

Section 2

ENERGY EFFICIENCY MARKETS AND NEW YORK ENERGY \$martSM PROGRAM INTERVENTIONS

This section provides an overview of major markets, market sectors and actors, market barriers, and the corresponding intervention strategies of the **New York Energy \$martSM** programs. Identification of key success indicators and criteria for measuring progress toward program goals are also discussed. The section ends with a discussion of the energy efficiency and renewable energy potential in New York and how the potential of various measures will impact the direction of the **New York Energy \$martSM** Program.

MARKETS, EVENTS, SECTORS AND ACTORS

Markets

The **New York Energy \$martSM** Program offers comprehensive services and financial incentives to a wide variety of market participants from equipment manufacturers to building owners. Program intervention strategies target key decision makers and decision points along the continuum from developing awareness and knowledge to market action and adoption. An understanding of markets, market events (actions), and the various sectors and actors, is critical to the success of the **New York Energy \$martSM** Program. Markets targeted include: equipment manufacturing; equipment stocking and sales; purchases by end-use customers; equipment installation; and commissioning.

The following text describes market events, sectors, and actors that the **New York Energy \$martSM** Program attempts to influence, along with the key indicators used to measure market changes.

Market Events

Market events are different types of transactions that occur between product and service providers and their customers. The major market events or transactions addressed by the **New York Energy \$martSM** Program are generalized as follows:

- New activities (*e.g.*, new construction),
- Replacement activities that occur upon breakage or other failure, and
- Retrofit activities (*e.g.*, remodeling or other improvements).

The events that occur in typical markets are often linked together by common upstream (*i.e.*, manufacturers), midstream (*i.e.*, retailers), and downstream (*i.e.*, homeowners) market actors. For example, electrical contractors working in the residential sector are often involved in the construction of new homes, major remodeling projects on existing homes, and simple repair or replacement activities. Therefore, influencing this market actor can have an impact on all three major types of market events.

It is also common for a single product or service to be exchanged in all three types of transactions or market events. ENERGY STAR® appliances, for example, change hands in residential replacement and retrofit situations and also in residential new construction. Therefore, when designing programs to encourage the adoption of a specific type of product, it is important to have an understanding of the types of transactions or market events involved in the exchange of the product.

Market Sectors

The major sectors that are targeted by the **New York Energy \$martSM** programs are:

- Non-residential buildings (including commercial, municipal, institutional, government, and industrial),
- Residential buildings, and
- Low-income housing.

Programs are tailored to address the Public Service Commission's overarching goal for the **New York Energy \$martSM** Program to improve energy efficiency and access to energy options for underserved customers. Underserved customers generally have smaller loads and less access to options for purchasing energy commodities, energy efficiency measures, and services. This customer group includes small businesses, municipal and institutional facilities, residential households, and low-income households. For purposes of the **New York Energy \$martSM** programs, low-income households are those having an income less than or equal to 80% of the State's median income, as determined by the number of persons in the household. Underserved customers, including low-income households, are generally not in a position to fully benefit from the emerging competitive marketplace. Therefore, government intervention is necessary to assist this group until they are able to realize the benefits of competition on their own.

Market Actors

The **New York Energy \$martSM** programs target specific market actors that are critical in the decision-making process, leading to the adoption and use of more energy-efficient equipment and services. The key market actors targeted include:

- Manufacturers,
- Designers,
- Contractors,
- Financial institutions,
- Vendors, distributors, and retailers, and
- End-use customers or energy consumers (*i.e.*, residential ratepayers).

Each actor has influence at critical junctures in the decision-making process. Therefore, it is important that the **New York Energy \$martSM** portfolio of programs target specific interventions at the right time to the right actors. It is also important to think broadly, beyond any one specific sector, because the market actors targeted might also be influential in other sectors. For example, retailers participating in the Residential Appliances & Lighting Program who sell lighting typically deal with residential customers and also with small business customers. Therefore, the influence of these retailers will extend beyond the residential buildings sector.

As program interventions become more widely recognizable and accepted by actors, decisions will be more informed and more likely lead to greater energy efficiency. Evidence to date from the **New York Energy \$martSM** portfolio of programs, as presented in this report, supports this contention.

DISCUSSION OF MAJOR MARKET BARRIERS

Each of the **New York Energy \$martSM** Program initiatives was designed to reduce or eliminate specific market barriers that inhibit market adoption of energy efficient technologies and practices, and renewable resources. This section identifies the general barriers that exist and describes approaches to measuring and quantifying them. The tables in the following section provide information on specific barriers that are being addressed by the individual **New York Energy \$martSM** programs.

Barriers to greater adoption of energy efficiency can generally be characterized as follows:

- Lack of awareness, knowledge, and information about product and service offerings;
- Lack of product and service availability;
- Higher incremental cost of energy efficiency products and services, and renewable technologies;
- Performance uncertainty in terms of newer energy efficiency products and services, and renewable energy products;
- Lack of capital and financing for energy efficiency and technology improvements; and
- Other barriers (including asymmetric information and opportunism, hassle or transaction costs, hidden costs, organizational practices and customs, misplaced and split incentives, inseparability of product features, and irreversibility).

These barriers exist within many of the **New York Energy \$martSM** Program markets.

DISCUSSION OF PROGRAM INTERVENTION STRATEGIES

Intervention strategies are actions taken to influence market operations and market acceptance of certain products and services. The type of intervention strategy needed for any given program and its place in the market (upstream, midstream or downstream) are determined by:

- Assessing potential intervention strategies that are feasible within existing budgets to identify those strategies that may yield the greatest progress toward key SBC goals;
- Defining program theory (based on careful combination of multiple intervention strategies targeting specific market sectors, market actors, and market barriers);
- Identifying anticipated near term, intermediate, and long term program outcomes for each strategy; and
- Understanding the resource commitments needed for program design, implementation, and evaluation in order to maximize progress toward achieving specific or collective overarching SBC goals.

Program intervention strategies can be described as either infrastructure development-oriented or project promotion-oriented. These types of intervention strategies are defined in the following text. Research and development activities precede these program activities.

Infrastructure development intervention strategies typically focus on preparing the supply chain of upstream and midstream market actors to increase their promotion of energy efficiency products and services. The desired outcome from infrastructure development interventions might be to increase the number of vendors selling a specific type of high-efficiency equipment, or to increase the number of service providers qualified to offer a specific energy efficiency service or renewable technology. Infrastructure building strategies are intended to address the overarching SBC Program goal of facilitating competition to benefit end-use customers.

Project promotion intervention strategies, on the other hand, typically focus on the end-use customer or the midstream market actor that is closest to the end-use customer. The immediate outcome of project promotion intervention strategies is to get the high efficiency measure or renewable energy generation equipment installed for the end-use customer. Project promotion interventions are intended to address the overarching SBC Program goals of improving reliability, reducing peak demand, and reducing environmental impacts. Over time, project promotion interventions can also have some effect on the development of the energy efficiency and renewable resource market infrastructure.

Examples of infrastructure building and project promotion intervention strategies commonly supported by

the **New York Energy \$martSM** portfolio of programs are listed in Table 2-1.

As NYSERDA continues to gain experience in implementing the **New York Energy \$martSM** programs from a portfolio perspective, there will be an increased effort to couple project promotion with infrastructure development interventions within single programs. For instance, the Small Commercial Lighting Program plans to combine training and qualification to electrical contractors, with contractor and multi-site customer project incentives. A balance between infrastructure building and project incentives, working on both the supply and demand sides of the market, is viewed as a more effective means of market development.

Table 2-1. New York Energy \$martSM Program Intervention Strategies by Type

Infrastructure Building Intervention Strategies	Project Promotion Intervention Strategies
Energy efficiency and renewable resource training and information for program allies	Design assistance for participating mid-market actors/allies
Development of tools and guidelines for incorporation of energy efficiency and renewable technologies	Project incentives to mid-market actors for selling and/or installing high-efficiency measures and renewable technologies
Qualification of allies	Project incentives to end-use customers to cover part of the incremental cost of higher efficiency measures and renewable technologies
Cooperative advertising for participating suppliers	Reduced interest rate financing for end-use customers implementing higher-efficiency and renewable measures
Incentives to participating vendors for the sale of high-efficiency and renewable products/services (coupled with encouraging increased stocking of energy efficient options)	Cost-shared technical assistance and expert advice on efficiency improvements and renewable options for end-use customers
Development of literature, displays, and promotional materials that can be used by vendors	Marketing and promotional efforts designed to inform the end-use customer
Demonstration and further development of energy efficiency and renewable technologies for greater market readiness	Promotion of demonstration and pilot projects that reduce uncertainty for end-user customers and allow better assessment of risk and transferability of the technologies

In general, the **New York Energy \$martSM** Program encourages the building of long-term relationships with market actors and discourages heavy reliance on one-time transactions. In most cases, where incentives for end-use customers are offered by programs, these same programs have a mid-market infrastructure development component so that the efficiency gains go beyond the individual facility. A

good example is the **New York Energy \$martSM** commercial and industrial New Construction Program, which provides incentives to building owners covering part of the incremental cost of high-efficiency equipment and provides technical assistance to design and construction teams. The technical assistance provides an infrastructure building component to increase the transferability of efficiency behavior and actions to future construction jobs completed by the design and construction team. The assistance for end-use customers can allow a greater number of projects to move forward, increasing the experience and confidence that the design and construction teams gain from participating in these types of projects.

PROGRAM LOGIC AND CURRENT SUCCESS INDICATORS

At the end of this section a series of tables summarize the logic behind each of the individual **New York Energy \$martSM** energy efficiency related deployment programs in terms of the targeted markets, sectors, actors, and the barriers that each is attempting to address through specific intervention strategies. Some of the key success indicators for each program are also included in these tables. Table 2-2 presents this information for residential programs, Table 2-3 presents this information for low-income programs, and Table 2-4 presents this information for commercial and industrial programs. Tables 2-2 through 2-4 focus on those programs offered under the initial three-year SBC funding period. For more detailed descriptions of the individual programs shown in these tables or information on renewable resource programs, refer to Appendix A of this report. Appendix A also provides complete descriptions of the many research and development activities that feed into these deployment programs.

ENERGY EFFICIENCY POTENTIAL

New York's energy conservation potential was last examined in 1989.¹ This analysis included the potential for electricity savings and peak demand reductions in the then-current equipment and building stock in the State. Results were provided with respect to the residential, commercial, and industrial sectors. The findings of the 1989 study indicated significant potential for electricity savings and peak demand reductions in New York's existing building stock and equipment. Many of the higher-potential opportunities have been at least partially addressed by the SBC programs (*e.g.*, high efficiency residential refrigerators and variable speed drives). The last assessments of renewable energy technologies in New York State were conducted in 1992 and 1993.²

¹ American Council for an Energy Efficient Economy. *The Potential for Electricity Conservation in New York State*, September 1989. Prepared for the New York State Energy Research and Development Authority, Niagara Mohawk Power Corporation, and the New York State Energy Office.

² Princeton Economic Research, Inc. and Science Applications International Corporation. *End-Use Renewable Technology Assessment*, June 30, 1992. Prepared for the New York State Energy Office. Princeton Economic Research, Inc. and AWS Scientific, Inc. *Renewable Resources Technology Assessment - Research Report EP-93-07*. Final Report December 1993. Prepared for the Empire State Electric Energy Research Corporation.

In the many years since the last energy efficiency and renewable technology potential studies, a great deal has changed in terms of available energy efficiency equipment and the base-case electricity use in the State's building stock. In October 2001, NYSERDA issued a Request for Proposals (RFP 628-01) to procure a contractor to evaluate the status of, and potential for, energy efficiency and renewable resources in New York State. Although this study is not funded by the SBC, it is expected to contribute significantly to the direction and focus of the **New York Energy \$martSM** Program. This study is expected to be completed in Spring 2002, and results impacting SBC programs will be presented in future evaluation reports. Major tasks for this study include the following.

- Determining the list of individual and bundled energy efficiency measures and renewable technologies to be analyzed.
- Establishing the base case level of technology and associated electricity use in the State's current building stock.
- Evaluating potential savings in electricity use and peak demand resulting from implementing the efficiency measures and evaluating the fossil fuel savings and other environmental benefits associated with expanded use of renewable resources.
- Determining the technical, economic, and market potential of these technologies.
- Determining the cost of saved and generated energy and the benefit/cost ratio for each measure and technology.
- Ranking energy efficiency measures and renewable technologies, based on the above analysis and the technical, institutional, policy, and market barriers.

Another initiative currently underway will evaluate and quantify the aggregate energy and economic potential of a wide range of combined heat and power (CHP) technologies for New York's commercial, institutional, and industrial sectors. The project will include analysis of the regulatory, legal, and institutional barriers to CHP and will develop policy options and market strategies that could be implemented to accelerate market adoption of CHP. The study is being conducted by Energy Nexus Group and the Pace Energy Project. Results having bearing on the SBC programs will be summarized in future reports.

TABLE 2-2: New York Energy \$martSM Residential Programs

New York Energy \$mart SM Program	Major Market	Targeted Market Actors	Major Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Residential Appliances and Lighting</p> <p><u>Total Budget:</u> \$8.5 million</p>	<p>New activities</p> <p>Replacement</p> <p>Retrofit</p>	<p>Retailers</p> <p>Contractors</p> <p>End-use customers</p>	<p>Lack of consumer information and awareness on ENERGY STAR[®] products and benefits</p> <p>Lack of retailer information and awareness on ENERGY STAR[®] product benefits</p> <p>Low stocking and promotion of ENERGY STAR[®] products in retail stores</p>	<p>Appliance and Lighting: Recruit and train retailers as ENERGY STAR[®] partners, provide co-op advertising and in-store sales assistance (market push strategies)</p> <p>Public Awareness: Provide information to enhance consumer awareness and knowledge of the benefits of ENERGY STAR[®] products (market pull strategies)</p>	<p>Measurable increase in consumer awareness and knowledge of ENERGY STAR[®]</p> <p>Measurable increase in retailer stocking, display, and promotion of ENERGY STAR[®] products</p> <p>Measurable increase in market share of ENERGY STAR[®] products</p>
<p>ENERGY STAR[®] Public Awareness</p> <p><u>Total Budget:</u> \$8.3 million</p>					
<p>Keep Cool</p> <p><u>Total Budget:</u> \$7.3 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Retailers</p> <p>End-use customers</p> <p>Multifamily building owners</p>	<p>Lack of consumer information and awareness on ENERGY STAR[®] products and benefits</p> <p>Lack of retailer information and awareness on ENERGY STAR[®] product benefits</p> <p>Low stocking and promotion of ENERGY STAR[®] products in retail stores</p>	<p>Provide a \$75 bounty to consumers who surrender an old AC and purchase a new ENERGY STAR[®] AC</p> <p>Provide incentives for retailer drop-off sites, and other promotional assistance for Keep Cool retailers</p> <p>Provide information on energy/demand reduction behaviors that consumers can implement at home</p>	<p>Measurable increase in consumer awareness and knowledge of ENERGY STAR[®]</p> <p>Measurable increase in retailer stocking, display, and promotion of ENERGY STAR[®] AC</p> <p>Measurable increase in market share of ENERGY STAR[®] AC</p> <p>Consumer implementation of peak demand reduction practices in the home</p>
<p>Loan Fund Multifamily Building Demonstration</p> <p><u>Total Budget:</u> \$1.0 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Lending institutions</p> <p>Multifamily building owners</p>	<p>Banking and lending institutions lack the ability and desire to place value on energy savings</p> <p>Perceived risk by lending institutions</p>	<p>Provide guaranteed energy efficiency improvement loans to support a pilot test of a financing model</p>	<p>Development and testing of a loan product that recognizes energy efficiency improvements as a valued, monetized commodity and includes energy savings projections in the approval and underwriting processes</p>

TABLE 2-2 (Continued): New York Energy \$martSM Residential Programs

New York Energy \$mart SM Program	Major Market	Targeted Market Actors	Major Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Residential New Construction</p> <p><u>Total Budget:</u> \$2.4 million</p>	New activities	<p>Builders</p> <p>Raters that perform building diagnostics</p> <p>Home Buyer</p>	<p>Lack of consumer information and awareness on energy efficiency in new construction</p> <p>Lack of builders in the residential new construction market that regard energy efficiency as a value-added measure</p>	<p>Public awareness campaign to increase awareness and direct consumers to look for the ENERGY STAR® on new homes</p> <p>Builder financial incentives and technical assistance</p> <p>Financial incentives to home owners</p>	<p>Measurable increase in awareness and knowledge among builders and consumers about the benefits of ENERGY STAR®</p> <p>Measurable increase in number of new homes built to the ENERGY STAR® standard</p>
<p>Home Performance with ENERGY STAR®</p> <p><u>Total Budget:</u> \$7.0 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Contractor</p> <p>Remodeler</p> <p>Rater</p> <p>Homeowner</p>	<p>Lack of information available to consumers and mid-market actors regarding energy efficiency services</p> <p>Consumers perceived risk in hiring a reputable contractor, remodeler, energy rater, etc.</p>	<p>Training, certification, and equipment incentives for contractors and raters</p> <p>Co-op ads and project incentives for contractors</p> <p>Reduced-cost home energy assessments and reduced interest rate (and subsidized) financing for homeowners</p>	<p>Development of the home performance contracting business in New York</p> <p>Development of rater infrastructure in New York</p> <p>Measurable increase in use of home performance contractors by homeowners</p>
<p>Innovative Opportunities: Residential</p> <p><u>Total Budget:</u> \$0.82 million</p>	<p>New activities</p> <p>Replacement</p> <p>Retrofit</p>	<p>Various mid- and up-stream market actors including: manufacturers and retailers</p> <p>End-use consumers</p>	<p>Lack of information on energy-efficient products</p> <p>Limited awareness on how to value energy efficiency improvements</p>	<p>Provide information, outreach and training, and access to technology to increase the availability, promotion, and sale of energy-efficient products and services</p> <p>Assess market barriers to energy-efficiency and offer recommendations to overcome these barriers</p>	<p>Measurable increase in understanding of these markets and their operation</p> <p>Identification of specific needs and opportunities for future market transformation programs</p>

TABLE 2-2 (Continued): New York Energy \$martSM Residential Programs

New York Energy \$mart SM Program	Major Market	Targeted Market Actors	Major Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Residential Comprehensive Energy Management Services</p> <p><u>Total Budget:</u> \$2.5 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Single- and multifamily customers</p>	<p>High first-cost of energy management and advanced metering systems.</p> <p>Lack of customer knowledge regarding the benefits as well as how to install energy management and metering systems.</p>	<p>Provide incentives to owners of 3,000 single-family homes and 300 multifamily buildings to reduce the expense of advanced metering systems</p>	<p>Measurable increase in acceptance and use of energy management and advanced metering in buildings</p> <p>Measurable increase in energy commodity purchase options</p> <p>Measurable increase in aggregation of building loads</p>

TABLE 2-3: New York Energy \$martSM Low-Income Programs

New York Energy \$mart SM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Technical Assistance for Low-Income Publicly-Assisted Housing</p> <p><u>Total Budget:</u> \$790,000</p> <p>Affordable Assisted Housing</p> <p><u>Total Budget:</u> \$3.0 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>U.S. Dept. of Housing and Urban Development (HUD)</p> <p>City /State-assisted housing projects</p> <p>Low-income co-ops and households</p>	<p>Organizational practices that do not support energy efficiency</p> <p>Higher first-cost of energy-efficient technologies</p> <p>Limited financial resources</p> <p>Lack of product availability</p> <p>Lack of familiarity with technical information</p>	<p>Provide building assessments and identification of program resources available to help obtain the identified improvements</p> <p>Provide electric-saving measures including energy -efficient lighting, appliances, and electric-to-gas fuel conversions to low-income buildings</p>	<p>Measurable increase in incorporation of energy efficiency in design, selection, and installation of equipment for the State’s portfolio of publicly-assisted housing</p>
<p>Low-Income Direct Installation Program</p> <p><u>Total Budget:</u> \$9.92 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Low-income household</p> <p>Multi-family building owner</p>	<p>Lack of access to information</p> <p>Lack of product availability</p> <p>Limited financial resources</p> <p>Limited familiarity with technical information</p>	<p>Provide free or reduced-cost electric-reduction measures to low-income residents and building owners of low-income properties</p> <p>Provide information on energy efficiency to building owners and tenants</p>	<p>Measurable increase in energy efficiency in low-income buildings</p> <p>Decreased energy burden for low-income households</p> <p>Measurable improvements in comfort and safety of low-income buildings</p>
<p>Low-Income Aggregation</p> <p><u>Total Budget:</u> \$1.7 million</p>	<p>Energy commodity purchase</p>	<p>Low-income households</p> <p>Multi-family building owners</p>	<p>Undeveloped market.</p> <p>High energy burden of low-income households</p> <p>Lack of information on energy and efficiency choices</p> <p>Payment patterns and load profiles that are potentially unattractive to energy providers</p>	<p>Aggregate energy buyers to secure lower prices through the bulk purchase of electricity, natural gas, fuel oil, and propane</p> <p>Provide energy efficiency services to reduce energy demand</p>	<p>Measurable increase in number of power providers interested in serving low-income customers</p> <p>The development of aggregated buyers groups and commodity purchase deals</p> <p>Lower energy burdens of low-income participants</p>

TABLE 2-3 (Continued): New York Energy \$martSM Low-Income Programs

New York Energy \$martSM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Low-Income Oil Buying Strategies Pilot</p> <p><u>Total Budget:</u> \$1 million</p>	<p>Energy commodity purchase</p>	<p>Low-income households that use residential fuel oil</p>	<p>High energy burden of low-income households</p> <p>Lack of financial means to pre-buy fuel when the lowest prices are available</p> <p>Service network deficiencies</p> <p>Lack of access to information</p>	<p>Creation of buyers groups</p> <p>Bulk purchase of fuel oil</p> <p>Energy efficiency education and outreach</p> <p>Development of a pre-payment program including automatic delivery and budget planning</p>	<p>Measurable decrease in fuel cost</p> <p>Measurable decrease in energy burden</p> <p>Measurable decrease in energy use as a result of energy efficiency education</p>
<p>Low-Income Public Awareness</p> <p><u>Total Budget:</u> \$775,000</p>	<p>Replacement Retrofit</p>	<p>Low-income households</p> <p>Multi-family building owners.</p>	<p>Undeveloped market.</p> <p>High energy burden of low-income households</p> <p>Lack of information on energy and efficiency choices.</p> <p>Low-income payment patterns/load profiles are potentially unattractive to energy providers.</p>	<p>Provides consumer energy education and referrals to existing credit/budget counseling services. Also supports ongoing Low-Income Forum on Energy (LIFE) process</p>	<p>Measurable increase in awareness among low-income consumers about programs and assistance available to them</p> <p>Measurable increase in awareness among low-income service providers about the programs and assistance that may be accessed by their constituents</p>

TABLE 2-4: New York Energy SmartSM Commercial and Industrial Programs

New York Energy Smart SM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Commercial/Industrial Performance Program (formerly Standard Performance Contract)</p> <p><u>Total Budget:</u> \$33.5 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>ESCOs</p> <p>Facility managers</p> <p>Building owners</p>	<p>Lack of a sustainable market infrastructure for the delivery of energy efficiency services</p> <p>Slow emergence of a competitive electric commodity market</p>	<p>Provides performance-based incentives to ESCOs for the delivery of energy efficiency products and equipment</p>	<p>Measurable increase in number of ESCOs offering performance contracting in New York</p>
<p>Institutional Energy Performance Contracting Assistance</p> <p><u>Total Budget:</u> \$3.25 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Institutional, municipal, and educational buildings</p>	<p>Organizational barriers that hinder identification of energy efficiency improvements and use of performance contracting</p>	<p>Cost-shared energy efficiency audits that provide the facility with the unbiased technical information they need to enter into a performance contract</p>	<p>Measurable increase in use of performance contracts in the institutional sector</p> <p>Measurable increase in number of institutional customers involved in SPC program</p>
<p>New Construction</p> <p><u>Total Budget:</u> \$17.06 million</p>	<p>New activities</p> <p>Retrofit</p> <p>Replacement (no longer part of this program, but now covered under Smart Equipment Choices)</p>	<p>Building designers, architects, and engineers</p> <p>Commercial contractors</p> <p>Building owners</p>	<p>Lack of knowledge/expertise regarding energy-efficient design and technologies</p> <p>High initial cost of energy efficiency measures</p> <p>Lack of information and awareness on energy efficiency measures</p>	<p>Financial incentives for building owners to offset between 50% to 70% of the incremental capital costs of energy-efficient equipment.</p> <p>Technical assistance to building designers</p>	<p>Measurable increase in incorporation of energy efficiency and green techniques and practices in new construction</p> <p>Measurable increase in use of third party commissioning in buildings</p>
<p>Smart Equipment Choices</p> <p><u>Total Budget:</u> \$2.5 million (over five years of the expanded SBC Program)</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Commercial and industrial building equipment end-use customers, agricultural end-use customers, and multifamily buildings.</p>	<p>Lack of knowledge/expertise regarding energy-efficient technologies</p> <p>High initial cost of energy efficiency measures</p> <p>Lack of information and awareness on energy efficiency measures</p>	<p>Financial incentives for building owners to offset a portion of the incremental capital costs of specified energy-efficient equipment</p>	<p>Measurable increase in incorporation of energy-efficient equipment into commercial, industrial, institutional, agricultural, and multifamily buildings and property</p>

TABLE 2-4 (Continued): New York Energy \$martSM Commercial and Industrial Programs

New York Energy \$mart SM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Premium Efficiency Motors Program</p> <p><u>Total Budget:</u> \$2.5 million</p>	<p>New activities</p> <p>Replacement</p> <p>Retrofit</p>	<p>Motor vendors and distributors</p> <p>Motor end-use customers</p>	<p>Lack of information, awareness, and technical expertise regarding premium efficiency motors among motor vendors and customers</p> <p>Low stocking level by midstream vendors</p> <p>Low awareness of the energy and non-energy benefits associated with premium efficiency motor models</p>	<p>Financial incentives, information, and marketing assistance for participating vendors</p> <p>Marketing and outreach to motor end-use customers</p>	<p>Measurable increase in awareness and knowledge of premium efficiency motors</p> <p>Measurable increase in vendor stocking of premium efficiency motors</p> <p>Measurable increase in market share of premium efficiency motors</p>
<p>Small Commercial Lighting</p> <p><u>Total Budget:</u> \$3.8 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Distributors, electrical contractors, lighting suppliers, and other lighting decision makers.</p>	<p>Lack of awareness/knowledge among contractors and end-use customers about the benefits of effective energy-efficient lighting</p>	<p>Qualification and training incentives for electrical contractors and distributors</p> <p>Project incentives for participating contractors and distributors</p> <p>Design assistance and project incentives to multi-site end-use customers</p>	<p>Measurable increase in knowledge and awareness among contractors and end-use customers</p> <p>Change in attitudes toward effective energy-efficient lighting systems</p> <p>Change in design practices to incorporate effective energy-efficient lighting components</p>
<p>Commercial HVAC</p> <p><u>Total Budget:</u> \$1.7 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>HVAC installers and maintenance professionals.</p> <p>Commercial building energy managers and owners.</p>	<p>Limited customer awareness and information on energy savings potential and other non-energy benefits</p> <p>Lack of familiarity with designing, installing, maintaining, and servicing energy-efficient HVAC systems among installers and contractors</p>	<p>Implementation of three projects to explore different market opportunities related to commercial HVAC</p> <p>ACEEE Project: Training and education for commissioning providers and purchasers</p> <p><i>Note: Specific intervention strategies for the two additional HVAC projects will be finalized after the completion of market assessment studies</i></p>	<p>ACEEE Project: Increased use of commissioning in New York</p> <p><i>Note: Specific success indicators for the two additional HVAC projects will be finalized once intervention strategies are in place</i></p>

TABLE 2-4 (Continued): New York Energy \$martSM Commercial and Industrial Programs

New York Energy \$martSM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Innovative Opportunities: Commercial and Industrial</p> <p><u>Total Budget:</u> \$2.6 million</p>	<p>New activities</p> <p>Replacement</p> <p>Retrofit</p>	<p>Institutional building managers; municipal decision makers; architects and engineers; commercial appraisers and property investors</p>	<p>Lack of customer access to information</p> <p>Low awareness regarding energy efficiency technologies and upgrade possibilities available to customers</p> <p>Limited financial resources among target market actors</p> <p>Risk aversion</p>	<p>Supports projects that increase the availability, promotion, and sale of energy-efficient products and services not addressed through other NYSERDA market transformation programs</p>	<p>Measurable increase in understanding of these markets and their operation</p> <p>Identification of specific needs and opportunities for future market transformation programs</p>
<p>New York Energy \$martSM Loan Fund</p> <p><u>Total Budget:</u> \$9.8 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Lending institutions, loan officers, and borrowers</p>	<p>Perceived risk associated with offering energy efficiency low-interest financing by lending institutions</p> <p>Lending institutions lack information and awareness on how to calculate energy savings from efficiency improvements</p>	<p>Build a network of participating lenders to provide interest reductions on loans up to \$500,000 for up to five years</p>	<p>Measurable increase in number of lenders incorporating cost savings from energy efficiency into their lending criteria</p> <p>Measurable increase in number of lenders offering special energy efficiency loan packages</p>
<p>Energy Audit Pilot Program</p> <p><u>Total Budget:</u> \$0.3 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Small facilities (with less than \$100,000 in annual electric bills)</p>	<p>Lack of information, awareness, and technical expertise regarding how to conduct an energy audit</p>	<p>Provide cost-shared technical assistance and information for energy decision-making</p>	<p>Installation of the recommended measures at customer facilities</p> <p>Measurable increase in use of energy efficiency engineering service providers</p>

TABLE 2-4 (Continued): New York Energy \$martSM Commercial and Industrial Programs

New York Energy \$martSM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>FlexTech</p> <p><u>Total Budget:</u> \$3.5 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Not-for-profit, institutional, government, business</p>	<p>Limited financial resources of facility owners</p> <p>Inability to locate energy efficiency engineering service providers</p> <p>Organizational practices that inhibit identifying and implementing energy efficiency improvements</p> <p>Lack of access to information</p> <p>Performance uncertainties</p>	<p>Cost-shared studies to identify energy efficiency, industrial process improvements, waste minimization, and environmental performance opportunities. Customers choose one of NYSERDA's competitively-selected FlexTech contractors to conduct the study</p>	<p>Installation of the recommended measures at customer facilities</p> <p>Measurable increase in use of energy efficiency engineering service providers</p>
<p>Technical Assistance</p> <p><u>Total Budget:</u> \$6.1 million</p>	<p>Replacement</p> <p>Retrofit</p>	<p>Not-for-profit, institutional, government, business</p>	<p>Lack of in-house technical expertise, information and awareness on energy efficiency improvements</p> <p>Production often gets priority over energy improvements due to risk/hassle associated with identifying efficiency improvements</p>	<p>Co-funding of studies to:</p> <ul style="list-style-type: none"> -develop baselines of energy use, energy planning, facility staff outreach and training, and commissioning; - identify energy efficiency, industrial process improvements, waste reduction, and environmental performance opportunities; and - provide information on total electricity consumption and time of use to position customers to work with ESCOs and aggregators and obtain the optimal energy options and pricing. Customers choose their own contractor to conduct the study. 	<p>Installation of the recommended measures at customer facilities</p> <p>Measurable increase in use of energy efficiency engineering service providers</p>

TABLE 2-4 (Continued): New York Energy \$martSM Commercial and Industrial Programs

New York Energy \$martSM Program	Major Market	Targeted Market Actors	Market Barriers Addressed	Main Intervention Strategies Employed	Key Success Indicators
<p>Peak Load Reduction <u>Total Budget:</u> \$14.4 million</p>	<p>Replacement Retrofit</p>	<p>End-use customers, ESCOs, load serving entities, contractors, building equipment vendors, etc.</p>	<p>Lack of in-house expertise or tools to identify and implement peak load reduction opportunities Lack of capital to identify and implement peak load reduction measures End-use customers' lack of familiarity with market rules and opportunities</p>	<p>Incentives to cover a portion of the expense to identify and implement measures that will reduce time-sensitive demand coincident with the electric system peak demand</p>	<p>MW summer peak demand reduction achieved Mitigation of potential state-wide capacity shortfall and improved reliability of the power grid Reducing or maintaining customer electricity costs</p>
<p>Cooling Recommissioning <u>Total Budget:</u> \$3 million</p>	<p>Replacement Retrofit</p>	<p>Commercial and industrial customers</p>	<p>Lack of in-house expertise or knowledge to identify load shedding/shifting opportunities Lack of capital to identify and install peak load reduction measures Lack of awareness of potential associated with recommissioning existing cooling systems and lack of service provider infrastructure</p>	<p>Cost-shared expert technical assistance to identify load shedding/shifting opportunities Financial incentives to cover a portion of the identified measures Follow-up visit from an energy consultant to ensure that customers are experiencing the anticipated load reduction</p>	<p>MW summer peak demand reduction achieved Increased awareness and availability of recommissioning service providers</p>