
SECTION 5. THE FUTURE OF LOW-INCOME PUBLIC BENEFITS PROGRAMS IN NEW YORK

INTRODUCTION

NYSERDA's administration and evaluation of the **New York Energy SmartSM** Low-Income Energy Affordability Program has been an administrative, programmatic, and evaluation learning experience. NYSERDA has gathered market intelligence about the targeted population of low-income customers it has and intends to serve. NYSERDA has also learned the importance, value, and strategic nature of forming partnerships with stakeholders such as State agencies, investor-owned utilities, community-based organizations, and low-income advocates that share similar missions and responsibility toward low-income households.

This section highlights the new program initiatives that have been designed for the Low-Income Energy Affordability Program and concludes with a brief overview of the evaluation activities that are planned for the Program through 2006.

NEW LOW-INCOME ENERGY AFFORDABILITY PROGRAM INITIATIVES

Low-Income Energy Affordability Program

Approximately \$104 million in public benefits program funding has been allocated to the Low-Income Energy Affordability Program for implementing low-income energy services through June 30, 2006. The goal of the Low-Income Energy Affordability Program will be to continue to reduce the energy burden of low-income consumers by improving energy efficiency and providing energy management and aggregated energy procurement strategies that will improve their market position and self-sufficiency. Program efforts will build on the existing infrastructure of other publicly-sponsored programs throughout the State by coordinating the delivery of programs and services that reduce energy use and costs to low-income households. The program will target households below 80% of the state median income. This income segment includes the "working poor" that has been under-served by other public programs. The program will also build upon the market knowledge and experience that has been gained through the administration and evaluation of programmatic efforts to date. Through June 2006, the Low-Income Energy Affordability Program includes **Energy Efficiency Initiatives, Community-Based Initiatives, and Energy Awareness Initiatives.**

Energy Efficiency Initiatives

The **Energy Efficiency Initiatives** address energy affordability and demand within low-income households, including publicly-assisted housing:

Assisted Home Performance with ENERGY STAR® targets 1-4 family residences of lower-income households between 60% and 80% of State median income that are not eligible for assistance through the WAP. From the 1990 Census Data for New York, it is estimated that there are potentially 600,000 households that fall into this category. This program will provide these households with energy efficiency services including energy audits, financing, and installing energy efficiency measures. These households will be eligible for low interest loans or a 45% to 60% NYSERDA subsidy of the energy project cost depending on the household income.

This initiative builds on the model developed under the existing Home Performance with ENERGY STAR® Program. Under this model, 74 weatherization sub-grantees have formed ten regional teams to deliver these services throughout New York. Each of these regional teams will receive training and certification through the Building Performance Institute in areas such as the principles of building science, whole-house diagnostic techniques, developing comprehensive building performance packages, calculating projected energy savings, installation techniques, and other project development and management skills. It is estimated that services will be provided to over 1,400 of these lower-income households per year.¹

An additional component of this program fills a gap in services created when the WAP rules changed to permit installation of electric-reduction measures but did not permit a return to previously weatherized homes. Funds will be used to implement cost-effective electric-reduction measures and other energy-related building improvement efforts in previously weatherized 1-4 family homes. Electric measures include energy-efficient lighting, appliances, strategies to reduce the use of electric-resistance space and water heating, and demand management opportunities that address utility summer system peak constraints. The goal for this component is 4,000 households per year.

Assisted Multifamily Program provides technical assistance, training, and financial incentives to encourage the incorporation of energy-efficient design and the selection and installation of energy-efficient equipment in the State's portfolio of public and publicly-assisted housing. This program builds upon and expands the successes of both the Direct Installation Program and the Publicly Assisted Housing Program. It will increase the cooperative role between NYSERDA and the New York State

¹ The target for the Assisted Home Performance with ENERGY STAR® initiative is an estimate based on the projected number of units the sub-grantee teams can complete in the allotted program time. Economies of scale, as achieved through the implementation of energy services to multifamily buildings, is not as relevant through this program, which will serve single-family homes (that have work completed one home at a time). Program targets are also limited by program incentive budgets.

Division of Housing and Community Renewal Weatherization division, and builds new relations between NYSERDA and New York City's Department of Housing Preservation and Development, the U.S. Department of Housing & Urban Development, and the New York State Division of Housing and Community Renewal Housing Management Bureau. These cooperative efforts will expand the reach of the Assisted Multifamily Program into many more publicly-assisted buildings per year than could be achieved without their cooperation. The annual target is up to 80,000 units.

The program will also include creating a statewide network of Local Case Managers (LCMs) who will perform program duties at the local level including program marketing, intake, case/client management, coordination with the Technical Assistance provider, and limited construction oversight and post-inspection. These LCMs are expected to greatly facilitate owners' understanding of this program and improve the production time for participating buildings.

Finally, the *Assisted Multifamily Program* will include a new construction/gut rehabilitation component that will work in conjunction with NYSERDA's New Construction program. Publicly-assisted, multifamily buildings participating in the New Construction program will be eligible for additional assistance to support the design and installation of high-efficiency building systems. This additional assistance will allow these buildings to address efficiency concerns, not only in their electricity-using systems, but also in their heating plant, envelope design, and health and safety measures.

Community-Based Initiatives

The **Community-Based Initiatives** promote local actions to implement energy efficiency and aggregation activity in the low-income sector. Programs include:

The *Low-Income Aggregation Program*, which is designed to help the State's low-income households compete effectively in the marketplace. Funds support a variety of aggregation strategies designed to: use the untapped market power of aggregated low-income energy buyers to secure lower prices for electricity, natural gas, fuel oil, and propane, while supplying energy efficiency services that reduce demand (*e.g.*, a summer fill and tune-up program for low-income fuel oil customers); and, incorporate locally-available budget counseling and energy management education as integral services provided to low-income consumers. The program will also create lasting community-based mechanisms to facilitate low-income customer awareness and access to the competitive energy marketplace.

1. Aggregation: Based on the knowledge and experience gained through the original set of aggregation pilot projects, NYSERDA will issue additional PONs to further the goal of providing low-income consumers access to the energy deregulated markets. These PONs will incorporate lessons learned from the original projects to design the solicitation in such a way to address these barriers. For example, the PON will incorporate specific objectives in

reducing the barriers, real or perceived, inhibiting ESCOs from serving the low-income residential market.

2. Aggregation Technical Services: Based on market readiness, NYSERDA will develop a Aggregation Technical Services Program to competitively select a number of consultants to provide technical assistance to groups interested in competitively shopping the retail commodity markets. It has been found that some organizations and affinity groups may be interested in the concept of aggregation but feel they lack the technical expertise to negotiate a competitive supply.
3. Oil Buying Strategies: NYSERDA will continue its efforts in the Oil Buying Strategies Program through the release of additional PONs to further test market approaches. Future PONs will take into consideration the experiences of projects currently being conducted in this area. In addition, NYSERDA intends to further enhance its working relationship with the NYS Office of Temporary and Disability Assistance to examine the current use of HEAP funds expended in the form of payments to home heating fuel vendors. This information combined with the lessons learned through public benefits funded projects may result in significant opportunities to maximize the benefits achieved through HEAP.

Community-Based Organization Coordination, which is designed to improve the effectiveness of existing public resources for energy assistance by facilitating information sharing and strategy coordination between government agencies and community-based organizations. Active participation and financial support for the Low-Income Forum on Energy will further these objectives. An additional objective of this program will be to encourage the development of a competitive energy efficiency market that serves the working poor by providing community-based organizations with the business and technical skills to offer energy efficiency services in their communities.

Coordination with utility-run, low-income energy affordability programs will be enhanced. Plans are underway for a statewide conference in Albany during November 2002. Additional coordination efforts will include working with the utilities to make targeted mailings with information about appropriate programs to arrearage customers.

Community-Based Organization Facilities, which is designed to reduce operating costs and allow funding to be targeted to the core mission of the organization. Community-based, not-for-profit groups are often housed in facilities that have high energy bills and are in need of maintenance and repair. Energy efficiency upgrades for this sector will support more effective use of the groups' funds, which are often targeted at providing community services and assistance to under-served consumers.

Energy Awareness Initiatives

The **Energy Awareness Initiatives** are designed to inform low-income residents about the energy-and money-saving services and options available to them. This will be implemented with a limited use of paid media and heavier reliance on outreach to community-based organizations providing services to the low-income population.

LOW-INCOME ENERGY AFFORDABILITY FUNDING

Table 5-1 presents a breakdown of the funding for NYSERDA's upcoming low-income programs (*net of evaluation and administration costs*).

Table 5-1. Low-Income Energy Affordability Funding, 2002-2006	
Program Funding Allocation	Total (<i>net of evaluation and administration costs</i>)
Energy Efficiency Initiatives	
Assisted Home Performance with ENERGY STAR®	\$21,500,000
Assisted Multifamily Program	\$68,397,461
Community-Based Initiatives	
Aggregation Program	\$5,000,000
CBO Coordination	\$4,560,000
CBO Facilities	\$2,000,000
Energy Awareness Initiatives	\$2,000,000
Total	\$103,457,461

Table Source: NYSERDA

NEXT STEPS IN LOW-INCOME PROGRAM EVALUATION

Overview

In January 2001, the PSC issued an order² extending the SBC program for another five years, through January 30, 2006 and increased to \$695 million the funding to be administered by NYSERDA. Approximately two percent of that amount, \$14.7 million, or close to \$2.9 million annually, has been allocated for **New York Energy Smart**SM program evaluation. This increased funding will enable NYSERDA to present more thorough and extensive evaluations than was possible with the evaluation funding for the initial three-year program.

Likewise, this increased funding will allow NYSERDA to conduct a more in-depth evaluation of the Low-Income Energy Affordability Program and its progress toward the following goals:

- Reduce the energy burden of low-income consumers through improved energy efficiency, energy management strategies, and specific aggregation strategies.
- Leverage private and public funds and build on the successes of existing initiatives with weatherization and other community-based organizations.
- Implement specific aggregation strategies to increase the market power and self-sufficiency of low-income customers who may not be served in the competitive energy marketplace.
- Coordinate with community-based organizations and existing public assistance programs to implement market-based energy procurement and efficiency strategies.
- Provide a comprehensive all-fuels approach to reduce the energy burden of low-income customers and support the viability of low-income multifamily buildings by supplementing federal weatherization program funds and expanding the scope of services to include the installation of electric-reduction measures and electric-to-gas conversions.

Although specific evaluation activities have yet to be determined for the Low-Income Energy Affordability Program, future tasks may fall into the following categories:

² January 26, 2001 *Order Continuing and Expanding the System Benefits Charge for Public Benefits Programs*.

Functional Area A.

Program and Portfolio Analyses Evaluation

- **Program theory and logic assessment.** The design of energy efficiency and load management, low-income, and research and development public benefits programs is based on specific assumptions about how energy efficiency markets operate and the barriers and market actors that occupy and influence them. Programs are designed according to a logic that establishes the path each of the programs will take from inception to creating market effects, and to achieving public policy goals and objectives. Program theories will be reviewed and logic models will be created for each of the **New York Energy SmartSM** programs where they do not already exist. Existing logic models will be reviewed, and if necessary, updated.
- **Program Portfolio Evaluation.** ORNL is in the process of developing a framework to examine the program portfolio, one that operates efficiently with a common purpose and coordinated implementation plan. Once identified, the portfolio will be compared against tests of program synergies (beneficial outcomes that are the result of two or more program activities that have worked together in a planned or unplanned fashion) to measure and quantify the multiple benefits.
- **Process Analysis.** The process by which NYSERDA interacts with its allies, partners, and customers is embedded in the program theories and is implemented through the program solicitation, contractor selection, contracting, project management, and accounting functions. The elements of each program's process and the individual functions comprising the processes will be examined for streamlining, vulnerabilities, accountability, and management of expectations.

Functional Area B.

Process Evaluation and Market Research

- **Process Evaluation.** An early evaluation of cross-cutting program processes was conducted for the **New York Energy SmartSM** Program and included in the January 2002 evaluation report. The evaluation included measurements of customers' overall satisfaction with NYSERDA's implementation of the **New York Energy SmartSM** Program, as well as satisfaction with key processes, such as data on the solicitation, contracting, project design, implementation, and communication processes associated with NYSERDA's administration of the **New York Energy SmartSM** Program. Program-by-program process evaluations, using surveys of **New York Energy SmartSM** contractors and customers are planned.
- **Market Research.** **New York Energy SmartSM** target market customers will be surveyed to determine (1) awareness of programs, energy-efficient products and services, and outreach and advertising campaigns; (2) behavior with respect to energy-efficiency and energy conservation in the home, business, or institution; and, (3) purchasing of energy-efficient appliances, products, and services.

Functional Area C.

Program Outcome, Market Impact, and Causality Evaluation

- **Identifying Key New York Energy SmartSM Measurement Indicators.** To effectively measure the progress the **New York Energy SmartSM** Program is making toward the PSC's overarching public policy goals and associated objectives, key measurement indicators, such as product penetration rates, market share, kW, and kWh savings must be identified. Many of the evaluation indicators are those already being used by NYSERDA in its **New York Energy SmartSM** evaluation activities but the list of key indicators will be expanded. The NYSERDA evaluation team will continue to assist program staff and contractors to select and track appropriate indicators.

- **New York Energy SmartSM Market Baseline, Characterization and Assessment.** NYSERDA will continue to monitor and measure market conditions and needs. Many of the **New York Energy SmartSM** programs, such as energy efficiency, renewable energy, and research and development, are implemented across a variety of market sectors and across numerous end-use energy efficiency products and services. These programs are working in a coordinated fashion to reduce and eliminate barriers to energy efficiency, promote technological advancements in energy efficiency, develop the infrastructure to support energy efficiency products and services, and change the perceptions and behaviors of market participants that interact with energy efficiency products and services. As programs are implemented and mature, good baseline and market characterization data is critical to good program design and evaluation, and it becomes important to continually monitor their progress, assess current and developing dynamic market needs, and re-evaluate the design of program interventions.
- **New York Energy SmartSM Market Development.** The **New York Energy SmartSM** market development programs have been designed to influence upstream, mid-stream, and down-stream market actors and barriers. These programs implement market-based intervention strategies that target and work with key market actors, including consumers, manufacturers, distributors, retailers, and energy service companies to move markets for energy equipment, products, and services to a level of efficiency that is measurable and sustainable. Progress snapshots in time are compared against one another to determine what market changes may be occurring. Market Development indicators include, but are not limited to: changes in market behaviors; market share of energy-efficient products by sector and type of measure; promotion/stocking practices; valuation of energy efficiency by market sector; increased activity in energy services industry - new businesses, products, knowledgeable market actors, reduction of barriers; and increased State GDP from energy services industry activity.
- **Program Causality Assessment.** The causal relationships of the **New York Energy SmartSM** Program will be assessed to test and demonstrate that **New York Energy SmartSM** programs can be evaluated in proving causality (*e.g.*, proof that program X caused market effects X,Y, and Z). The **New York Energy SmartSM** Program will continue to be assessed with regard to the causal relationships creating and sustaining changes within the energy market. Ongoing causality assessments will include market research methods using surveys that will help to influence detailed program and market assessments.

Functional Area D.

Data Collection and Database Management

The evaluation team is working with NYSERDA Management Information System (MIS) personnel to develop a database that enables data accumulation, storage and retrieval, tracking, analysis, manipulation, presentation, graphical display, and output. The database will be constructed based upon the data management needs of program managers and the reporting output needs of the evaluation team, Advisory Group, and the PSC, including, but not limited to:

- Budget Status (funds awarded; spent; in process; etc.).
- Energy savings (MW, kWh and other fuels reported by sector, by measure, and by service territory, where applicable).
- Number of customers served (by program; sector; utility territory, etc.).
- External funding contributions (by source and type).
- Process results (budget tracking and status; solicitation tracking and status; cycle time reporting).
- Environmental benefits (emission reductions; reduced health problems; etc.).
- Economic benefits (jobs sustained and created; State Gross Domestic Product; number of new businesses; measure of business efficiency enhancements, etc.).

Functional Area E.

Measurement and Verification of Program Outcomes

- Savings Method Review. This evaluation activity will be continued so that the engineering estimates of energy savings achieved by the current portfolio of **New York Energy SmartSM** programs can be verified. This evaluation will be extended to all programs. Verification of NYSERDA's engineering estimates of energy and demand savings will be based on industry-accepted "best practices".
- Program Cost Effectiveness Evaluation. NYSERDA's evaluation assistance contractor GDS Associates, Inc. has been conducting a measure-specific and program and portfolio level cost-effectiveness analysis of **New York Energy SmartSM**. This analysis will help NYSERDA ensure that cost-effective energy efficiency measures are being promoted through its public benefits programs. Additionally, this evaluation will help to improve existing programs and influence future program designs, inputs, and activities.
- Field Verification. This evaluation activity will be initially conducted for the largest **New York Energy SmartSM** programs in terms of expenditures and customers served. This activity will then be extended to certain other programs where verification is needed beyond the savings method reviews. The key criteria to determine which programs to analyze include substantial energy savings, substantial expenditures, and data limitations. This activity will include, but is not limited to site visits, metering, and billing analysis.

Functional Area F.

Case Studies

Case studies are a vital part of the **New York Energy SmartSM** Program evaluation plan. Case studies afford the opportunity to provide an in-depth review and analysis of a program outcome or impact that cannot be fully described in the main body of a comprehensive evaluation report. Several case studies were included with the September 2000 Interim Evaluation Report, including one that provided an examination of the Low-Income Direct Installation program.³ Subsequent evaluation reports would include case studies when needed to expand analyses or provide comprehensive reports on Program achievements. Case studies focusing on the low-income population could include an analysis of how the **New York Energy SmartSM** Low-Income Energy Affordability programs have influenced the energy burden of low-income households served; an investigation into the relationship between program activities and energy service terminations; and additional information to more fully understand under-served customers.

Evaluation Budget

When NYSERDA developed the extended SBC Operating Plan⁴ in February 2001, additional resources were allocated for the evaluation effort. The evaluation budget approved by the PSC for the funding period July 2001 through June 2006 is two percent of NYSERDA's annual five-year extended program funding, or approximately \$2.9 million annually with a total evaluation funding amount of \$14,665,000. The scarce evaluation resources that were a feature of the initial three- year program have been replaced by far greater funding for evaluation tasks under the expanded program. The increased evaluation budget, while capable of supporting a substantially larger evaluation program, nonetheless will require that allocation decisions be made among alternative evaluation priorities. Table 5-2 shows the five-year expanded evaluation program budget.

³ Refer to the *New York Energy SmartSM Program Evaluation and Status Report: Report to the System Benefits Charge Advisory Group. Interim Report. September 2000.*

⁴ New York Energy Research and Development Authority. February 15, 2001. *System Benefits Charge: Proposed Operating Plan for New York Energy SmartSM Programs (2001-2006).*

Table 5-2. SBC Evaluation Funding Allocation (in millions)⁵						
Year	6/02-6/03	6/03-6/04	6/04-6/05	6/05-6/06	6/06-6/07	Total Funding
Total 5-Year Evaluation Budget	\$5.0	\$5.8	\$1.4	\$1.4	\$1.4	\$15.0
(1) General Assistance Contractor (2) Program and Portfolio Analyses Evaluation (3) Process Evaluation and Market Research (4) Program Outcome, Market Impact and Causality (5) Data Collection and Management (6) Measurement and Verification of Program (7) Special Studies	<i>Sub-activities of Evaluation Functions</i>					\$2.8
	Includes: Providing NYSERDA staff with additional assistance in completing various evaluation activities					
	Includes: Program theory and logics, process analysis, portfolio analysis (synergy, risk evaluation)					\$1.4
	Includes: Surveys for overall process evaluation of SBC programs and market research on awareness, behavior, purchasing, etc.					\$1.8
	Includes: Market assessment (New York State and regional), market baselines and characterization, market transformation, dynamic modeling study					\$4.0
	Includes: Database management					\$0.5
	Includes: Savings methods review, Cost effectiveness					\$2.5
Includes: Energy price impact of SBC, Understanding non-residential under-served customers, Case studies					\$2.0	

Evaluation Indicators

Table 5-3 presents potential evaluation indicators for the expanded **New York Energy SmartSM** Low-Income Energy Affordability Program in accordance with the established goals and objectives of the **New York Energy SmartSM** Program. Many of the evaluation indicators are those already being used by NYSERDA in its evaluation activities but some represent an expanded list of potential measures that are consistent with the increased budget and capabilities for evaluation activities. There is also a heavier emphasis throughout the tables on energy savings measured in kWh as was suggested by the SBC

⁵ In any given year, more or less funding may be spent than shown, depending upon the needs of the PSC, the SBC Advisory Group, and policy stakeholders. This table has been created for summary purposes only and may not be representative of actual funding over the five year period.

Advisory Group with greater stress put on capacity savings measured in kW and peak load reduction, consistent with the new goals established under the expanded SBC program. This new emphasis will require that the evaluation team understands not only the energy savings potential of energy efficiency measures, but also the load profiles of those measures.

Table 5-3. Evolving List of Evaluation Indicators and Metrics for the Low-Income Energy Affordability Program (2002-2006)	
Energy Benefits	Non-Energy Benefits
<ul style="list-style-type: none"> • kWh electricity savings; • kW electric demand savings; • total number of customers (low-income households served); • total number of energy efficiency measures installations; • estimated annual emission reductions; • estimated total customer cost savings; • estimated annual energy bill reductions; • leveraged funding; • ratio of external funding to NYSERDA funding. 	<ul style="list-style-type: none"> • Measures of comfort, health, and safety, • Increase in awareness of energy efficiency, low-income energy assistance programs, and the options available in a restructured energy market.

Conclusion

The budget for expanded **New York Energy SmartSM** Program administration and evaluation creates substantial new evaluation opportunities and challenges for NYSERDA’s evaluation team. Funding to support evaluation, while much improved, still must be rationed. Allocation of evaluation funds criteria will be based on program budgets, projected program results, the new, expanded program goals and objectives, and program measurement challenges and costs. These allocations, while substantial, will require NYSERDA to perform a significant number of cross cutting and portfolio-wide evaluation tasks.