

## Section 1

# INTRODUCTION

### Background

This report provides evaluation results for the **New York Energy Smart<sup>SM</sup>** System Benefits Charge (SBC) Program. The New York State Energy Research and Development Authority (NYSERDA) administers and evaluates the **New York Energy Smart<sup>SM</sup>** Program on behalf of the SBC Advisory Group<sup>1</sup>, which, pursuant to New York State Public Service Commission (PSC) order<sup>2</sup>, is the independent evaluator of the SBC Program. Thus, this report is transmitted by NYSEDA to the SBC Advisory Group for its subsequent submission to the PSC.

### History of the New York Energy Smart<sup>SM</sup> Program

The **New York Energy Smart<sup>SM</sup>** Program was initiated in 1998. NYSEDA was named administrator of approximately \$175 million<sup>3</sup> (about 75%) of approximately \$234 million of public benefits funding allocated for the period July 1, 1998 to June 30, 2001 (the initial three-year program). Utility ratepayer contributions to the **New York Energy Smart<sup>SM</sup>** Program are shown in Table 1-1. The remainder of the funding was allocated to the six investor-owned utilities to support ongoing public benefits activities.<sup>4</sup> On January 26, 2001, the PSC extended the SBC Program<sup>5</sup> for an additional five years, from July 1, 2001 to June 30, 2006 (the expanded program). The funding for the expanded program was increased to \$150 million per year with NYSEDA administering \$139 million per year. Summaries of the initial and expanded program funding periods are provided in Table 1-2.

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<sup>1</sup> The SBC Advisory Group, the independent program evaluator, meets regularly to provide guidance and input to NYSEDA's administration of the **New York Energy Smart<sup>SM</sup>** Program.

<sup>2</sup> New York State Public Service Commission. In the Matter of Competitive Opportunities Regarding Electric Service., Opinion No. 98-3. *Opinion and Order Concerning System Benefits Charge Issues*. Issued and effective January 30, 1998. Cases 94-E-092 *et al.*

<sup>3</sup>This amount includes \$3.0 million for the Environmental Disclosure Program.

<sup>4</sup> Utility-managed programs are not included as part of the **New York Energy Smart<sup>SM</sup>** Program evaluation.

<sup>5</sup> State of New York Public Service Commission. January 26, 2001. *Order Continuing and Expanding the System Benefits Charge for Public Benefit Programs*. Case 94-E-0952 - In the Matter of Competitive Opportunities Regarding Electric Service.

**Table 1-1: Utility Ratepayer Contributions to New York Energy Smart<sup>SM</sup>**

Utility	Total Utility Ratepayer Contribution	Contribution Percent Of Total SBC \$
Central Hudson Gas and Electric, Inc.	\$12,898,249	7.51%
Consolidated Edison Company of New York, Inc.	\$92,620,204	53.92%
Niagara Mohawk Power Corporation	\$32,291,353	18.80%
New York State Electric and Gas Corporation	\$26,062,093	15.17%
Orange & Rockland Utilities, Inc.	\$7,899,224	4.60%
<b>Totals</b>	\$171,771,123	100%

**Table 1-2: SBC Funding Period Comparison**

Criteria	New York Energy Smart <sup>SM</sup> Program Funding Periods	
	Initial Three-Year Funding Allocation	Expanded Program Funding Allocation
<b>Duration</b>	3 Years <i>July 1, 1998 to June 30, 2001</i>	5 Years <i>July 1, 2001<sup>6</sup> to June 30, 2006</i>
<b>Total Program</b>	\$182.2 million for 3 years <sup>7</sup>	\$733.4 million for 5 years <sup>8</sup>
<b>Public Policy Goals</b>	<ol style="list-style-type: none"> <li>Promote competitive markets for energy efficiency services.</li> <li>Provide direct benefits to electricity ratepayers, or be of clear economic or environmental benefit to the people of New York.</li> </ol>	<ol style="list-style-type: none"> <li>Improve system-wide reliability and peak reduction through end-user efficiency actions.</li> <li>Reduce environmental impacts of energy production and use.</li> <li>Facilitate competition to benefit end-users.</li> <li>Improve energy efficiency and access to energy options for under-served customers.</li> </ol>
<b>Program Offerings and Budgets (\$ millions)</b>	<ul style="list-style-type: none"> <li>Energy Services Industry (\$43.3)*</li> <li>Market Transformation (\$55.1)*</li> <li>Technical Assistance (\$25.2)*</li> <li>Low-Income (\$16.2)*</li> <li>Research and Development (\$28.8)*</li> <li>Environmental Disclosure (\$3.0)*</li> <li>Evaluation (\$0.65)</li> <li>Administration (\$10.0)</li> </ul>	<ul style="list-style-type: none"> <li>Energy Services Industry (\$131.4)*</li> <li>Market Transformation (\$201.1)*</li> <li>Technical Assistance (\$49.5)*</li> <li>Low-Income (\$103.5)*</li> <li>Research and Development (\$181.9)*</li> <li>Evaluation (\$14.7)</li> <li>Administration (\$51.3)</li> </ul>

\* Program budgets are exclusive of Evaluation and Administration.

<sup>6</sup> However, the January 26, 2001 PSC Order required utility contributions to begin in early 2001.

<sup>7</sup> This amount reflects: \$171.8 million collected from utilities; \$1.6 million in unspent initial three-year Program funds from utilities transferred to NYSERDA; \$5.8 million in year one and year two interest earnings; and \$3.0 million for Environmental Disclosure.

<sup>8</sup> This amount reflects funding from July 1, 2001 through June 30, 2006, rather than January 1, 2001 through June 30, 2006, as stated in the January 2001 PSC Order.

## Program Overview

As seen in Table 1-2, the **New York Energy Smart<sup>SM</sup>** Program continues to be made up of five major program areas: Energy Services Industry, Market Transformation, Technical Assistance, Low-Income, and Research and Development. Individual initiatives within each of these program areas have been designed and are being implemented to help contribute toward the achievement of key public policy goals. Section 6 of this report illustrates how individual program initiatives are linked to the specific public policy goals. A brief overview of each program area follows.

The *Energy Services Industry* program area is designed to expand the number of energy service companies (ESCOs) operating in New York and to increase private sector investments in improving energy efficiency in buildings and process applications. The program area is designed to increase market availability of energy-efficient equipment and products by providing financial incentives to overcome market barriers inhibiting demand for such equipment and products.

The *Market Transformation* program area is designed to increase adoption and penetration of energy-efficient technologies and practices and to induce lasting structural and behavioral changes in energy use. Objectives of the Market Transformation program area are to reduce barriers that inhibit widespread adoption of energy efficiency measures and to build a market capability for stocking and promoting energy-efficient products to the point where future publicly-funded incentives and assistance may no longer be required. Initiatives in the Market Transformation program area also seek to encourage building professionals to design, construct, and renovate buildings incorporating high-efficiency equipment and practices **and to build an infrastructure and network of competent energy service providers.**

The *Technical Assistance* program area provides feasibility studies, low-cost energy audits, aggregation and rate analysis, and energy operations management services to improve the energy efficiency and operation of facilities.

The *Low-Income* program area is designed to reduce the energy burden<sup>9</sup> of low-income consumers by improving energy efficiency and providing energy management and aggregated energy procurement strategies to improve the market position and self-sufficiency of low-income consumers. The program area implements a broad range of energy-efficient electric end-use measures in low-income housing, pays a portion of the incremental cost of energy efficiency measures and electric heat conversions in publicly-assisted housing, helps low-income households pool energy purchasing power, incorporates energy-efficient equipment and design specifications into State- and federally-assisted housing, and enhances public understanding of the benefits of energy efficiency to the low-income community.

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<sup>9</sup> A household's energy burden is defined as the percentage of income devoted to energy expenditures.

The *Research and Development (R&D)* program area is designed to develop the State's renewable energy resources, to develop and facilitate deployment of state-of-the-art technologies for market applications, and to provide information to end-use customers of technology and environmental regulators for informed decision making. The focus of this program area is on field testing new technologies, evaluating performance, disseminating information on their application, and developing strategies to promote widespread private sector involvement in energy and environmental R&D. This program area invests in public benefit energy research that otherwise might not be provided by the private sector during the transition to competition in the electricity industry.

A complete description of all **New York Energy Smart<sup>SM</sup>** programs may be found in Appendix A to this report.

### **Evaluation Overview**

NYSERDA was charged with developing and overseeing the evaluation of these programs on behalf of the SBC Advisory Group. To assist in evaluation planning, implementation, and reporting, NYSERDA has contracted with GDS Associates, Inc. (GDS) and Oak Ridge National Laboratory (ORNL). The goal of the evaluation activities is to provide objective, policy-relevant information on the impact that the **New York Energy Smart<sup>SM</sup>** Program is having on the over-arching policy goals established by the PSC. Specifically, the evaluation effort is designed to:

- Provide a credible evaluation of the **New York Energy Smart<sup>SM</sup>** Program, including all of the existing programs covered under the initial three-year funding period and all new programs, and
- **Provide timely information to the PSC, the SBC Advisory Group, and NYSERDA managers on:**
  - **Efficiency and effectiveness of program administration and implementation;**
  - **Market transformation progress toward increasing energy effici**

NYSERDA is developing an evaluation plan in cooperation with the SBC Advisory Group, GDS, ORNL, and the Department of Public Service (DPS) staff to guide evaluation activities through June 30, 2006.

The **New York Energy Smart<sup>SM</sup>** Program evaluation model uses a five-step sequential process designed to:

1. Help program managers identify individual project goals that support major program area goals and, ultimately, the PSC's broad public policy goals;
2. Define key success indicators and criteria for measuring progress toward meeting all defined goals;
3. Manage data collection, including design of instruments, and conduct quantitative and qualitative analyses to determine success of program efforts;
4. Assess progress and outcomes and identify opportunities to modify program logics, target audiences, and marketing to improve outcomes; and
5. Evaluate process, outcomes, impacts, and causality.

Since the September 2000 Interim Report, NYSERDA has updated program outcomes and progress toward the SBC policy goals in quarterly reports to the PSC.<sup>10</sup> Further, beginning in May 2001, NYSERDA provided the PSC with monthly reports on electricity peak demand reductions from installed measures and available from peak load reduction programs. NYSERDA will continue to report progress measurements, such as load reduction and energy savings, environmental and economic impacts, and progress toward policy goals. In addition, NYSERDA plans to include data and information from the following program evaluation activities in future reports to the PSC and the SBC Advisory Group:

- Process evaluations, including participant satisfaction with NYSERDA's procurement, contracting, and administration of programs.
- Updating the current methodology and data used to determine the cost-effectiveness of energy efficiency measures and **New York Energy Smart<sup>SM</sup>** programs.
- Additional case studies that provide in-depth analysis of program outcomes and impacts.
- Determination of causality and measurement of market transformation impacts resulting from **New York Energy Smart<sup>SM</sup>** programs.
- Evaluating NYSERDA's portfolio of **New York Energy Smart<sup>SM</sup>** programs for synergies among programs that may effect program outcomes and impacts.
- Continued review of NYSERDA's methodology for estimating energy savings from installed measures.

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<sup>10</sup> Quarterly Report (December 2000, March 2001, June 2001), **New York Energy Smart<sup>SM</sup>** Program, Evaluation and Status Report.

## Remaining Report Structure

Section 2 provides a discussion of major energy efficiency markets and **New York Energy Smart<sup>SM</sup>** Program strategies and interventions.

Section 3 provides a review of the budgets, spending status, solicitations, and cycle times for individual **New York Energy Smart<sup>SM</sup>** programs. This Section also provides early results from an ongoing process evaluation of the **New York Energy Smart<sup>SM</sup>** Program, and a summary of findings from other program evaluation activities.

Section 4 features the near and long-term outputs and outcomes of the **New York Energy Smart<sup>SM</sup>** energy efficiency, low-income, and research and development programs. The Section includes a discussion of market participants, and highlights the marketing efforts and energy efficiency products and services that are being developed through the assistance of **New York Energy Smart<sup>SM</sup>** Program interventions.

Section 5 provides an overview of causality assessment, a summary of NYSERDA's ongoing and planned activities for the causality exam, and early results from the current causality study.

Section 6 examines the progress the **New York Energy Smart<sup>SM</sup>** Program has made toward achieving the PSC's over-arching SBC policy goals. This section will complete the reporting on the PSC's initial three-year program goals and will introduce the PSC's new and expanded public policy goals and framework for future **New York Energy Smart<sup>SM</sup>** Program progress reporting.

Section 7 discusses NYSERDA's program evaluation framework, along with a summary of planned evaluation activities based upon lessons learned from program administration, evaluation, and experience to date. The SBC Advisory Group will be convening in March 2002 to discuss and recommend future program and evaluation activities.

The Appendices of this Report contain summaries of all **New York Energy Smart<sup>SM</sup>** programs and summaries of evaluation survey results.

- Appendix A provides a detailed summary of all of the **New York Energy Smart<sup>SM</sup>** programs.
- Appendix B contains a savings method review of select **New York Energy Smart<sup>SM</sup>** programs, provided by the evaluation assistance contractor GDS Associates, Inc. While the savings review does not cover every program, it is a continuing evaluation activity.
- Appendix C contains a description of the cost effectiveness analysis that is being performed by evaluation assistance contractor, GDS Associates, Inc.
- Appendix D provides a list of acronyms and abbreviations and a glossary of terms that are used throughout this Report.