget Spent
Commercial/Industrial	634.0	247.1	40.3	287.5	45.3%
Residential	312.8	165.4	26.4	191.8	61.3%
Low-Income	318.6	86.6	35.6	122.2	38.4%
Research and Development	384.1	105.9	23.5	129.4	33.7%
General Awareness ⁴ (Marketing)	31.0	15.9	2.4	18.3	58.9%
Program Areas Total	\$1,680.4	\$620.9	\$128.3	\$749.2	44.6%

 Table 2-1. Financial Status of New York Energy \$martSM through June 30, 2007 (\$ million)

¹ Reflects reallocation of funding among programs as approved by the Public Service Commission.

² SBC I: July 1, 1998 through June 30, 2001; SBC II: July 1, 2001 through June 30, 2006.

³ SBC III: July 1, 2006 through June 30, 2011.

⁴ General Awareness previously included in Residential Program Area.

Totals may not sum exactly due to rounding. Source: NYSERDA

¹ This program provides electricity commodity suppliers with data for informing customers about the fuel mix and associated environmental impacts of their electricity sources.

² The New York State Cost Recovery Fee is assessed for services to public authorities. The fee is determined by the New York State Division of Budget and imposed and collected by the Department of Taxation and Finance.

	Total 13-		Fu	nds Spent	
	Year Budget ¹	SBC I & SBC II ²	SBC III ³	Total Spent	% of Budget Spent
Program Administration	128.2	59.8	12.2	72.0	56.2%
Metrics and Evaluation	34.4	14.5	2.7	17.2	49.9%
Environmental Disclosure	1.9	0.8	0.1	0.9	48.5%
NYS Cost Recovery Fee	25.4	9.2	2.4	11.6	45.5%
Other Costs Total	\$189.9	\$84.3	\$17.4	\$101.7	53.5%
Total New York Energy Smart SM	\$1,870.3	\$705.2	\$145.6	\$850.8	45.5%

¹ Reflects reallocation of funding among programs as approved by the Public Service Commission.

² SBC I: July 1, 1998 through June 30, 2001; SBC II: July 1, 2001 through June 30, 2006.

³ SBC III: July 1, 2006 through June 30, 2011.

Totals may not sum exactly due to rounding. Source: NYSERDA

Table 2-2. Individual Programs – Financial Status through June 30, 2007 (\$ million)

	Budget		Funds Spent		
Program	Total Budget ¹	SBC I & SBC II ²	SBC III ³	Total Funds Spent	% of Budget Spent
С	ommercial/Indus	strial	•		
Peak Load Management	88.2	35.1	5.9	40.9	46.4%
Enhanced Commercial/ Industrial Performance	238.2	100.3	11.0	111.3	46.8%
New York Energy \$mart SM Business Partners	41.6	19.7	2.9	22.6	54.2%
Loan Fund and Financing	25.4	12.3	4.7	17.1	67.3%
Energy Smart Focus	16.1	3.6	1.1	4.8	29.6%
High Performance New Buildings	164.4	53.1	11.9	64.9	39.5%
FlexTech Technical Assistance	55.2	20.4	2.3	22.7	41.1%
Other	5.0	2.6	0.6	3.2	63.7%
Total Commercial & Industrial	\$634.0	\$247.1	\$40.3	\$287.5	45.3%
Res	idential & Low-i	ncome	•		
Single Family Home Performance	107.5	47.4	10.5	57.9	53.9%
Multifamily Building Performance	44.5	18.3	5.5	23.9	53.7%
Market Support Residential	148.9	96.5	8.8	105.4	70.8%
Communities and Education	11.9	3.2	1.5	4.7	39.1%
Subtotal Residential	\$312.8	\$165.4	\$26.4	\$191.8	61.3%
Single Family Home Performance	83.7	27.7	7.9	35.6	42.5%
Multifamily Building Performance	150.1	35.5	17.5	53.0	35.3%
EmPower New York	58.3	8.8	9.5	18.3	31.5%
Buying Strategies & Energy Awareness	16.6	4.7	0.7	5.3	32.3%
Other	9.9	9.9	0.0	9.9	100%
Subtotal Low-Income	\$318.6	\$86.6	\$35.6	\$122.2	38.4%
Total Residential and Low-income	\$631.3	\$252.0	\$62.0	\$314.0	49.7%

	Budget	Funds Spent				
Program	Total Budget ¹	SBC I & SBC II ²	SBC III ³	Total Funds Spent	% of Budget Spent	
Res	earch and Develo	opment				
Public Benefit Power Transmission and Distribution	10.0	0.0	< 0.1	< 0.1	< 0.1%	
Clean Energy Infrastructure	87.5	19.0	10.3	29.3	33.5%	
Distributed Energy Resources: Power Systems Product Development & DG-CHP Demonstrations	146.7	31.9	7.6	39.6	27.0%	
Demand Response and Innovative Research	10.0	0.0	0.0	0.0	0.0%	
Electric Transportation	5.0	0.0	0.3	0.3	6.5%	
Environmental, Monitoring, Evaluation, & Protection	39.1	17.7	2.1	19.9	50.9%	
Industrial and Municipal Process Efficiency	15.0	0.0	< 0.1	< 0.1	0.1%	
Next Generation and Emerging Technologies	42.7	18.3	2.1	20.4	47.7%	
Wholesale Renewable Energy Market	25.1	16.5	0.9	17.3	69.0%	
Other	2.9	2.5	<0.1	2.5	86.3%	
Total Research and Development	\$384.1	\$105.9	\$23.5	\$129.4	33.7%	
General Awareness (Marketing)	31.0	15.9	2.4	18.3	58.9%	
Total New York Energy \$mart SM Programs	\$1,680.4	\$620.9	\$128.3	\$749.2	44.6%	

¹ Reflects reallocation of funding among programs as approved by the Public Service Commission.

² SBC I: July 1, 1998 through June 30, 2001; SBC II: July 1, 2001 through June 30, 2006.

³ SBC III: July 1, 2006 through June 30, 2011.

Totals may not sum exactly due to rounding. Source: NYSERDA

2.2 Portfolio Level Findings

2.2.1 Progress Toward Goals

Overall, the **New York Energy \$martSM** programs are performing well toward their one-year goals³ in the areas of energy savings, demand reduction, and other key metrics. This section discusses general progress toward these goals, but Sections 3, 4, and 5 contain more detail on progress toward each specific goal. In summary:

- The Commercial/Industrial (C/I) programs have collectively added approximately 390 GWh of electricity savings over the past year. The majority of programs have achieved or exceeded their one-year electricity savings goals.
- Four Commercial/Industrial programs exceeded their one-year peak demand reduction goals. A few other C/I programs are still working toward their goals in this area, and progress will continue to be tracked.
- Within the C/I program area, twelve different one-year goals have been set for metrics other than energy and peak demand savings. These metrics capture progress in key areas such as the number of

³ One-year goals were specified in the *System Benefits Charge Proposed Plan for New York Energy \$martSM Programs (2006-2011)*, March 2, 2006. These goals were set at the program level, and included energy savings, demand reductions and other important metrics. The one-year goals cover the time period from July 1, 2006 through June 30, 2007. Five-year goals were also set and will be tracked in future reporting.

customers served, allies participating, and dollars leveraged. Four of the twelve goals have been met or exceeded, and another four goals are close to being met (*i.e.*, greater than 80%). Progress will continue to be tracked on the remaining goals until they are achieved.

- While most of the Residential and Low-Income programs are still working toward their one-year electricity savings goals, the portfolio of Residential and Low-Income programs has added more than 136 GWh in the past year. This is largely due to the addition of about 100 GWh in savings from CFL and appliance installations in 2006, which was estimated through a recent market study by NYSERDA's evaluation contractors.
- Twenty-six near-term goals have been set for important non-energy metrics in the Residential and Low-Income area, including the number of customers participating, outreach efforts and people affected, and dollars leveraged. The Residential and Low-Income programs have achieved nine of their one-year goals. A few of the remaining goals are close to being met (*i.e.*, having achieved approximately 80% or more of the goal to date). Progress will be monitored on each individual goal until it is met.
- Almost 40 near-term non-energy goals have been set for the Research & Development (R&D) portfolio. These goals address important metrics such as solicitations, projects, information dissemination, co-funding, and technology transfer. Overall, the R&D portfolio has performed well in terms of these non-energy goals. Approximately half of the goals have been met or exceeded, and progress is being made on the remaining areas.

Beyond the one-year goals, programs are also making excellent progress toward the following overarching public policy goals.

- Goal 1: Improve New York's energy system reliability and security by reducing energy demand and increasing energy efficiency, supporting innovative transmission and distribution technologies that have broad application, and enabling fuel diversity, including renewable resources.
 - Together, the **New York Energy \$mart**SM programs are saving approximately 2,910 GWh annually.
 - Almost 1,140 MW of peak demand reduction has been installed, including more than 600 MW from permanent measures and more than 530 MW from curtailable measures.
 - More than 100 GWh of clean, renewable energy is generated annually.
- Goal 2: Reduce the energy cost burden of New Yorkers by offering energy users, particularly the State's lowest income households, services that moderate the effects of energy price increases and volatility and provide access to cost-effective energy efficiency options.
 - The **New York Energy \$mart**SM programs are saving customers more than \$450 million annually on their energy bills.
 - In total 67,193 low-income households have been served. On average, their energy bills have been reduced by \$195 per year.

- The **New York Energy \$martSM** Program has achieved a benefit-cost ratio of 2.1 under the most conservative Total Market Effects Test ratio.⁴
- Goal 3: Mitigate the environmental and health impacts of energy use by increasing energy efficiency, encouraging the development of support services for renewable energy resources, and optimizing the energy performance of buildings and products.
 - The emission reductions from the **New York Energy \$mart**SM Program energy savings are more than 2,520 tons of nitrogen oxide, 4,640 tons of sulfur dioxide, and 2.0 million tons of carbon dioxide annually.
 - Over the past 12 months ten clean energy events (including training, workshops and a conference) were held.
- Goal 4: Create economic opportunity and promote economic well-being by supporting emerging energy technologies, fostering competition, improving productivity, stimulating the growth of New York energy businesses, and helping to meet future energy needs through efficiency and innovation.
 - The **New York Energy \$mart**SM programs have led to the creation or retention of approximately 3,700 jobs.
 - Over the past twelve months, six contracts have been signed to expand renewable energy businesses (four contracts) and manufacture clean energy generation technologies (two contracts) in New York.

2.2.2 Summary of Program Benefits

Table 2-3 shows the cumulative **New York Energy \$martSM** Program benefits through June 30, 2007, and through the last three calendar years. Cumulative annual electricity savings has reached approximately 2,910 GWh. Peak demand reduction efforts have led to a total reduction of 1,139 MW which is split almost evenly between permanent and curtailable demand reductions. Renewable energy generation from the **New York Energy \$martSM** Program now amounts to 107 GWh. Additional metrics are summarized in Table 2-3.

Benefits	Through Year- End 2004	Through Year-End 2005	Through Year-End 2006	Through June 30, 2007 ³
Electricity Savings from Energy Efficiency and On-Site Generation (Annual GWh)	1,400	1,950	2,350	2,910
Peak Demand Reduction (MW)	860	1,040	1,113	1,139
Permanent Measures (MW)	325	445	495	606
Curtailable ¹	535	595	618	533

Table 2-3. Cumulative Program Benefits from Installed Measures

⁴ Benefit-cost analysis is conducted once annually and results were presented in NYSERDA, *New York Energy \$martSM Program Quarterly Evaluation and Status Report, Quarter Ending March 31, 2007, May 2007.*

Benefits	Through Year- End 2004	Through Year-End 2005	Through Year-End 2006	Through June 30, 2007 ³
Annual Energy Bill Savings to Participating Customers (\$ Million)	\$195	\$275	\$330	\$450
Net Fuel Savings (Annual MMBtu)	2,600,000	4,000,000	4,049,000	4,360,000
Renewable Energy Generation (Annual GWh)	102	103	105	107
Jobs Created and Retained per Year ²	2,500	3,100	3,700	3,700
NO _x Emissions Reductions (Annual Tons)	1,280	1,750	2,060	2,520
SO ₂ Emissions Reductions (Annual Tons)	2,320	3,170	3,800	4,640
CO ₂ Emissions Reductions (Annual Tons)	1,000,000	1,400,000	1,600,000	2,000,000
Equivalent number of cars removed from NY roadways.	200,000	275,000	320,000	390,000

¹ Curtailable MW have decreased due to a reassessment of the impact of the Enabling Technologies program. MWs enabled under the SBC2 program Enabling Technologies for Price Responsive Load were not required to persist beyond the period of the contract. As such, the available MWs have steadily declined since the program's close.

 2 Figures in this row represent the average number of jobs created and retained through year end. Results from 2004 and 2005 have been restated based on new analysis conducted in 2006.

³ Due to the addition of 2005 and 2006 CFL energy savings and 2006 appliance savings from the ENERGY STAR Products program the electricity savings and demand reductions for 2nd quarter 2007 show a significant increase from year-end 2006. Year-end savings for 2005 and 2006 were not back-adjusted to reflect these additional savings. The gains in savings also impact bill savings, gas and oil savings and emissions reductions.

2.3 Solicitations Update

Table 2-4 lists Requests for Proposals (RFPs) and Program Opportunity Notices (PONs) released during the second quarter of 2007. Only new solicitations released during the second quarter of 2007 are included here. Additional solicitations released prior to the second quarter of 2007 could still be open.

Solicitation Number	Solicitation Name	Solicitation Release Date	Solicitation Closing Date				
	Commercial and Industrial Program Area						
PON 1155	New Construction Program	4/16/07	3/31/08				
PON 1047	Technical Assistance	6/23/07	11/30/07				
RFP 1077	Energy Smart Focus – Web Services	6/11/07	7/2/07				
	Residential Program Area						
RFP 1019	New York ENERGY STAR Homes Program: Partner and Ally Support Services	5/7/07	6/19/07				
	R&D Program Area						
PON 1096	High Performance Residential Development Challenge	6/18/07	8/9/07				
PON 1124	Clean Energy Business Growth & Development	6/18/07	9/5/07				

Table 2-4. Solicitations Issued in 2nd Quarter 2007

Solicitation Number	Solicitation Name	Solicitation Release Date	Solicitation Closing Date
PON 1124A	Clean Energy Business Growth & Development	6/18/07	2/4/08
PON 1124	Clean Energy Business Growth & Development	6/18/07	8/4/08

Commercial/Industrial Programs

3.1 Commercial/Industrial Evaluation Activities

3.1.1 Completed Evaluation Activities

Table 3-1 shows Commercial/Industrial program evaluation activities that have been completed this quarter. Six logic models have been completed, including a logic model for the entire Commercial/Industrial sector. These program logic diagrams are located in Appendix A.

Program Name	Former Program Name (if applicable)	Theory & Logic	Measurement and Verification (M&V)	Market Characterization, Assessment and Causality (MCAC)	Process Evalua- tion
C/I Sector		Full			
Peak Load Management	Peak Load Reduction Program (PLRP) Enabling Technology	Full			
Enhanced Commercial and Industrial Performance Program	C/I Performance Program (CIPP) Smart Equipment Choices (SEC)	Full			
New York Energy \$mart^{\$M} Business Partners Program	Premium-Efficiency Motors Commercial HVAC Small Commercial Lighting (SCLP)	Full			
New York Energy \$mart SM Loan Fund and Financing	New York Energy \$martSM Loan Fund	Full			

Table 3-1. 2nd Quarter 2007 C/I Program Completed Evaluation Activities

Program Name	Former Program Name (if applicable)	Theory & Logic	Measurement and Verification (M&V)	Market Characterization, Assessment and Causality (MCAC)	Process Evalua- tion
New York Energy \$martSM Focus	Energy Smart Schools Program	Full			
High Performance New Buildings	New Construction Program				
Flex Tech Technical Assistance	Technical Assistance, FlexTech & Energy Audit Programs				

3.1.2 Evaluation Activities in Progress and Planned

Given the current emphasis on planning and efforts to ramp up new evaluation contracts and activities, only one major evaluation study is expected to be completed in the C/I sector in the third quarter. The Summit Blue MCAC team is currently working to wrap up a C/I market effects study which includes a reassessment of non-participant spillover. Results will be included in the next quarterly report.

3.2 Summary of C/I Evaluation Results

3.2.1 Progress Toward Non-Energy Goals

Within the C/I program area, twelve different one-year goals have been set for metrics other than energy and peak demand savings. These metrics capture progress in key areas such as the number of customers served, allies participating, and dollars leveraged. Four of the twelve goals have been met or exceeded. Specifically:

- The ECIPP has leveraged \$115 million dollars (144% of its goal)
- The Loan Fund has closed 107 commercial/industrial loans (107%), signed up 26 lenders (104%), and leveraged more than \$33 million (275%)

Progress is being made on the remaining one-year goals, with a few very close to being met. Progress on all the remaining goals will be tracked until expected levels are achieved.

3.2.2 Energy, Peak Demand, and Fuel Savings

Table 3-2 shows the electricity savings achieved by the Commercial/Industrial programs as well as progress toward the one-year goals that have been established for select programs. Table 3-3 shows peak demand savings and progress toward several program-specific goals in that area. Table 3-4 shows other fuel savings. The majority of the programs have met their one-year goals for electricity savings and peak demand reductions.

	Energy Savings (GWh)					
Program	Savings Ach	nieved through	One-Year Goal	Progress		
	June 30, 2006a	June 30, 2007	through June 30, 2007	Toward One- Year Goal (% achieved)		
Peak Load Management: Permanent	106.4a	127.8b	19.0	113%b		
ConEdison	66.9a	87.1b	9.0	225%b		
Enhanced Commercial and Industrial Performance Program	730.6	901.8	24.0	713%		
ConEdison	224.1	244.7	N/A	N/A		
Business Partners Program	54.1	64.3c	10.0	101%		
ConEdison	4.3	8.3c	N/A	N/A		
Loan Fund and Financing	49.6	68.0	N/A	N/A		
ConEdison	0.5	17.6	N/A	N/A		
Focus Program	0d	0d	5.0d	0%d		
ConEdison	0d	Od	N/A	N/A		
High Performance New Buildings	223.2	312.5	35	255%		
ConEdison	48.2	67.5	N/A	N/A		
Flex Tech Technical Assistance	644.1	752.4	70	155%		
ConEdison	115.2	203.1	N/A	N/A		
Overlap Removed	126.7	157.0	N/A	N/A		
ConEdison C/I Total	459.2	628.4	N/A	N/A		
Statewide C/I Total	1,681.3	2,069.8	N/A	N/A		

Table 3-2. C/I Program Cumulative Annual Electricity Savings through June 30, 2007 and Progress toward One-Year Goal

Note: N/A means not applicable (i.e., a goal has not been set for this program).

a Savings reported previously included projects funded through the ConEdison Power Savings Partners Program. These savings have been removed to more accurately reflect accomplishments.

b Savings for the Peak Load Management Program have been held constant from last quarter as staff work to resolve a problem with the program database. Savings will be updated, and progress toward the one-year goals will be fully assessed next quarter.

c Savings for the Commercial HVAC portion of the program have been reduced as of 4th Quarter 2006. This reduction was made due to the known short-term nature of savings from advanced diagnostics and commissioning, which were part of the program.

d Energy Smart Focus is primarily a sector-based energy information and services program. Services provided vary by sector, but ultimately many customers will elect to participate in other **New York Energy \$martSM** programs. Energy and demand savings that may be attributable to the Focus Program are tracked and reported under the other **New York Energy \$martSM** programs.

	Peak Demand Reductions (MW)				
Program	Savings Ac	hieved through	One-Year Goal	Progress	
	June 30, 2006a	June 30, 2007	through June 30, 2007	Toward One- Year Goal (% achieved)	
Peak Load Management: Permanent	42.5a	51.5b	13	69%b	
ConEdison	27.4a	35.5b	8.0	101%b	
Peak Load Management: Callable	421.1a	423.9b	53	5%b	
ConEdison	188.3a	190.9b	28	9%b	
Enhanced Commercial and Industrial Performance Program	132.5	156.7	12.0	201%	
ConEdison	54.7	56.9	N/A	N/A	
Business Partners Program	11.8	15.2c	2.5	133%	
ConEdison	1.0	1.9c	N/A	N/A	
Loan Fund and Financing	14.3	42.9	N/A	N/A	
ConEdison	0.5	15.9	N/A	N/A	
Focus Program	0d	0d	1.0d	0%d	
ConEdison	0d	0d	N/A	N/A	
High Performance New Buildings	45.5	71.5	4.0	650%	
ConEdison	15.9	23.9	N/A	N/A	
Flex Tech Technical Assistance	120.9	139.1	14.0	130%	
ConEdison	30.6	37.6	N/A	N/A	
Flex Tech Technical Assistance: Callable	10.2	10.3	N/A	N/A	
Overlap Removed	24.5	35.9	N/A	N/A	
ConEdison C/I Total	318.4	362.5	N/A	N/A	
Statewide C/I Total	774.4	875.1	N/A	N/A	

Table 3-3. C/I Program Cumulative Peak Demand Savings through June 30, 2007 and Progress toward One-Year Goal

Note: N/A means not applicable (i.e., a goal has not been set for this program).

a Savings reported previously included projects funded through the ConEdison Power Savings Partners Program. These savings have been removed to more accurately reflect accomplishments.

b Savings for the Peak Load Management Program have been held constant from last quarter as staff work to resolve a problem with the program database. Savings will be updated, and progress toward the one-year goals will be fully assessed next quarter.

c Savings for the Commercial HVAC portion of the program have been reduced as of 4th Quarter 2006. This reduction was made due to the known short-term nature of savings from advanced diagnostics and commissioning, which were part of the program.

d Energy Smart Focus is primarily a sector-based energy information and services program. Services provided vary by sector, but ultimately many customers will elect to participate in other **New York Energy \$martSM** programs. Energy and demand savings that may be attributable to the Focus Program are tracked and reported under the other **New York Energy \$martSM** programs.

	Fuel Savings (MMBtu) Savings Achieved through			
Program				
	June 30, 2006	June 30, 2007		
Enhanced Commercial and Industrial Performance Program	3,252	4,881		
ConEdison	420	630		
Loan Fund and Financing	137,239	697,406		
ConEdison	4,941	52,305		
Flex Tech Technical Assistance ¹	3,164,000	2,981,736		
ConEdison	800,846	805,069		
Overlap Removed	158,200	186,150		
ConEdison C/I Total	806,207	858,004		
Statewide C/I Total	3,304,491 3,497,873			

Table 3-4. C/I Program Cumulative Annual Fuel Savings through June 30, 2007

Note: No one-year goals for fuel savings were established.

¹ The methodology to assess impacts focuses on developing samples based on electricity savings, rather than fuel, resulting in a less than optimal sample for fuel-savings projects and fluctuation over time in the calculated impacts. Sampling based on fuel savings is planned for future evaluation work.

3.3 Peak Load Management Program (PLMP)

3.3.1 Progress Toward Goals

As shown in Table 3-5, the Peak Load Management Program had a goal to assist 145 customers in its first year. The program is very close to achieving its one-year goal with 126 customers served (representing 87% of the goal). Progress will continue to be tracked until this goal is achieved. Near term goals and progress related to energy and peak demand savings are shown in Section 3.2.2.

Table 3-5. Peak Load Management Program – Near-Term Goal and Achievement

Activity	Program Goal (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Customers receiving assistance	145	126

3.3.2 Energy, Peak Demand and Fuel Savings

Table 3-6 shows the cumulative annual energy and peak demand savings from the PLMP. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification (M&V) and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

	Program Reported Savings	M&V Realiza- tion rate	Adjusted Gross Savings	Freerider- ship	Spillover	Net-to- Gross Ratio ¹	Net Savings
DEGI (MW)	90.1	0.86	77.5	24%	25%	0.95	73.6
LC/S (MW)	151.1	0.92	139.0	24%	25%	0.95	132.0
PDRE (MW)	44.4	0.95	41.7	25%	37%	1.03	42.9
Cooling Recom- missoning (MW)	8.6	1.0	8.6	0%	0%	1.0	8.6
IM (MW)	233.9	0.85	198.8	10%	22%	1.1	218.3
Total MW	528.0	N/A	465.6	N/A	N/A	N/A	475.4
PDRE (MWh)	100,376	1.0	100,376	25%	37%	1.03	103,136
Cooling Recom- missoning (MWh)	24,700	1.0	24,700	0%	0%	1.0	24,700
Total MWh	131,483	N/A	131,483	N/A	N/A	N/A	127,836

Table 3-6. PLMP Cumulative Annual Energy and Peak Demand Savings (through June2007)

¹ Net-to-Gross Ratio = (1-Freeridership) * (1+Spillover).

N/A – Not Applicable

3.4 Enhanced Commercial and Industrial Performance Program (ECIPP)

3.4.1 Progress Toward Goals

Table 3-7 shows the two non-energy goals for year one of ECIPP. The ECIPP has significantly surpassed (144%) its goal for leveraged funds, and has nearly achieved (92%) its goal for the number of projects. Progress on the latter one-year goal will continue to be monitored until it is met. Near term goals and progress related to energy and peak demand savings are shown in Section 3.2.2.

Table 3-7. Enhanced Commercial and Industrial Performance Program – Near-TermGoals and Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Leveraged Funds (\$ million)	\$80	\$115
Customer Projects	680	625

3.4.2 Energy, Peak Demand and Fuel Savings

Table 3-8 shows the cumulative annual energy and peak demand savings from the ECIPP. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

	Program Reported Savings	Realiza- tion Rate	Adjusted Gross Savings	Freerider- ship	Spillover	Net-to- Gross Ratio	Net Savings
Commercial/Industrial Performance Program							
MWh/year	781,003	1.01	788,813	31%	44%	1.04a	820,365
MW On-Peak	174.4	0.77	134.3	31%	44%	1.04a	139.7
Smart Equipment Choices							
MWh/year	125,809	0.93	117,002	51%	45%	0.7b	81,433
MW On-Peak	26.3	0.93	24.5	51%	45%	0.7b	17.1
MMBtu/year	7,013	1.0	7,013	51%	45%	0.7b	4,881
Enhanced Commercial/Industrial Performance Program (ECIPP) - Total							
MWh/year	906,811	N/A	905,815	N/A	N/A	N/A	901,799
MW On-Peak	200.7	N/A	158.8	N/A	N/A	N/A	156.7
MMBtu/year	7,013	N/A	7,013	N/A	N/A	N/A	4,881

Table 3-8. ECIPP Cumulative Annual Energy and Peak Demand Savings (Through June 2007)

a Net-to-Gross Ratio = 1-Freeridership + Spillover (a weighted average of the NTG ratios estimated in the previous MCAC analysis and the current analysis is shown here).

b Net-to-Gross Ratio = (1-Freeridership) * (1+Spillover).

N/A - Not Applicable

3.5 New York Energy \$martsM Business Partners

3.5.1 Progress Toward Goals

As shown in Table 3-9, the Business Partners Program set a goal to sign up 300 business partners in the first year. Although a total of 737 allies are currently participating in the Small Commercial Lighting Program alone, new allies signed up in the past year total 62. This includes 36 new SCLP allies and 26 partners actively engaged in the Commercial Kitchens initiative. Program staff expects the shortfall in new allies to be made up as the Business Partners Core Services and program elements (HVAC, Motors, and Lighting) ramp up over the coming months. Near term goals and progress related to energy and peak demand savings are shown in Section 3.2.2.

 Table 3-9. New York Energy \$mart^{\$M} Business Partners Program – Near-Term Goal and

 Achievement

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007	
Business Partners (signed up)	300	62	

3.5.2 Energy, Peak Demand and Fuel Savings

Table 3-10 shows the cumulative annual energy and peak demand savings from the Business Partners Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 3-10.	New York Energy \$mart SM Business Partners Cumulative Annual Energy and
	Peak Demand Savings (through June 2007)

	Program- Reported Savings	Realization Rate	Adjusted Gross Savings	Freeridership	Spillover	Net-to- Gross Ratio ¹	Net Savings
			Small Comme	rcial Lighting			
MWh/year	39,029	0.96	36,687	39%	79%	1.09	40,059
MW On- Peak	10.0	1.0	10.0	39%	79%	1.09	10.9
			Premium-Effic	eiency Motors ²			
MWh/year	9,586	1.0	9,586	67%	168%	0.88	8,776
MW On- Peak	1.8	1.0	1.8	67%	113%	0.70	1.3
			Commercia	al HVAC ³			
MWh/ year	6,767	N/A	6,767	N/A	N/A	N/A	6,767
MW On- Peak	2.0	N/A	2.0	N/A	N/A	N/A	2.0
			Hospitality	v Lighting			
MWh/ year	8,660	Not Evaluated	8,660	Not Evaluated	Not Evaluated	Not Evaluated	8,660
MW On- Peak	0.9	Not Evaluated	0.9	Not Evaluated	Not Evaluated	Not Evaluated	0.9
			Total Busine	ess Partners			
MWh/ year	64,341	N/A	61,999	N/A	N/A	N/A	64,262
MW On- Peak	14.8	N/A	14.8	N/A	N/A	N/A	15.2

¹Net-to-Gross Ratio = (1-Freeridership) * (1+Spillover).

² Savings from the prior motor incentive program have been held constant since last year. Savings achieved in 2006 from the new motor management program and the STAC 100 Motors program, in the amount of 296,202 kWh and 48 kW, have been added in the Net Savings column.

³ Savings for the Commercial HVAC portion of the program have been reduced as of 4th Quarter 2006. This approach was taken due to the known short-term nature of savings from advanced diagnostics and commissioning, which were part of the program.

N/A – not applicable

3.6 New York Energy \$martSM Loan Fund and Financing Program

3.6.1 Progress Toward Goals

Three near-term non-energy goals have been set for the Loan Fund and Financing Program. These oneyear goals and progress are shown in Table 3-11. The Program has exceeded all three goals. Most notably, the program has significantly surpassed its goal for leveraged loan amount. Although the number of commercial/industrial loans was in line with expectations, projects were much bigger than anticipated. The Loan Fund per-project cap remained unchanged, but the unsubsidized loan amounts were greater than projected.

Table 3-11.	New York Energy \$mart ^{\$M} Loan Fund and Financing Program – Near-Term
	Goals and Achievements for Commercial/Industrial Projects

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007	
Customers receiving assistance (closed commercial/industrial loans)	100	107	
Participating lenders (signed participation agreements)	25	26	
Leveraged loan amount (for closed commercial/industrial loans)	\$12,000,000	\$33,066,934	

3.6.2 Energy, Peak Demand and Fuel Savings

Table 3-12 shows the cumulative annual energy and peak demand savings from the Loan Fund and Financing Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 3-12. Loan Fund Cumulative Annual Energy and Peak Demand Savings (through
June 2007)

	Program- Reported Savings	Realiza- tion Rate	Adjusted Gross Savings	Freerider- ship	Spillover	Net-to-Gross Ratio ¹	Net Savings
MWh/year	87,462	0.81a	73,901	27%	19%	0.92	67,989
MW On-Peak	29.3	1.73a	46.7	27%	19%	0.92	42.9
MMBtu	476,761	1.59	758,050	27%	19%	0.92	697,406

¹ Net-to-Gross Ratio = 1-Freeridership+Spillover.

a The realization rates calculated only apply to the custom measure kWh and kW savings. Savings arising from pre-qualified measures have a realization rate of 1.0.

3.7 Energy Smart Focus Program

3.7.1 Progress Toward Goals

Table 3-13 shows the Energy Smart Focus Program first year goal for participants receiving assistance. The program has achieved about 34% of its goal at the end of the first year. The goal was projected based on average annual results over the five year program period. Contractors were selected to service the first five of the eight Energy Smart Focus Program sectors during the current reporting period.

Table 3-13. Energy Smart Focus Program – Near-Term Goal and Achievement

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007	
Participants Receiving Assistance	2,000	688a	

a A portion of this number is participants that were provided assistance under the Comprehensive Energy Strategies (Energy Smart Schools) Program, a precursor to the institutional sector of the Energy Smart Focus Program.

3.7.2 Energy, Peak Demand and Fuel Savings

Energy Smart Focus is primarily a sector-based energy information and services program. Services provided vary by sector, but ultimately many customers will elect to participate in other **New York Energy \$mart**SM programs. Energy and demand savings that may be attributable to the Focus Program are tracked and reported under the other **New York Energy \$mart**SM programs.

3.8 High Performance New Buildings Program

3.8.1 Progress Toward Goals

Three near-term non-energy goals have been set for the High Performance New Buildings Program. Table 3-14 shows these near-term goals and progress. The goal for square footage affected by the program has almost been met (99%). However, the number of completed projects fell somewhat short of the goal (67%) and will continue to be tracked into the second year. Due to the unpredictable construction season, and the long time frame for completing new buildings, it is often difficult to exactly forecast program production. Logically, the number of participating A&E firms is tied to the number of projects so the program has also fallen somewhat short on this goal (83%). Near term goals and progress related to energy and peak demand savings were shown in Section 3.2.2.

Table 3-14.	High Performance New Buildings Program – Near-Term Goals and
	Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Customers receiving assistance (completed projects)	140	94
Construction market affected (square feet)	14,000,000	13,895,242
Participating A&E firms (completed projects)	180	150

3.8.2 Energy, Peak Demand and Fuel Savings

Table 3-15 shows the cumulative annual energy and peak demand savings from the High Performance New Buildings Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 3-15. High Performance New Buildings Cumulative Annual Energy and PeakDemand Savings (through June 2007)

	Program- Reported Savings	Realiz- ation Rate	Adjusted Gross Savings	Freerider- ship	Spillover	Net-to- Gross Ratio ¹	Net Savings
MWh/year	241,650	1.06	256,149	40%	85%	1.22	312,502
MW On- Peak	55.3	1.06	58.6	40%	85%	1.22	71.5

¹ Net-to-Gross Ratio = 1-Freeridership+Spillover (a weighted average of the NTG ratios estimated in the previous MCAC analysis and this current analysis is shown here).

3.9 FlexTech Technical Assistance Program

3.9.1 Progress Toward Goals

Shown in Table 3-16 is the FlexTech Technical Assistance goal and progress in terms of the number of customers served. The program has achieved just over 70% of the goal at the end of the first year. Starting in March 2007, NYSERDA changed the basis by which it reports "approved proposals" for the FlexTech Program. Approved proposals no longer include contracts that have not been executed by all parties.

Table 3-16. FlexTech Technical Assistance Program – Near-Term Goal and Achievement

Activity	Program Goal (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Customers receiving assistance (approved proposals)	540	380

3.9.2 Energy, Peak Demand and Fuel Savings

Table 3-17 shows the cumulative annual energy and peak demand savings from the FlexTech Technical Assistance Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 3-17. FlexTech Technical Assistance Program Cumulative Annual Energy and
Peak Demand Savings (through June 2007)

	Program- Reported Savings	Realization Rate	Adjusted Gross Savings	Freerider- ship	Spillover	Net-to- Gross Ratio ¹	Net Savings
MWh/ year	660,000	1.0	660,000	25%	48%	1.14	752,400
MW On- Peak	122.0	1.0	122.0	25%	48%	1.14	139.1
MW Enabled	9.0	1.0	9.0	25%	48%	1.14	10.3
MMBtu	2,615,558	1.0	2,615,558	25%	48%	1.14	2,981,736

¹ Net-to-Gross Ratio = 1-Freeridership+Spillover (a weighted average of the NTG ratios estimated in the previous MCAC analysis and this current analysis is shown here).

4

Residential and Low-Income Programs

4.1 Residential and Low-Income Evaluation Activities

4.1.1 Completed Evaluation Activities

Table 4-1 shows evaluation activities that have been completed on the Residential and Low-Income programs this quarter. Completed studies include an analysis of New York data from a national survey on ENERGY STAR[®], updated measurement and verification on the Single Family Home Performance Program, and a process evaluation on EmPower. These results are included in Section 4.

Program Name	Predecessor Program (if applicable)	Theory & Logic	Measurement and Verification (M&V)	Market Characterization, Assessment and Causality (MCAC)	Process Evalua- tion
Residential Sector				NY Oversample to 2006 National ENERGY STAR Survey	
Single Family Home Performance Program	Home Performance with ENERGY STAR [®] ENERGY STAR Homes		Update		
Multifamily Building Performance Program	Residential Comprehensive Energy Management (CEM) Residential Technical Assistance Program (ResTech) Assisted Multifamily Program (AMP)				
Market Support Program	Keep Cool, Stay Cool! ENERGY STAR Products and Marketing Program				

 Table 4-1. 2nd Quarter 2007 Residential and Low-Income Program Completed Evaluation

 Activities

Program Name	Predecessor Program (if applicable)	Theory & Logic	Measurement and Verification (M&V)	Market Characterization, Assessment and Causality (MCAC)	Process Evalua- tion
Communities and Education Program	New York Energy \$mart SM Communities Energy Smart Students				
EmPower New York					Full Review
Buying Strategies and Energy Awareness Program	Low-Income Buying Strategies Program Low-income Energy Program Awareness Low-Income Forum on Energy				

4.1.2 Evaluation Activities in Progress and Planned

Given the current emphasis on planning and efforts to ramp up new evaluation contracts and activities, only one major evaluation study, an impact evaluation on the effect of EmPower New York on customers' ability to pay and continue service, is expected to begin in the third quarter. This evaluation is being conducted by the new Impact Evaluation contractor team. Results will be summarized in an upcoming evaluation report when this study is completed.

4.2 Summary of Residential and Low-Income Evaluation Results

4.2.1 Progress Toward Non-Energy Goals

Twenty-six near-term goals have been set for important non-energy metrics in the Residential and Low-Income area, including the number of customers participating, outreach efforts and people affected, and dollars leveraged. Nine of these goals have been achieved or exceeded. Specifically:

- The ENERGY STAR Labeled Homes Program has built more than 2,200 homes in the past year (102% of the goal).
- The Market Support Program has signed up nine new manufacturer partners (225%), 165 new independent retailer partners (825%), and three new big box/mass merchandiser partners (300%).
- The Communities and Education Program has reached more than 45,600 students (152%), has held more than 300 community events statewide (150%), and has recruited 28 building analysts, designers, energy consultants, and equipment installers (140%).
- The EmPower program has served more than 6,590 households (105%).
- The Buying Strategies and Energy Awareness Program has reached more than 4,160 low-income residents through seminars and workshops (139%).

Progress will continue to be monitored in areas where the one-year goals have not yet been met.

4.2.2 Energy, Peak Demand, and Fuel Savings

Table 4-2 shows Residential and Low-Income program electric savings through June 30, 2007 and progress toward the first year goals. Two programs have exceeded their goals. Table 4-3 and Table 4-4 show peak demand reductions and fuel savings, respectively. Table 4-4 also includes progress toward first year fuel savings goals. Two programs have surpassed their first year goal for fuel savings.

The shortfall for the first-year electric savings on Single Family Home Performance: Existing Homes (42% of goal) corresponds to a shortfall in the number of homes served (market-rate and low-income). Section 4.3.1 explains the production results in the first year and expectations moving forward.

First year goals for the Multifamily Building Performance Program have not been met because program design and contracting has been the primary focus during the past year. Also, given the long timeframe necessary to complete multifamily projects, savings are expected to ramp up over time. However, projects originally begun under the Assisted Multifamily Program continue to be completed and accrue savings.

Programs that have not yet met their one year goals for electricity or fuel savings will continue to be monitored until these goals are achieved.

	Energy Savings (GWh)				
Program	Savings Ach	ieved through	One-Year Progress		
8	June 30, 2006	June 30, 2007	Goal through June 30, 2007	Toward One- Year Goal (% achieved)	
Single Family Home Performance Program: Existing Homes ¹	13.5	15.7	5.3	42%	
ConEdison	0.2	0.3	N/A	N/A	
Single Family Home Performance Program: New Homes	7.3	11.8	1.8	252%	
ConEdison	0.7	0.8	N/A	N/A	
Multifamily Building Performance Program: Existing Buildings ²	31.0	43.3	45.1	27%	
ConEdison	19.0	27.7	N/A	N/A	
Multifamily Building Performance Program: New Buildings	0	0	4.8	0%	
ConEdison	0	0	N/A	N/A	
Market Support Program ConEdison	539.1a 305.2	647.0 359.4	30 N/A	360% N/A	

Table 4-2. Residential and Low-Income Program Cumulative Annual Electricity Savings through June 30, 2007 and Progress toward One-Year Goals

	Energy Savings (GWh)				
Program	Savings Ach	ieved through	One-Year	Progress Toward One- Year Goal (% achieved)	
Togram	June 30, 2006	June 30, 2007	Goal through June 30, 2007		
EmPower New York	20.1b	29.4	10.2	91%	
ConEdison	1.6	3.0	N/A	N/A	
ConEdison Residential & Low-Income Total	326.7	391.1	N/A	N/A	
Statewide Residential & Low-Income Total	610.9	747.3	N/A	N/A	

^a This baseline savings figure does not match the 2^{nd} quarter 2006 published value. The impacts for Energy Star Products are derived annually from market data and the 2^{nd} quarter savings value was estimated retrospectively to provide a more accurate baseline for measuring progress.

^b This value does not match earlier published values as the realization rate for MMBtu was reassessed during this period to a lower level and applied retroactively in order to accurately reflect progress made during the year.

¹ Savings for the low-income Assisted Home Performance Program (6.0 GWh) are included in this row.

² Savings for the low-income Assisted Multifamily Program (25.4 GWh) are included in this row.

N/A – Not Applicable

Table 4-3.	Residential and Low-Income Program	Cumulative Peak Demand Reductions
	through June 30, 2007	

	Demand Re	Demand Reductions (MW)		
Program	Savings Achieved through			
	June 30, 2006	June 30, 2007		
Single Family Home Performance Program: Existing Homes ¹	2.0	2.3		
ConEdison	0.0	0.0		
Single Family Home Performance Program: New Homes	0.9	2.9		
ConEdison	0.2	0.2		
Multifamily Building Performance Program: Existing Buildings ²	3.9	4.3		
ConEdison	3.8	2.8		
Multifamily Building Performance Program: New Buildings	N/A	0		
ConEdison	N/A	0		
Market Support Program	104.3	121.6		
ConEdison	56.4	69.0		
EmPower New York	2.5	4.1		
ConEdison	0.0	0.5		
ConEdison Residential & Low-Income Total	60.5	72.5		
Statewide Residential & Low-Income Total	113.7	135.2		

Note: No goals were set for peak demand reduction.

¹ Savings for the low-income Assisted Home Performance Program are included in this row. They represent 0.9 MW of these savings.

 2 Savings for the low-income Assisted Multifamily Program are included in this row. They represent 2.1 MW of these savings. N/A – Not Applicable

Table 4-4.	Residential and Low-Income Program Cumulative Annual Fuel Savings
	through June 30, 2007 and Progress toward One-Year Goals

	Fuel Savings (MMBtu)				
Program	Savings Ach	nieved through	One-Year	Progress	
	June 30, 2006	June 30, 2007	Goal through June 30, 2007	Toward One- Year Goal (% achieved)	
Single Family Home Performance Program: Existing Homes ¹	454,958a	645,785	239,800	80%	
ConEdison	8,599	12,205	N/A	N/A	
Single Family Home Performance Program: New Homes	376,103b	491,677b	103,700	111%	
ConEdison	30,088	39,334	N/A	N/A	
Multifamily Building Performance Program: Existing Buildings ²	43,932	160,573	1,202,900	10%	
ConEdison	12,581	57,393	N/A	N/A	

	Fuel Savings (MMBtu)				
Program	Savings Act	nieved through	One-Year	Progress	
	June 30, 2006	June 30, 2007	Goal through June 30, 2007	Toward One- Year Goal (% achieved)	
Multifamily Building Performance Program: New Buildings	N/A	0	129,800	0%	
ConEdison	N/A	0	N/A	N/A	
Market Support Program	341,920	374,163	N/A	N/A	
ConEdison	184,945	202,385	N/A	N/A	
EmPower New York	59,341	104,549	21,700	208%	
ConEdison	0	123	N/A	N/A	
ConEdison Residential & Low-Income Total	236,212	311,440	N/A	N/A	
Statewide Residential & Low-Income Total	1,276,254	1,776,747	N/A	N/A	

¹ Energy savings for the low-income Assisted Home Performance Program are included in this row. They represent 245,398 MMBtu of these savings.

² Energy savings for the low-income Assisted Multifamily Program are included in this row. They represent 160,573 MMBtu of these savings.

a This value does not match an earlier published value due to changes made to the program tracking database in response to evaluation completed by the M&V contractor.

b This value does not match earlier published values as the realization rate for MMBtu was reassessed during this period to a lower level and applied retroactively in order to accurately reflect progress made during the year.

N/A - Not Applicable

4.2.3 NYSERDA Oversample to National ENERGY STAR Survey

In recent years, the Consortium for Energy Efficiency (CEE) has conducted an annual survey of households across the nation to examine awareness and purchase of ENERGY STAR products. In 2001, 2004 and 2006, NYSERDA elected to fund an over-sample within the **New York Energy \$martSM** service area. This provided an opportunity to collect time series data for the NYSERDA area and to draw comparisons to the national results.

Nationally, the 2001 survey was conducted both by mail and by WebTV, although in the NYSERDA area, it was administered exclusively by mail. In 2004 and 2006, the survey and all over-samples were administered exclusively by WebTV.⁸ The over-samples conducted in NYSERDA's service area in 2004 and 2006 included several questions in addition to those included in the national surveys. The sample sizes for both the national surveys and the NYSERDA over-samples are presented in Table 4-5.⁹

⁸ Where possible, comparisons between 2001, 2004, and 2006 national results rely on the WebTV data to provide the most appropriate basis for comparison.

⁹ Unless otherwise stated, all of the NYSERDA, national (total), and national excluding NYSERDA percentages are based on the weighted sample. The number of respondents (n's) for the tables are unweighted. Note that in the national report, the oversample populations were excluded; only the base samples were used for analysis. In order to match the national report, the national (total) figures include only the base NYSERDA sample.

Survey Year	Sample	Sample Size	Precision at 95% Confidence
	NYSERDA	334	5.4%
2006	National – excluding NY	2,192	2.1%
	National	2,526	2.0%
	NYSERDA	492	4.4%
2004	National – excluding NY	1,249	2.8%
	National	1,741	2.3%
2001	NYSERDA	646	3.9%
	National	1,995	2.2%

Table 4-5.	Sample Size and	Statistics for C	EE National an	nd NYSERDA	Over-samples
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Throughout this discussion both national results excluding the sample from the NYSERDA area ("national excluding NY") and national results including the sample from the NYSERDA area ("national total") are presented. The national results excluding NY are provided to allow a ready comparison between the results for NYSERDA area respondents and results for respondents from the rest of the country; the national total results are provided to offer an overview and trends for the nation as a whole. As in previous years' studies, to consider the effect of publicity on national awareness, the designated metropolitan areas (DMAs) in the national sample frame were classified into high and low publicity areas.

Recognition of the ENERGY STAR Label

In 2006, 64% of customers within the NYSERDA area reported recognizing the ENERGY STAR label without being prompted by a description or visual image of the label, and 81% reported recognizing the ENERGY STAR label with prompting (*i.e.*, after being shown a visual image of the label). While the 64% unaided recognition for 2006 was a small increase over the 2004 percentage of 62%, the 81% aided recognition percentage represents a statistically significant increase over the 2004 value of 72%.

In contrast, the 2006 national (excluding NY) averages were 51% without prompting and 67% with prompting. For the national (total) survey, both the unaided and the aided percentages showed statistically significant increases from those reported in 2004. Table 4-6 shows the unaided and aided recognition results for each survey year.

Survey Year	Sample	Unaided Recognition	Aided Recognition
	NYSERDA	64% *	81% * [†]
2006	National – excluding NY	51% [†]	67% [†]
	National (Total)	52% [†]	68% †
	NYSERDA	62% *	72% * **
2004	National – excluding NY	40%	60%
	National (Total)	41%	61% **
2001	NYSERDA	NA	57%
	National (Total)	NA	40%

Table 4-6. ENERGY STAR Label Recognition

 † 2006 results are statistically different from 2004 results at the p<.1 level.

* NYSERDA and national (excluding New York) results for the same year are statistically different at the p<.1 level

** 2004 results are statistically significantly different from 2001 results at the p<.1 level.

N/A - Not Applicable

After examining the national survey results as a whole (both with and without the inclusion of New York), the national survey sample was stratified by respondents in high- and low-publicity areas and the results were re-examined. As illustrated in Figure 4-1, aided recognition in the NYSERDA area in 2006 was higher than aided recognition in both the high- (excluding NY) and the low-publicity areas nationally. Unaided recognition in the NYSERDA area was comparable to unaided recognition in the national high-publicity areas (excluding NY), and it was higher than in the low-publicity areas.

Figure 4-1. ENERGY STAR Label Recognition – Comparison by Publicity Areas for 2006


Understanding of the ENERGY STAR Label

Open-ended responses were used to measure understanding of the ENERGY STAR label. By far, the message that respondents most commonly associated with the label in 2006 was "energy efficiency or energy savings," which is considered "high" understanding of the label. In the NYSERDA over-sample, 54% of households associated this message with the ENERGY STAR label, which was very similar to the result in 2004 when 56% of the households associated "energy efficiency or energy savings" with the label. In the 2006 national (total) survey, 57% of households associated this message with the ENERGY STAR label, which was significantly higher than the 2004 national result when only 51% gave this response.

Product Associations

In the 2006 national (excluding NY) survey, the appliances that consumers most associated with the ENERGY STAR label were refrigerators, heating and cooling products, washing machines, and dishwashers. In the NYSERDA area, the appliances most associated with the ENERGY STAR label were refrigerators, heating and cooling products, room air conditioners, and washing machines. Respondents in the NYSERDA area were more likely (69% in the NYSERDA area versus 41% in the rest of the nation) to associate room air conditioners with the label, perhaps as a result of the Keep Cool and Stay Cool programs. Consumers in the NYSERDA area were also more likely to associate the ENERGY STAR label with new homes, heating and cooling products, doors, and insulation. This is possibly a result of the ENERGY STAR Homes Program, the Home Performance with ENERGY STAR Program, and the overarching Market Support (including **New York Energy \$mart**SM Products) Program.

Purchase of ENERGY STAR Products

Nationally (excluding NY), 33% of the respondents who reported purchasing an ENERGY STAR labeled product said that they were "very much" influenced by the presence of the ENERGY STAR label; in NYSERDA's area, 37% gave the same response. A total of 79% of the national (excluding NY) respondents reported that they were influenced "very much, somewhat, or slightly" by the ENERGY STAR label, while 88% of NYSERDA respondents reported being influenced at the same level. The difference between the percentage of respondents nationally (excluding NY) and the percentage in NYSERDA's area who said that they were influenced to some extent is statistically significant at the 90% level.

On the national (total, as well as excluding NY) level, the difference between the percentage of respondents who reported being influenced by the ENERGY STAR label in 2006 and those who reported being influenced in 2004 increased (and was statistically significant) in all three affirmative response categories. For NYSERDA, the percentages of respondents who were influenced by the ENERGY STAR label also increased in all three affirmative response categories from 2004 to 2006, although the change was statistically significant only for the "very much, somewhat, or slightly" category. Table 4-7 presents these results.

Table 4-7. For any ENERGY STAR-labeled product(s) you purchased, how much did the presence or absence of the ENERGY STAR label influence your purchasing decision?

Survey Year	Sample (n)	Very Much	Very Much or Somewhat	Very Much, Somewhat, or Slightly	Not at all
	NYSERDA (n=81)	37%	72% *	88% * †	12% * [†]
2006	National – excluding NY (n=498)	33% †	63% †	79% [†]	21% †
	National Total (n=579)	34% †	64% [†]	79% [†]	21% [†]
	NYSERDA (n=104)	29%	65% *	80% *	20% *
2004	National – excluding NY (n=233)	26%	53%	73%	27%
	National Total (n=337)	26%	54%	73%	27%
2001	NYSERDA (n=138)	33%	67%	78%	22%
2001	National Total (n=420)	27%	54%	72%	28%

(base = aware purchasers that recognize the label)

 † 2006 result are statistically different from 2004 results at the p<.1 level.

* NYSERDA and national (excluding New York) results for the same year are statistically different at the p<.1 level.

Note that 2004 results are not significantly different from 2001 results.

Loyalty to ENERGY STAR

Fully half of NYSERDA respondents (50%) and close to half of national respondents (excluding NY) (45%) reported that they would be "very likely" to recommend ENERGY STAR products to a friend. These values both represent statistically significant differences from the 2004 results at the 90% level. In 2006, 78% of both NYSERDA and national (total, as well as excluding NY) respondents reported that they were at least "somewhat likely" to recommend ENERGY STAR products to a friend.

Information Sources Seen

National and NYSERDA respondents were asked where they recalled seeing or hearing about the ENERGY STAR label. Most households in both response groups saw the label on appliances or electronic equipment (65% nationally excluding NY, 69% for NYSERDA) as well as on displays in stores (56% nationally excluding NY, and 55% for NYSERDA). The third most common place was TV commercials, with 34% of national respondents (excluding NY) and 42% of NYSERDA respondents mentioning them.

There was some statistically significant movement in many of the categories from the 2004 survey and over-sample. In the national (total) sample, all of the statistically significant movement was upward: for example, more respondents reported seeing or hearing about the ENERGY STAR label from store displays (56%, up from 50%), TV commercials (35%, up from 32%), newspaper or magazine advertisements (24%, up from 17%), yellow EnergyGuide labels (22%, up from 20%) and newspaper or magazine articles (13%, up from 8%).

For the NYSERDA over-sample, statistically significant increases were reported for utility mailing or bill inserts (26%, up from 21%) and newspaper or magazine articles (15%, up from 11%), but a decrease was reported for TV commercials (42%, down from 52%). This decrease is likely attributable to the fact that,

due to funding limitations, NYSERDA was unable to run an upstate summer media campaign in 2005-2006 as it had done in previous years.

4.3 Single Family Home Performance Program

4.3.1 Progress Toward Goals

Several near-term production goals have been set for the Single Family Home Performance Program. Table 4-8 shows that the program has exceeded one of its goals, and has yet to meet the other three. Progress toward energy goals was included in Section 4.2.2.

Regarding the goal for new low-income ENERGY STAR labeled homes, program staff anticipates that the majority of the assisted ENERGY STAR homes will be manufactured housing with more than one tenant (*e.g.*, duplex, 4-family homes, etc.). Staff is currently working with organizations, such as the Manufactured Housing Authority, to develop codes for these ENERGY STAR homes. Thus, progress on the goal for new low-income ENERGY STAR homes built is expected to increase soon.

The Home Performance with ENERGY STAR Program has achieved approximately 80% of its goal for the number of existing homes receiving treatment. Program staff anticipates that this first-year goal will soon be met, and that the program is on track to achieve its five-year production goal as well.

The Home Performance with ENERGY STAR Program has achieved approximately two thirds of its goal for the number of low-income homes receiving treatment. This one-year goal was set assuming straight-line production for years one through five of the current round of SBC funding. In reality, program staff anticipate a ramp up of low-income projects, and state that the program is still expected to meet its five-year goal in this area.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007					
New York ENERGY STAR Labeled Homes Initiative							
New ENERGY STAR Labeled Homes built	2,150	2,202					
New low-income ENERGY STAR Labeled Homes built	800	3					
Home Performance	Home Performance with ENERGY STAR Initiative						
Existing homes served (receiving treatment)	3,225	2,524					
Existing low-income homes served (receiving treatment)	2,100	1,402					

Table 4-8. Single Family Home Performance Program – Near-Term Goals and Achievements

4.3.2 Energy, Peak Demand and Fuel Savings

Table 4-9 shows the cumulative annual energy and peak demand savings from the Single Family Home Performance Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net

savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

	Program- Reported Savings	Realization Rate	Adjusted Gross Savings	Freeridership	Spillover	Net-to- Gross Ratio ¹	Net Savings		
	New York ENERGY STAR Labeled Homes Initiative								
MWh/year	9,198	1.01	10,118	28%	47.6%	1.17	11,838		
MW On- Peak	1.1	2.32	2.5	28%	47.6%	1.17	2.9		
MMBtu	567,887	0.74	420,236	28%	47.6%	1.17	491,677		
Home Performance with ENERGY STAR ²									
MWh/year	14,055	1.0	14,055	26%	41%	1.12	15,742		
MW On- Peak	2.0	1.04	2.0	26%	41%	1.12	2.3		
MMBtu	670,458	0.86	576,594	26%	41%	1.12	645,785		
Single Family Home Performance Program – Total									
MWh/year	23,253	N/A	24,173	N/A	N/A	N/A	27,579		
MW On- Peak	3.0	N/A	4.5	N/A	N/A	N/A	5.1		
MMBtu	1,238,345	N/A	996,830	N/A	N/A	N/A	1,137,462		

Table 4-9. Single Family Home Performance Program Cumulative Annual Energy and
Peak Demand Savings (Through June 2007)

¹ Net-to-Gross Ratio = 1-Freeridership+Spillover (a weighted average of the NTG ratios estimated in the previous MCAC analysis and this current analysis is shown here).

² Savings for the low-income Assisted Home Performance Program are included in these figures. They represent approximately 6,000 MWh, 0.9 MW, and 245,395 MMBtu of these savings.

N/A – Not Applicable

4.4 Multifamily Building Performance Program

4.4.1 Progress Toward Goals

Several near-term non-energy goals have been set for the Multifamily Building Performance Program. These one-year goals and progress are shown in Table 4-10. First year goals for the Multifamily Building Performance Program were not reached because program staff were focused on designing and contracting for the new combined program during this time. Also, given the long timeframe necessary to complete multifamily projects, savings are expected to ramp up over time. However, projects originally begun under the Assisted Multifamily Program continue to be completed and accrue savings. Progress toward energy goals was shown in Section 4.2.2.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Number of existing multifamily units receiving energy efficiency services (completed projects)	7,800	0
Number of new multifamily units receiving energy efficiency services	1,500	0
Tenant energy savings per year (at \$250/unit)	\$2,325,000	\$0
Number of existing low-income multifamily units receiving energy efficiency services (completed projects)	29,640	9,670
Number of new low-income multifamily units receiving energy efficiency services	2,540	0
Low-income tenant energy savings per year (at \$195/unit)	\$6,275,100	\$1,885,650

Table 4-10. Multifamily Building Performance Program – Near-Term Goals and Achievements

4.4.2 Energy, Peak Demand and Fuel Savings

Table 4-11 shows the cumulative annual energy and peak demand savings from the Multifamily Building Performance Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 4-11. Multifamily Building Performance Program Cumulative Annual Energy and
Peak Demand Savings (Through June 2007)

	Program- Reported Savings	Realization Rate	Adjusted Gross Savings	Free- ridership	Spillover	Net-to- Gross Ratio ¹	Net Savings		
	Assisted Multifamily Program (AMP)								
MWh/year	31,133	0.97	30,199	27%	15%	0.84	25,352		
MW On- Peak	2.0	1.26	2.5	27%	15%	0.84	2.1		
MMBtu	191,272	1.0	191,272	27%	15%	0.84	160,573		
	Comprehensive Energy Management (CEM) Program								
MWh/year	5,712	0.97	5,541	2%	18%	1.16	6,408		
MW On- Peak	0.3	1.77	0.5	2%	18%	1.16	0.6		
Low-income Direct Installation									
MWh/year	11,494	1.0	11,494	0%	0%	1.0	11,494		
MW On- Peak	1.6	1.0	1.6	0%	0%	1.0	1.6		

	Program- Reported Savings	Realization Rate	Adjusted Gross Savings	Free- ridership	Spillover	Net-to- Gross Ratio ¹	Net Savings
Multifamily Building Performance Program – Total							
MWh/year	47,233	N/A	47,233	N/A	N/A	N/A	43,253
MW On- Peak	4.6	N/A	4.6	N/A	N/A	N/A	4.3
MMBtu	191,272	N/A	191,272	N/A	N/A	N/A	160,573

1 Net-to-Gross Ratio = (1-Freeridership) * (1+Spillover).

N/A - Not Applicable

4.5 Market Support Program

4.5.1 Progress Toward Goals

Four near-term non-energy goals have been set for the Market Support Program. Table 4-12 shows these goals and progress to date. The program has exceeded its goals for manufacturer and retailer partners. However, the actual ENERGY STAR market share increase for partners is falling somewhat short of expectations. This is largely due to the influx of new partners (who currently sell less ENERGY STAR products) into the program. For instance, the program expected to sign up 20 independent retailers in the past year, but has signed up 165 new partners in this category. The program will work with these new partners to increase ENERGY STAR sales in the future. Progress toward the Program's energy-related goals was shown in Section 4.2.2.

Table 4-12. Market Support Program – Near-Term Goals and Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
New manufacturing partners signed up	4	9
New retail partners (independent) signed up	20	165
New retail partners (big box, mass merchandisers) signed up	1+	3+
ENERGY STAR market share increase on targeted products (on average, across products)	5%	3%

4.5.2 Energy, Peak Demand and Fuel Savings

Table 4-13 shows the cumulative annual energy and peak demand savings from the Market Support Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 4-13. Market Support Program Cumulative Annual Energy and Peak Demand Savings (Through June 2007)

	Program- Reported Savings	Realiza- tion Rate	Adjusted Gross Savings	Free- ridership	Spillover	Net-to- Gross Ratio ¹	Net Savings	
ENERGY STAR Products and Marketing (2006)								
MWh/year		604,1						
MW On-Peak		Not applicable ²						
MMBtu								
Keep Cool								
MWh/year	5,159	1.0	5,159	18%	15%	0.94	4,865	
MW On-Peak	8.8	1.0	8.8	18%	15%	0.94	8.3	
	Bulk Purchase							
MWh/year	19,451	2.03	39,486	10%	5%	0.95	37,314	
MW On-Peak	3.9	1.62	6.3	10%	5%	0.95	6.0	
MMBtu	24,307	0.71	17,258	10%	5%	0.95	16,309	
Market Support Program – Total								
MWh/year	N/A	N/A	N/A	N/A	N/A	N/A	647,046	
MW On-Peak	N/A	N/A	N/A	N/A	N/A	N/A	121.6	
MMBtu	N/A	N/A	N/A	N/A	N/A	N/A	374,163	

¹Net-to-Gross Ratio = (1-Freeridership) * (1+Spillover).

 2 The net savings attributable to the ENERGY STAR Products and Marketing Program are determined based on market research by the MCAC team. Thus, there are no program reported savings, realization rate, or net-to-gross adjustments. N/A – Not Applicable

4.6 Communities and Education Program

4.6.1 Progress Toward Goals

As shown in Table 4-14, six near-term non-energy goals have been set for the Communities and Education Program. Three goals were exceeded. Progress on the remaining three goals fell somewhat short of expectations and will continue to be monitored. The goal for the number of teachers trained was not met due to a change in how the teacher trainings are administered. Goals for recruitment and the number of recruitment seminars held have not been met due to the establishment of new partnerships and the addition of new Communities coordinators to the program. In addition, a decision to restructure the Communities Program has also impacted the ability of the program to meet its goals. Staff will be working with its mid-stream partner training contractor to increase recruitment and coordinate recruitment seminars.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Teachers trained	1,000	722
Students reached	30,000	45,608
Community events held statewide	200	301
Recruiting seminars held statewide	100	10
Home performance contractors, technicians, builders and raters recruited for the Single Family Home Performance Program	160	29
Building analysts, designers, energy consultants, equipment installers, etc. recruited for Multifamily Building Performance Program	20	28

Table 4-14. Communities and Education Program – Near-Term Goals and Achievements

4.7 EmPower New York[™]

4.7.1 Progress Toward Goals

One near-term non-energy goal has been set for the EmPower Program. Table 4-15 shows that the program has surpassed its goal for the number of households served. Progress toward the Program's energy-related goals was provided in Section 4.2.2.

Table 4-15. EmPower New York [™] Pre	ogram – Near-Term Goal and Achievement
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Activity	Program Goal (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007	
Households served (completed)	6,300	6,591	

4.7.2 Energy, Peak Demand and Fuel Savings

Table 4-16 shows the cumulative annual energy and peak demand savings from the EmPower Program. A realization rate is applied to adjust the program reported savings based on the most recent Measurement and Verification evaluation studies. These programs have not undergone any attribution evaluation so no adjustment is made for net-to-gross. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Table 4-16. EmPower New York[™] Program Cumulative Annual Energy and Peak Demand
Savings (Through June 2007)

	Program Reported Savings	Realization Rate	Adjusted Gross Savings	Net-to-Gross Ratio	Net Savings			
EmPower New York								
MWh/year	26,148	0.81	21,180	Not evaluated	21,180			
MW On-Peak	2.8	1.0	2.8	Not evaluated	2.8			
MMBtu	104,549	1.0	104,549	Not evaluated	104,549			

Weatherization Network Initiative					
MWh/year	8,196	1.0	8,196	Not evaluated	8,196
MW On-Peak	1.3	1.0	1.3	Not evaluated	1.3
Total					
MWh/year	34,344	N/A	29,376	Not evaluated	29,376
MW On-Peak	4.1	N/A	4.1	Not evaluated	4.1
MMBtu	104,549	N/A	104,549	Not evaluated	104,549

N/A – Not Applicable

4.7.3 Other Evaluation Findings

Process Evaluation Summary

A process evaluation of the EmPower Program was recently completed. This study focused on the first two years of program implementation, during which the program took referrals from two of the State's major electric utilities between July 1, 2004 and June 30, 2006. After this time (fall 2006), the program was expanded to include other utilities and referral agencies. This process evaluation sought to provide NYSERDA with lessons learned from the first two years of implementation that could be used to modify and improve the program under the third SBC funding cycle.

The process evaluation used: 13 in-depth interviews with NYSERDA staff, the implementation contractor, and key stakeholders involved in EmPower; telephone surveys with 25 contractors and agencies involved in the delivery of program services; and a telephone survey with 120 households participating in the program.

Summary of Results

The EmPower Program has far exceeded the original referral and production goals established for serving customers of National Grid and the New York State Electric and Gas Company (NYSEG). Originally solely SBC-funded, the addition of monetary support from other sources has enabled EmPower to serve more customers sooner than anticipated, as well as to provide more treatments to customers served through the program. At the same time, EmPower has been able to maintain a focus on the original program targets set for National Grid and NYSEG, and was on track to meet these targets ahead of schedule in 2007. Table 4-17 summarizes the original program objectives from June 2004 and their status based on the findings from this evaluation.

Table 4-17.	Summary	of Original	Program Ob	jectives and	their Ac	hievement

Program Objectives ¹	Status
Provide cost-effective energy efficiency measures with a focus on electric reduction for participants in the Niagara Mohawk [National Grid] and NYSEG low-income programs.	Achieved
Provide energy use management education services and energy efficiency measure retrofits to at least the same number of customers currently being served by the utility programs.	Achieved
Develop an effective referral mechanism to LEAP to target energy efficiency services to customers with high energy burdens.	Achieved

Program Objectives ¹	Status
Demonstrate that low-income energy efficiency services are effective from both a demand-side perspective, as well as an affordability strategy.	Beyond scope of this study
Provide efficiency services in a consistent and timely manner, and insure the services are completed in accordance with accepted standards of quality.	Achieved
Develop a network of energy service providers that can provide quality services in a timely manner.	Achieved
Improve coordination of complementary low-income energy programs, including the Weatherization Assistance Program and the Home Energy Assistance Program, to maximize the resources available to customers.	Achieved
Adopt a "whole house/fuel neutral approach" as appropriate and within budgetary constraints to address affordability issues when services through the Weatherization Assistance Program cannot be accomplished within the time limits adopted by LEAP.	Achieved
Improve efficiency of program administration to maximize resources available to serve more customers by substituting a single administrator for two.	Achieved

¹ As stated in the Final Plan for a Low-Income Energy Affordability Program (LEAP), submitted by NYSERDA to the NYSPSC, dated June 14, 2004.

According to a survey of participating households, the benefits participants have experienced focus on the increased energy efficiency of their homes rather than improved energy affordability. Electric-reduction participants claim high levels of savings and are very satisfied with the results of the program.

There is considerable evidence that additional measures are being installed by participants at all levels of involvement (47% overall indicated having installed additional energy efficiency measures on their own following participation), suggesting that the cumulative educational components of the program are having a strong positive effect. However, few participants reported having received reduced monthly payment amounts (14%), forgiveness of overdue energy bills (5%), or more time to pay overdue bills (2%) as a result of their participation.

Other highlights from the process evaluation include the following points, which address three specific interests that NYSERDA staff identified when the project started.

1. **Analyzing internal objectives and processes in order to improve program performance**. NYSERDA and its implementation contractor, Honeywell, sought to improve delivery efficiency by conducting a pilot effort in early 2006 that streamlined processes and reduced delivery times. The process evaluation team conducted a full review of this pilot in the fall of 2006 and provided findings in an interim report (summarized in Section 7 of this report). The success of this pilot led to a permanent change in the program for contractors meeting certain performance criteria (longevity of successful program involvement and quality of work performed). Anecdotal evidence since this change suggests that both the delivery agents and Honeywell are pleased with this modification in the program process. This outcome demonstrates that NYSERDA effectively listens to and is responsive to the community of agencies and contractors that are participating in the EmPower Program. In a more systematic way, NYSERDA holds weekly meetings by conference call with Honeywell and their regional staff to review the week's goals, outstanding issues, and plans. These meetings are a brief and effective way to ensure regular opportunities for communications and processing of program-related issues.

- 2. Assessing delivery agent effectiveness and satisfaction. The program is implemented by Community Based Organizations (CBOs) – that also serve as federal Weatherization Assistance Program (WAP) agencies – as well as utilities for referral of customers, and both private contractors and nonprofit agencies for delivery of services (educational, assessment, weatherization, and equipment replacement). Appliance vendors also participate in EmPower through provision of bulk purchases of high-efficiency appliances to the program. A survey of contractors and agencies that participated in EmPower revealed high levels of satisfaction with the implementation contractor's responsiveness (96% satisfied) and other aspects of the relationship; communication about job progress received the lowest satisfaction rating (77% satisfied). Least satisfactory of the program features are the requirements regarding BPI certification, with only 59% indicating satisfaction.
- 3. Effect of the household educational component on household energy usage and budgeting behaviors. EmPower provides three levels of client education: a package of passive materials (print and video) combined with a selection of low-cost measures delivered to all customers referred into the program; in-home education provided by contractors and agencies; and a series of workshops conducted by Cornell Cooperative Education in classroom settings around the State. Findings from surveys of participating households indicate high levels of satisfaction with the materials and with the information in the workshops.

Conclusion and Recommendations

The program, as a whole, has achieved significant levels of success in terms of numerical goals, as well as a high level of flexibility toward accommodating various key stakeholder groups while maintaining highquality services. However, this flexibility affects the program's ability to maintain consistency and increase automation, which implementation staff believes will improve the program. Therefore, this process evaluation recommends that the program aim for increased simplification and consistency. As the program expands, further adjustments that increase consistency and reduce complexity will be valuable. While this may negatively affect some parties that wish to preserve their own way of doing things, the various constituencies have had time to become familiar with the options, so alternative processes may be more acceptable now than they were at the outset of the program. EmPower will also need to employ additional techniques to streamline processes, such as invoicing, in order to continue to reduce administrative costs.

The following six recommendations may help further improve this already successful program:

- 1. *Recommendation*: Consider further improvements to the Comprehensive Residential Information System (CRIS) database, so that it is easier to account for multiple services that are delivered to one address. This would help NYSERDA to better track interactions between its programs.
- 2. *Recommendation*: Consider implementation of electronic invoicing to eliminate the primary source of remaining paperwork bottlenecks. Other information that is currently tracked in hardcopy may also be considered for scanning and sending/storing as PDF or other electronic files.
- 3. *Recommendation*: Consider working with the utilities NYSEG and National Grid to jointly sponsor and fund an impact evaluation that will examine the effect of the program on energy affordability and payment behaviors so that the full impacts and benefits of the EmPower program can be captured.

- 4. *Recommendation*: Consider investigating the program impacts being realized from a sample of households that only received the referral packet, as this evaluation suggests that energy savings may be in evidence and worth quantifying. As part of this recommendation, considering having Honeywell conduct follow-up surveys of a portion of package-only customers to quantify actions taken and measures installed before embarking on a more thorough impact study. These customers could also be asked at that point why they elected not to submit the questionnaire and apply for more services.
- 5. *Recommendation*: Consider leveraging Building Performance Institute (BPI) resources to conduct field inspections of contractors when Honeywell regional resources are stretched, since it is already one of their stated roles regarding recertification.
- 6. *Recommendation*: Revisit program rules regarding reassignment of jobs from contractors and agencies that are taking a long time to reach customers with the initial home visit to make sure they are applied to both private firms and agencies. This will ensure that backlogs are minimized and customers are served expeditiously regardless of what type of entity is providing service under the program.

4.8 Buying Strategies and Energy Awareness Program

4.8.1 Progress Toward Goals

Several near-term non-energy goals have been set for the Buying Strategies and Energy Awareness Program. These one-year goals and progress are shown in Table 4-18. The program has executed one of its five first year goals. Two of the remaining goals are very close to being achieved (90%). Progress will continue to be tracked on all goals that have yet to be achieved.

Table 4-18.	Buying Strategies and Energy Awareness Program – Near-Term Goals and
	Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Funds leveraged through Buying Strategies initiative	\$4 million	\$2.5-3.2 million
Additional low-income individuals reached via newsletters, weekly newspapers, etc. (readership)	1,000,000	240,000
Additional low-income individuals reached via seminars and workshops (attendees)	3,000	4,164
Additional contractors and other partners recruited in low-income districts	10	9
Additional students reached in schools serving low- income populations (number of individuals given educational materials)	20,000	18,000

Research and Development Programs

5.1 Research & Development (R&D) Program Evaluation Activities

5.1.1 Completed Evaluation Activities

Table 5-1 shows evaluation activities that have been completed on the R&D programs this quarter. The only evaluation activity was the completion of theory and logic work on two programs. Both logic model diagrams are included in Appendix A.

Program Name	Predecessor Program (if applicable)	Theory & Logic	Measurement and Verification (M&V)	Market Characteriza- tion, Assessment and Causality (MCAC)	Process Evaluation
Public Benefit Power Transmission and Distribution Research		Full			
Clean Energy Infrastructure	End-Use Renewable Energy Market				
Power Systems Product Development					
DG-CHP Demonstration	Distributed Power Generation/CHP CHP Demonstrations Power Systems Technology – Product Development Strategic Energy Reliability				

Table 5-1. 2nd Quarter 2007 R&D Program Completed Evaluation Activities

Program Name	Predecessor Program (if applicable)	Theory & Logic	Measurement and Verification (M&V)	Market Characteriza- tion, Assessment and Causality (MCAC)	Process Evaluation
Demand Response and Innovative Rate Research					
Electric Transportation					
Environmental Monitoring, Evaluation and Protection					
Industrial Research, Development and Demonstration					
Municipal Water and Wastewater Efficiency					
Next Generation and Emerging Technologies	Next Generation of Energy-Efficient End- Use Technologies	Full			

5.1.2 Evaluation Activities in Progress and Planned

Given the current emphasis on planning and efforts to ramp up new evaluation contracts and activities, only one major evaluation study, an impact evaluation for the Research and Development sector, will likely commence during the third quarter. This evaluation will be conducted by the new Impact Evaluation contractor team. Results will be summarized in upcoming evaluation reports when this study is completed.

5.2 Summary of R&D Evaluation Results

5.2.1 Progress Toward Non-Energy Goals

Almost 40 near-term non-energy goals have been set for the R&D portfolio. These diverse goals address important metrics such as solicitations released, projects funded, information dissemination, co-funding, and technology transfer. Overall, the R&D portfolio is performing well. About half of these goals have been met or surpassed and progress is being made on the rest. Progress highlights include the following:

- Publication of 26 articles in the areas of air quality/health effects and ecosystems;
- Development of a multi-year research plan for EMEP is underway;
- Completion of three solicitations, and initiation of six product development projects, and one demonstration project in the advanced buildings area;

- Initiation of a feasibility study of time sensitive rates and energy demand involving more than 3,100 apartment units;
- Development of a multifamily CHP offering is underway; and
- Completion of five KidWind Teacher Training Workshops, and ten other clean energy events (including training, workshops and a conference).

5.2.2 Energy, Peak Demand, Fuel Savings, and Clean Generation

Table 5-2 shows the energy savings and renewable energy production achieved by the R&D portfolio through June 30, 2007. In total, 22.7 GWh have been added in the twelve months since June 30, 2006. Table 5-3 highlights demand reduction achievements, and Table 5-4 shows impacts for other fuels such as natural gas and oil. These tables also show the change over time since June 30, 2006.

Table 5-2. R&D Program Electricity Savings and Clean Generation through June 30, 2007

	Energy Savings (GWh) Savings Achieved through		
Program			
	June 30, 2006	June 30, 2007	
DG-CHP Demonstration Program	82.7	104.4	
ConEdison	42.0	38.6a	
Renewable Energy Production	103.8	106.5	
ConEdison	0.5	0.9	
Overlap Removed	6.6	8.4	
ConEdison R&D Total	42.5	39.5	
Statewide R&D Total	179.9	202.6	

a The reduction in savings in the ConEdison utility territory is due to a refinement of methodology for estimating impacts, rather than a true decrease.

	Demand Reductions (MW)		
Program	Savings Achiev	ved through	
	June 30, 2006	June 30, 2007	
DG-CHP Demonstration Program	18.1	22.8	
ConEdison	8.5	8.5	
Demand Response and Innovative Rate Research	137.2	99.0a	
ConEdison	68.6	24.7	
Renewable Energy Production	8.1	9.2	
ConEdison	0.3	0.4	
Overlap Removed	1.3	1.6	
ConEdison R&D Total	77.4	33.6	
Statewide R&D Total	162.1	129.4	

Table 5-3. R&D Program Cumulative Peak Demand Reductions through June 30, 2007

a MWs enabled under the SBC2 program Enabling Technologies for Price Responsive Load were not required to persist beyond the period of the contract. As such, the available MWs have steadily declined since the program's close.

Table 5-4. R&D Program Cumulative Annual Fuel Savings through June 30, 2007

	Fuel Savings (MMBtu)		
Program	Savings Achieved through		
	June 30, 2006	June 30. 2007	
DG-CHP Demonstration Program ¹	-571,310	-914,688	
ConEdison	-266,937	-339,662	
ConEdison R&D Total	-266,937	-339,662	
Statewide R&D Total	-571,310	-914,688	

¹ Because the electricity saved by the DG/CHP projects replaces electricity formerly purchased from the grid, the program has reduced fuel used at central generating stations, for a net decrease statewide due to greater efficiency of the DG/CHP systems at sites where imported fuel is used. The fuel avoided at the central generating plant is determined from the electricity generated by the DG/CHP installations. Furthermore, at additional projects such as wastewater treatment plants, electricity generation is powered fully or partially by digester gas produced on site. Such fuel switching achieves natural gas conservation above and beyond what is achieved through efficiency alone.

5.3 Public Benefit Power Transmission and Distribution Research

5.3.1 Progress Toward Goals

Two near-term goals have been set for the Public Benefit Power Transmission and Distribution Program. These goals and progress are shown in Table 5-5.

Table 5-5. Public Benefit Power Transmission and Distribution Research Program – Near-Term Goals and Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Strategy and coordination meeting	Identification of priority R&D areas by spring 2006	Priority areas in Policy and Technology have been identified. Policy aspects could include business strategies, regulatory issues, public policy, and advanced concepts. Technology aspects could include projects from monitoring and diagnostics, to data processing and analysis, optimized visualization, secure communication, and improved control and system performance.
Issue annual solicitations	Select and fund five or more projects and studies aimed at the priority R&D areas by fall 2006	PON 1102 announced the availability of \$5 million, with two rounds of due dates (May 1 and November 1, 2007). For the first due date, 19 proposals were received and are under review.

5.4 Clean Energy Infrastructure

5.4.1 Progress Toward Goals

Several near-term non-energy goals have been set for the Clean Energy Infrastructure Program. These one-year goals, as well as progress, are shown in Table 5-6.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007				
	Education, Consumer Awareness and Market Development					
New accredited training institutions	1	0	Two schools are ready to submit accreditation applications.			
New certification exams	1	0	NABCEP will launch the Solar Thermal exam in Fall 2007.			
Training workshops	5	11	5 KidWind Teacher Training Workshops; 2 small wind training; 2 NABCEP ¹ prep courses; 2 NEC training classes.			
	Renewable Resource Applications					
Stakeholder workshops	2	4	1 Workforce Development Conference; 2 installer workshops; 1 to "train the trainers"			
Competitive research solicitations	3	6	2 solicitations on wind and wildlife interactions; 3 on business expansion; 1 for outreach/analytical services.			
	Clean Energy Technology Manufacturing and Business Development					
Companies expanding renewable business networks	5	4	4 signed contracts for business growth			
Companies expanding manufacturing	2	2	2 contracts were signed for manufacturing clean energy technology.			

Table 5-6. Clean Energy Infrastructure Program – Near-Term Goals and Achievements

¹ North American Board of Certified Energy Practitioners (NABCEP).

5.4.2 Clean Energy Generation

Table 5-7 shows the cumulative annual clean generation from the Clean Energy Infrastructure Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

 Table 5-7. Clean Energy Infrastructure Program Cumulative Annual Clean Generation (Through June 2007)

	Program- Reported Savings	Realization Rate	Adjusted Gross Energy Generations	Net-to-Gross Ratio	Net Energy Generation
		End Use Ren	ewables		
MWh/year	6,294	1.04	6,546	1.0	6,546
MW On-Peak	3.5	0.85	3.0	1.0	3.0
		Wholesale Re	newables		
MWh/year	99,995	1.0	99,995	1.0	99,995
MW On-Peak	6.2	1.0	6.2	1.0	6.2
Clean Energy Totals					
MWh/year	106,289	N/A	106,541	N/A	106,541
MW On-Peak	9.8	N/A	9.2	N/A	9.2

N/A – Not Applicable

5.4.3 Other Evaluation Findings

Analysis of PV System Size and Cost

Table 5-8 highlights some key information from PON 716 on photovoltaic (PV) system size and cost. In total, 600 systems have been installed and an additional 305 systems are in progress. Residential systems are generally half the size of systems in the commercial and industrial sectors. However, system cost (per KW-DC) is similar across the sectors.

Status	Sector	Number of Systems	Average Size (kW DC)	Average Cost Before Incentive (\$ per kW DC)	Minimum Cost (\$ per kW DC)	Maximum Cost (\$ per kW DC)
Completed	Residential	539	5.09	\$8,643	\$5,174	\$26,233a
Completed	Industrial	4	10.75	\$9,073	\$8,310	\$9,893
Completed	Commercial	57	10.88	\$8,543	\$6,398	\$15,686
Subtotal (completed systems)	-	600	-	\$8,753	-	-
In Process	Residential	264	5.9	\$9,015	\$6,645	\$32,305
In Process	Commercial	41	18.81	\$9,777	\$6,348	\$18,844
Total (all systems)	-	905	10.29	\$9,010	-	-

 Table 5-8.
 PV System Size and Cost Summary as of June 30, 2007

a This relatively high-cost project was a 17.14 KW building-integrated PV system installed on a multifamily building in New York City.

5.5 Power Systems Product Development

5.5.1 Progress Toward Goals

Several near-term non-energy goals have been set for the Power Systems Product Development Program. Goals and accomplishments are shown in Table 5-9. Two of the program's five goals have been exceeded. Those goals that have not yet been met will continue to be tracked until expected achievements are realized.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Product development contracts awarded	10	13
New products commercially launched	1	1 Gaia Power began marketing and commercial sale of their 11 kWh PowerTower energy storage and management system for use in residential emergency power and power quality markets.
Successful new product field tests and demonstrations	2	0 Problems with utility interconnection have delayed start-up of one field test and unexpected component failures at a second demonstration have slowed progress.
Projects successfully completing milestones	4	7
Assessments and studies of new technologies completed	3	2 technology assessments were completed with two additional studies near completion.

Table 5-9. Power Systems Product Development Program – Near-Term Goals and Achievements

During the preceding year, Program Opportunity Notice (PON) 1042 was issued, resulting in 36 proposals and 13 projects approved for NYSERDA funding. Also during the period, a second technology development solicitation, PON 1118, was issued, offering two closing dates in 2007. Twenty seven proposals were received in the first round and six were recommended for funding.

Additional project milestones that occurred during the preceding year include:

- Roosevelt Island Tidal Energy Project, the first grid connected tidal generator in the nation, completed installation of the first six turbines and began generating power.
- Completion of battery installation of the 7.2 MWh hour Sodium Sulfur energy storage demonstration project at the metropolitan Transit Authority Long Island Bus natural gas refueling station in Garden City, Long Island.
- Taylor Recycling in Montgomery currently sorts and recycles 450 tons per day (tpd) construction and demolition (C&D) waste. Taylor is planning to construct and operate a 300 dry tpd gasifier to fuel a 24 MW gas turbine generator at the site. NYSERDA co-funded a feasibility study to establish a gasifier feedstock, and to prepare preliminary permit applications was completed.

5.6 DG-CHP Demonstration

5.6.1 Progress Toward Goals

Several near-term non-energy goals have been set for the DG-CHP Program. These one-year goals and progress are shown in Table 5-10.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Initiate DG-CHP incentive program	Develop and implement a CHP incentive program in cooperation with other DG-CHP programs	SBC funds are included in ECIPP (PON 1101 issued in Q1 of 2007 and still active with available funds in Q2 of 2007) available as a CHP subscription program for commercial and industrial customers in ConEd territory. A CHP subscription offering for multifamily residential customers has been approved by NYSERDA management and is under development.
Issue annual solicitations and incentive offers	Fund up to 10 CHP demonstration projects with a cumulative capacity of 20 MW and with 10 MW downstate	PON 1043 was issued in June 2006. Thirty-four proposals were received by the due date of August 22, 2006. Seven CHP demonstration projects were selected and are in process of being contracted.
Technology transfer	Require performance monitoring of all demonstration projects and export data to the CHP website	Currently, data is posted on http://chp.nyserda.org for 26 projects.

Table 5-10. DG-CHP Demonstration Program – Near-Term Goals and Achievements

5.6.2 Energy, Peak Demand and Fuel Savings

Table 5-11 shows the cumulative annual energy and peak demand savings from the DG-CHP Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

 Table 5-11. DG-CHP Program Cumulative Annual Energy and Peak Demand Savings (Through June 2007)

	Program- Reported Savings	Realization Rate	Adjusted Gross Savings	Freerider- ship	Spillover	Net-to- Gross Ratio ¹	Net Savings
MWh/year	107,957	0.90	97,485	15%	26%	1.07	104,407
MW	21.7	0.98	21.3	15%	26%	1.07	22.8
MMBtu/year ²	-971,616	0.88	-854,050	15%	26%	1.07	-914,688

¹Net-to-Gross Ratio = (1-Freeridership) * (1+Spillover).

² Because the electricity saved by the DG/CHP projects replaces electricity formerly purchased from the grid, the program has reduced fuel used at central generating stations, for a net decrease statewide due to greater efficiency of the DG/CHP systems at sites where imported fuel is used. The fuel avoided at the central generating plant is determined from the electricity generated by the DG/CHP installations. Furthermore, at additional projects such as waste water treatment plants, electricity generation is powered fully or partially by digester gas produced on site. Such fuel switching achieves natural gas conservation above and beyond what is achieved through efficiency alone.

5.7 Demand Response and Innovative Rate Research

5.7.1 Progress Toward Goals

Two near-term non-energy goals have been set for the Demand Response and Innovative Rate Research Program. These one-year goals and progress are shown in Table 5-12.

Activity	Program Goals (July 1, 2006 through June 30, 2007	Achieved July 1, 2006 through June 30, 2007
Increase small customer participation in wholesale and local demand response programs (MW)	33 MW	1 MW enabled. In this first year, the program is still ramping up for customers to participate in the innovative, "tomorrow" technologies. Demonstration of advanced remotely activated load shed ballast was completed at the Con Edison Rye facility. This technology is applicable to lighting loads in commercial office space. Association for Energy Affordability (AEA) conducted focus groups with Packaged Terminal Air Conditioning (PTAC) manufacturers to encouraging incorporation of enabling controls for fleet management of PTAC units – a contributor to New York City peak load problems. Innoventive Power demonstrated tools to enable identification of demand response opportunities in schools and other institutional buildings
Increase the number of multifamily apartment units participating in real- time and other time-sensitive electric rate pilots	500 apartment units	Initiation of a feasibility study of time sensitive rates and energy demand involving over 3,100 apartments units. Initiated a rate analysis for Waterside Plaza and Manhattan Plaza (total combined 3,100 units for 20,000kw peak) to assess the impact of Con Edison Rider M and a flat competitive rate on costs and energy demand. Initiated a demonstration of an energy management system at Georgetown Mews (37 buildings, 930 units, 2,000 KW peak) that provides submetering and fleet-managed window air conditioning and heating. The site will also pilot test a time sensitive rate.

Table 5-12. Demand Response and Innovative Rate Research Program – Near-TermGoals and Achievements

5.7.2 Energy, Peak Demand and Fuel Savings

Table 5-13 shows the cumulative annual energy and peak demand savings from the Demand Response and Innovative Rate Research Program. A realization rate and net-to-gross ratio are applied to adjust the program reported savings based on the most recent Measurement and Verification and Attribution evaluation studies. Net savings in the rightmost column are the total savings being claimed by the program after these evaluation activities.

Enabling Technology was a research and development program that sought innovative ways of aggregating, dispatching and reporting demand response. Projects were selected in part for their ability to demonstrate and commercialize new methods of aggregating load. The program did not require that the enabled demand reduction be maintained. Enabled demand reduction is a potential quantity that may or may not translate into curtailed load in response to a New York Independent System Operator call for emergency resources. These factors contribute to the low realization rate (0.50) shown in Table 5-13.

Table 5-13. Demand Response and Innovative Rate Research Program Cumulative Annual Energy and Peak Demand Savings (Through June 2007)

	Program-Reported Savings	Realiza- tion Rate	Adjusted Gross Savings	Net-to-Gross Ratio	Net Savings
Enabled MW	208.3	0.50a	104.2	0.95	99.0

a MWs enabled under the SBC2 program Enabling Technologies for Price Responsive Load were not required to persist beyond the period of the contract. As such, the realization rate and available MWs have steadily declined since the program's close.

5.8 Electric Transportation

5.8.1 Progress Toward Goals

Several near-term non-energy goals have been set for the Electric Transportation Program. These one-year goals and progress are shown in Table 5-14.

Table 5-14. Electric Transportation Program – Near-Term Goals and Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Solicitations released	2	2
Proposals reviewed	N/A	21
Projects funded	N/A	5
Funding/Co-funding	\$1,000,000/\$1,000,000	\$800,000/\$900,000

N/A – Not Applicable

During the period Electric Transportation Program issued Program Opportunity Notice (PON) 1003 resulting in 15 proposals and 5 projects approved for NYSERDA funding. Also, during the period a second Electric Transportation Technology Development solicitation, PON 1143, was issued offering two closing dates in 2007. In the first round of PON 1143, six electric transportation proposals were received and four were recommended for funding.

Projects approved for funding during the period include:

- Development and field test of trackside energy storage systems to capture braking energy from subway cars utilizing flywheels and ultra capacitors.
- A demonstration of energy management system to replace diesel operation of refrigerated tractor trailers, while at rest, with electric power.
- Development and demonstration of a long range zero emission utility vehicle.

New projects underway include:

- Development of an energy efficient train control system for the New York City subway market.
- Development of an automatic rail switch and third rail heating system that will reduce the energy necessary for de-icing.
- Development and demonstration of electric powered trailer refrigeration for trucks.
- Development of an Anti-Diesel Idling guide book to assist municipal planning and zoning officials in developing idling reduction strategies.

5.9 Environmental Monitoring, Evaluation, and Protection (EMEP)

5.9.1 Progress Toward Goals

Several near-term goals have been set for the Environmental Monitoring, Evaluation and Protection Program. These one-year goals and progress are shown in Table 5-15. Overall, the Program is performing well with respect to these goals. All goals have been achieved with the exception of completing the EMEP research plan in year one. This goal will continue to be monitored until it is met.

Activity	Program Goals (July 1, 2006 through June 30, 2007	Achieved July 1, 2006 through June 30, 2007
Develop detailed multi-year EMEP research plan with input from policymakers, scientists, and stakeholders	Complete EMEP research plan in year 1	One planning meeting has been held with the EMEP advisors, and three other major research planning meetings were held to assist in plan development. All of the attendees at the planning meetings were state or nationally recognized experts from the policy and scientific communities. NYSERDA has a contract with the New York Academy of Sciences to assist in the development of the research plan.
Develop, contract, and manage research projects aimed at priority energy- related environmental research areas	Issue 1 solicitation for outreach and science-policy analysis in year 1 Issue 1 solicitation addressing priority research needs Contract 8 projects	 Three contractors were selected for the EMEP Outreach and Technical Assistance PON. Four solicitations have been issued which included EMEP funding (focusing on sequestration and impacts of renewable energy) and another solicitation has been approved by senior management with an anticipated August 2007 issue. Eight projects have been contracted.

Table 5-15. Environmental Monitoring, Evaluation, and Protection Program – Near-Term Goals and Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007	Achieved July 1, 2006 through June 30, 2007
		NYSERDA held a one-day conference with environmental organizations to exchange information and ideas concerning environmental issues and initiatives in New York State.
Sponsor workshops,	2	EMEP co-sponsored a workshop on the creation of a soil-monitoring network in the Northeast.
conferences, and seminars		EMEP hosted a seminar (and "webinar") for multiple agency staff on recent findings from the Intergovernmental Panel on Climate Change with IPCC member Dr. Cynthia Rosenzweig.
		EMEP sponsored the Adirondack Research Consortium conference in Tupper lake.
Provide web-based EMEP data and information	40,000 customer "visits," inquiries, and downloads from EMEP's web page	During this period, hits on EMEP web sites totaled nearly 135,000 and downloads totaled more than 17,000.
Publish NYSERDA research reports	5	9 research reports and 1 executive summary published
Publish peer-reviewed journal articles	15	17 articles were published in the area of Air Quality/Health Effects, and 9 articles were published in the area of Ecosystems.
Provide briefings to decision makers	2	Sponsored a meeting with policymakers concerning wind and wildlife. Briefed the new Department of Environmental Conservation (DEC) Climate Change Program Director on EMEP program activities, and arranged for a briefing to DEC staff on carbonaceous fine particle issues in New York and the Region.

5.10 Industrial Research, Development and Demonstration

5.10.1 Progress Toward Goals

Two near-term goals have been set for the Industrial Research, Development, and Demonstration Program. These one-year goals and progress are shown in Table 5-16. These goals have not yet been achieved, but good progress has been made.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved from July 1, 2006 through June 30, 2007
Issue annual solicitations	By fall 2006, contract for 6 to 10 demonstrations and feasibility studies of innovative and under- utilized technologies that save energy and improve productivity in the industrial sector	 PON 998 was issued with two rounds of due dates (June 8, and October 5, 2006) with total funding of \$4 million. In round 1 NYSERDA selected 6 projects to receive SBC funding. In round 2 NYSERDA selected 5 projects to receive SBC funding. PON 1130 was issued with three rounds of due dates (March 28, July 16, and November 8, 2007) with total funding exceeding \$5.7 million. The 20 proposals that were received in the first round due date were received and evaluated in Q2 by a Technical Evaluation Panel (TEP). Six projects recommended by the TEP as being technically meritorious have been approved by senior management for cumulative funding of \$1,426,093 (three of these projects will be funded with SBC funds amounting to \$964,000).
Program metrics	Document realized energy efficiency, environmental, and economic benefits	Projects are being contracted with requirements for documentation of these performance metrics.

Table 5-16. Industrial Research, Development and Demonstration Program – Near-TermGoals and Achievements

5.11 Municipal Water and Wastewater Efficiency

The municipal water and wastewater treatment sector in New York is an important sector to target for energy savings because it's a significant energy consumer. In total, approximately three to four billion kWh are consumed annually by the sector; and on average, this electricity accounts for 35% of a typical municipality's energy budget.

To encourage the adoption of energy efficiency measures and practices in this sector, NYSERDA has developed the Municipal Water and Wastewater Initiative (Initiative) as a joint effort between R&D and Energy Efficiency Services (EES). The Initiative comprises a portfolio of SBC-funded programs, which have been structured to capture associated environmental and economic benefits, as well as energy savings. These programs are: the Municipal Water and Wastewater Efficiency Program, which includes the Municipal Water and Wastewater Technology Development and Demonstration (MWWTDD) Program; the Energy Smart Focus Program; the Technical Assistance (TA)/FlexTech Program; and the Enhanced Commercial/Industrial Performance Program (ECIPP). The average municipal water/wastewater treatment project takes seven years to complete, and a project may begin under one program and be continued under other programs. Consequently, it is difficult to attribute project success to a particular program. The individual Initiative programs and status are described below.

- The Municipal Water and Wastewater Efficiency Program has met the following milestones:
 - Seven MWWTDD Program Opportunity Notices (PONs) were issued, from which twelve SBCfunded projects were developed. (An additional 32 projects were developed with other funds.) The PONs targeted projects to develop and/or demonstrate innovative or underutilized energyefficient water and wastewater technologies, and also supported feasibility studies and technology transfer projects.

- An RFP targeting the demonstration of real-time monitoring (submetering) of energy and environmental performance at wastewater treatment plants was issued. The RFP was issued, in part, to attract energy services companies (ESCOs) to the municipal wastewater market.
- An RFP targeting the benchmarking of energy use in the sector and evaluating the opportunities for energy efficiency and energy production improvements was issued.
- A technology transfer project was funded to increase the utilization of a filtration technology developed under a MWWTDD project.
- The Energy Smart Focus Program was recently developed to provide customized services and outreach strategies aimed at supporting energy efficiency in five target sectors, including the municipal water and wastewater treatment sector. An Energy Smart Focus contractor was selected and the contract is currently under negotiation.
- The TA/FlexTech Program provides customized energy efficiency improvement studies and has served municipal water and wastewater treatment plant customers since 1997 with more than 70 SBC-funded site specific analyses.
- ECIPP provides preset and performance-based incentives for the implementation of commerciallyavailable energy efficient products and processes. Under the ECIPP, five applications were approved for projects at municipal treatment facilities for an estimated \$925,000 in incentives with associated savings of 9,300 MWh annually.

5.11.1 Progress Toward Goals

Several near-term goals have been set for the Municipal Water and Wastewater Efficiency Program. These one-year goals and progress are shown in Table 5-17.

Activity	Program Goals (July 1, 2006 through June 30, 2007	Achieved July 1, 2006 through June 30, 2007
Issue annual solicitation	Select and fund 5 or more projects, provide assistance to a minimum of 5 municipal wastewater and water treatment facilities.	PON 1040 was issued and 17 proposals were received requesting approximately \$3.9 million in NYSERDA funding. Five projects were recommended for funding, two of which will be funded through the Municipal Water and Wastewater Efficiency Program. Pilot testing at the City of Oneida (contract #9324) has been completed and the draft final report submitted. The City has committed to a Facility Plan, which will be co-funded by H.P. Hood, targeting implementation of the technology at full-scale. This SBC-funded contract resulted from the previous year's MWWTDD PON.
Technology transfer	Provide critical information on technologies and strategies that will optimize energy production and use at municipal wastewater and water treatment facilities. Provide information to 100 treatment facilities in New York.	 NYSERDA sponsored an energy management training session that targeted the municipal wastewater treatment sector and was co-developed by EPRI and the New York Water Environment Association (NYWEA). Approximately 70 individuals attended including plant operators, municipal officials, regulators, consultants, and engineers. Additionally, in conjunction with NYWEA and the Focus Contractor, NYSERDA is developing an energy management webinar series and an issue of Clearwaters (published by NYWEA) that will focus solely on energy management. Energy management presentations were given at four NYSEFC-facilitated Co-Funding Committee conferences and at a NYSDEC-sponsored training for local elected officials. A presentation was also given as part of a webcast hosted by the Comptroller's Office. At least 100 individuals attended these presentations. The Final Reports from the two submetering projects were completed and are available online.
Technical Assistance	Develop six new projects while reviewing and approving six ongoing projects.	Seven new projects were funded totaling \$80,000, and six projects, representing \$120,000 were completed

Table 5-17. Municipal Water and Wastewater Efficiency Program – Near-Term Goals and Achievements

5.11.2 Energy, Peak Demand and Fuel Savings

As projects are completed (taking an average of seven years in this sector), the savings are expected to amount to more than 73,000 MWh of electricity and 11.9 MW of peak demand reduction, resulting in a savings of \$8.7M for the participating municipalities. Furthermore, existing technology transfer and outreach programs have resulted in additional energy savings and non-energy benefits. Continuation of the Initiative's existing programs, in conjunction with those in development, is expected to add even more energy savings and demand reductions than are currently anticipated within the sector.

5.12 Next Generation and Emerging Technologies

5.12.1 Progress Toward Goals

Several near-term goals have been set for the Next Generation and Emerging Technologies Program. These one-year goals, as well as progress, are shown in Table 5-18 shows these one-year goals and progress. The program has achieved or exceeded most of its one-year goals. The goals on daylighting applications have yet to be achieved and will continue to be tracked.

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Advanced Building Program	2 solicitations, 5 product development projects, 1 demonstration test bed	 3 solicitations completed 6 product development projects 1 demonstration test bed RFP 1032 Reference Design Guidebook: The project is near completion
		 and findings will be presented in August 2007. PON 1062 Advanced Building Envelopes and Energy Systems: Two projects are contracted and in progress. PON 1126 Next Generation Technologies for Residential Buildings: Eleven proposals were received with requested funding totaling \$1.6
		million. PON 1096 Demonstration of High Performance Residential Homes: The solicitation has been released with a due date of August 22, 2007, with total funding of \$2.5 million.
Daylighting Applications	5-10 design assistance projects, 1 daylighting implementation in buildings	3 contracts in process for design assistance projects
		No activity on daylighting implementation in buildings to date
		PON 1079 Daylight Technical Services, Training and Demonstrations: Three out of five contracts have been signed; the other two are undergoing negotiation.
		RFP 1068 Establishment of a Lighting Incubator Center to Support Lighting Start-up Companies in New York: Incubator incorporation and an executive director search are underway.
		PON 1122 Innovation in Lighting: New Products, Demonstrations, and Testing: 13 project proposals were received and 6 projects were recommended for \$1 million in funding.
Solar Thermal	1 solicitation,	1 solicitation completed (PON 1085 – Solar Thermal Demonstrations)
Applications	2 demonstrations	7 contracts in negotiation

Table 5-18. Next Generation and Emerging Technologies Program – Near-Term Goals and Achievements

Activity	Program Goals (July 1, 2006 through June 30, 2007)	Achieved July 1, 2006 through June 30, 2007
Emerging Technologies	1 solicitation, 5 product development projects	Rounds 1 and 2 completed for one solicitation Product development projects: 5 contracted, 5 in negotiation PON 1105 Next Generation Emerging Technologies: Under round one, 10 projects are in contract negotiation. Under round two, 20 proposals were received with requested funding totaling \$3.4 million. Of these 20, 11 projects were selected with total funding of \$2.0 million.

Appendix A: Logic Models

This section includes eight logic models completed during the second quarter of 2007 by NYSERDA's evaluation contractors. These logic models are for the following programs/areas:

- Peak Load Management Program
- Enhanced Commercial/Industrial Performance Program
- Business Partners Program
- Loan Fund and Financing
- Energy Smart Focus
- the Commercial/Industrial sector
- Public Benefit Power Transmission and Distribution Research
- Next Generation and Emerging Technologies

Peak Load Management Logic Model



Enhanced Commercial and Industrial Performance Program Logic Model



A-3

New York Energy \$mart[™] Business Partners Logic Model



Loan Fund Logic Model



Appendix A

New York Energy \$mart[™] Focus Logic Model


C/I Sector Logic Model



Public Benefit Power Transmission and Distribution Research







External Influences:

A-9

Private capital for R&D investment, energy costs, cost/performance of competing and complementary technologies, end users' willingness to adopt new technologies, funding and activities of other R&D initiatives, political/legistlative/regulatory changes