

EXECUTIVE SUMMARY

INTRODUCTION

This report presents the interim evaluation results for the **New York Energy \$martSM** public benefits program, administered by the New York State Energy Research and Development Authority (NYSERDA). The status of individual **New York Energy \$martSM** program efforts and evaluation results are reported through June 30, 2000. NYSEDA administration of the **New York Energy \$martSM** program commenced in July 1998, and the first programs were available to serve customers later that year. This interim *Evaluation Status Report* covers approximately 18 months of actual program implementation, with programs being phased-in as they are developed.

The **New York Energy \$martSM** program is designed to continue energy efficiency, low-income services, and research and development and environmental protection programs during the State's transition to electric retail competition, and is a key element in New York's restructuring of the electric utility industry. The **New York Energy \$martSM** program is being implemented in the utility service areas of Central Hudson Gas and Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric and Gas Corporation, Niagara Mohawk Power Corporation, and Orange and Rockland Utilities, Inc.¹

The New York State Public Service Commission (PSC) identified two broad public policy goals for the public benefits program: (1) to promote competitive markets for energy efficiency services; and (2) to provide direct benefits to electricity ratepayers, or be of clear economic or environmental benefit to the people of New York. Therefore, the major focus of the **New York Energy \$martSM** program is to develop and assist markets for energy efficiency products and services, and effectuate changes in consumer decision making regarding energy use, that benefit the State's economy and environment.

This interim *Evaluation Status Report* is provided to the System Benefits Charge Advisory Group (Advisory Group) to provide the basis for its own report to the PSC and New York State Department of Public Service (DPS), on the progress to date in implementing the **New York Energy \$martSM** program. A final Evaluation Report will be submitted to the PSC in September 2001, closing-out the three-year transition period funding.

¹ The Rochester Gas and Electric Company, the Long Island Power Authority, and the New York Power Authority administer their own energy efficiency programs. In addition, the Niagara Mohawk Power Corporation and the New York State Electric and Gas Corporation, administer their own low-income programs.

This Executive Summary is organized to provide high-level performance indicators on the program process and progress, and results achieved to date. Key performance indicators provide information on: (1) the implementation process, including budget and financial status, and the solicitation and contracting process, and (2) the progress made toward the program's goals.

Overall, the budgeting and financial reporting process is functioning as intended, and the rate at which funding is being committed or requested (based on program activity levels) is meeting NYSERDA's expectations. However, some programs are performing better than expected, while others, due to a variety of reasons, are progressing more slowly. NYSERDA and the PSC have agreed to reallocate funding among programs to reflect this reality and improve overall program performance.

Budgeting and Financial Status

New York's public benefits program is funded at approximately \$234 million over three-years from July 1, 1998 through June 30, 2001.² NYSERDA was provided over \$176 million or 75% of this initial amount, excluding interest earnings, to administer. The remaining \$58 million funds prior program commitments of New York's six remaining investor-owned electric utilities.³ Any interest earnings accrued on these funds is used to supplement program funding. Of the \$234 million total, nearly \$162 million (70%) was directed toward energy efficiency programs serving the commercial and industrial, and residential (non-low-income) sectors, and product and equipment markets; nearly \$41 million (18%) was directed toward R&D and environmental protection programs; and \$29 million (12%) was directed toward low-income energy affordability and efficiency programs. Three million dollars was set aside to develop and begin implementing an environmental disclosure program for labeling the environmental attributes of electricity – the New York Environmental Disclosure program.

For purposes of evaluation and reporting on progress, the **New York Energy \$martSM** program budget is tracked according to several key financial indicators. Budget information is presented in terms of funds committed, awarded & pending award, and planned. The definitions of these indicators follows.

Committed funds. Consists of expenditures made to date, contract balances encumbered, contracts and incentive applications pending award, and any open solicitations. Committed funds provide an indication of current and immediate-term anticipated activity, and includes funds set aside in excess of what has been applied for (*i.e.*, funds tied to open solicitations).

² This time period was initially established as a transition period to full-retail access and customer choice.

³ Utility programs are not evaluated as part of the **New York Energy \$martSM** program evaluation.

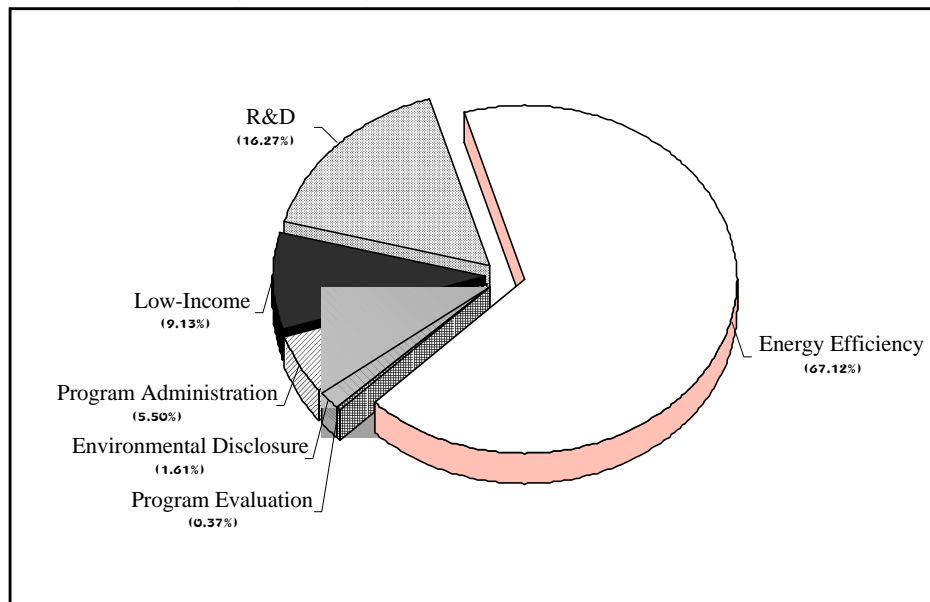
Awarded & pending award. Represents funding that has been approved by NYSERDA (awarded); or is pending approval as a result of incentive applications that have been received. Funds awarded and pending are a subset of committed funds and represent a more immediate measure of program activity, since they exclude funds set aside for solicitations for which applications have not been received.

Planned funding. Funding set aside for upcoming solicitations, including new program initiatives and planned incentive offerings for existing programs. Planned funds provide an indication of near-term future activities.

Remaining. The balance of funding that remains to be programmed.

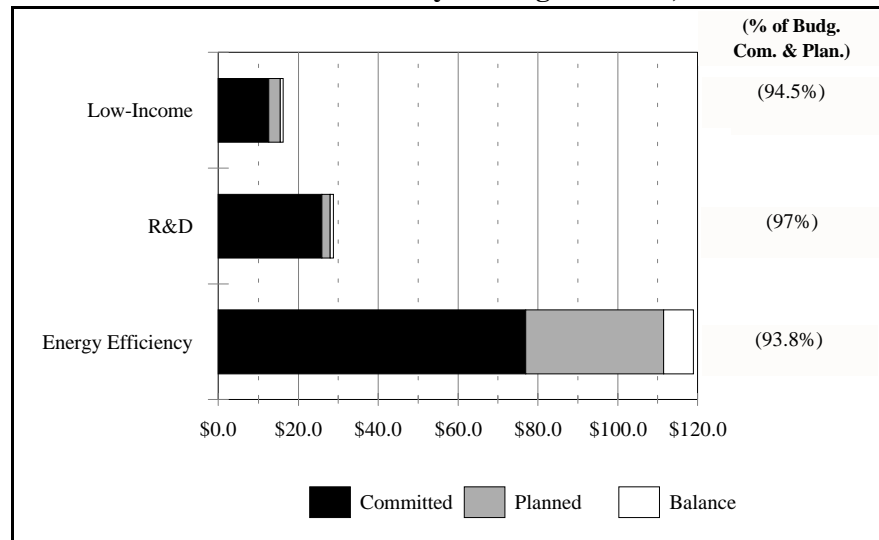
As of June 30, 2000, approximately \$121.9 million was committed, representing 69% of the available budget, including interest earnings. By program area, energy efficiency has committed \$76.9 million (65% of the budget for this program area); low-income, \$12.5 million (78%); and R&D, \$26 million (90%), of available 3 year funding. In addition, \$46 million, is planned through existing program activities, representing approximately 26% of the total budget. At the end of the second year of the **New York Energy SmartSM** program, \$168 million (95%) of the total budget is committed or planned. The remaining \$8.9 million (5%) of the total budget is available to fund additional year-three activities. A financial summary of the **New York Energy SmartSM** program listing funding allocations for major program areas is shown in Figure S-1. The budget status of these programs through June 30, 2000 is shown in Figure S-2, including interest earnings, listing funding as being committed, planned, and remaining for the **New York Energy SmartSM** program.

FIGURE S-1: Program Budget Allocation (\$177 Million)



programs, less NYSERDA's administration (5.5% of the total budget) and evaluation costs, is approximately \$163 million,⁴ as shown in the far right column of Figure S-3. Over fifty-percent of the available program budget is either awarded or pending award based on applications received through June 2000. This is money that has been paid, or will be paid shortly, to NYSERDA contractors and customers.

FIGURE S-2: Financial Summary Through June 30, 2000



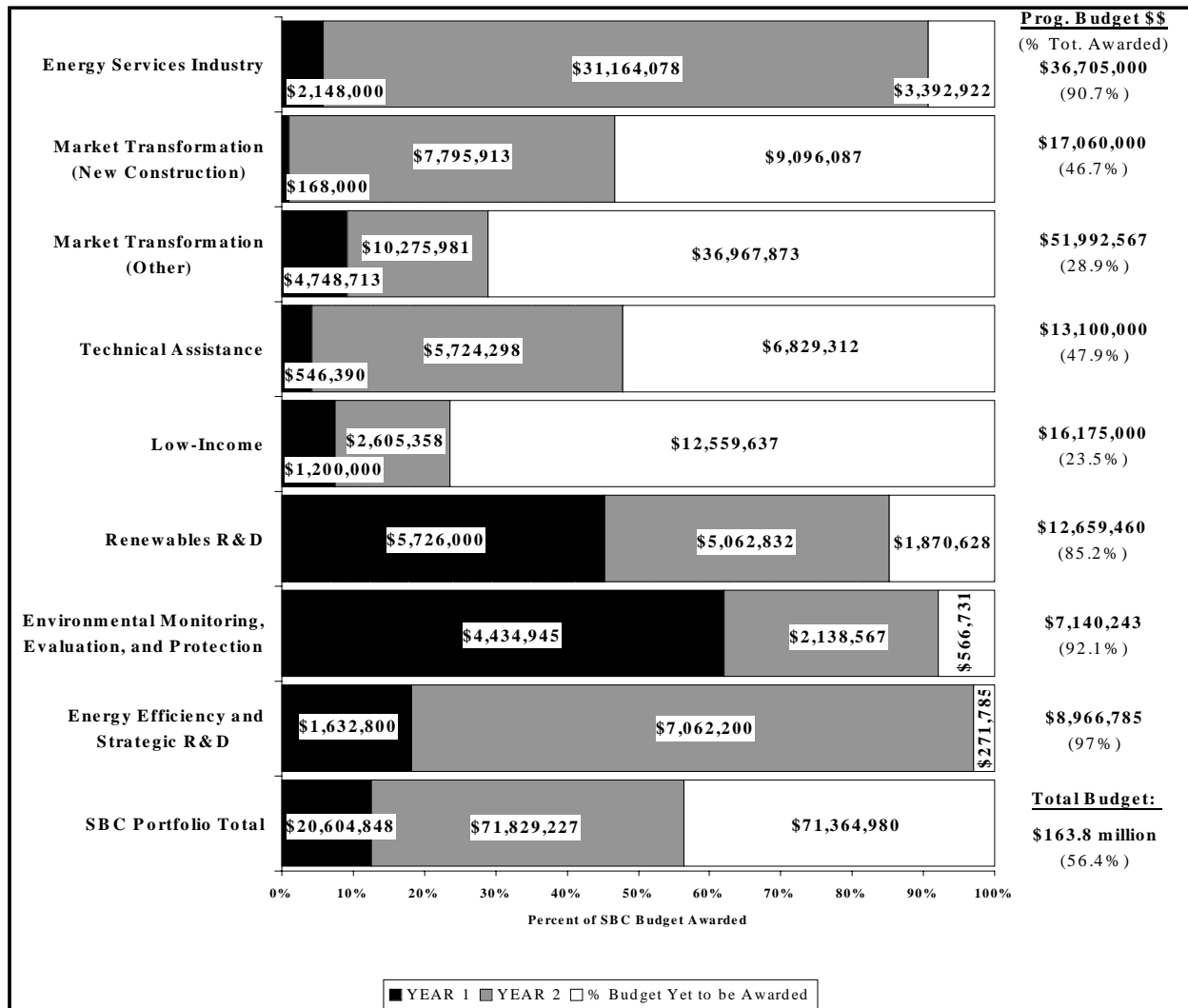
Program Implementation Status

The **New York Energy \$martSM** program evaluation focuses on (1) the implementation process, (2) progress made toward goals, including outcomes and program effects, and (3) causality, measuring the effect that the programs have on bringing about desired outcomes. While it is too early in the program cycle to address causality, sufficient time has elapsed to evaluate early program process and progress. Information on process and outcome evaluation, including early market transformation progress is provided in Section 4 of this report. Section 5 of this report presents an assessment of the results provided in Section 4, according to progress made toward the **New York Energy \$martSM** program goals. The assessment of process is based on an examination of budget activity, program development cycle-time, and interviews with implementation contractors, service providers, and program participants (*e.g.*, vendors, retailers, end-use customers). The assessment of progress is based on identified energy savings, and environmental and economic effects expected to result from **New York Energy \$martSM** program implementation, and is based on data collected by NYSERDA's evaluation team and project management staff, program implementation contractors, and evaluation assistance contractors.⁵

⁴ Excluding \$2.9 million for the Environmental Disclosure program.

⁵ Oak Ridge National Laboratory (ORNL), and GDS Associates, Inc., are assisting NYSERDA in evaluating the **New York Energy \$martSM** program.

FIGURE S-3: Funds Awarded & Pending Award by Year



Process Results

NYSERDA has issued 52 solicitations under the **New York Energy \$martSM** program, including 32 solicitations for program implementation and 20 solicitations offering financial incentives directly to customers. Approximately one-third of the solicitations were issued in the first six months of the **New York Energy \$martSM** program (31%), from July 1, 1998 through December 31, 1998. One-half, or 26 of the 52 solicitations, were issued in calendar year 1999, 19% were issued in the current year 2000, through June 30, and the remainder were issued in 1998. Three of the 52 solicitations remain open, including incentive offerings for the New Construction, Premium Efficiency Motors, and **New York Energy \$martSM** Loan Fund programs. Overall, the timing of these solicitations is consistent and tracking well with the anticipated pace of program development and implementation.

NYSERDA contractors and customers surveyed as part of the **New York Energy \$martSM** program evaluation effort are generally satisfied with the solicitation and contracting process. Highlights of these responses include:

- Overall, the selection process appears to be working fairly well. There is significant effort by NYSERDA to ensure that the best projects and contractors are chosen.
- The project initiation and start-up process is successful for most projects. This success is attributable to: (1) the ability of many contractors and NYSERDA to “gear-up” before a contract is in place, and (2) the ability of NYSERDA staff to remain flexible to changes in project scope and direction.
- Overall, it appears that the solicitation process, contracting process, and initiation and start-up process are working very well. In fact, as NYSERDA staff has gained experience with the process for these new programs, steady improvement is occurring.

Notwithstanding these observations, contractors believe that the time required for contractor selection (as discussed in Section 4 of this report) is a problem and should be addressed.⁶ An interdisciplinary team of NYSERDA’s management is currently reviewing all aspects of solicitation cycle-time in an effort to improve the efficiency of the process and reduce total cycle-time between phases. As part of the **New York Energy \$martSM** program evaluation effort, NYSERDA is also surveying contractors and customers for feedback on how the solicitation process might be improved, thereby making it easier for them to respond to program opportunities. Experience to date is showing a considerable shortening of cycle-time as programs begin subsequent solicitation rounds.

Progress Toward Program Goals

Although it is too early in the **New York Energy \$martSM** program’s implementation to directly measure market transformation results, it is clear that the **New York Energy \$martSM** program is making progress toward market transformation and achieving intended public policy goals. It is recognized, however, that for many of the individual program efforts, the goals might take years to realize fully. Although program initiatives are being implemented in phases, most of the activities underway are on track for removing or reducing market barriers to improving energy efficiency over the longer-term. In certain cases, as discussed in Section 3 of this report, markets have not developed as originally envisioned, and, as a result, programs are being modified or efforts are being redirected to better align program intervention strategies with current market situations. Nonetheless, the infrastructure for developing and implementing programs, collecting data, and monitoring performance is firmly in place.

⁶ It should be noted that the number of RFPs and PONs issued by NYSERDA has doubled with administration of the **New York Energy \$martSM** program (from about 25 to 50) and the number of contracts entered into has more than quadrupled (from about 175 to 700), in the first full year of programming.

Progress toward meeting the **New York Energy \$martSM** program goals is reported based on a quantitative and qualitative assessment of program progress. Anticipated program outcomes are reported for all programs with measurable progress, based on current activity (incentives awarded and applied for) and projected activity (planned) through the full subscription of available incentives. Projections are estimated based on program activity through June 30, 2000 for only those programs reporting progress. All recently initiated and pending programs (for which funds have been committed but for which it is too early to report progress) are excluded from these results. For example, energy and demand savings and associated impacts likely to be realized through the **New York Energy \$martSM** Commercial HVAC, Small Commercial Lighting, various Loan programs, Residential Building Performance Initiative, and Residential New Construction program, are not included. Overall, it is anticipated that the **New York Energy \$martSM** program will reduce electricity use by 409 million kWh and 95 mW annually from projects currently underway or pending, as shown in Table S-1. Savings increase to 635 million kWh and 156 mW once available incentives are fully subscribed. This is equivalent to serving the average annual electricity needs of 106,000 residential households.

Projected environmental and economic impacts are also summarized in Table S-1. Air emissions are expected to decrease by 708 tons of NO_x, 1,150 tons of SO₂, and close to 524,000 tons of CO₂ once currently available incentives are fully subscribed. This is equivalent to removing approximately 105,000 automobiles from New York's roads annually. Total consumer savings from the **New York Energy \$martSM** programs included in this evaluation, once fully subscribed, are expected to be over \$86 million annually, including electricity bill savings and identified oil and natural gas savings. The economic benefits from improving the efficiency of energy use, and reducing the amount of money leaving the State to pay for imported energy, are estimated to create close to 1,700 jobs in New York annually.⁷

Over the past 24 months, NYSERDA has developed the infrastructure necessary for a successful public benefits program that addresses a wide array of needs in energy efficiency, low-income energy affordability, R&D, and environmental monitoring, evaluation, and protection. The **New York Energy \$martSM** program has good program coverage in the marketplace (program breadth) across the State's various energy end-use sectors, end-uses, market actors, and barriers being addressed. As a result, some progress is able to be reported at this time in relation to the PSC's two broad public policy goals. They are: (1) to promote competitive markets for energy efficiency services, and (2) provide direct benefit to electricity ratepayers, or be of clear economic or environmental benefit to the people of New York. Progress made toward these goals is summarized briefly in Table S-2. A more complete identification and description of progress made toward goals is reported in Sections 4 and 5 of this report.

⁷ These jobs are expected to be in New York's service and retail trade sectors and will be supported annually, for as long as implemented energy efficiency measures are in effect.

TABLE S-1: Projected Environmental and Economic Impacts, including kWh Savings (in millions) and Demand Savings⁸

		Anticipated from Funds Awarded & Pending	Anticipated from Full Subscription			
Energy Savings and Demand Savings						
Electric (in millions kWh and Demand Savings)	Energy Efficiency Programs	408.9 kWh	634.6 kWh			
		94.9 mW	155.6 mW			
	Clean Generation (Wind and PV Programs)	77.7 kWh	79.0 kWh			
		30.1 mW	30.6 mW			
	Total	486.6 kWh	713.6 kWh			
		125.0 mW	186.2 mW			
Oil & Natural Gas	Total (TBtu/yr.)	1.9 TBtu	3.3 TBtu			
Emission Reductions (tons/yr.)						
Source:	NO_x	SO₂	CO₂	NO_x	SO₂	CO₂
Electricity Reduction	307	617	180,311	476	958	279,875
Clean Generation Programs	58	117	34,269	59	119	34,823
Oil and Natural Gas Reduction	99	40	120,006	173	72	209,281
Total	464	774	334,586	708	1,150	523,979
Economic Benefits						
Electric Bill Reductions/yr. from Energy Efficiency programs	\$45.0 million		\$69.8 million			
Other Fuel Savings - oil and natural gas (Bill Savings/yr.)	\$9.7 million		\$17.0 million			
Total Energy Savings (annual)	\$54.7 million		\$86.8 million			
Economic (jobs/yr.)	1,061		1,684			

Additionally, a number of case studies were developed to highlight some of the more difficult to quantify benefits of the **New York Energy \$martSM** program, particularly, the New Construction; Premium Efficiency Motors, Residential Appliances and Lighting; Energy Operations Management; Low-Income

⁸ Impacts are estimated based on program activity through June 30, 2000 for only those programs reporting progress. All recently initiated and upcoming programs for which no progress is reported, are excluded from these results. For example, energy and demand savings and associated impacts likely to be realized through the **New York Energy \$martSM** Commercial HVAC, Small Commercial Lighting, various Loan programs, Residential Building Performance Initiative, and Residential New Construction program, to name a few, are not included.

Direct Installation; and Environmental Monitoring, Evaluation, and Protection, and Standard Performance Contract programs. The case studies in their entirety are included in Section 7, and Appendix A of this report. NYSERDA's evaluation assistance contractors, working with NYSERDA's evaluation team and project management staff, as well as with implementation contractors, led the case study investigations and report writing.

Oak Ridge National Laboratory and NYSERDA completed case studies for six of these programs to help explain how selected programs are benefitting customers, and determine the extent to which these programs are positioned to meet the **New York Energy \$martSM** program goals. While the case studies provide quantitative estimates of benefits when available, they predominately focus on the harder to quantify, non-energy and public benefits of these programs. Criteria for selecting the six cases included: (1) whether the program was likely to have early data available to report and customers to interview, and (2) whether the program could provide broad insights into the implementation of the entire **New York Energy \$martSM** portfolio. The findings from these case studies are reported in Section 5 of this report and included in their entirety in Section 7 of this report. GDS Associates, Inc., conducted an in-depth case study for the Standard Performance Contract program, to examine New York's program in the broader context of performance contracting and similar programs in other states, focusing particularly on program attributes, strengths and weakness, and positioning in the marketplace. This case study in its entirety is included as Appendix A to this report.

These case studies highlight significant progress toward the **New York Energy \$martSM** program goals, the benefits accruing to customers, and mid-course corrections made to the programs to improve services. They also summarize customer comments and suggestions for improving programs further. Customers discussed both positive aspects of the programs, and areas that need more attention.

TABLE S-2: Summary of Progress Toward Goals

Public Policy Goals	
1. Promote competitive markets for energy efficiency services.	
<ul style="list-style-type: none"> • The New York Energy \$martSM program is providing a strategically balanced portfolio of over 30 programs that seek to overcome market barriers to increase supply and stimulate demand for energy efficiency products and services. • The number of known energy service companies (ESCOs) has increased. NYSERDA is working with over 40 ESCOs (five offer electricity as a commodity), and over 100 energy efficiency technical assistance providers. • The number of known firms providing rate analysis and aggregation services increased from 0 to 20 since program inception. • Programs are increasing consumer demand for energy efficiency services. <ul style="list-style-type: none"> – Four-fifths of customers surveyed in the Standard Performance Contract (SPC) program indicated that they would not have installed all of the identified measures without the program incentive. All customer respondents indicated that with an incentive, they were likely or very likely to install other types of energy savings measures in the future. 	<ul style="list-style-type: none"> – Two-thirds of SPC customer respondents never worked with an ESCO prior to the program and all respondents indicated that would consider purchasing electricity from an ESCO. – Premium Efficiency Motor program vendors surveyed indicated that the program increased their awareness of the benefits of energy efficiency and as a result, they have increased their stocking of energy-efficient motors. – ENERGY STAR[®] product sales and their share of the residential appliance market have increased. – Indicators of market transformation are showing some early progress in increasing awareness of the benefits of energy efficiency, and in stocking and sales of energy-efficient products and equipment. • NYSERDA has created a network of over 1,000 market allies to promote and support market adoption of energy efficiency products and services in New York. • Anticipated private sector capital investment (leveraging) exceeds \$326 million in the State for current programs.
2. Provide direct benefits to electricity ratepayers, or be of clear economic or environmental benefit to the people of New York.	
<ul style="list-style-type: none"> • The New York Energy \$martSM program has helped reduce the economic and energy burden carried by many ratepayers in New York State, most notably the lower-income population. <ul style="list-style-type: none"> – Annual savings of 409 million kWh of electricity (excluding generation from wind and photovoltaics) and 95 mW of electric demand are estimated to result from projects awarded & pending award. – When current programs are fully subscribed, the program has the potential to reduce energy bills by over \$69 million annually; reduce air pollutants emitted from the burning of fossil fuels by 708 tons of NO_x, 1,150 tons of SO₂, and 523,979 tons of CO₂; and create 1,684 jobs in New York. • The Energy Efficiency and Strategic R&D programs are finding niches in the marketplace and are positioned to develop and demonstrate new technologies to the benefit of New Yorkers. 	<ul style="list-style-type: none"> • New York consumers are afforded greater choice in selection of energy using equipment and appliances. • Several environmental protection, monitoring and evaluation technologies are being demonstrated, developed, and deployed to enhance the quality of information available to policymakers, ratepayers, and other stakeholders for energy related decision-making. • The Direct Installation program has served over 1,200 households, providing economic and safety benefits to building owners and tenants. Seventy percent of building owners surveyed indicated that they would not have installed any of the efficiency measures in individual apartments without the program. • The Renewable Energy program has 11.5 mW of wind power under construction and another 17.5 planned. The photovoltaic R&D initiatives are demonstrating technology on commercial and residential buildings. A total of 1 mW of PV installation is anticipated from funds awarded and pending.

Conclusion

At approximately two years into the **New York Energy \$martSM** program, there is much progress to report. Overall, the implementation of programs is proceeding well, and NYSERDA has succeeded in creating an integrated and responsive evaluation component to its administration of the **New York Energy \$martSM** program that supports flexibility in adapting programs and reallocating budgets to reflect program experience. The **New York Energy \$martSM** program evaluation effort is able to report on early progress being made toward the PSC's broad public policy goals for New York's public benefits program and provide policy-relevant information to decision makers regarding the program's future.