



# **CONSERVATION COORDINATION TASK FORCE REPORT TO THE GOVERNOR AND THE LEGISLATURE**

**JANUARY 30, 2007**

**The New York State Department of Public Service  
The New York State Energy Research and Development Authority  
The New York Power Authority  
The Long Island Power Authority  
The New York State Education Department  
The New York State Department of Environmental Conservation  
The New York State Division of Housing and Community Renewal**

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## **Executive Summary**

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### **Summary of Key Findings**

This report was prepared by the Conservation Coordination Task Force (“Task Force”) in accordance with the provisions of Chapter 59 of the Laws of 2006, Part JJ. The legislation created the Task Force and authorized it to develop recommendations for consideration by the Governor to facilitate the coordination of energy efficiency programs among various named agencies and authorities.<sup>1</sup> The Task Force, chaired by the Chairman of NYSERDA, was charged with preparing a report, by January 31, 2007, including information on the energy efficiency and distributed generation programs of Task Force member agencies and authorities, including such elements as financial expenditures, resulting energy savings and potential program changes. In addition, the Task Force was authorized to identify program areas where additional coordination among the State entities will expand the use and application of energy efficiency and distributed generation technologies. The Task Force was also authorized to develop recommendations to expand the use and implementation of such technologies and practices.

### **Summary of New York State Energy Efficiency and Distributed Generation Programs**

The Task Force developed a comprehensive inventory of all energy programs relevant to the Legislation that were administered by the agencies and authorities. This portfolio comprises over 50 programs that service a broad spectrum of all energy consumers sectors across the State, from low-income consumers to large industrial users. The programs listed in the Report are those that deliver energy efficiency services, (including load management and demand response), and distributed generation technologies (including back-up power and self-generation), as well as customer-sited renewables (such as photovoltaics and small wind turbines). Although several agencies and authorities do implement transportation-related energy programs, they were not included in the Legislation, and are not addressed in this Report.

Funding for the State’s energy efficiency and distributed generation programs is derived from several distinct sources of revenue over varying funding cycles and program periods. The current total annual funding is approximately \$315 million, which includes State Budget appropriations from the Special Revenue Fund and the New York State Clean Water/Clean Air Bond Act of 1996; public benefit funds such as the System Benefits Charge; sales of Commercial Paper Notes by public authorities; federal, State, and miscellaneous grants; tax credits; and legal settlement agreements. However, few of the revenue streams are permanent, and some, such as the federal weatherization funds, are subject to some degree of annual fluctuations. While there are funding sources, such as the System Benefits Charge, set for multi-year terms, others are subject to change annually. Some of the funding sources cited in this report are fully or nearly fully-expended, such as the 1996 Bond Act and Petroleum Overcharge Restitution Funds.

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<sup>1</sup> The agencies listed in Part JJ includes, but is not limited to, the chair of the New York State Energy Research and Development Authority (NYSERDA), the chair of the Department of Public Service (DPS), the Chair of the Power Authority of the State of New York (NYPA), the Chair of the Long Island Power Authority (LIPA), the Commissioner of the State Education Department (SED), the Commissioner of the Department of Environmental Conservation (DEC) and the Commissioner of Housing and Community Renewal (DHCR).

The data for the energy saving impacts of the portfolio of programs were collected and reported by the respective agencies and authorities. The Task Force prepared an estimate of aggregate energy savings on the level of program funding. In the course of preparing the estimate, however, the Task Force identified the need for better standardization of the protocols for gathering and reporting energy saving impacts across the agencies and authorities.

## **Summary of Key Recommendations**

The Task Force concludes that the agencies and authorities currently coordinate and work together very effectively and efficiently to deliver the energy programs. Numerous examples are included in the Report describing efforts of the agencies and authorities to design and implement energy efficiency and distributed generation programs. For the purposes of this report, coordinated activities have been categorized into three major areas: policy and program development; providing technical and financial assistance; and offering marketing and public outreach activities. In addition, the Task Force identified and developed recommendations to facilitate further coordination of the agencies and authorities.

### **Key Recommendations**

Section 4 builds on the findings in Section 3 and highlights recommendations to facilitate the coordination of existing energy programs. A key recommendation is that the process of coordination be continued and formalized. It should involve all agencies and authorities involved in the delivery of energy efficiency programs, and ideally should have a provision for the inclusion of representatives from local organizations that are involved in the delegated administration or delivery of state programs. Reciprocity memberships on board of directors among the three public authorities (NYSERDA, LIPA, and NYPA) would also foster collaboration on such things as the deployment of research and development results. Other recommendations include:

- Standardized protocols for tracking budgets and energy savings would greatly facilitate future coordination and reporting efforts.
- A more in-depth analysis of the provision of both financial and technical assistance could reveal where there may be opportunities to maximize economies of scale and enhance the impact of services.
- Improvement in the effectiveness of marketing and public outreach could be achieved through enhanced centralized coordination, including forming a Statewide marketing working group comprised of representatives of the key agencies and authorities, and by establishing a multi-media clearinghouse to provide a cogent and cohesive picture to the public of the state's programs and clear instructions on how to access the appropriate program by sector.

Section 5 is forward-looking and addresses recommendations to expand energy efficiency programs and distributed generation technologies and practices that go beyond existing programs. The recommendations include suggestions to improve the State energy building code, address interconnection and metering issues, conduct a gap analysis for energy efficiency and distributed generation, expand on the natural gas efficiency pilot program currently underway, and apply transmission and distribution R&D improvements to the electricity grid. In addition,

focused attention on the low-income sector is recommended by stabilizing funding to recipients and requiring that new construction of affordable housing is of the highest efficiency standards. Finally, the State should undertake similar efforts to coordinate and enhance the delivery of energy efficiencies in the transportation sector if we are to fully optimize energy efficiency in the public sector.



## Section 1. INTRODUCTION

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At its most basic level, the challenge of meeting the future energy needs of New York State is a matter of supply and demand. Sustaining and enhancing vigorous and effective efforts to assure the most efficient use of energy resources is crucial to the fundamental task of balancing supply and demand. It is instructive to note that while New York is the nation's fourth largest energy consuming state; it remains among of the most energy-efficient states in the continental United States. On a per-capita basis, New York – with 6.5% of the nation's population -- accounts for only 4.8% of the nation's total primary energy consumption.<sup>2</sup>

Creation of the Conservation Coordination Task Force<sup>3</sup> (“Task Force”) in 2006 provides a welcome opportunity to assess the impact of the wide array of energy efficiency and distributed generation programs established by the State of New York over the past generation. Since the “energy crisis” of the 1970's, a wide variety of initiatives undertaken by various state agencies and authorities, employing ever-expanding arrays of technology, have been undertaken to conserve energy resources.

As noted in the *2002 State Energy Plan*, “The nature of the State's energy efficiency programs has changed markedly over the past twenty years.”<sup>4</sup> To be sure, the size of the Empire State's investment in energy efficiency has grown significantly. In 1984, when the New York State Public Service Commission (PSC) required investor-owned utilities (IOUs) to develop pilot Demand Side Management (DSM) programs, annual funding was initially set at \$25 million. Today, the Task Force finds program funding approximately \$315 million over the past twelve months for energy efficiency and distributed generation projects.

The impressive success of New York State in the arena of energy efficiency has established a sound foundation upon which new achievements may be built to further enhance the Empire State's prudent, effective use of precious energy resources and expand its reliance on clean, renewable sources of energy supply. The members of the Conservation Coordination Task Force hope this report provides a helping hand in developing policies that achieve those worthwhile goals and look forward to working together to make them a reality.

### 1.1. Scope and Purpose of Report

As part of the New York State budget for fiscal year 2006-2007<sup>5</sup>, the Legislature created the Conservation Coordination Task Force to develop recommendations for consideration by the Governor to facilitate the coordination of energy efficiency programs among various named agencies and authorities. The Task Force was charged with preparing a report, by January 30,

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<sup>2</sup> NYSERDA, *Patterns and Trends*, January 2007.

<sup>3</sup> The agencies listed in Part JJ includes, but is not limited to, the chair of the New York State Energy Research and Development Authority (NYSERDA), the chair of the Department of Public Service (DPS), the Chair of the Power Authority of the State of New York (NYPA), the Chair of the Long Island Power Authority (LIPA), the Commissioner of the State Education Department (SED), the Commissioner of the Department of Environmental Conservation (DEC) and the Commissioner of Housing and Community Renewal (DHCR).

<sup>4</sup> *2002 State Energy Plan*, page 3-10.

<sup>5</sup> Chapter 59 of the Laws of 2006, Part JJ.

2007, that includes information on energy efficiency and distributed generation programs, including such elements as financial expenditures, resulting energy savings and potential program changes. In addition, the Task Force was asked to identify program areas where cooperation among the State entities will expand the use and application of energy efficiency and distributed generation technologies. The Task Force was also encouraged to develop recommendations to expand the use and implementation of such technologies and practices.

In order to accomplish the requirements of the Legislation, the Task Force met monthly beginning in October 2006<sup>6</sup> to coordinate analyses and reporting. The Task Force began with the development of a comprehensive inventory of all energy programs relevant to the Legislation. Recognizing that each agency or authority administers its programs using various funding sources, some of which run on different calendar cycles, the Task Force sought to provide information using the most common set of parameters. The same approach was applied in reporting the energy efficiency and distributed generation program achievements.

In order to develop a baseline for recommendations, the Task Force reviewed and prepared a description of how the agencies and authorities currently coordinate activities to effectively and efficiently deliver the energy programs (provided in Section Three). The coordinated activities are presented in the following categories: policy and program development; providing technical and financial assistance; and offering marketing and public outreach activities. As authorized by the legislation, the Task Force developed recommendations to facilitate further coordination (presented in Section Four) and for the expanded use and implementation of these energy programs (presented in Section Five).

## **1.2. Summary of Legislation**

Part JJ of Chapter 59 of the Laws of 2006, the full text of which is attached to this report as Appendix A, authorized the Report to contain the following elements:

- A list and location of the various energy efficiency and distributed generation programs that have been implemented;
- Expenditures related to such programs, including a schedule of total commitments, outstanding encumbrances and quarterly disbursements;
- An assessment of the progress and status of the various programs;
- An analysis of the energy savings resulting from the implemented programs;
- A discussion of any program changes;
- Recommendations to facilitate the coordination of energy programs of the various agencies, departments and public authorities; and
- Identification of program areas where cooperation among agencies, departments and public authorities will expand the use and application of energy efficiency and distributed generation technologies and recommendations for agencies to collaborate in order to most effectively share resources for the implementation of such technologies and practices.

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<sup>6</sup> The Task Force met monthly, on October 17, November 15, December 15, 2006 and on January 17, 2007.

### 1.3. Terms Defined for Report

For purposes of the Report, the Task Force agreed to define energy efficiency and distributed generation as follows:

Energy Efficiency: Energy efficiency is defined as actions or programs that provide permanent reductions in energy use while maintaining equal or greater quality of services.<sup>7</sup> Programs that provide temporary load curtailment or price responsive load management activities are not included. However, load management activities that result in permanent electricity demand reductions are included as energy efficiency programs for the purposes of this report.

Distributed Generation: Technologies that produce electricity at or near the place of consumption, which may include back-up power (diesel generators); self-generation (microturbines, fuel cells), small, customer-sited, intermittent renewable energy sources, such as photovoltaics and small wind turbines.<sup>8</sup>

### 1.4. Funding Resources

Funding for the State's energy efficiency and distributed generation programs is derived from several distinct sources of revenue, including State Budget appropriations from the Special Revenue Fund and the New York State Clean Water/Clean Air Bond Act of 1996 ("Bond Act"), public benefit funds such as the System Benefits Charge (SBC), sales of Commercial Paper Notes by public authorities, user fees, federal, State, and miscellaneous grants, tax credits and legal settlement agreements.

Few revenue streams are permanent, and most are subject to some degree of fluctuation in terms of funding levels. The Bond Act monies are one-time funds. The State's public benefit funds are available for limited periods of time, and are subject to extensive reviews prior to renewal. While the amounts of federal weatherization funds have fluctuated over the years, they have remained available for many decades.

As the potential for energy efficiency improvements looms so large<sup>9</sup>, a case can be made for longer-term commitment of State funding for energy efficiency that would not otherwise occur through market influences alone. For example, public financial assistance for distributed generation technologies and energy efficiency programs can help to create stronger market forces for their deployment. When acting as a stimulus for market development, the need for public funding lessens as the market develops. Periodically, evaluations of the market viability of efficiency measures and distributed generation technologies are conducted to revisit the appropriate levels of funding support deemed necessary. In addition evaluation is periodically done to ensure that improvements resulting from emerging technologies and innovative practices

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<sup>7</sup> New York State Energy Plan and Final Environmental Impact Statement (June 2002).

<sup>8</sup> Williams, Eric, Chris James and Tony Tubiolo, Center for Clean Air Policy, *Distributed Generation and a Forecast of its Growth & Effects on the New York State Electric System from 2001 to 2020*, prepared for the New York State Energy Research and Development Authority (June 11, 2003)

<sup>9</sup> Steve Nadel, "Energy Efficiency Resource Standards: Experience and Recommendations," American Council for and Energy-Efficient Economy Report, EO 63. March 2006.

are included in the scope of approved programs and projects.

This report presents a “snapshot” of current funding, over the most recent 12 months for which there is reported data available. Historical program funding information is also provided, where available. As to the future funding levels, sources such as the SBC are known for a period of time. Others are subject to change annually, and some are fully or nearly fully expended such as the Bond Act and legal settlements.

#### ***1.4.1. State Appropriations***

Base-level funding for some energy programs administered by NYSERDA are financed by appropriations from the Special Revenue Fund which is financed by an assessment on the intrastate gas and electricity sales of the State’s investor-owned utilities and from other sources. Some State agencies receive modest State appropriations that may support certain energy-related programs.

The Clean Water/Clean Air Bond Act of 1996 provided \$125 million to NYPA to implement a Clean Air for Schools program.

#### ***1.4.2. Public Benefit Funds***

Two public benefit revenue streams were created as a result of Orders of the New York State Public Service Commission (PSC). The System Benefits Charge (SBC) is funded by a non-bypassable wires charge on consumers of electricity sold in areas served by investor-owned utilities in the State. The SBC began in 1998 and has been renewed twice. It is currently extended with increased funds through mid-2011.<sup>10</sup>

#### ***1.4.3. NYSERDA-Administered***

NYSERDA administers the SBC through the **New York Energy \$mart<sup>SM</sup>** Program, which is designed to support certain public benefit purposes, including energy efficiency, research and development, environmental protection and low-income programs. In 2004, the PSC issued an Order<sup>11</sup> that adopted a policy of increasing to at least 25 percent, the percentage of electricity used by retail consumers in New York State that is derived from renewable resources. To achieve the State’s Renewable Portfolio Standard, the Order created a second public benefit fund (the RPS), with a non-bypassable wires charge on certain customers of each of the State’s investor-owned utilities. The RPS fund is also administered by NYSERDA. Both of these public benefit funds account for proceeds of specific revenue sources that are legally restricted to the expenditure for specified purposes and comprehensive, in-depth evaluation reports are prepared regularly as part of the administration of these programs.

#### ***1.4.4. LIPA-Administered***

In May 1999, the LIPA Board of Trustees approved the Clean Energy Initiative (the

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<sup>10</sup> Refer to most recent 2006 Order extending the program.

<sup>11</sup> Case 03-E-0188, *Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard*, Order Regarding Retail Renewable Portfolio Standard, (Issued September 24, 2004).

“CEI”), a five-year, \$160 million effort targeted at achieving energy and capacity savings for LIPA, delivering electric bill savings to customers and providing environmental benefits to society. In 2001, the overall commitment was increased by \$10 million through 2003, for a new total of \$170 million. In 2003, LIPA earmarked \$185 million for the CEI for 2004-2008. Currently, the CEI is a 10-year, \$355 million dollar commitment through 2008 to promote clean new electric generation technologies. This funding is collected as part of the overall customer distribution rate and authorized as part of LIPA’s annual budget process.

#### ***1.4.5. Investor-Owned Utility Rate Case Settlement Agreements***

NYSERDA administers energy efficiency and distributed generation programs that are funded through certain investor-owned utility rate case settlement agreements. These agreements are reached through collaborative proceedings under the jurisdiction of the PSC and the programs are generally targeted in nature. The programs currently underway are:

- Consolidated Edison Natural Gas Efficiency Pilot Program. In compliance with the PSC Order Adopting a Gas Rate Plan for the Consolidated Edison Company of New York<sup>12</sup>, NYSERDA was allocated a \$5 million gas efficiency program and a \$200,000 gas efficiency study. The Gas Efficiency Plan, approved in June 2005, provides for new gas efficiency initiatives for firm residential, commercial and low-income gas customers that supplement and expand existing efficiency programs.
- Consolidated Edison System Wide Plan. In compliance with the PSC Order Adopting an Electric Rate Plan for the Consolidated Edison Company of New York<sup>13</sup>, NYSERDA administers a system-wide electric energy efficiency program for customers to achieve at least 150 megawatts of load reduction in the Consolidated Edison service territory. The Program requires Consolidated Edison to fund NYSERDA with no more than approximately \$112 million in program costs (plus applicable administrative and evaluation fee percentages) over the term of the Electric Rate Plan.
- Niagara Mohawk Low-Income Gas Customer Efficiency Program. In compliance with the PSC Order Establishing Gas Efficiency Program,<sup>14</sup> NYSERDA administers a Low-Income Gas Customer Energy Efficiency Program for customers in the National Grid, formerly Niagara Mohawk, service territory. The program is administered through NYSERDA’s existing Assisted Home Performance with ENERGY STAR<sup>®</sup> and EmPower New York programs and has total funding of \$5 million.

#### ***1.4.6. Federal Grants and Miscellaneous Funding Sources***

Federal grants include competitive and formula-driven financial awards from United States government agencies such as the United States Department of Energy (US DOE), the United

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<sup>12</sup> Case 03-G-1671, *Consolidated Edison Company of New York, Inc. Gas and Steam Rates*, Order Adopting the Terms of a Joint Proposal (Issued September 27, 2004).

<sup>13</sup> 04-E-0572, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Rates*, Order Adopting Three Year Rate Plan, (Issued March 24, 2005).

<sup>14</sup> Case 05-G-0668, *Petition of Niagara Mohawk Power Corporation to Implement a Low-Income Gas Customer Energy Efficiency Program*, Order Establishing Gas Energy Efficiency Program, (Issued September 12, 2005).

States Environmental Protection Agency (US EPA), and other federal agencies. For example, the New York State Division of Housing and Community Renewal's Weatherization Program is funded through federal grants allocated by the US DOE and the United States Department of Health and Human Services.

Miscellaneous funding sources include the Electric Power Research Institute (EPRI); and the American Public Power Association Demonstration of Energy-Efficiency (DEED) Program. In some instances, NYPA energy efficiency programs include funding provided by its customers or utility rebates provided by LIPA or Consolidated Edison.

#### ***1.4.7. Tax Credits***

The DEC administers the Green Building Tax Credit (GBTC) Program.<sup>15</sup> under New York State Tax Law, Article 1, Chapter 19. The GBTC was created in 2000 with an initial allocation of \$25 million in tax credits for eligible building owners or tenants. In 2005, new legislation provided an additional \$25 million.

#### ***1.4.8. Legal Settlement Agreements***

As a result of litigation on behalf of the State of New York and through various State regulatory proceedings, NYSERDA, NYPA, and DEC administer energy efficiency and distributed generation programs using the proceeds of legal settlements resulting from litigation on behalf of the State of New York and the United States government.

The proceeds of the following legal settlement agreements are administered by NYSERDA:

- Indian Point Two Joint Proposal;
- Virginia Electric Power Company (VEPCO) Settlement;
- Croton MOU Greening the Bronx – Urban Forestry ;
- Niagara Mohawk Environmental Mitigation Project
- AES Environmental Mitigation Account.

During the 1980's and early 1990's, the US DOE entered into a legal settlement with a number of oil companies resulting from alleged price violations. The proceeds of these legal settlement agreements, referred to as the Petroleum Overcharge Restitution (POCR) Fund, is administered by NYPA, subject to annual State budget legislation which establishes the process for the transfer of the funds and lists the programs and/or project to be funded.

#### ***1.4.9. Public Authorities – Sales of Commercial Paper Notes***

NYPA's Trustees have authorized the expenditure of an aggregate of \$1.88 billion on energy services programs, funded through the sale of Commercial Paper Notes. The expenditures are recovered from the energy savings of program participants and reused in a revolving fund.

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<sup>15</sup> New York State Tax Law, Article I, Chapter 19.

## Section 2. AGENCY REPORTS

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### 2.1. Overview

Section Two contains an individual reporting of the energy efficiency and distributed generation programs of Task Force member agencies and authorities, including program descriptions, financial and budget information and program savings and status. A brief description of each agency or authority is included, as well as any anticipated program changes.

### 2.2. All Programs – Summary and Highlights

The cumulative program expenditures, commitments, and outstanding commitments and encumbrances for each agency are summarized in Table 2.1. The cumulative total funding covers the programmatic activity of each of the agencies/authorities over a specified time frame. For purposes of this Report, the agencies adhered to the following definitions:

- *Budget* - an itemized forecast of an entity's financial plan containing spending authorizations.
- *Encumbrance/Commitment* – an entity's financial obligation in the form of current or future contracts.
- *Expenditure* – costs incurred in connection with an entity's encumbrance/commitment.

A total of over \$2.8 billion has been expended supporting energy efficiency and distributed generation programs over the reporting periods. More detailed program information on financial and energy savings for each agency's program portfolio is contained in Appendix C.

**Table 2.1. Cumulative Program Expenditures (\$,000)**

			Cumulative Outstanding Commitments / Encumbrances
<b>NYSERDA</b>	\$678,503	\$889,395	\$207,980
<b>NYPA</b>	\$1,077,461	\$1,392,385	\$316,114
<b>LIPA</b>	\$203,702	\$203,702	\$-
<b>DHCR</b>	\$382,444	\$382,444	\$-

The most recent 12-month program expenditures for each agency are summarized in Table 2.2. The agencies report a total expenditure of \$314 million for the past year for energy efficiency and distributed generation program activities.

**Table 2.2. Most Recent 12-Month Program Expenditures (\$,000)**

					<b>Most Recent Quarterly Disbursements (Expenditures)</b>
<b>NYSERDA</b>	\$188,232	\$130,639	\$133,786	\$206,181	\$29,561
<b>NYPA</b>	\$102,806	\$103,092	\$106,755	\$316,513	\$34,986
<b>LIPA</b>	\$36,499	\$27,592	\$27,592	\$-	\$6,898
<b>DHCR</b>	\$55,875	\$55,299	\$55,299	\$-	\$18,921



### **2.3. The New York State Public Service Commission**

The New York Public Service Commission (the “Commission”), bipartisan by law since 1970, consists of up to five members, each appointed by the Governor and confirmed by the State Senate for a term of up to six years. The Commission regulates the State’s electric, gas, steam, telecommunications, and water utilities. The Commission also oversees the cable industry. The Commission is charged by law with responsibility for setting rates and ensuring that adequate service is provided by New York’s utilities. In addition, the Commission exercises jurisdiction over the siting of major gas and electric transmission facilities and has responsibility for ensuring the safety of natural gas and liquid petroleum pipelines.

The Chairman, designated by the Governor, is the chief executive officer of the Department of Public Service (the “Department”), which is the staff arm of the Commission. The Department is organized into twelve offices and Department staff represents all ratepayers and the public interest in Commission proceedings, sets service and operating standards for utilities, and administers regulations issued by the Commission.

#### ***2.2.1. List of Energy Efficiency Programs***

The Commission established the System Benefits Charge (SBC), which led to the administration of the **New York Energy \$mart<sup>SM</sup>** Program. The Department manages the General Awareness Program. In addition to the SBC, the Commission approved the creation of a Consolidated Edison Company of New York, Inc. energy efficiency program based, in part, on growing concerns about the adequacy of energy supplies and higher prices for electricity in New York City and Westchester County. The program includes two components: one NYSERDA-administered effort<sup>16</sup> that supplements SBC programs on a system-wide basis, and a Con Edison-administered effort designed to target efficiency measures toward specific areas of the Company’s network where reliability concerns are the highest.

In September 2004, the Commission established the Renewable Portfolio Standard (RPS) Policy that calls for an increase in renewable energy used in the State from the then current level of about 19% to 25% by the year 2013.<sup>17</sup> Although RPS initiatives are generally beyond the scope of this Report, it bears noting that certain renewable energy distributed generation initiatives will be supported by the RPS once the customer-sited tier portion of the program is underway.

#### ***2.2.2. Energy Efficiency Programs Described***

In 1996, the Commission called for the establishment of the SBC to fund public policy initiatives not expected to be adequately addressed by New York’s competitive electricity markets. In 1998, the Commission specified SBC funding levels for three years and the framework for energy programs targeting energy efficiency measures, research and development,

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<sup>16</sup> The pertinent program information for the NYSERDA-administered portion of this program is reported in the NYSERDA section of this Report.

<sup>17</sup> Case 03-E-0188, Proceeding on Motion of the Commission Regarding a Retail Renewable Portfolio Standard, *Order Regarding Retail Renewable Portfolio Standard*, effective September 24, 2004.

and the low-income sector. The SBC was renewed for a five-year period in 2001, with increased funding and additional focus on programs designed to achieve peak-load reductions. In December 2005, the Commission extended the SBC program for an additional five-year period (through June 2011), with an annual funding level of \$175 million. The SBC programs are designed to serve the diverse needs of New York energy consumers from residential homeowners and tenants to manufacturing plants and commercial office buildings.

In conjunction with NYSEERDA, the Department works to educate consumers about awareness and understanding of energy-related issues, such as how to get additional information on energy and utility service-related decisions, conditions, and programs. Public awareness and education consist of broad messaging and information regarding energy challenges facing the State. These programs combine media buys with grass roots programs and initiatives, such as partnering with organizations, schools, and others to distribute materials and participate in public outreach events.

The public awareness campaigns are implemented through an independent advertising agency, in consultation with NYSEERDA and the Department's Division of Consumer Services. The campaigns are generally administered across New York State. However, targeted messages are directed to those areas of the State where energy supplies are tighter or are intended to address specific seasonal conditions.

The objectives of these initiatives are to inform and educate consumers about companies that compete to supply gas and electricity; options for renewable or "green" power; options for saving money or receiving other value-added service benefits; and other services.

### ***2.2.3. Program Coordination with State Agencies***

The SBC program was developed through a comprehensive collaborative administrative proceeding conducted at the direction of the Commission and involved more than 100 stakeholders, including utility companies, environmental advocates, legislators, low-income advocates, and State and federal agencies. The Commission relied on input from these parties to establish the necessity and appropriate funding levels of the energy efficiency programs in order to balance the need for efficiency with utility bill impacts, resource adequacy, and the overall reliability of the State's electric system.

The Commission and the Department regularly monitor the effectiveness of the SBC and work with NYSEERDA to modify the program, as needed, to address changing market dynamics and electric system needs. The Department coordinates with NYSEERDA and other State agencies (such as the Consumer Protection Board), on the development and implementation of energy efficiency programs, and in particular, the public awareness programs.

### ***2.2.4. Funding Information***

Funding for the public awareness campaigns is derived from the public benefit funding and is accounted for in this report as part of NYSEERDA's **New York State Energy \$mart<sup>SM</sup>** budget.

### ***2.2.5. Program Impacts***

Program impacts are reported as part of NYSEERDA's program descriptions in this Report,

and are contained in Appendix C.

#### ***2.2.6. Progress and Status***

Through a combination of media advertisements, consumer-friendly publications, partnerships with community-based organizations, utilities and local governments, and local outreach, New York's energy consumers are seeing and hearing the electric demand reduction program "Have an Energy Smart Summer<sup>SM</sup>" messages more than 200 million times per year.

The reach and frequency of the winter media campaign "Have an Energy Smart Winter" ensures that the program messages are seen, heard or read more than 250 million times per year.

#### ***2.2.7. Anticipated Program Changes***

The current SBC program will continue the overall strategies that were successful in the second renewal of the SBC in 2001, including the use of grassroots communications, mass media, and coordination of messages and methodologies with other SBC programs and certain State agencies, including NYSERDA and the New York State Consumer Protection Board (CPB). In addition, with the forthcoming implementation of the customer-sited tier incentives under New York's Renewable Portfolio Standard<sup>18</sup>, incentives for such renewable energy technology applications will be administered through the RPS, and subsequently, will no longer be available through the **New York Energy \$mart<sup>SM</sup>** Program.

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<sup>18</sup> In September 2004, the Commission issued its "Order Approving Renewable Portfolio Standard Policy" that identified the RPS policy that calls for an increase in renewable energy used in the State from the then current level of about 19% to 25% by the year 2013.

### **2.3. The New York State Energy Research and Development Authority**

The New York State Energy Research and Development Authority (NYSERDA) is a public benefit corporation created in 1975 under Title 9 of the State Public Authorities Law.

NYSERDA is governed by a Board consisting of 13 Members, including the Commissioner of the Department of Transportation, the Commissioner of the Department of Environmental Conservation, the Chair of the Public Service Commission, and the Chair of the Power Authority of the State of New York, who serve ex-officio. The remaining nine Members are appointed by the Governor with the advice and consent of the Senate and include an engineer or research scientist, an economist, an environmentalist, a consumer advocate, an officer of a gas utility, an officer of an electric utility, and three at-large members, as required by statute. The Board Chair is designated by the Governor.

NYSERDA's mission is to use innovation and technology to solve some of New York's most difficult energy and environmental problems in ways that improve the State's economy. NYSEDA is organized functionally around major program areas and services which enables it to remain flexible and responsive to stakeholders' needs.

#### ***2.3.1. List of Energy Efficiency Programs***

##### *Residential Energy Affordability Programs*

- Home Performance with ENERGY STAR®
- New York ENERGY STAR®-Labeled Homes
- ENERGY STAR® Products
- Multifamily Building Performance
- EmPower New York
- Communities and Education Program
- Buying Strategies and Energy Awareness Program

##### *Commercial, Industrial, Institutional, Municipal*

- Enhanced Commercial/Industrial Performance Program
- New Construction Program
- Loan Fund Program
- Peak-Load Reduction Program
- Municipal Water and Wastewater Treatment Plant Program
- FlexTech/Technical Assistance Program
- Small Commercial Lighting Program
- Aggregated Demand Reduction Program
- Consolidated Edison System-Wide Program

- Consolidated Edison Natural Gas Efficiency Program

*Research and Development*

- Industry Research and Development
- Buildings Research and Development
- Demand Response and Innovative Rate Research
- Transportation and Power Systems
- Energy Resources
- Environmental Research
- Customer-Sited Distributed Generation
- Agriculture

*Renewable Portfolio Standard*

**2.3.2. Energy Efficiency and Distributed Generation Programs**

NYSERDA offers a variety of programs for all energy end-use sectors. The programs are offered through NYSERDA’s **New York Energy \$mart<sup>SM</sup>** program, the Research and Development Program and the Renewable Portfolio Standard. In addition, NYSERDA administers programs through its **New York Energy \$mart<sup>SM</sup>** program in specific geographic areas in the State. NYSERDA’s energy efficiency and distributed generation programs are organized into the following areas: Residential Energy Affordability; Energy Efficiency Services (commercial, industrial, institutional, municipal and transportation); Research and Development (Industry, Buildings, Transportation and Power Systems, Energy Resources and Environmental) and the Renewable Portfolio Standard.

**2.3.3. Residential Energy Affordability Programs**

Home Performance with ENERGY STAR.<sup>®</sup> This performance-based program emphasizes a “house as a system” approach to residential contracting, and provides subsidized training and helps contractors obtain certification and accreditation from the Building Performance Institute (BPI). A participating BPI-accredited contractor performs a Comprehensive Home Assessment, makes recommendations and installs the agreed to energy efficiency improvements. Low-interest financing options are available to help pay for the work.<sup>19</sup> Since its launch in 2001, over 12,500 homes have received services through Home Performance with ENERGY STAR<sup>®</sup>. Of these, 4,800 were low-income households. Average household savings are approximately \$600 per year.

New York ENERGY STAR<sup>®</sup> Labeled Homes. This program provides builders with technical assistance and targeted financial incentives to encourage the adoption of energy-efficient design features and the installation of more energy-efficient equipment. The program also promotes integrating renewable and geothermal technologies into these homes. By employing the use of Home Energy Rating System raters as an independent third-party, homes are verified to be

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<sup>19</sup> For income eligible households, a subsidy of up to 50% of the costs for the energy efficiency improvements is available through the Assisted Home Performance with ENERGY STAR component.

constructed to program guidelines. Since its launch in 2001, over 8,000 New York ENERGY STAR<sup>®</sup> Labeled Homes have been built with the average homeowner saving approximately \$1,150 per year.

ENERGY STAR<sup>®</sup> Products. This program saves energy by increasing the market share of ENERGY STAR<sup>®</sup> and energy-efficient products in homes throughout the State by addressing both the supply and demand for these products including appliances, lighting, and home electronics. A multi-media advertising and education campaign communicates the advantages of choosing ENERGY STAR<sup>®</sup> and energy-efficient products. The program provides training to retail and manufacturing partners and provides point-of-purchase (POP) material, promotional videos, and other help as needed. Incentives are available to retail and manufacturing partners to encourage and assist in ENERGY STAR<sup>®</sup> product promotions and advertising campaigns. In 2005 alone, ENERGY STAR<sup>®</sup>-qualified products saved consumers an average of 68 kW per appliance and 107 kWh per light fixture.

Multifamily Building Performance. This program provides assistance to owners of multifamily buildings to improve the energy efficiency of their buildings. An assessment is conducted of the building and mechanical systems to determine cost-effective measures to lower energy costs and improve the health, safety and comfort of the residents. Using a whole building approach, the program takes into consideration the interactive effects of building systems. Building owners receive design and construction monitoring assistance, and access to low-interest rate financing. Owners of low income buildings can receive incentives for the installation of cost-effective measures. Technical and financial incentives are also available for the installation of the advanced metering and direct-load control technologies, and another component provides assistance to developers of new multifamily buildings to improve their energy efficiency.

EmPower New York<sup>SM</sup>. In 2004, NYSERDA launched EmPower New York building on lessons learned in two earlier programs, Direct Install and the Weatherization Network Initiative. Like the earlier programs, EmPower New York focuses on electric reduction measures, but also provides shell and heating system measures when they offer the best means to reduce the household energy burden. EmPower New York services are delivered by a network of weatherization agencies and private contractors, all of whom are accredited by the Building Performance Institute. Energy education includes in-home sessions and community workshops. Through September 2006, over 8,400 households have received services at an average cost of \$1,150 resulting in average annual savings of over \$250 per household.

Communities and Education Program. This program provides face-to-face contact with State residents on energy efficiency topics and NYSERDA programs through schools, local seminars and workshops and events. Two initiatives comprise this program: Energy Smart Students and New York Energy Smart Communities. Energy savings are not directly attributable to this program, but are captured, at least in part, by increased participation in other programs.

Buying Strategies and Energy Awareness Program. This program provides additional outreach, education, and communication and marketing support targeted specifically at underserved low-income regions or sectors. Initiatives include Buying Strategies, Targeted Marketing and Outreach, Energy Smart Students, and the Low Income Forum on Energy (LIFE). Energy savings are not directly attributable to this program, but are captured, at least in part, by increased

participation in other programs.

#### ***2.3.4. Energy Efficiency Services (Commercial, Industrial, Institutional, Municipal)***

**Enhanced Commercial/Industrial Performance Program.** This program offers several strategies to obtain financial incentives for energy efficiency projects. The program is divided into three tiers: Tier I offers pre-qualified incentives for the purchase and installation of energy-efficient equipment such as lighting and controls, motors, HVAC equipment, variable-speed drives, commercial refrigeration, and kitchen equipment. Tier II enables eligible participants to receive incentives based on kWh saved through the installation of energy efficiency measures. A technical engineering analysis of the energy savings is required. Tier III provides performance-based financial incentives to contractors/energy service companies (ESCOs) who implement energy efficiency projects for eligible customers. Performance-based financial assistance for eligible Combined Heat and Power (CHP) projects are only available in the Con Edison territory.

**New Construction Program.** This program provides incentives to customers who elect to install energy-efficient equipment in new construction or renovation projects. The program goal is to produce a permanent improvement in “standard” design practices among building designers and owners that will continue after this program ends, without the need for additional financial incentives. The program provides technical assistance and financial incentives to customers including: building owners and leaseholders, designers, contractors, design/build firms, construction companies, major equipment vendors and distributors. This program also provides specialized green building assistance to interested customers. The Green Building Program provides computer modeling and materials analysis and offers assistance in complying with LEED® (the U.S. Green Building Council’s Rating System). This program has provided assistance to more than 1,200 customers representing 129,200,151 sq.ft. of construction activity and led to partnerships with nearly 800 Architects and Engineers on these projects. This program is also providing green buildings services to 196 customers, many of these projects are seeking a LEED® rating for their building.

**Loan Fund Program.** The **New York Energy \$mart<sup>SM</sup>** Loan Fund Program provides interest rate reductions on loans for energy-efficiency projects and renewable technologies to eligible businesses and institutions. Through a network of participating lending and leasing institutions, the Loan Fund subsidizes the lender thus buying down the interest rate by up to 6.5% in Con Edison territory and by up to 4.0% for most of the rest of the State. Since its inception, the Loan Fund has approved over 440 loans for businesses and institutions, representing over \$100 million in loan activity. Over 70 banks participate in the Loan Fund while six of those lenders have submitted over 100 loans applications.

**Peak-Load Reduction Program.** This program is designed to improve electric system reliability and system load factor, as well as reduce electric costs through coincident summer demand reduction (particularly in New York City). The program offers several components geared to specific demand reduction strategies including Permanent Demand Reduction (PDR), Interval Meter (IM) installation, Distributed Generation (DG), and Load Curtailment/Shifting.

Since 2001, the Peak-Load Reduction Program has committed \$62 Million to over 1,600 customers. The program has enabled nearly 500 MW of demand reduction, the equivalent of a

large power plant.

Municipal Water and Wastewater Treatment Plant Program. This program offers municipalities cost-sharing opportunities for energy studies, capital incentives for the installation of energy-efficient equipment and processes, and research and demonstration of innovative technology projects that produce energy savings for municipal water and/or wastewater treatment plants. As of December 2006, the program has directly assisted 32 water and wastewater facilities in New York State, with anticipated annual benefits of more than \$2.5 million. This targeted water and wastewater programs are also supplemented by a variety of other SBC programs such as FlexTech, Technical Assistance, Smart Equipment Choices and the Enhanced Commercial Industrial Performance Program.

FlexTech/Technical Assistance Program. This program provides cost-sharing for customized technical studies including: energy feasibility, energy operations management, retro-commissioning (RCx) and energy procurement and aggregation studies. This program also provides guidance for CHP and renewable generation, process improvements, waste minimization opportunities, and improved environmental performance. Customers may use NYSERDA's pre-selected consultants, or choose their own energy firm. Through this program, NYSERDA has awarded over \$24 million dollars and has saved more than 100 MW and over 3 million MMBtus statewide. These savings are derived from the 2,700 studies that have been completed.

Small Commercial Lighting Program. This program promotes effective, energy-efficient lighting by providing training and assistance to lighting contractors, designers, and distributors in installing and designing these systems in commercial areas of 25,000 square feet or less. The program seeks to increase the use and availability of energy-efficient lighting.

Aggregated Load Reduction Program. This program provides incentives to large scale contractors to develop and implement a range of demand management strategies to reduce peak-coincident electric load in the Con Edison service territory. Projects will include load reduction achieved through energy efficiency, Distributed Generation/Combined Heat and Power (DG/CHP), and demand response (DR). Four contractors were competitively and have committed to large scale, multi-year, load reductions totaling 37 MW.

Consolidated Edison System -Wide Program. This program offers funds through its *Power-Saving Partners* initiative. This program is available to eligible customers in the Con Edison Service territory and offers more than \$112 million in incentives through enhanced versions of several **New York Energy \$mart<sup>SM</sup>** programs.

Natural Gas Efficiency Program. This program is for natural gas customers served by Consolidated Edison and offers firm-rate Con Ed gas customers audits and analyses to help manage gas costs and run facilities more productively and efficiently. It assists businesses in making informed energy decisions and implement energy efficiency strategies.

### ***2.3.5. Research, Development, and Demonstration (RD&D)***

Industry. The industry program works with manufacturing, agriculture, and the high-technology industries to: enhance manufacturers' competitiveness; encourage capital investment and jobs growth; introduce goods manufactured in New York into new markets; encourage adoption of process changes that minimize waste; and inspire development of innovative environmental



products. The program demonstrates and promotes adoption of process and productivity enhancements, pollution prevention and waste mitigation strategies, use of distributed energy resources, and various emerging energy technologies, such as hydrogen. NYSERDA is also creating a Power Transmission and Distribution RD&D program to enhance power quality and reliability and to reduce the cost of electricity and energy delivery.

Buildings. The buildings program offers assistance to develop and demonstrate innovative building technologies in the areas of heating and cooling, lighting, building envelope, controls and meters, and distributed generation and combined heat and power.

Demand Response and Innovative Rate Research. To enhance customer choice and expand demand responsiveness in the retail electricity marketplace, RD&D will co-fund pilot projects that demonstrate and evaluate the use of innovative time-sensitive electricity rates and technologies that facilitate their adoption. RD&D will seek projects that take advantage of the peak reduction capabilities associated with the use of photovoltaic (PV) technology and advanced monitoring and control technologies.

Transportation and Power Systems. The Transportation and Power Systems program supports technologies that help New York's businesses remain productive and successful and provide energy users with options that reduce costs and improve energy reliability and security. Such technologies include fuel cells, advanced power electronics, energy storage systems, and advanced motors and generators. New York is the national leader in the manufacture and use of transit buses, subways, ferries, and advanced power generation equipment.

Energy Resources. The energy resources program focuses on increasing the State's supply of indigenous energy resources and the economic development opportunities inherent in the manufacture, extraction, and deployment of these resources. The resources emphasized in the Energy Resources program include natural gas, petroleum, wind, solar, hydropower, and biomass.

*Solar.* These programs are designed to help develop and implement a sustainable market for grid-connected solar electric or PV energy for all applications, including homes, businesses, schools, or farms. NYSERDA has information and tools to help customers make an informed decision about investing in a solar electric system. For example, the Clean Power Estimator is a tool for evaluating the costs and benefits of a PV system; financial incentives are available to qualified New York residents; and technical training programs for system installers, utility and local inspectors, and others insure that systems are installed and operate reliably.

*Wind.* NYSERDA, through its **New York Energy Smart<sup>SM</sup>** program, provides incentives to help customers install an on-site or small wind power energy system at their home or business to offset their electricity purchases from the utility. Cash incentives for installing wind energy are available in New York and vary between 15-70% depending on the installation. Small wind energy systems can be grid-connected or in stand-alone applications that are not connected to the utility grid.

*DG-CHP.* This program demonstrates high-efficiency CHP systems in industrial, institutional, commercial, and residential applications, which serve as models for others to replicate. It also addresses hurdles to widespread deployment of CHP imposed by

existing siting and permitting regulations, utility interconnection rules, and standby service tariffs. A large number of New York State manufacturers could potentially supply emerging power generation technologies such as fuel cells and critical components and subsystems such as power electronics, heat exchangers, and gas compressors.

Commercialization of DG-CHP technology will lower installation costs, further reducing energy costs.

*Agriculture.* NYSERDA's Agricultural Waste Management Program focuses on farms under pressure to control contaminants from manure. To meet these challenges, farms are partnering with NYSERDA to evaluate a variety of potential technological solutions, innovative business structure, and community waste management systems that could improve system economics and farm profitability. Technologies being evaluated include: anaerobic digestion of manure, on-site production of electricity from digester biogas; and composting of manure and digested solids. NYSERDA has contracted with Cornell to help transfer program results throughout New York State. NYSERDA is also supporting projects at industrial facilities in New York to produce biogas and reduce waste with anaerobic digestion technology.

Environmental Research. This cross-cutting program develops and demonstrates energy-efficient technologies used in waste management and pollution control, and supports research to understand and mitigate environmental impacts of energy production and use. This program interacts with several other program areas within NYSERDA and a host of external stakeholders. RD&D is expanding its Environmental Monitoring, Evaluation and Protection (EMEP) Program to explore innovative policy, institutional, and technical solutions to help reduce greenhouse gas emissions and mitigate potential impacts of climate change, and support monitoring data in New York State to assess and evaluate impacts of energy use on climate change. The EMEP Program will also conduct new research to assess and minimize environmental impacts of alternative energy resources such as wind and tidal power. This information will be shared with policymakers, energy developers, and communities that seek to better understand the benefits and impacts associated with these types of facilities.

#### Renewable Portfolio Standard

NYSERDA has developed initiatives that support emerging renewable technologies on the customer side of the meter, including photovoltaics, small wind, fuel cells, and biogas systems. NYSERDA also provides financial incentives in the form of premium payments based on energy sold into New York's wholesale electricity market for the rights to associated renewable energy attributes.

#### **2.3.6. Funding Information**

NYSERDA receives funding through public benefit funds, State appropriations, federal grants, and various legal settlement agreements.

*Public Benefit Funds.* NYSERDA is the administrator for two revenue streams pursuant to Public Service Commission Orders. NYSERDA administers public benefit programs funded by a non-bypassable wires charge on consumers of electricity sold in the State through mid-2011. The program, named the **New York Energy \$mart<sup>SM</sup>** program, is designed to support certain public

benefit programs, including energy efficiency, research and development, environmental protection and low-income programs. Pursuant to a 2004 Order that adopted a policy of increasing the percentage of electricity used by retail consumers in New York State that is derived from renewable resources to at least 25%, NYSERDA administers the Renewable Portfolio Standard funded with a non-bypassable wires charge on certain customers of each of the State's investor-owned utilities. Both of these funding streams account for proceeds of specific revenue sources that are legally restricted to the expenditure for specified purposes and regular, detailed evaluation reports are prepared as part of the administration of these programs.

*State Appropriations.* Base funding for some energy programs administered are financed by appropriations from the Special Revenue Fund which is funded by an assessment on the intrastate gas and electricity sales of the State's investor-owned utilities and from other sources, including annual contributions from the New York Power Authority (NYPA) and the Long Island Power Authority (LIPA).

*Federal Grants.* Federal grants represent competitive financial awards from federal agencies such as the United States Department of Energy (US DOE), the United States Environmental Protection Agency (US EPA), and others.

*Legal Settlement Agreements.* NYSERDA administers funds allocated as a result of several different legal settlement agreements that resulted from certain litigation and regulatory proceedings.

Indian Point Two Joint Proposal. As a result of a March 2000 administrative proceeding<sup>20</sup> before the New York State Public Service Commission, a Joint Proposal was entered into on February 12, 2004, among various parties whereby NYSERDA was allocated \$2.5 million to fund one or more energy efficiency programs for low-income customers in the Consolidated Edison Company of New York electric service territory.

Virginia Electric Power Company (VEPCO) Settlement. In 2003, a settlement was reached between various parties in which New York State is to be allocated \$2.1 million to install solar photovoltaic technology on municipal buildings in New York.<sup>21</sup> This program is administered through NYSERDA's solar photovoltaic program using the parameters of \$6.00 per watt, or 80% of the proposal cost (whichever is less), up to \$240,000 per building, with some modifications for "load pocket" or "critical load" applications.

Croton MOU Greening the Bronx - Urban Forestry. In October 2004, an Agreement<sup>22</sup> was entered into among several parties whereby, as partial mitigation of the discontinuance of

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<sup>20</sup> Case 00-E-0612, *Proceeding on Motion of the Commission to Investigate the Forced Outage at Consolidated Edison Company of New York, Inc.'s Indian Point No. 2 Nuclear Generating Facility, Petition of Certain Members of the New York State Legislature Regarding Indian Point No. 2 Outage*, Order Adopting Terms of Joint Proposal, Issued and Effective February 12, 2004.

<sup>21</sup> *United States of America v. Virginia Electric and Power Company*, Nos. 03-517-A and 03-603-A (E.D. Va. 2003).

<sup>22</sup> Agreement dated October 15, 2004 between the City of New York, through the New York City Department of Environmental Protection, and NYSERDA, pursuant to a *Consent Decree* entered into on November 24, 1998, as supplemented by *Supplement to Consent Decree* entered on May 2, 2002 between the United States, the State of New York and New York City.

park land for the Croton Filtration Facility, NYSERDA was allocated \$10 million for a “Greening the Bronx” project to provide a portfolio of benefits, including: helping to reduce energy consumption, creating habitat, and helping to mitigate high ambient air temperatures in targeted urban areas of the Bronx.

Consolidated Edison Natural Gas Efficiency Pilot Program. In compliance with the New York State Public Service Commission Order Adopting a Gas Rate Plan for the Consolidated Edison Company of New York<sup>23</sup>, NYSERDA was allocated a \$5 million gas efficiency program and a \$200,000 gas efficiency study. The Gas Efficiency Plan, approved in June 2005, provides for new gas efficiency initiatives for firm residential, commercial and low-income gas customers that supplement and expand existing efficiency programs.

Consolidated Edison System Wide Plan. In compliance with the New York State Public Service Commission Order Adopting an Electric Rate Plan for the Consolidated Edison Company of New York<sup>24</sup>, NYSERDA administers a system-wide electric energy efficiency program for customers to achieve at least 150 megawatts of load reduction in the Consolidated Edison service territory. The Program requires Consolidated Edison to fund NYSERDA with no more than approximately \$112 million in program costs (plus applicable administrative and evaluation fee percentages) over the term of the Electric Rate Plan.

Niagara Mohawk Low-Income Gas Customer Efficiency Program. In compliance with the New York State Public Service Commission Order Establishing Gas Efficiency Program<sup>25</sup> in Case No. 05-G-0668, NYSERDA administers a Low-Income Gas Customer Energy Efficiency Program for customers in the National Grid, formerly Niagara Mohawk, service territory. The program is administered through NYSERDA’s existing Assisted Home Performance with ENERGY STAR<sup>®</sup> and EmPower New York programs and has total funding of \$5 million.

AES Environmental Mitigation Project Account.<sup>26</sup> The MOU between NYSERDA, DEC and the New York State Office of the Attorney General provides \$455,000 to fund three low-income energy efficiency projects in Broome and Yates counties. An additional \$452,000 provided under the MOU funds a School Bus Emission Reduction project in Broome, Yates, and Seneca counties.

Niagara Mohawk Environmental Mitigation Project.<sup>27</sup> The MOU between NYSERDA, DEC,

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<sup>23</sup> Case 03-G-1671, *Consolidated Edison Company of New York, Inc. Gas and Steam Rates*, Order Adopting the Terms of a Joint Proposal (Issued September 27, 2004).

<sup>24</sup> 04-E-0572, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Rates*, Order Adopting Three Year Rate Plan, (Issued March 24, 2005).

<sup>25</sup> Case 05-G-0668, *Petition of Niagara Mohawk Power Corporation to Implement a Low-Income Gas Customer Energy Efficiency Program*, Order Establishing Gas Energy Efficiency Program, (Issued September 12, 2005).

<sup>26</sup> On January 11, 2005, the Office of the Attorney General and the DEC entered into a Consent Decree with AES and New York State Electric and Gas which, in part, established the AES Environmental Mitigation Account.

<sup>27</sup> On October 12, 2005, NYSERDA, DEC and the Office of the Attorney General entered into an MOU to implement the Niagara Mohawk Environmental Mitigation Project.

and the Office of the Attorney General provides \$3 million to fund three environmental benefit projects in Western New York. These include: a low-income lighting and appliance efficiency project; a low-income coal conversion project; and a school bus emissions reduction project.

**2.3.7. Program Budget**

**Table 2.3. NYSERDA Cumulative Program Expenditures (\$,000)**

			Cumulative Outstanding Commitments / Encumbrances
NYSERDA	\$678,503	\$889,395	\$207,980

**Table 2.4. NYSERDA Most Recent 12-Month Reporting (\$,000)**

					Most Recent Quarterly Disbursements (Expenditures)
NYSERDA	\$188,232	\$130,639	\$133,786	\$206,181	\$29,561

**2.3.8. Progress and Status**

Financial and energy savings impacts for NYSERDA’s energy efficiency and distributed generation program portfolio is contained in Appendix C.

**2.3.9. Anticipated Program Changes**

NYSERDA has reviewed its program portfolio and each of its constituent programs and identified opportunities for program consolidation and simplification that are expected to lead to a more homogeneous presentation to the public and greater ease of access by customers. In addition, NYSERDA has identified ways to improve coordination among programs through joint marketing strategies, a streamlined customer application process, and by simplifying and standardizing program monitoring, and data collection.

## **2.4. The New York Power Authority**

The New York Power Authority (NYPA) is the Nation's largest state-owned electric utility, with 18 generating stations and 1,400 circuit-miles of transmission lines across New York State. NYPA provides low-cost power to government agencies; job-producing companies; municipally-owned; and rural-cooperative electric systems; and private utilities for resale-without-profit to their customers. NYPA is a national leader in promoting energy efficiency and the development of clean energy technologies, as well as providing electric and hybrid vehicles.

In 2006, NYPA invested a record \$110 million in energy-efficiency projects and surpassed \$1 billion of cumulative investments over the past 15 years. NYPA has financed and administered nearly 1,500 energy efficiency projects in government buildings, schools and other public facilities throughout the State. The completed projects have resulted in savings of \$95 million in energy costs and reduction of electricity consumption by some 890,000 megawatt-hours (MWh), annually.

NYPA operates without the use of tax dollars or State credit, financing its operations with revenues earned from sales of electricity and through the sale of bonds and notes for capital projects.

### ***2.4.1. List of Energy Efficiency and Distributed Generation Programs***

Ongoing:

- Energy Services Program (Statewide)
- Governmental Customers Energy Services Program
- Clean Air for Schools Program
- New York City BOE Climate Controls
- NYCHA Instant Hot Water Replacement Program
- Customer Facility Upgrades in Support of Peak-Load Management Program
- Petroleum Overcharge Restitution (POCR) Energy Efficiency and Renewable Grants Program

Completed (or consolidated into ongoing programs):

- Statewide High-Efficiency Lighting Program (HELP)
- County and Municipal HLEP
- Long Island HELP
- Public Schools HELP
- Distributed Generation Program
- Southeastern New York (SENY) HELP and SENY HELP Long-Term Energy Partnership (LTEPA)
- Electrotechnologies
- Non-Electric End-Uses

- Industrial Program
- New Construction Rebates
- Public Housing
- Steam Air Conditioning
- Watt Busters Program
- Combustion Turbines Emissions Offset Fuel Cells Program
- POCR Coal Pilots Program
- POCR College and University Program
- POCR Solar Grant Program
- POCR Hybrid-Electric Transit Bus Program

#### ***2.4.2. Energy Efficiency and Distributed Generation Programs Described***

All geographic areas of New York State are covered by some programs; others are specific to NYPA customer locations (*i.e.*, Governmental customers in New York City and Westchester County). Program descriptions contain more detailed information on geographic eligibility. The programs are being offered to public entities throughout the State, including county and municipal entities, other state authorities and agencies, to public and private school districts or boards and colleges, to NYPA governmental customers in New York City and Westchester County, to NYPA's municipal and rural cooperative electric customers, and certain business customers of NYPA. The programs are administered by the NYPA Energy Services and Technology Business Unit.

#### ***2.4.3. Ongoing Programs.***

Energy Services Program (Statewide). Public entities throughout the State are provided with financing and turn-key installation of energy efficiency measures, including lighting, HVAC, energy management systems, motors, and other efficiency measures. When combined with the Petroleum Overcharge Restitution (POCR) Energy Efficiency and Renewable Grants Program (described below), the Energy Services Program (Statewide) also offers measures such as the installation of fuel cells, micro-turbines, photovoltaic (PV) systems and reciprocating engines in a combined heat and power configuration. The program is financed through NYPA financing.

Governmental Customers Energy Services Program. New York City and Westchester governmental customers are provided with financing and installation of energy-efficient lighting, boilers, chillers, motors, energy management systems, sensors, and other energy efficiency measures, as well as installation of fuel cells, micro-turbines, PVs and reciprocating engines in a combined heat and power configuration. The program is financed through NYPA financing.

Clean Air for Schools Program. NYPA replaced coal-fired heating systems and is in the process of replacing No. 6 heavy oil burning systems in public schools with cleaner and more energy-efficient heating systems fired by oil or gas. The program is financed through the 1996 New York State Clean Water/Clean Air Bond Act.

New York City BOE Climate Controls. Projects to improve air compressors, steam distribution

and thermostatic controls in New York City schools. The program is funded by New York City Department of Education funds.

NYCHA Instant Hot Water System Replacement Program. This program provides for the installation of instant hot water system at New York City Housing Authority facilities. The program is funded by New York City Housing Authority funds.

Customer Facility Upgrades in Support of Peak-Load Management (PLM) Program. New York City and Westchester governmental customers are provided with financing, technical services and upgrades of generation equipment and related systems at facilities participating in the PLM program. The program is funded through NYPA financing.

Petroleum Overcharge Restitution (POCR) Energy Efficiency and Renewable Grants Program. Grants and rebates are provided to participants to implement energy efficiency projects. Eligible measures include lighting, motors, roofing, window replacement, fuel cells, energy management systems, HVAC and other projects that meet the eligibility criteria. This program is funded with Petroleum Overcharge Restitution funds appropriated by NYPA by the New York State Legislature for use by NYPA consistent with the POCR program.

#### ***2.4.4. Completed Programs***

Statewide High-Efficiency Lighting Program. State-owned facilities were provided with financing and installation of energy efficient lighting, motors, energy management systems, sensors, HVAC improvements and other energy efficiency measures, as applicable. This program is now part of the Energy Services Program (Statewide). This program was funded through NYPA financing and utility rebates.

Long Island HELP. Long Island schools were provided with financing and installation of energy-efficient lighting, as well as motors, energy management systems, sensors, and other energy efficiency measures, as applicable. This program is now part of the Energy Services Program - Statewide. This program was funded through NYPA financing and utility rebates.

Public Schools HELP. Public schools throughout the State were provided with financing and installation of energy efficient lighting, motors, energy management systems, sensors, HVAC improvements and other energy efficiency measures, as applicable. This program is now part of the Energy Services Program - Statewide. This program was funded through NYPA financing and utility rebates.

Distributed Generation Program. This program supported the installation of fuel cells, microturbines, PVs and reciprocating engines in a combined heat and power configuration, wherever feasible. It relies on a variety of fuels, such as solar, natural gas, anaerobic digester gas or landfill gas. This program is now being offered under the Governmental Customers Energy Services Program and the Energy Services Program - Statewide. This program was funded by NYPA financing, federal and State grants.

Southeastern New York (SENY) HELP and SENY HELP Long Term Energy Partnership (LTEPA). SENY customers were provided with financing and installation of energy-efficient lighting, as well as motors, energy management systems and sensors, and other energy efficiency measures, as applicable. This program is now being offered under the Governmental Customers



Energy Services Program. This program was funded through NYPA financing.

Electrotechnologies. New York City and Westchester governmental customers were provided with financing, technical services and installation of energy efficient electric technologies, such as chillers and water purification. This program is now being offered under the Governmental Customers Energy Services Program. This program was funded through NYPA financing.

Non-Electric End-Uses. New York City and Westchester governmental customers were provided with financing, technical services and installation of energy-efficient non-electric measures, such as domestic water systems and boilers. This program is now being offered under the Governmental Customers Energy Services Program. This program was funded through NYPA financing.

Industrials Program. NYPA's industrial customers were provided with NYPA financing to promote measures that increase the energy efficiency of the electrical equipment used in product manufacturing.

New Construction Rebates. Rebates were provided to New York City and Westchester governmental customers for installation of high efficiency lighting and motors in new facilities. This program was funded by NYPA financing.

Public Housing. Old refrigerators were replaced in New York City Housing Authority buildings with new units using half the energy and a more environmentally benign refrigerant. This program was funded through NYPA financing.

Steam Air Conditioning. Rebates were provided to SENY customers for the conversion of steam-powered central air-conditioning systems to electric. This program was funded through NYPA financing.

Watt Busters Program. Home energy audits and weatherization services were provided to residential customers served by NYPA's municipal and cooperative system customers. This program was funded by NYPA financing.

Combustion Turbines Emissions Offset Fuel Cells Program. This program supported the installation of phosphoric acid fuel cells, powered by natural gas and anaerobic digester gas. NYPA owns and operates the fuel cells. The fuel cells were installed at four NYC DEP wastewater treatment sites. The program was funded by NYPA financing, federal and State grants.

Petroleum Overcharge Restitution (POCR) Coal Pilots Program. NYPA financed and replaced coal-fired heating systems in New York City public schools with cleaner and more energy efficient heating systems fired by oil or gas. This program was funded by POCR funds and NYPA financing.

POCR College and University Program. Interest-free loans were provided for energy efficiency projects at private college and universities throughout New York State. This program was funded by POCR funds.

POCR Solar Grant Program. This program provided grants, technical services and installation of solar photovoltaic systems, funded by POCR funds.

POCR Hybrid-Electric Transit Bus Program. POCR funds were used to support the procurement by New York City Transit (NYCT) of hybrid-electric transit buses.

#### ***2.4.5. Funding Information***

Funding Sources. NYPA funds its energy efficiency programs through several sources, including NYPA financing as approved by the Trustees, proceeds from the New York State Clean Water/Clean Air Bond Act of 1996, proceeds from the Petroleum Overcharge Restitution Funds, federal and State grants, utility rebates and NYPA customer funds.

NYPA financing. The Trustees of the New York Power Authority have authorized (as of December 31, 2005) the expenditure of an aggregate of \$1.88 billion on energy services programs, the funds for which are provided from the sale of NYPA's Commercial Paper Notes. NYPA recovers its expenditures on these programs, including its financing costs, from the participants in these programs and/or the customer classes receiving benefit from the programs, over periods not exceeding ten years, except for certain projects meeting specified criteria and implemented after April 1, 2002 which may have recovery periods extending up to 20 years.

New York State Clean Water/Clean Air Bond Act of 1996. The New York State Clean Water/Clean Air Bond Act of 1996 allocated \$125 million of Bond Act proceeds to NYPA for the implementation of Clean Air for Schools Program. As of December 31, 2005, the Authority had received \$125 million in funding for the 1996 Bond Act purposes and is implementing the conversions.

Petroleum Overcharge Restitution (POCR) Funds. Since State fiscal year 1995-1996, NYPA has been authorized to administer Petroleum Overcharge Restitution (POCR) funds provided to New York State. Annual state budget legislation establishes the process for the transfer of the funds to NYPA and lists the programs and/or projects to be funded. From 1995 to 2002, NYPA Trustees authorized the transfer of \$60.1 Million to the State treasury. In return, POCR moneys contained in the Federal operating grants fund were transferred to the statewide energy improvement account and subsequently to NYPA. An additional \$700,000 in POCR monies will be transferred under provisions of SFY 2006-2007 budget legislation.

Other. In addition to the funding sources described above, NYPA energy services programs have received funding from federal and state grants, utility rebates and NYPA customer funds. These sources of funding include: Consolidated Edison Company of New York, Inc. and Long Island Power Authority rebate programs; US DOE Energy Climate Change Program; Electric Power Research Institute (EPRI)-tailored collaboration program; American Public Power Association Demonstration of Energy-Efficiency (DEED) Program; NYSERDA Enhanced Commercial and Industrial Performance Program (ECIPP); NYSERDA Flexible Technical (FlexTech) Program; and other NYSERDA Program Opportunity Notice (PON) for distributed generation technologies.

#### ***2.4.6. Program Budget***

**Table 2.5. NYPA Cumulative Reporting (\$,000)**

			<b>Cumulative Outstanding Commitments / Encumbrances</b>
<b>NYPA</b>	\$1,077,461	\$1,392,385	\$316,114

**Table 2.6. NYPA Most Recent 12-Month Reporting (\$,000)**

					<b>Most Recent Quarterly Disbursements (Expenditures)</b>
<b>NYPA</b>	\$102,806	\$103,092	\$106,755	\$316,513	\$34,986

***2.4.7. Progress and Status***

Financial and energy savings impacts for NYPA’s energy efficiency and distributed generation program portfolio is contained in Appendix C.

## **2.5. The Long Island Power Authority**

In May 1998, the Long Island Power Authority (LIPA) became Long Island's primary electric service provider. Operating as a non-profit municipal entity, LIPA has continued to serve Long Island's growing population with a consistent commitment to cost-containment, efficiency and service reliability. LIPA owns the retail electric transmission and distribution (T&D) system on Long Island and provides electric service to over 1.1 million customers in Nassau and Suffolk Counties and the Rockaway Peninsula in Queens. In terms of customers served, LIPA is the third largest municipal electric system in the Nation, and the sixth largest in terms of electricity delivered.

### ***2.5.1. List of Energy Efficiency Programs***

#### *Residential Programs*

- Lighting and Appliances
- Cool Homes
- Keep Cool Bounty (phased out in 2003)
- Residential Energy Affordability Partnership
- Information and Education
- New York ENERGY STAR® Labeled Homes
- Home Performance with ENERGY STAR®

#### *Commercial/Industrial Programs*

- Commercial Construction
- Retrofit Energy and Capacity Program (RECAP)

#### *Multi-Sector Program*

- Customer-Driven Efficiency

#### *Distributed Generation Programs*

- Solar Pioneer
- Fuel Cells, Solar and Wind Research, Development and Demonstration

#### *Other Programs*

- LIPAedge
- Peak Reduction Program (no longer part of CEI)

### ***2.5.2. Energy Efficiency Programs Described***

LIPA's Clean Energy Initiative (CEI) programs are organized into several categories: residential, commercial and industrial, multi-sector, and distributed generation. All of the programs under LIPA's Clean Energy Initiative are implemented on Long Island in Nassau and Suffolk Counties and Far Rockaway (Queens County). LIPA has maintained a working relationship with NYSERDA since 1999. Various programs have been coordinated to provide a similar message (the Keep Cool Air Conditioner Bounty Program, for example). Currently

LIPA's New York ENERGY STAR® Homes, Home Performance and Assisted Home Performance, while managed by LIPA, still maintain the New York State program as a core. With regard to other residential programs, LIPA works closely with NYSERDA discussing any all opportunities for maintaining a reasonably consistent approach to targeted markets, technologies, stakeholders, and messages.

### ***2.5.3. Residential***

Lighting and Appliances: Nearly all residential customers can participate in this program and it is designed to transform specific components of the residential lighting and appliance market through comprehensive and coordinated market intervention strategies, mainly through the promotion of the ENERGY STAR® brand, while also offering certain financial incentives for certain technologies.

Cool Homes: Encourages customers to purchase and install energy-efficient central air conditioning (CACs) and geothermal heat pumps by providing financial incentives to offset a portion of the equipment's higher initial cost. It also provides a contractor incentive for proper sizing and installation of systems.

Keep Cool Bounty (phased out in 2003): This was a partnership between LIPA, NYSERDA and NYPA. It provided an opportunity for residents to replace inefficient room air conditioners with new ENERGY STAR® units, resulting in savings on the initial purchase while enjoying greater efficiency and premium features. This program was phased out upon meeting its program goals.

Residential Energy Affordability Partnership: Improves energy affordability for lower income households through the direct installation of a comprehensive set of cost-effective efficiency measures, extensive energy education and counseling, with a special emphasis on customers who are payment troubled and in the greatest need of assistance.

Information and Education: Provides valuable energy-saving information to customers through printed materials, advertising and marketing, a student education component, an EnergyWise Infoline, the LIPA Web site and energy audit services.

New York ENERGY STAR® Labeled Homes: Increases the overall efficiency of residential new construction, with the long term goal of transforming the market to one in which new homes will be built at least as efficiently as the current ENERGY STAR® homes standard. The program is based on NYSERDA's current ENERGY STAR® Homes Program, with some enhancements.

Home Performance with ENERGY STAR®: Participating contractors perform a Comprehensive Home Assessment (CHA), which generally lasts one to three hours. The CHA provides homeowners with valuable information regarding the existing condition of their home, and identifies areas where energy efficiency, comfort and safety improvements can be made.

### ***2.5.4. Commercial / Industrial***

Commercial Construction: Promotes a broad range of energy-efficient electric technologies and design opportunities through the use of incentives, education and information and technical assistance. It also uses an extensive network of trade allies and relationships with architects and engineers. It is comprised of three components: prescriptive, custom, and whole-building.

Retrofit Energy and Capacity Program (RECAP): Designed to lower demand, particularly during peak summer months when electricity consumption is traditionally at its highest levels, this program uses demand-

side bidding with a total of five energy service companies (ESCOs) that serve the various markets present on Long Island. The ESCOs provide turn-key solutions for customers and LIPA pays the ESCO for the energy savings.

#### **2.5.5. Multi-Sector**

Customer-Driven Efficiency. This program provides assistance to residential and commercial customers wishing to make energy efficiency improvements not covered in any of LIPA's other Clean Energy Initiative programs.

#### **2.5.6. Distributed Generation**

Solar Pioneer: Through rebates, offers homeowners the opportunity to supplement their home's energy needs with photovoltaics at a reduced cost and helps grow the number of installations. LIPA also meets regularly with local and regional installers, universities and companies that work in the photovoltaics industry.

Solar RD&D: Efforts focused on new technologies or generation impact assessments, notably the first application of solar roofing slates on Long Island that totaled 18 KW. At the time of its installation, the FALA Direct Marketing project was the largest single commercial PV installation in the world at 1.01 MW. That project in particular helped LIPA evaluate the impacts of large-scale, intermittent generation on the local transmission network.

Wind RD&D: Initially focused on grid impacts, LIPA's focus has shifted into a program responsible for the installation of 170 KW of wind generation.

Fuel Cells RD&D: Provides valuable knowledge of hydrogen-related technology issues and infrastructure barrier that will need to be overcome. LIPA has demonstrated fuel cell technology in three different applications: commercial sites, residential sites and fuel cell as back-up power in a substation.

#### **2.5.7. Other Programs**

LIPAEedge: LIPAEedge is the largest deployment of a direct load control program in the U.S. using a two-way communication system. LIPAEedge reduces grid load during critical peak capacity days by curtailing the demand of central air conditioning (CAC) systems installed by residential and small commercial customers. It does this in two ways - neither of which will harm the customer's system or significantly decrease their level of comfort.

Peak Reduction Program (no longer part of CEI): LIPA's Peak Reduction Program (PRP) is a partnership between Long Island businesses and LIPA to help assure that electric demand can be met on certain critical days during the summer months when the demand on Long Island, or the State as a whole, for electricity threatens to exceed the available supply. Commercial and industrial customers voluntarily shed load via various means to reduce demand when conditions indicate such load shedding is necessary, in order to earn an incentive.

#### **2.5.8. Funding Information**

##### **2.5.9. Funding Sources**

In May 1999, the LIPA Board of Trustees approved the Clean Energy Initiative (CEI), a five-year, \$160 million effort targeted at achieving energy and capacity savings for LIPA,

delivering electric bill savings to customers and providing environmental benefits to society. In 2001, the overall commitment through 2003 was increased by \$10 million to a new total of \$170 million. In 2003, LIPA earmarked \$185 million for the CEI from 2004 through 2008. Currently, the CEI is a 10-year, \$355 million dollar commitment through 2008 to promote clean new electric generation technologies. This funding is collected as part of the overall customer distribution rate and authorized as part of the annual budget process.

**2.5.10. Program Budget**

**Table 2.7. LIPA Cumulative Reporting (\$,000)**

			<b>Cumulative Outstanding Commitments / Encumbrances</b>
<b>LIPA</b>	\$ 203,702	\$203,702	\$-

**Table 2.8. LIPA Most Recent 12-Month Reporting (\$,000)**

					<b>Most Recent Quarterly Disbursements (Expenditures)</b>
<b>LIPA</b>	\$36,499	\$27,592	\$27,592	\$-	\$6,898

**2.5.11. Progress and Status**

Financial and energy savings impacts for LIPA’s entire energy efficiency and distributed generation program portfolio is contained in Appendix C. During the period 1999 through 2005, the CEI has produced significant savings for Long Island. During this period, the programs are estimated to have created over 4,500<sup>28</sup> secondary jobs, saved customers over \$275 million dollars, and generated significant reductions in energy and capacity needs. Along with the reductions in energy use come a variety of benefits from the pollutants that were not generated. The CEI has resulted in a total of 1,348 GWh of energy saved and/or produced to date, which resulted in reduced emissions of 937,402 tons of CO<sub>2</sub>, 1,334 tons of NO<sub>x</sub> and 4,298 tons of SO<sub>2</sub>. These energy savings translate into fuel savings of more than 2.17 million barrels of oil, or more than 13.48 million decatherms of gas.

Through 2005, the CEI, excluding RD&D efforts, has produced 269 MW of peak demand savings and 384<sup>29</sup> GWh of energy savings, 21% higher and 0.3% lower, respectively, than the

<sup>28</sup> See Economic Impact Report for further detail.

<sup>29</sup> Total energy saved or produced to date for this time period were 1,341 GWh. Total energy savings/produced are determined by adding the cumulative annual savings resulting in each year to all following years in the time period. For example, the total energy saved to date for CEI in 2000 equals the incremental energy savings in 2000, plus the incremental energy savings that resulted in 1999, plus the 1999 savings that continue to accrue in 2000 (or the 2000 savings plus two times the 1999 savings).

originally projected savings of 222 MW and 385 GWh for the same period.<sup>30</sup> By all measures of electricity savings and economic impacts, the CEI has been a highly successful investment for Long Islanders. The portfolio of programs has met or exceeded initial goals.

Most of LIPA's CEI programs have major goals in achieving market transformation. The objective is to permanently increase the use and demand for efficient purchase decisions and behaviors faced by consumers, businesses, retailers, and other market participants. Often, market transformation programs accomplish this change by interjecting a stimulus of some kind – incentives, education, training, etc. – into the market for a period of time, aimed at a variety of these participants. The theory of each program describes the program stimuli to be used, and presents a logic for how and when key market participants are expected to respond to the various program stimuli. Changes over time in “indicators” of transformation (*e.g.*, product prices, awareness levels with respect to specific efficient practices, number of professionals performing certain types of efficient equipment installations, percentage of sales of high-efficiency models of targeted equipment, etc.) are monitored through market research. Results of this research are used to assess whether the stimuli are having their intended effects and the extent to which the market is being transformed. Examples of LIPA's success are illustrated below.

Commercial Construction Program. This program began in 2000, when there was little energy efficiency infrastructure in the commercial/industrial sector on Long Island and has two objectives: to establish consistent energy efficiency standards for the end use measures most often installed - lighting, HVAC, and motors; and to work toward the long-term transformation of the market. A study was conducted at the beginning of the program in 2000, to establish a baseline for the commercial new construction, renovation, and equipment replacement markets on Long Island. A follow-up study of these market participants was conducted in early 2003. Both of these studies indicated increased adoption of energy-efficient practices and equipment, and with a significant level of influence attributed to LIPA. Further research planned for 2007 is expected to shed more light on the trends observed in these studies.

Cool Homes Residential HVAC Program. The program is intended to increase sales of high efficiency equipment and by improving the way in which such equipment is installed. Educational efforts, financial incentives and market support have been effective in demonstrating to manufacturers that consumers desire energy-efficient features. LIPA's rebates helped contribute to the sales of higher energy-efficient units. An increase in market share of SEER 13 equipment of approximately 7%, and a 35% increase in SEER 14 or higher systems, from 2000 to 2004, indicates a significant market effect. The market effects and barrier reductions that are substantially attributable to this LIPA program are driven by LIPA program specifications that exceed any comparable specifications or standards set at the State or national level. An updated market progress and evaluation study will need to be performed after the new standards go into effect in January 2006.

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<sup>30</sup> Totals include the Peak Reduction Program which was included in the original CEI targets and was moved to LIPA's Retail Service offering in 2002. Totals also include results from two (2) programs that have been phased out: AC Turn-In Bounty (Keep Cool) and the Resource Conservation Manager (RCM, which following its pilot stage introduction was found to not unlikely to result in originally estimated adoption and savings levels). Results for three (3) programs that were not envisioned in the original CEI portfolio are also included: LIPAAedge, AC Turn-In Bounty (Keep Cool), and ENERGY STAR<sup>®</sup> Labeled Homes. RD&D results are excluded.



Residential Energy Affordability Partnership (REAP) Program. This program was implemented in April 2000 with an initial 3,050 household participants, and the goal was to address 16,400 households within the first 5 years (2000-2004). Actual program results exceeded expectations as 20,585 households (or 125% of the program's original target) participated in this program during this time period. The associated 2000-2004 energy savings are estimated at 19,940 mWh. The 2005 energy savings were recorded at 4,631 mWh with the program continuing to address approximately 4,000 households per year. At the time of program implementation, it was estimated 145,000 households were eligible to participate in the REAP program on Long Island. On this basis, continuation of this program at current participation levels will address 25% of the 145,000 REAP eligible households by year end 2008. In addition to these quantifiable benefits, the REAP Program is a catalyst for economic and social benefits such as: reduced forced mobility; reduced homelessness; improved health and safety in the home; and environmental benefits.

Residential Lighting & Appliances. Several measures indicate LIPA's CEI residential rebates have had a transformation effect on Long Island's lighting and appliance market. The weighted average list price per individual CFL (without rebates) in Long Island stores has dropped about 75% from \$12.50 in Fall 1999 to about \$3.20 in Summer 2006 (due in part to multi-packs that represented almost 80% of the store inventories during Spring 2006). When purchased individually, the average CFL bulb price could be as high as \$6.00 for a single 13-watt bulb (representing over a 50% drop in price). However, when purchased in quantity packs (representing the bulk of CFL sales on Long Island), the actual price per bulb can be as low as \$1.00 for the equivalent of a 60-watt incandescent bulb. Currently about half of all LIPA's residential customers own at least one CFL in their home.

LIPA's rebate program (coupled with similar programs in other utilities) has also contributed, in part, to improvements in the design of CFL bulbs being manufactured and sold. In 2000, a 14-watt CFL only produced enough lumens to replace a 40-watt incandescent bulb (a 65% energy savings), and a 25-watt CFL typically replaced a 75 watt incandescent bulb (a 66% energy savings). Today's 13-watt CFL produces enough lumens to replace a 60-watt incandescent bulb (a 78% energy savings), and a 23-watt CFL can now replace a 100 watt bulb (a 77% energy savings).

In the most recent survey of Long Island appliance purchasers, over 80% were familiar with the ENERGY STAR<sup>®</sup> label, up from 48% in the original baseline study. Retailer participation has also increased and most retailers from key sales channels for appliances now participate in LIPA's program. Floor inventory surveys show that Long Island retailers are responding to this more educated consumer. In Spring 2000, only 14.4% of the clothes washers in retailer floor inventory qualified for a LIPA ENERGY STAR<sup>®</sup> rebate. By the Spring 2006, the number of ENERGY STAR<sup>®</sup> rebate qualifying models increased to 56% of the retailer floor inventory.

Solar Pioneer Program. A Baseline Study conducted in 2000 took a snapshot of the market for solar photovoltaics on Long Island as the Solar Pioneer Program was just beginning. Another snapshot was taken in late 2002 to measure the progress of the program in its first few years. Positive results were seen in a number of areas: major market players awareness of the program; the loyalty of participating customers; and the number of contractors installing PV systems on

Long Island.

In 2000, there were four installers and at the end of 2005, there were 21 installers with a presence on Long Island. Increasing numbers of PV contractors have completed the LIPA-sponsored training program at SUNY Farmingdale. The experience and professionalism of these installers has improved along with the increase in the number of PV installations on Long Island that occurred because of the program. Installations were near *zero* when the program began, and are averaging over *140 per year* for the past three years. At the end of 2005, there were 599 installations, excluding RD&D projects.

Total installed costs for PV systems on Long Island are decreasing, in part because manufacturers' prices for PV components are decreasing due, in part, to global demand. In 2000, the average cost was \$12 per watt, and at the end of 2005, the average cost was approximately \$7.50 per watt.

#### ***2.5.12. Anticipated Program Changes***

LIPA does not anticipate any significant changes over the next year. With the existing authorized funding for the Clean Energy Initiative set to expire at the end of 2008, LIPA is currently in the process of developing plans for the possible continuation of energy efficiency efforts subsequent to 2008.

## **2.6. The New York State Education Department**

The State Education Department is identified in statute as the Authority Having Jurisdiction for code compliance for all public school facilities outside the City of New York. In this capacity, Office of Facilities Planning staffs review and approve financing and issues building permits for over two thousand capital construction projects outside New York City annually. Additionally, the office reviews and approves financing and reimbursement for New York City school projects.

### ***2.6.1. List of Agency's Energy Efficiency Programs***

Office of Facilities Planning – Certified Energy Managers and Certified Building Operators

### ***2.6.2. Energy Efficiency Programs Described***

The Department has licensed professional engineers, further trained and certified as Certified Energy Managers and Certified Building Operators. This expertise allows the Department to work with school designers to improve the energy efficiency of the projects that come before the department for approval. All projects are approved in compliance with the State Building Code, the State Energy Code, and the Commissioner's Manual of Planning Standards, which includes rigorous HVAC requirements for efficiency and safety beyond the required codes.

The Department also works closely with other State Agencies, Authorities, and Associations to promote energy efficiency. Recent collaboration with NYSERDA has resulted in a high performance school design guideline with specific recommendations for HVAC system design, operation, and improvement. Collaboration with NYPA has placed energy improvements in significant numbers of districts. Training offered in cooperation with Associations such as the NYS superintendents of School Buildings and Grounds Association reaches those specific individuals responsible to efficiently operate school district facilities.

### ***2.6.3. Funding Information***

SED provides significant reimbursement to all public schools for energy improvements through capital construction or reconstruction budgets. Since 1998, the department has approved over \$27.5B for school construction and renovations. Approximately \$10B has been approved for New York City Schools, and \$17.5B for all other school districts in the state. A significant amount of this funding is used for energy related improvements. The Department does not maintain specific funding streams or programs dedicated solely to energy efficiency, but rather make capital funding available for all school needs including those related to energy improvements.

## **2.7. The New York State Department of Environmental Conservation**

The Department of Environmental Conservation (DEC) manages New York's natural resources and protects its environment. By conserving the State's resources, DEC enhances the health, safety and welfare of the people of New York and promotes their economic and social well-being. During the first three decades of DEC's environmental stewardship, New Yorkers have witnessed a remarkable recovery of their waters, soil and air, the renewal of forests, fish and wildlife; expansion of recreational opportunities, and the growth of responsible waste management. Government, businesses and individuals are encouraged to work together to protect New York's natural resources, while nurturing a vibrant business climate. DEC employees work together to protect the environment and provide professional service to businesses, municipalities and other government agencies. DEC's programs enhance New Yorkers' quality of life and improve the economy. These programs protect public health and increase the economic benefits of using environmentally-safe technologies and smart-growth development. The DEC's recreational services make New York attractive to tourists and tourism alike. DEC delivers its programs through nine regional offices and over one hundred sub-offices and facilities. The regional offices that serve each county are the public's first contact for DEC permits, reporting environmental problems, finding ways to enjoy the outdoors; or contacting DEC with questions or for information.

### ***2.7.1. List of Energy Efficiency Programs***

The DEC Green Building Tax Credit

### ***2.7.2. Energy Efficiency Program Described***

The Green Building Tax Credit Program (GBTC) is provided to owners or developers of buildings certified as using resources (energy, water, materials, land, etc.) more efficiently and effectively. Typically, green buildings provide healthier environments for working, learning and living. By choosing to build a green building, developers can save money by reducing construction costs and create sustainable buildings. Owners save money by reducing operation and maintenance costs and lowering utility bills.

The State is among the first in the nation to offer a tax incentive program for developers and builders of environmentally-friendly buildings. The GBTC is a tax credit to taxpayers subject to tax under New York State Tax Law, Articles 9, 9-A, 22, 32 or 33. The GBTC program is available Statewide and is administered within the Pollution Prevention Unit in the DEC's Division of Environmental Permits.

Buildings covered under the program include: multiple dwellings for transient occupancy, senior citizen housing or adult residential care facilities; a business, mercantile, or assembly that contains at least twenty thousand square feet of interior space; or residential multi-family buildings of at least twelve units or one or more residential multi-family buildings with at least two dwelling units that are part of a single or phased construction project that contains, in the aggregate, at least twenty thousand square feet of interior space. Buildings are not eligible if located on freshwater wetlands or on wetlands that would require a permit pursuant to the Federal Clean Water Act.

DEC also works in coordination with the New York State Public Service Commission and NYSERDA on reviews of power plant (including wind) and electric and gas transmission line siting applications. DEC coordinates with NYSERDA on all energy planning efforts and the administration of the Green Building Tax Credit.

### **2.7.3. Funding Information**

The DEC administers the Green Building Tax Credit (GBTC) program. The GBTC is a tax credit to taxpayers subject to tax under New York State Tax Law, Articles 9, 9-A, 22, 32, or 33, who are eligible building owners or tenants. The legislation was passed in 2000, creating the program by allocating \$25 million in tax credits. By 2004, the GBTC's Credit Component Certificates were issued to seven buildings totaling \$25 million. Currently, three buildings have received tax credits for a total of over \$3.5 million. The remaining credits will be issued through 2009. New legislation, passed in 2005, provided an additional \$25 million for credit component certificates (CCCs)<sup>31</sup>. These credits will be available to eligible building owners and tenants through 2014. Following an update of the program regulations, applications for additional CCCs are anticipated to be accepted under Period 2 of the program by Summer 2007.

### **2.7.4. Green Buildings Tax Credit (GBTC) Period One**

The GBTC program has been implemented, thus far, in two periods. For Period One, initial CCCs could be issued in years 2001-2004, not to exceed, in aggregate, more than \$25 million of Credit Component Certificates. Seven CCCs were initially issued for the total \$25 million, however, the revised commitment for Period One is \$23.24 million.<sup>32</sup> Five buildings submitted applications on September 30, 2002 and were issued Credit Component Certificates.<sup>33</sup> One building submitted an application on July 26, 2004 and was issued a Credit Component Certificate.<sup>34</sup> One building submitted an application on August 16, 2004 and was issued a Credit Component Certificate.<sup>35</sup>

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<sup>31</sup> A Credit Component Certificate (CCC) is a document issued by DEC upon proper application by a taxpayer for Green Building Tax Credit under Tax Law Section 19. This document must state the first taxable year for which a credit may be claimed by the taxpayer (applicant) and the expiration date. It must state the maximum amount of credit component allowable for each of the five taxable years for which the credit component is allowed. This document is identified as an "initial" credit component certificate in Tax Law Article 19.

<sup>32</sup> One CCC was modified to change the first year an Annual Eligibility Certificate (AEC) would be submitted (no change in tax credit requested); One CCC was modified to change the first year an AEC would be submitted, and also was modified to exclude the tax credit for fuel cell and refrigerant (resulted in tax credit change); and one CCC was modified to change the first year an AEC would be submitted (tax credit change).

<sup>33</sup> These buildings include: 1400 5<sup>th</sup> Avenue, New York City (Full Spectrum Building and Development); 959 8<sup>th</sup> Avenue, New York City (Hearst Communications, Inc.); 625 Broadway, Albany (Picotte Companies); 20 River Terrace, Battery Park City, New York City (Albanese Development Corporation); and 888 Main Street, Roosevelt Island, New York City (Becker and Becker Associates).

<sup>34</sup> This building is One Bryant Park, New York City (One Bryant Park, LLC).

<sup>35</sup> This building is Goldman Sachs, Site 26, Battery City Park, New York City (The Goldman Sachs Group, Inc.).

**Table 2.9. GBTC Total Expenditures - Period One (Tax Years 2002-2005).**

		<b>Outstanding Credits</b>
\$23,237,000	\$3,567,000	\$19,668,000

**Table 2.10. GBTC Expenditures – Period One (Tax Year 2005).**

<b>Most Recent 12-month Period - Tax Year 2005<sup>37</sup></b>		
		<b>Outstanding Credits</b>
\$1,563,000	\$1,022,000	\$542,000

### ***2.7.5. Green Buildings Tax Credit (GBTC) Period Two***

Period Two Tax Credits funding for the GBTC is \$25 million, and initial CCCs may be issued in years 2005 through 2009, allowing tax credits to be received in years 2006 through 2014. Certificates for Period Two are not to exceed, in aggregate, more than \$25 million. The total amount of Credit Component Certificates allowable for the five taxable years for each building is capped at \$2 million. Thus, a taxpayer of more than one building that qualifies can receive a CCC for \$2 million per building. Any building receiving credit under Period One is excluded from receiving any funds under Period Two. The Period Two legislation provides that, if under Period Two, the initial CCCs have not been issued for the entire amount of \$25 million by the close of 2009, the program will be extended into 2010 in an attempt to exhaust any remaining credits.

### ***2.7.6. Progress and Status***

Financial and energy savings impacts for DEC's energy efficiency and distributed generation program portfolio is contained in Appendix C. Energy savings associated with each GBTC-eligible building are depicted on Table 2.11.

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<sup>36</sup> This amount reflects a total of 6 Annual Eligibility Certificates.

<sup>37</sup> No new CCCs are being issued until updates to the Regulations are complete. Updates are anticipated in Spring 2007.

**Table 2.11. Green Buildings - Energy Efficiency Measures and Associated Energy Savings**

		<b>Associated Energy Savings (Est.)</b>
1400 5 <sup>th</sup> Avenue, New York City	Geothermal heating and cooling system using renewable energy  Digital electric submetering; digital setback thermostats  ENERGY STAR <sup>®</sup> lighting fixtures and appliances  Purchase 25% wind through Con Edison	Energy consumption is 36% below 1991 NYS Energy Construction Conservation Code.  CO <sub>2</sub> emissions are reduced 296 tons, annually.
959 8 <sup>th</sup> Avenue, New York City	High-performance window glazing  High-efficiency chillers  Variable speed pumps, motors and fans  Cooling and heating radiant flooring in Atrium; energy reclamation using exhaust air to condition Lobby/Atrium  Low temperature air distribution  Airside economizers using outside air  Cooling of Lobby through chilling of water feature  Commissioning/Commissioning Systems Manual  Occupancy light sensors; daylighting and controls  Energy Management System (M&V)  High-albedo roofing materials; high R-value building shell	Energy consumption is 24% below NYS Energy Code.  Annual Energy Use Savings = 1,970 MWH  Annual Reduction in NO <sub>x</sub> = 2,561 lbs./year  Annual Reduction in SO <sub>x</sub> = 5,950 lbs./year  Annual Reduction in CO <sub>2</sub> = 869 tons/year
625 Broadway, Albany	Daylighting and controls  High-performance window glazing  High-efficiency chillers; variable speed fans and pumps  High-efficiency condensing boiler  Occupancy light sensors  Roof-top photovoltaic panels  Energy Management System  High-albedo roofing materials; High R-value building shell	Annual Energy Cost Savings = \$179,000  Annual Energy Use Savings = 1,451 MWH  Annual Reduction in CO <sub>2</sub> = 640 tons/year
20 River Terrace, Battery Park City, New York City	Gas-fired absorption chiller  High-performance window glazing  Variable speed pumps, motors, and fans  Building-integrated photovoltaics  Commissioning	Annual Energy Cost Savings = \$210,000  Annual Energy Use Savings = 4,193 MWH  Annual Reduction in CO <sub>2</sub> = 1,849 tons/year

		<b>Associated Energy Savings (Est.)</b>
Octagon Park, 888 Main Street New York City	Upgraded wall and roof insulation; Low-e argon-filled insulating windows; Programmable thermostats; carbon monoxide sensor-operated fans in parking garage; Air heat recovery units; High-efficiency gas boiler for water loop; High-efficiency variable speed fans and pumps; High-efficiency water-source heat pumps; Heat exchanger between water loop and swimming pool; Gravity-film heat exchangers for domestic hot water; 50 kW array of rooftop solar panels; Occupancy sensors in hallways and stairwells; Compact fluorescent light fixtures in common areas and apartments; Digital electrical submeters.	
One Bryant Park, New York City	High-performance window glazing; Occupancy sensors in stairwells and mechanical rooms; High-efficiency chillers; High-efficiency motors; Raised-access floor system; Filtered under-floor displacement air ventilation system; Floor-by-floor air handling units; Gray water system; Waterless urinals; Low-flow fixtures; Recyclable and renewable building materials (steel, blast furnace, drywall); Thermal storage system; Daylight dimming and LEC lights; Green roof; State-of-the-art, onsite 5.1 MW co-generation plant.	
Goldman Sachs Site 26, Battery City Park New York City	High-performance window glazing  High-efficiency chillers; Variable speed fans, motors, and pumps  Central plant ice storage; Chilled Water on-peak cooling system;  On-site Power Generation and CHP Plant  Commissioning/ Commissioning Systems Manual  Occupancy light sensors; LED exit signs  Daylighting and controls  Energy Management System High albedo roofing materials; High R-value building shell	Energy Consumption is 22.65% below NYS Energy Code.  Annual Energy Use Savings = 6,575 MWH  Annual Reduction in NOx = 8,548 lbs/year  Annual Reduction in SOx = 19,859 lbs/year  Annual Reduction in CO2 = 2,900 tons/year

The initial legislation that created the GBTC was enacted in 2000, creating \$25 million in tax credits. The development of regulations was the result of a nearly two year effort, and resulted in the promulgation of the GBTC regulations in early 2002. The application process was established mid-2002, with the first applications received in September 2002. Five CCCs were issued December 2002. Two additional CCCs were issued in 2004. The overall metrics for Period One are depicted in Table 2.12.

**Table 2.12. GBTC Metrics – Period One (2001-2004)**

Applications received	9
CCCs issued	7 <sup>38</sup>
Total dollar allocation	\$25 million

<sup>38</sup> One application was deemed incomplete, with no reapplication. One application was denied, as the building did not meet the minimum square footage requirement.



Since the issuance of the original CCCs, there have been requests for revision. One building requested a revision to provide for a later completion date, with no impact on the CCC amount; one building requested revision to provide for a later completion date and discontinued the request for tax credit for a fuel cell and tax credit for a green refrigeration system, with an impact on the CCC amount; and one building requested a revision to provide for a later completion date and also discontinued the request for tax credit for a photovoltaic system, with an impact on the CCC amount. Buildings are now expected to miss completion dates which will have an impact on additional tax credits to be received. At this time, approximately \$1.8 million in tax credits cannot be claimed.

For Period One, with regard to Annual Eligibility Certificates (AEC)<sup>39</sup>, which can be submitted from 2001 through 2009, three buildings have submitted six AECs and are receiving a total of nearly \$3.6 million in tax credits:

- 1400 5<sup>th</sup> Avenue, New York City – 1 AEC
- 625 Broadway, Albany – 4 AECs
- 20 River Terrace, New York City – 1 AEC

#### ***2.7.7. Anticipated Program Changes***

The NYS DEC is required to update 6 NYCRR Part 638 before applications can be accepted for the remaining \$25 million allocated for Period Two. Due to anticipated changes to the regulations, Period Two applications for the Initial CCCs will not be accepted until updated regulations are promulgated. However, buildings or tenant spaces that have a final certificate of occupancy issued in taxable years beginning on or after January 1, 2005, that meet the updated regulations, will be eligible to apply for a CCC. Anticipated changes include:

- Updates to conform GBTC regulations to the 2002 NYS Energy Conservation Code;
- Updates to conform GBTC regulations to the 2003 NYS Uniform Fire Protection and Building Code;
- Clarification of language regarding carbon monoxide alarms;
- Eligibility for refrigerant tax credit component based upon language from the U.S. Green Building Council LEED<sup>®</sup> Green Building Rating System for New Construction & Major Renovations (LEED<sup>®</sup>-NC) Version 2.2, Energy & Atmosphere Credit 4: Refrigerant Selection.
- Other changes, as deemed necessary.

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<sup>39</sup> An Annual Eligibility Certificate (AEC) is a package consisting of a written statement by the taxpayer in accordance with Sections 638.5 (b) and (c) and a certification or a number of certifications that must be made by an appropriate architect(s) or professional engineer(s) that the building to which the credit is claimed is a green building, in accordance with the standards and guidelines in effect at the time the property which is the basis for the credit was placed in service, and other related certifications. An AEC is submitted for each taxable year for which a taxpayer claims credit.

## **2.8. New York State Division of Housing and Community Renewal**

The New York State Division of Housing and Community Renewal (DHCR) is responsible for the supervision, maintenance and development of affordable, low- and moderate-income housing in New York State and for the administration of community renewal programs. DHCR is organized into Offices of Housing Operations, Community Development, and Rent Administration. Housing Operations provides oversight and regulation of the State's public and publicly-assisted rental housing. Community Development administers State- and federally-funded housing and community development programs, that provide grants and loans to not-for profit organizations and to housing developers to partially finance construction or renovation for affordable housing, and provide neighborhood and rural preservation resources. Rent Administration manages the rent regulation process for more than one million rent-regulated apartments in New York City and other localities across the state subject to rent laws. Several DHCR programs are administered through the Housing Trust Fund Corporation (HTFC), a public-benefit corporation for which DHCR provides administrative support.

### ***2.8.1. List of Energy Efficiency Programs***

- Low-Income Weatherization Assistance Program
- New York State HOME Program
- Green Building Initiative
- Rent Administration
- Housing Operations

### ***2.8.2. Energy Efficiency Programs Described***

Low-Income Weatherization Assistance Program (Weatherization Assistance). The Weatherization Assistance program has been administered in New York by DHCR since 1996 through its Office of Community Development. DHCR allocates funding to each county based on the county's share of the State's income-eligible population and the climate for that county, as measured in heating-degree days. Additionally, a portion of the total funding is reserved to provide a minimum level of funding to each county where the allocation formula did not generate significant program funding. The minimum annual allocation for a local weatherization provider is \$300,000.

The Program provides residential conservation energy services to income-eligible individuals and families to improve the energy efficiency of their dwellings and to reduce their housing expenditures for fuel and electricity. The weatherization investment is determined by a DOE- approved whole-house energy audit that is performed on each assisted unit. The audit also provides recommendations for health and safety measures needed in the unit. The average investment of weatherization funds per dwelling unit is approximately \$4,000.

Priority for weatherization activities is given to households with children, the elderly, persons with disabilities, and households with high fuel costs relative to income. About 62% of the more than 12,000 units weatherized each year are rental units. A "meta-evaluation" of the

effects of the program was performed by Oak Ridge National Laboratory in 2005. The study found average savings for gas-heated units in excess of 30 MMBtu, or about 23% of pre-weatherization consumption of natural gas. DHCR is currently in the process of updating these results by conducting a fuel saving study of homes weatherized in 2005.

Program services are delivered in each county throughout the State by a network of 64 subgrantees. Subgrantees provide services for low-income clients as a part of their overall mission, including leveraging other resources to coordinate with weatherization assistance. Approximately 30% of subgrantees providing weatherization services have entered into agreements with local departments of social service to conduct emergency furnace replacements; many others are also participating in NYSERDA programs such as the Assisted Multifamily Program and EmPower, which provide additional opportunities for coordination.

DHCR requires that subgrantees follow sound internal management policies and provide skilled workmanship, high quality materials, and timely production of units. The performance of these subgrantees is evaluated on a continuing basis throughout the program year through on-going, on-site program monitoring by DHCR field staff, who inspect a minimum of 20 % of weatherized units; identify program strengths and weaknesses, and make recommendations for training and improving subgrantee program operations and services to clients.

A Policy Advisory Council (PAC) has been established to assist in the development and operation of the Weatherization program. The PAC is broadly representative of subgrantees, energy advocates, state agencies, and other organizations, including consumer groups that represent low-income persons in New York. The PAC meets regularly and provides a forum to discuss problems and identify strategies for enhancing delivery of energy conservation services to low-income New Yorkers.

New York State HOME Program. This program provides funds for development of single- and multi-family residential housing, rehabilitation of owner-occupied and investor-owned rental properties, assistance to first-time home buyers, and tenant-based rental assistance. While not strictly an energy conservation program, DHCR/HTFC has adopted policies to encourage use of HOME funds for energy conservation. Coordination between local housing rehabilitation programs and Weatherization Assistance has become routine. All State-funded rehabilitation administrators are now required to conduct DOE-approved energy audits when developing work scopes, and many have entered into formal agreements with Weatherization subgrantees or Assisted Home Performance contractors to meet this requirement.

This policy results in significant additional energy savings in HOME-assisted buildings. It provides technical energy assessment capabilities so local housing program administrators can take advantage of current state-of-the-art conservation methods, and it provides funding for necessary rehabilitation work beyond installation of energy conservation measures that is otherwise unavailable. This “whole-house” approach, long advocated by DOE, allows for greater controls over energy conservation investments, and better application of building science technology in housing rehabilitation.

HTFC also sets aside approximately \$500,000 annually to provide lead-hazard control work for units assisted by the DHCR’s Weatherization Assistance Program in areas where there is no active HOME rehabilitation program, for units where the presence of lead hazards would

preclude the safe installation of Weatherization measures.

Green Building Initiative. The Green Building Initiative provides incentives to developers of affordable housing seeking Housing Trust Fund or HOME program subsidies, or Low-income Housing Tax Credits, to encourage the development of energy efficient and affordable residential buildings. The Green Building Initiative provides bonus points in the funding competition to applicants providing energy efficient measures. To receive this scoring advantage, applications must propose projects that exceed energy code requirements for 30% or more, include ENERGY STAR<sup>®</sup> appliances and lighting, sealed combustion chamber HVAC plants or individual units, and additional wall and roof insulation or low-E value windows. The use of alternative energy technology such as photovoltaic panels, fuel cells, wind powered generated electricity and geothermal heating is also encouraged.

Grant awards are highly competitive, and the additional rating points can be very significant in funding decisions. In 2006, 54 applications were submitted seeking the green incentives. Of those, 21 were funded, which will result in 952 new affordable housing units. The projects received either Housing Trust Fund or HOME subsidies, or Low Income Housing Tax credits, which generate additional private investment in the affordable housing. These projects, when complete, will realize an estimated savings of \$558 per unit per year, compared to similar new units built to state energy codes. The total first-year savings (in heating, domestic hot water, and base load electric usage) for this initiative is estimated to be more than \$531,000.

One recently completed Green Building project shows what can be anticipated with this initiative. DHCR provided Low-Income Housing tax credits to fund an ENERGY STAR<sup>®</sup>-rated multifamily building at 1212 Martin Luther King Boulevard in the Bronx. The project is considered to be the first apartment building to receive an Energy Star designation. The Division partnered with NYSERDA, and developers Dunn Development Corp. and Beulah HDFC, Inc. (a non-profit community-based organization located in the South Bronx) in this effort. The building was part of a national pilot program administered by the EPA and implemented by NYSERDA to set a higher level of energy-efficiency standards for multi-family buildings. To qualify for the ENERGY STAR<sup>®</sup> label, energy consumption in the building must be reduced by at least 20 percent compared to a national average.

Rent Administration (ORA). The ORA administers the rent control and rent stabilization laws in New York and includes those instances when private building owners seek to switch from master metering of electric service to either direct metering of tenants, or to submetering. Submetering allows tenants to be billed directly for their electrical consumption, rather than having the entire building's electric cost equally shared by all tenants as part of their rent regardless of individual unit consumption.

In 2003, the PSC allowed submetering in residential rental properties for the first time in forty years. ORA amended the rent regulations to allow submetering of multifamily buildings. Direct metering had been allowed previously. ORA teamed with NYSERDA to establish protocols for determining appropriate rent adjustments to compensate for direct billing and the removal of electricity costs from their monthly rent. When a building owner seeks to either submeter or direct meter, they file an application with ORA, which, in turn, is provided to building tenants for comment. After tenant comments are received the application is reviewed by

ORA and then approved or rejected, and the building owner notified. From February 2004 through October 2006, ORA issued orders for 67 buildings that allowed owners to submeter 5,163 rent regulated units. In these buildings fair and appropriate rent reductions determined with assistance from NYSERDA consultants were put in place.

DHCR does not subsidize the cost of converting a building to submeter. The regulatory role of DHCR's ORA applies only to the impact of submetering on affordability and to determining a fair and equitable rent adjustment for tenants. Studies done by NYSERDA and others have found that conversions to direct-billing of tenants for energy use can reduce a building's overall electric consumption by as much as 20%. Additionally, NYSERDA's Comprehensive Energy Management (CEM) program incentives were instrumental in many submetered conversions.

Housing Operations. The New York State Mitchell-Lama Housing Program was created in 1955 for the purpose of building affordable housing for middle-income residents. A total of 269 Mitchell-Lama developments with over 105,000 apartments have been built under the program. In addition, 22 middle-income developments with over 10,000 apartments were built under the Limited-Dividend program, a precursor of the Mitchell-Lama program. A number of Mitchell Lama buildings have received Weatherization Assistance or subsidies from NYSERDA's Assisted Multifamily Building program. The energy efficiency measures provided through these programs improves fiscal solvency, and can help maintain occupancy levels to keep buildings open and affordable to local populations.

### ***2.8.3. Funding Information***

#### ***2.8.4. Funding Sources***

Funding sources for DHCR programs are allocated as follows.

Weatherization Assistance. Funding for the Weatherization Assistance Program is provided by the U.S. Department of Energy (DOE), and the U.S. Department of Health and Human Services' Home Energy Assistance Program (HEAP), through the New York State Office of Temporary and Disability Services (OTDA). There are no State-appropriated funds allocated to the program. Combined funding for the program averages approximately \$55 million dollars, annually. During the program year that began April 1, 2005 and ended March 31, 2006, approximately \$54.1 million dollars was available for weatherization assistance.

New York State HOME Program. In 2006, approximately \$37.2 million in HOME funds were made available by HTFC for the HOME Program. Together, Office of Community Development grant and loan programs provided more than \$117.1 million for construction and rehabilitation of affordable housing and other community projects in 1996.

Housing Operations. Funds for physical maintenance of Mitchell-Lama housing are provided by the Housing Project Repair Program. This program, which is divided into the Construction Defect Program and the Energy Conservation/Tenant Health and Safety Program, provides funds for repair work and improvements to State and HFA financed Mitchell-Lama developments. The Energy Conservation/Tenant Health and Safety Program funds energy improvements and the repair and replacement of deteriorating structural and mechanical components affecting residents'

health and safety.

**2.8.5. Program Budget**

**Table 2.13. DHCR Cumulative Reporting (\$,000)**

			<b>Cumulative Outstanding Commitments / Encumbrances</b>
DHCR	\$382,444	\$382,444	\$-

**Table 2.14. DHCR Most Recent 12-Month Reporting (\$,000)**

					<b>Most Recent Quarterly Disbursements (Expenditures)</b>
DHCR	\$55,875	\$55,299	\$55,299	\$-	\$18,921

**2.8.6. Progress and Status**

Financial and energy savings impacts for DHCR’s energy efficiency and distributed generation program portfolio is contained in Appendix C.

## **Section 3. CURRENT AGENCY COORDINATION EFFORTS**

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The New York State agencies and authorities that administer the energy efficiency and distributed generation programs included in this Report work collaboratively in many arenas and strive to deliver programs in the most effective and efficient manner. Although these efforts are wide-ranging, they can be discussed using three main categories: policy and program development; technical and financial assistance; and marketing and outreach.

### **3.1. Policy and Program Development**

- The Advisory Council on State Energy Efficiency, created by Executive Order 111 in June 2001 (and extended by Executive Order 5, in January 2007), coordinates implementation of the Order's energy efficiency goals for State-owned buildings and the procurement of energy efficient products. Council membership includes the President of NYSERDA as Chair, the Director of the Division of the Budget; the Commissioners of OGS, Department of Environmental Conservation, Department of Correctional Services, Office of Mental Health and Department of Transportation; the Chairs of the Public Service Commission, New York Power Authority, and Metropolitan Transportation Authority; the Chancellor of the State University of New York; the Secretary of State; the Executive Director of the Dormitory Authority and the President of the Long Island Power Authority.
- The Coordinated Electric Demand Response Initiative (CEDRI) working group was created by the Governor in 2001, and includes representatives of NYPA, DPS, DEC, LIPA and NYSERDA. The group works to address summer peak demand issues and makes regular reports on energy efficiency and demand response program impacts.
- The 13-member Board of Directors of NYSERDA includes ex officio membership of the DEC Commissioner, the DOT Commissioner, the PSC Chair, and the NYPA Chair, which services to assure a high level of coordination and cooperation among State agencies and authorities.
- NYSERDA, NYPA, and LIPA coordinate the design and implementation of consistent energy efficiency programs across the entire State, such as ENERGY STAR<sup>®</sup>, LEED<sup>®</sup>, Home Performance with ENERGY STAR<sup>®</sup>, and commercial new construction. For example, LIPA has maintained a working relationship with NYSERDA since the beginning of the SBC. LIPA's NY ENERGY STAR<sup>®</sup> Homes, Home Performance and Assisted Home Performance programs, while managed by LIPA, still maintain the NYSERDA programs as core.
- DHCR and NYSERDA coordinate on the implementation of the Weatherization Assistance Program and SBC-funded low-income programs, including NYSERDA's EmPower New York and the Multifamily Building Performance Program.
- NYPA works cooperatively with the State Education Department (SED) and NYSERDA on energy conservation, energy efficiency and other energy services projects for secondary and elementary schools.
- The NYS Pollution Prevention and Environmental Compliance Assistance Coordinating Council coordinates activities of member agencies (DEC, ESD, EFC, NYSERDA, and NYSTAR) to promote pollution prevention and environmental compliance. The Council coordinates actions to improve energy efficiency in manufacturing and associated infrastructure, in addition to reducing and preventing pollution at small businesses.

- The Weatherization Policy Advisory Council (PAC) was established to assist in the development and operation of the Low-Income Weatherization Assistance program and to provide advice on the development of a “State Plan” that is submitted to US DOE. The PAC is broadly representative of sub-grantees, non-profit organizations representing energy advocacy and low-income consumers such as the Public Utility Law Project and the New York State Community Action Association, and State agencies, including DHCR, NYSERDA, DPS, the New York State Department of State, Consumer Protection Board, the Office of Temporary and Disability Assistance, Office for the Aging, and the New York State Commission on Quality of Care and Advocacy for Persons with Disabilities.
- Collaboration exists between the New York State HOME Program and Weatherization. The New York State HOME Program provides funds for the development of single- and multi-family residential housing, rehabilitation of owner-occupied and investor-owned rental properties, assistance to first-time home buyers, and tenant-based rental assistance. The program is administered in New York by the Housing Trust Fund Corporation (HTFC). Funds are awarded to all parts of the State, including Native American reservations. In 2005, the HTFC required HOME Program applicants to consider energy conservation measures as part of their program design, furthering coordination between local housing rehabilitation programs and the Weatherization Assistance Program. All State-funded rehabilitation administrators are required to conduct DOE-approved energy audits when developing work scopes, and many have entered into formal agreements with Weatherization subgrantees or Assisted Home Performance contractors to meet this requirement.
- The recently completed ENERGY STAR<sup>®</sup>-rated multifamily building at 1212 Martin Luther King Boulevard in the Bronx, was a joint project undertaken by DHCR and NYSERDA, in collaboration with a private developer and Beulah HDFC, Inc., a non-profit community-based organization in the South Bronx. Considered to be the first apartment building to receive an Energy Star designation, it was part of a national pilot program administered by the EPA and implemented by NYSERDA to set a higher level of energy-efficiency standards for multi-family buildings.
- The DPS and the Office of Rent Administration at DHCR have worked together to alter their respective regulations to allow for tenants of multi-family buildings to switch from master metering of the entire building’s electric service to submetering or direct metering. Submetered tenants pay for own electric usage which serves as a financial incentive to conserve energy.

### **3.2. Technical and Financial Assistance**

- DPS participates in developing and reviewing all SBC solicitations and program announcements issued by NYSERDA.
- NYSERDA provided technical assistance to DEC in the development of the Green Building Tax Credit regulations, a program that is administered by DEC and the Tax and Finance Department to encourage more energy efficient and green construction of new commercial construction and substantial renovations of existing commercial buildings.
- NYSERDA provided technical assistance in support of New York City’s local law 86, the “LEED” law which sets certain performance requirements for buildings that receive funding from the City of New York in both the public and private sector.



- NYPA and NYSERDA energy efficiency staff conduct bi-monthly meetings to coordinate program activities and assistance to institutional customers.
- NYSERDA and SED collaborated to produce the NY-CHPS, a high performance school design document expected to improve energy efficiency in public school construction.
- NYSERDA, in conjunction with SED, provides significant program opportunities to schools to conduct efficiency studies including consulting fees to research appropriate solutions for schools.
- NYPA and NYSERDA collaborate on technical assistance, financial incentives, low-cost financing and construction services for school buildings, local government and State facilities.
- Under the guidance of the New York State Division of Budget (DOB), and in conjunction with NYSERDA, NYPA is working on a pilot program to reduce energy costs for State agencies. This pilot program was instituted in Fall 2006, and energy audits are currently underway at the Department of Transportation (DOT), and the Office of Parks, Recreation and Historic Preservation (OPRHP).
- NYPA works cooperatively and meets regularly with its various governmental customers, (e.g., NYS Office of General Services) to identify potential projects and to coordinate project implementation.
- NYSERDA provided technical assistance to the Office of Rent Administration at DHCR to establish protocols to determine appropriate rent reduction adjustments to compensate submetered tenants who switched to direct electricity billing and were entitled to the removal of electricity costs from their rent. Additionally, NYSERDA's Comprehensive Energy Management program incentives provided financial assistance for many submetered conversions.
- Several Mitchell-Lama Housing buildings received subsidies from Weatherization Assistance program (DHCR) or from NYSERDA's Assisted Multifamily Building program to make capital improvements for energy conservation and efficiency.

### **3.3. Marketing and Outreach**

- The DPS sponsors the Low-Income Forum on Energy (LIFE) which offers representatives from State agencies, nonprofits, and utilities the opportunity to share information on energy efficiency and payment assistance programs serving low income households. Member agencies include the Department of Public Service, DHCR, the Office of Temporary and Disability Assistance, the Consumer Protection Board, the State Office for the Aging, and NYSERDA.
- NYPA, LIPA, DPS and NYSERDA implement consistent seasonal educational campaigns to provide a "state" message, such as the "Have an Energy Smart Summer/Winter" and the "Keep Cool AC Bounty" program that LIPA coordinates with NYSERDA.
- For residential programs, LIPA works closely and consistently with NYSERDA to identify and seize opportunities to share a consistent message and reinforce each Authority's programs, as applicable.
- SED, NYPA, LIPA, and NYSERDA coordinate informational sessions and training programs including the benefits of energy efficiency to the NYS Association of School Boards, the NYS Association of School Superintendents, the NYS Association of School

business officials, and the NYS Association for Superintendents of School Buildings and Grounds.

## **Section 4. RECOMMENDATIONS TO FACILITATE THE COORDINATION OF ENERGY PROGRAMS OF THE VARIOUS STATE ENTITIES**

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The recommendations in this Section build on the Current Agency Coordination Section of this Report. As a result of a review and discussions by Conservation Coordination Task Force (CCTF) participants, overlaps, duplication or gaps in existing coordination have been identified. The participants provide the following recommendations to create more linkages and networks among existing energy efficiency programs to enhance policy development and program deployment; the provision of technical and financial assistance; and to improve marketing and outreach efforts.

In addition to the specific recommendations below, the CCTF offers the following comments with regard to the process of preparing this Report, as required by the Legislation. The mission of the CCTF is related to the broader mission of the Advisory Council on State Energy Efficiency (Advisory Council), created by Executive Order 111. The Advisory Council focused on energy use by State-owned buildings and the procurement of energy-efficient products, while the CCTF has reviewed the coordination of public programs that affect both public and private buildings. This situation presents an opportunity to combine the efforts of both, the Advisory Council and the CCTF, to further improve energy efficiency program coordination efforts. In order to be thoroughly comprehensive, any additional efforts going forward should include representatives from additional key State entities that are materially involved in the delivery of energy efficiency programs that have not been included in either the efforts of the Advisory Council or the CCTF.

### **4.1. Policy Development and Program Deployment**

- Build on the collaboration that results from the service of NYPA's Chairman as an ex-officio member of the NYSERDA Board of Directors by arranging for the respective Chairs of NYSERDA, LIPA and NYPA serve on each Authority's Board of Directors.
- Build on the existing coordination among NYSERDA, NYPA and LIPA to finance RD&D and expand these efforts beyond financing. Collaboration on the identification of RD&D and deployment needs that support greater energy efficiency efforts and distributed generation technologies should be addressed.

### **4.2. Technical and Financial Assistance Coordination**

- In the absence of a continuing role for the CCTF, DHCR should be invited to participate in the Advisory Council on State Energy Efficiency to optimize the efficient delivery of financial assistance and services.
- Standardized protocols should be established for energy efficiency and distributed generation program budgets, tracking energy program impacts, and periodic reporting.
- Efforts to coordinate the New York State HOME Program (that funds housing in the private sector through the Housing Trust Fund Corporation) with NYSERDA's energy efficiency incentive programs should be expanded.
- Additional funding for the Weatherization Program should be considered in an effort to improve coordination; enhance cost and quality controls; maintain staff levels and

technical expertise; and expedite the delivery of currently offered and new services.

- Strategies should be explored to maximize the impact of the federal Low-Income Home Energy Assistance Program (LIHEAP) in order to weatherize additional low-income dwelling units; produce significant energy savings; and reduce the demand for energy payment assistance.
- Programs to support green building initiatives should be strengthened and targeted toward affordable housing developers, small businesses, and toward smart growth development (infill, brownfields cluster, *etc.*); and expanded efforts should be targeted toward additional training for architects and developers (including non-profit community housing development organizations) and capital funds for demonstration projects.

### **4.3. Marketing and Outreach**

- Develop a Marketing Working Group (this could be a committee of the existing State Energy Efficiency Council), to coordinate the message and production of marketing materials, brochures, customer referrals, promotional messages, presentations, web-site links, and coordination among agency staff and contractors.
- Establish an energy program clearinghouse that includes a toll-free phone number and a website with links to agency sites, as well as publications that clearly identify the State agencies and authorities that are responsible for energy-related programs. This will provide clarity and a more streamlined process for energy consumers to participate in the State's programs, and could be particularly helpful for out-of-state businesses seeking to do business in or with New York State.

## **Section 5. RECOMMENDATIONS TO EXPAND THE USE AND IMPLEMENTATION OF ENERGY EFFICIENCY AND DISTRIBUTED GENERATION TECHNOLOGIES AND PRACTICES**

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The recommendations in this Section reflect the combined suggestions of the Conservation Coordination Task Force member agencies and authorities to expand the use and implementation of energy efficiency and distributed generation technologies and practices. The recommendations do not necessarily affect or have the support of more than one Task Force member, and are not presented in any rank order of importance.

- State Energy Building Code. Savings gained by voluntary programs are best preserved by strengthening the State Energy Building Code, administered by the Department of State, through periodic updates that keep pace with construction practices and technological improvements in energy conservation and efficiency.
- Interconnection and Metering. Efforts should continue to streamline and standardize existing electric interconnection and metering requirements. Any remaining impediments to the effective deployment of energy efficiency and distributed generation should be identified and addressed.
- Energy Efficiency and Distributed Generation Gap Analysis. Additional opportunities for increasing the effectiveness and the deployment of energy efficiency and distributed generation technologies through enhanced coordinated support of product development projects and deployment incentives should be studied.
- Energy Efficiency Resource Standard. An Energy Efficiency Resource Standard, a public policy that targets a percentage of statewide energy load to be met by energy efficiency, to capturing both electric and natural gas savings, should be established. Cost-effectiveness studies found that efficiency can reduce energy use by 20% or more.<sup>40</sup>
- Natural Gas Efficiency Program. Expansion of the Consolidated Edison Natural Gas Efficiency Pilot Program<sup>41</sup> should be considered. Such a program, where cost-effective, would complement the existing electric SBC program, take advantage of the established program delivery framework and would leverage existing resources.
- Transmission and Distribution. NYSERDA, LIPA, NYPA, and DPS should collaboratively support RD&D projects and any necessary regulatory changes to improve performance and gain efficiencies in the transmission and distribution of electricity. DOE estimates that electricity losses in the transmission and distribution system may exceed

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<sup>40</sup> Ten states have EERS, including Connecticut, California, Colorado, Hawaii, Illinois, New Jersey, Nevada, Pennsylvania, Texas, and Vermont. In most states the EERS is operated as market-based trading system among utilities and includes electric and natural gas savings. In some states, an EERS complements their Renewable Portfolio Standard (i.e., a AClean Energy Resource Standard® meets load growth with a mix of clean generation and energy efficiency.) Steve Nadel, “Energy Efficiency Resource Standards: Experience and Recommendations,” American Council for and Energy-Efficient Economy Report, EO 63. March 2006.

<sup>41</sup> Case 03-G-1671, Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Gas Service, Order Approving Gas Efficiency Plan, issued and effective June 13, 2005.

10%<sup>42</sup>, and financial incentives or regulatory mechanisms may be needed to ensure that owners of transmission and distribution infrastructure provide the most cost-effective equipment. Owners of transmission and distribution infrastructure should assess this issue, and report actions they are taking or actions that may be needed to improve efficiencies and to ensure the installations of the most cost-effective equipment.

- Stabilize Low-Income Funding. To offset fluctuations in federal funding levels, a dedicated supplemental source of State revenue should be made available to support enhanced energy efficiency efforts directed to low-income households. Funds are particularly needed to expand renewable energy technologies to low-income housing.
- Affordable Green Housing Goal. An achievable, yet aggressive goal for the addition of affordable green housing should be established through energy efficiency and clean distributed generation. For example, a goal that by 2010, 50% of all new, affordable housing meets LEED<sup>®</sup> certification<sup>43</sup>, or other green building standards.
- Coordination with Economic Development Entities. Energy efficiency and distributed generation can be expanded through further coordination with the economic development programs of local governmental entities, investor-owned utilities, and other development organizations. The use of these technologies, such as the cost-effective and peak-reducing hybrid steam cooling systems in the New York City metropolitan area, and specifically at the World Trade Center redevelopment site, can showcase technologies and practices for greater acceptance and replication across the State in other major local economic development initiatives.
- Transportation Coordination. An inter-agency collaboration similar to the existing Clean-Fueled Vehicle Council for the State fleet should be established to address transportation-related energy programs. This group would focus on the broader public and private fleets and include representatives from the Department of Transportation, Thruway Authority, Metropolitan Transit Authority, NYSERDA, NYPA, the Office of General Services, Agriculture and Markets and representatives from municipal transportation authorities from around the State.

In addition to the items noted above, various Task Force member agencies and authorities have, in the form of departmental and program bills, proposed legislative measures intended to “expand the use and implementation of energy efficiency and distributed generation technologies and practices.” Among such measure introduced in the 2006 legislative session were:

- S. 5261, a Governor’s Program Bill intended to encourage the use of energy efficiency measures and services, clean energy technologies and other energy services provided by NYPA and NYSERDA by streamlining the procurement process and enhancing the flexibility of public entities to implement energy-saving projects;
- S. 8316/A.11916, a departmental bill designed to hone NYPA’s authority to finance and provide energy services to a full range of potential beneficiaries.

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<sup>42</sup> NYSERDA, *Patterns and Trends Report*, January 2007.

<sup>43</sup> To earn LEED<sup>®</sup> certification a building project must meet certain prerequisites and performance benchmarks (“credits”), within each category. Projects are awarded Certified, Silver, Gold, or Platinum certification depending on the number of credits they achieve.

## **Appendix A.**

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### **Chapter 59 of the Laws of 2006, Part JJ.**

#### **PART JJ. Section 1.**

1. There is hereby created the conservation coordination task force, hereinafter referred to as the "task force," which may include, but not be limited to, the chair of the New York State Energy Research and Development authority, the chair of the Department of Public Service, the chair of the Power Authority of the State of New York, the chair of the Long Island Power Authority, the commissioner of the State Education Department, the commissioner of the Department of Environmental Conservation, and the commissioner of Housing and Community Renewal. The chair of the task force shall be appointed by the governor. St

aff services shall be performed by personnel of the New York State Energy Research and Development Authority as requested by the task force. Assistance may be also made available, as requested by the taskforce, from other agencies, departments and public authorities of the state.

2. The task force shall meet at least once every month and members of the task force shall receive no compensation for their participation, but shall be entitled to reimbursement for any necessary expenses incurred in connection with the performance of their duties.

3. The task force may develop recommendations for consideration by the governor to facilitate the coordination of energy programs of the various agencies, departments and public authorities in the state, identify program areas where cooperation among the agencies, departments and public authorities will expand the use and application of energy efficiency and distributed generation technologies, and may make recommendations for agencies to collaborate in order to most effectively share resources for the implementation of such technologies and practices.

4. The task force may make recommendations for consideration by the governor related to the expanded use and implementation of energy efficiency and distributed generation technologies and practices, in consideration of the levels of funding from the various programs of the agencies and public authorities. The task force may reference and utilize appropriate market potential studies conducted by the various agencies with respect to specific energy efficiency and distributed generation technologies.

5. No later than thirty days after the end of the calendar year, the task force shall prepare a report on its activities. Such report may include, but not be limited to: a list and location of the various energy efficiency and distributed generation programs that have been implemented, and expenditures related to such programs, including a schedule of total commitments, outstanding encumbrances and quarterly disbursements; an assessment of the progress and status of the various programs; an analysis of the energy savings resulting from the implemented programs; and a discussion of any program changes. The task force shall transmit such report to the governor, speaker of the assembly, the temporary president of the senate, the chair of the senate finance committee, the chair of the assembly ways and means committee, the chair of the assembly energy committee and the chair of the senate energy and telecommunications committee.

## **Appendix B.**

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### **Energy Efficiency and Distributed Generation Program Budgets and Financial Information**



**Table B-1a. NYSERDA: Cumulative Reporting**

Reporting time period from:  to:

(in thousand dollars)

Program Name	Cumulative Program Expenditures	Cumulative Program Commitments	Cumulative Outstanding Commitments/ Encumbrances
<b>NYSERDA - Federal Grant funded Programs</b>			
State Energy Program (SEP)	\$ 10,223	\$ 12,214	\$ 1,992
Competitive Grants	\$ 6,351	\$ 7,019	\$ 668
Administration	\$ 5,548	\$ 5,548	\$ -
<b>NYSERDA - System Benefits Charge Programs</b>			
Home Performance with ENERGY STAR®	\$ 29,981	\$ 31,117	\$ 1,136
Home Performance with ENERGY STAR® - Low Income	\$ 22,286	\$ 23,490	\$ 1,204
New York ENERGY STAR® Labeled Homes	\$ 18,695	\$ 19,119	\$ 424
New York ENERGY STAR® Labeled Homes- Low Income	\$ 40	\$ 40	\$ -
ENERGY STAR® Products	\$ 69,954	\$ 71,210	\$ 1,256
Multifamily Building Performance	\$ 18,917	\$ 27,536	\$ 8,619
Multifamily Building Performance- Low Income	\$ 38,571	\$ 71,162	\$ 32,591
EmPower New York SM	\$ 11,131	\$ 11,309	\$ -
Weatherization Network Initiative	\$ 7,946	\$ 7,948	\$ 2
Communities and Education	\$ 3,643	\$ 4,375	\$ 732
Buying Strategies and Energy Awareness	\$ 4,854	\$ 5,204	\$ 350
Direct Install	\$ 9,912	\$ 9,912	\$ -
Enhanced Commercial/Industrial Performance Program	\$ 96,097	\$ 135,718	\$ 39,621
Peak Load Reduction Program	\$ 36,265	\$ 48,702	\$ 12,437
Loan Fund Program	\$ 13,231	\$ 15,826	\$ 2,595
New Construction Program	\$ 55,083	\$ 87,108	\$ 32,025
Technical Assistance Program Program	\$ 20,965	\$ 25,280	\$ 4,315
R&D Buildings and Technology (including DG)	\$ 52,806	\$ 85,997	\$ 33,192
Program Administration	\$ 49,476	\$ 49,476	\$ -
NYS Cost Recovery Fee	\$ 7,692	\$ 7,692	\$ -
Metrics and Evaluation	\$ 11,787	\$ 13,586	\$ 1,799
<b>NYSERDA - Con Edison System Wide Plan Programs</b>			
Building Performance	\$ 7	\$ 15	\$ 8
Comprehensive Energy Management	\$ -	\$ 101	\$ 101
Distributed Generation / Combined Heat and Power	\$ 84	\$ 161	\$ 77
Enhanced Commercial/Industrial Performance Prgm	\$ 80	\$ 2,152	\$ 2,072
Technical Assistance	\$ 15	\$ 431	\$ 416
Loan Fund Program	\$ 72	\$ 501	\$ 428
New Construction Program	\$ 224	\$ 2,958	\$ -
Peak Load Reduction	\$ 57	\$ 12,085	\$ 12,028
Evaluation	\$ -	\$ 500	\$ 500
Administration	\$ 936	\$ 936	\$ -
<b>NYSERDA - Settlement Funds</b>			
Indian Point Two Joint Proposal	\$ 1,478	\$ 2,409	\$ 931
Virginia Electric Power Company (VEPCO) Settlement	\$ 946	\$ 1,881	\$ 935
Croton MOU Greening the Bronx-Urban Forestry	\$ 200	\$ 408	\$ 208
Con Ed Gas Efficiency	\$ 920	\$ 2,271	\$ 1,351
Niagara Mohawk Environmental Mitigation Project	\$ 162	\$ 769	\$ 607
Niagara Mohawk Low Income Gas Customer Efficiency	\$ 1,276	\$ 1,454	\$ 178
Ohio Edison	\$ -	\$ -	\$ -
<b>NYSERDA - Statutory 18A funded programs</b>			
Buildings	\$ 20,460	\$ 26,453	\$ 5,993
Industry	\$ 22,031	\$ 26,275	\$ 4,244
Energy Resources	\$ 11,143	\$ 14,088	\$ 2,945
Administration	\$ 16,960	\$ 16,960	\$ -
<b>Total</b>	<b>\$ 678,503</b>	<b>\$ 889,395</b>	<b>\$ 207,980</b>

**Table B-1b. NYSERDA: Most Recent 12-Month Reporting**

Reporting time period from:

(in thousand dollars)

Program Name	Current Annual Budget	Most recent 12 month Program Expenditures	Most recent 12 month Program Commitments	Current Outstanding Commitments/ Encumbrances	Most recent Quarterly Disbursements (Expenditures)
<b>NYSERDA - Federal Grant funded Programs</b>					
State Energy Program (SEP)	\$ 1,761	\$ 1,606	\$ 1,312	\$ 1,992	\$ 508
Competitive Grants	\$ 576	\$ 696	\$ 749	\$ 668	\$ 101
Administration	\$ 509	\$ 509	\$ 509	\$ -	\$ -
<b>NYSERDA - Systems Benefit Charge Programs</b>					
Home Performance with ENERGY STAR®	\$ 7,013	\$ 6,883	\$ 4,817	\$ 1,136	\$ 1,280
Home Performance with ENERGY STAR® - Low Income	\$ 8,538	\$ 7,332	\$ 6,381	\$ 1,204	\$ 1,620
New York ENERGY STAR® Labeled Homes	\$ 4,640	\$ 3,691	\$ 3,161	\$ 424	\$ 1,075
New York ENERGY STAR® Labeled Homes- Low Income	\$ 2,259	\$ 1	\$ 1	\$ -	\$ -
ENERGY STAR® Products	\$ 4,900	\$ 4,833	\$ 5,543	\$ 1,256	\$ 1,305
Multifamily Building Performance	\$ 4,000	\$ 5,765	\$ 8,183	\$ 8,619	\$ 577
Multifamily Building Performance- Low Income	\$ 15,000	\$ 10,983	\$ 5,053	\$ 32,591	\$ 3,166
EmPower New YorkSM	\$ 9,900	\$ 7,347	\$ 7,014	\$ -	\$ 2,381
Weatherization Network Initiative	\$ -	\$ 2,195	\$ 2,484	\$ 2	\$ 943
Communities and Education	\$ 1,550	\$ 1,132	\$ 471	\$ 732	\$ 483
Buying Strategies and Energy Awareness	\$ 2,262	\$ 771	\$ 352	\$ 350	\$ 190
Direct Install	\$ -	\$ -	\$ -	\$ -	\$ -
Enhanced Commercial/Industrial Performance Program	\$ 17,856	\$ 14,064	\$ 3,141	\$ 39,621	\$ 1,889
Peak Load Reduction Program	\$ 8,000	\$ 4,859	\$ 6,200	\$ 12,437	\$ 1,183
Loan Fund Program	\$ 2,100	\$ 4,246	\$ 4,430	\$ 2,595	\$ 910
New Construction Program	\$ 14,000	\$ 11,742	\$ 12,062	\$ 32,025	\$ 2,028
Technical Assistance Program	\$ 5,900	\$ 2,003	\$ 1,772	\$ 4,315	\$ 518
R&D Buildings and Technology (incl. DG)	\$ 10,650	\$ 12,233	\$ 15,912	\$ 33,192	\$ 3,371
Program Administration	\$ 9,793	\$ 10,261	\$ 10,261	\$ -	\$ 2,425
NYS Cost Recovery Fee	\$ 2,945	\$ 2,043	\$ 2,043	\$ -	\$ 482
Metrics and Evaluation	\$ 2,798	\$ 2,347	\$ 2,705	\$ -	\$ 298
<b>NYSERDA - Con Edison System Wide Plan</b>					
Peak/Aggregated Load Reduction	\$ 13,852	\$ 57	\$ 12,085	\$ 12,028	\$ 48
Combined Heat & Power	\$ 3,920	\$ 84	\$ 161	\$ 77	\$ 84
Commercial/Industrial Performance	\$ 3,397	\$ 80	\$ 2,152	\$ 2,072	\$ 79
Residential A/C Load Management	\$ 3,241	\$ -	\$ 101	\$ 101	\$ -
Building Performance Financing	\$ 1,725	\$ 79	\$ 516	\$ 436	\$ 74
New Construction Program	\$ 1,829	\$ 190	\$ 2,924	\$ -	\$ 30
Flex Tech/Technical Assistance	\$ 1,307	\$ 15	\$ 405	\$ 416	\$ 15
Evaluation	\$ 585	\$ -	\$ 500	\$ 500	\$ -
Administration	\$ 2,049	\$ 745	\$ 745	\$ -	\$ 296
<b>NYSERDA - Settlement Funds</b>					
Indian Point Two Joint Proposal	\$ 2,000	\$ 250	\$ 529	\$ 931	\$ 63
Virginia Electric Power Company (VEPCO) Settlement	\$ 1,000	\$ 373	\$ 36	\$ 935	\$ 93
Croton MOU Greening the Bronx-Urban Forestry	\$ 1,478	\$ 161	\$ 369	\$ 208	\$ 40
Con Ed Gas Efficiency	\$ 1,642	\$ 712	\$ 1,642	\$ 1,351	\$ 178
Niagara Mohawk Environmental Mitigation Project	\$ 1,305	\$ 162	\$ 744	\$ 607	\$ 41
Niagara Mohawk Low Income Gas Customer Efficiency Program	\$ 2,281	\$ 1,276	\$ 552	\$ 178	\$ 319
Ohio Edison Settlement	\$ 665	\$ -	\$ -	\$ -	\$ -
<b>NYSERDA - Statutory 18A</b>					
Buildings	\$ 2,900	\$ 3,119	\$ 2,661	\$ 5,993	\$ 504
Industry	\$ 2,800	\$ 2,793	\$ 62	\$ 4,244	\$ 775
Energy Resources	\$ 1,200	\$ 897	\$ 940	\$ 2,945	\$ 188
Administration	\$ 2,106	\$ 2,106	\$ 2,106	\$ -	\$ -
<b>Total</b>	<b>\$ 188,232</b>	<b>\$ 130,639</b>	<b>\$ 133,786</b>	<b>\$ 206,181</b>	<b>\$ 29,561</b>

**Table B-2a. NYPA: Cumulative Reporting**

Reporting time period from:  to:

(in thousand dollars)

Program Name	Cumulative Program Expenditures	Cumulative Program Commitments	Cumulative Outstanding Commitments/ Encumbrances
Clean Air For Schools Program	\$ 121,071	\$ 130,848	\$ 9,778
Distributed Generation Program	\$ 1,774	\$ 2,029	\$ 255
Electrotechnologies	\$ 83,416	\$ 86,424	\$ 3,008
Energy Services Program	\$ 151,494	\$ 284,871	\$ 134,567
Governmental Customers Energy Services Program	\$ 55,015	\$ 204,007	\$ 148,991
Industrials Program	\$ 6,875	\$ 6,875	\$ -
Long Island HELP	\$ 48,296	\$ 48,296	\$ -
New Construction	\$ 2,869	\$ 2,869	\$ -
Non Electric End-Uses	\$ 85,376	\$ 100,254	\$ 14,878
NYC BOE Climate Controls	\$ 34,719	\$ 34,970	\$ 251
NYCHA Instant Hot Water System Replacement Program	\$ 10,394	\$ 11,276	\$ 882
Public Housing	\$ 72,088	\$ 72,088	\$ -
Public Schools HELP	\$ 39,248	\$ 39,248	\$ -
SENY HELP	\$ 134,305	\$ 134,305	\$ -
SENY HELP LTEPA	\$ 93,128	\$ 94,541	\$ 1,413
Statewide HELP	\$ 58,612	\$ 58,612	\$ -
Watt Busters Program	\$ 5,441	\$ 5,441	\$ -
POCR - Coal Pilots Program	\$ 14,105	\$ 14,105	\$ -
POCR - College and University Loan Program	\$ 16,390	\$ 16,390	\$ -
POCR - Hybrid-Electric Transit Bus Program	\$ 4,513	\$ 4,513	\$ -
POCR - Solar PV Grant Program	\$ 663	\$ 663	\$ -
POCR - Energy Efficiency & Renewable Grants Program	\$ 15,596	\$ 16,727	\$ 1,131
<b>Total</b>	<b>\$ 1,077,461</b>	<b>\$ 1,392,385</b>	<b>\$ 316,114</b>

**Table B-2b. NYPA: Most Recent 12-Month Reporting**

Reporting time period from:  to:

(in thousand dollars)

Program Name	Current Annual Budget	Most recent 12 month Program Expenditures	Most recent 12 month Program Commitments	Current Outstanding Commitments/ Encumbrances *	Most recent Quarterly Disbursements (Expenditures)
Clean Air For Schools Program	\$ 9,992	\$ 2,681	\$ 11,343	\$ 9,778	\$ 1,715
CT Emissions Offset	\$ 2,998	\$ 1,425	\$ 127	\$ 399	\$ 2
CT Emissions Offset (Fuel Cells) Program	\$ -	\$ -	\$ -	\$ 271	\$ -
Customer Facility Upgrades in Support of PLM	\$ -	\$ 84	\$ 16	\$ 548	\$ 24
Distributed Generation Program	\$ 171	\$ 1,189	\$ -	\$ 255	\$ 17
Electrotechnologies	\$ 5,397	\$ 1,409	\$ -	\$ 3,008	\$ 988
Energy Services Program	\$ 34,004	\$ 31,872	\$ 19,276	\$ 134,567	\$ 13,899
Governmental Customers Energy Services Program	\$ 18,653	\$ 40,593	\$ 62,351	\$ 148,991	\$ 11,956
MEUA Vehicles	\$ 100	\$ 192	\$ 244	\$ -	\$ -
Non Electric End-Uses	\$ 15,096	\$ 13,809	\$ 75	\$ 14,878	\$ 3,674
NYC BOE Climate Controls	\$ -	\$ 834	\$ 1,097	\$ 251	\$ 102
NYCHA Instant Hot Water System Replacement Program	\$ 9,496	\$ 8,232	\$ 9,800	\$ 882	\$ 2,387
NYPA Facilities	\$ 999	\$ 156	\$ 612	\$ 141	\$ 57
SENY HELP LTEPA	\$ 3,400	\$ -	\$ 1,113	\$ 1,413	\$ -
POCR - Energy Efficiency & Renewable Grants Program	\$ 2,500	\$ 619	\$ 702	\$ 1,131	\$ 166
<b>Total</b>	<b>\$ 102,806</b>	<b>\$ 103,092</b>	<b>\$ 106,755</b>	<b>\$ 316,513</b>	<b>\$ 34,986</b>

\* The CT Emissions Offset (Fuel Cells), Distributed Generation and NYPA Facilities are listed in tables and Table B-2a and B-2b. The difference in the cumulative balance is due to the \$399k from the CT Emissions Offset.

**Table B-3a. LIPA: Cumulative Reporting**

Reporting time period from: 1999 to: 2005

(in thousand dollars)

Program Name	Cumulative Program Expenditures	Cumulative Program Commitments	Cumulative Outstanding Commitments/ Encumbrances
Lighting and Appliances (RLA)/Efficient Products	\$ 29,029	\$ 29,029	\$ -
ENERGY STAR Labeled Homes/New Construction	\$ 1,075	\$ 1,075	\$ -
Home Performance with Energy Star	\$ 528	\$ 528	\$ -
Cool Homes (HVAC)	\$ 21,888	\$ 21,888	\$ -
Energy Affordability Partnership (REAP)/Low Income	\$ 15,336	\$ 15,336	\$ -
Information and Education	\$ 3,160	\$ 3,160	\$ -
Keep Cool AC Bounty (phased out in 2003)	\$ 17,410	\$ 17,410	\$ -
Solar Pioneer	\$ 22,853	\$ 22,853	\$ -
Commercial & Industrial (C&I) New Construction & Renovation	\$ 39,004	\$ 39,004	\$ -
Retrofit Energy and Capacity (RECAP)	\$ 151	\$ 151	\$ -
Peak Reduction Program (no longer part of CEI)	\$ 5,893	\$ 5,893	\$ -
Customer-Driven Efficiency (CDE)	\$ 3,435	\$ 3,435	\$ -
LIP/Aedge	\$ 20,294	\$ 20,294	\$ -
Fuel Cell Development and Demonstration	\$ 17,566	\$ 17,566	\$ -
Solar Development and Demonstration	\$ 4,522	\$ 4,522	\$ -
Wind Turbine Development and Demonstration	\$ 1,557	\$ 1,557	\$ -
<b>Total</b>	<b>\$ 203,702</b>	<b>\$ 203,702</b>	<b>\$ -</b>

Note: The Clean Energy Initiative is a 10 year, \$355 million commitment through 2008. Any unspent funds are reapportioned to other Corporate initiatives. The Retrofit Energy and Capacity (RECAP) program total payments by the end of the program are expected to be \$62 million. Each years budget is determined on an annual basis.

**Table B-3b. LIPA: Most Recent 12-Month Reporting**

Reporting period from: 1/1/2005 to: 12/31/2005

(in thousand dollars)

Program Name	Current Annual Budget	Most recent 12 month Program Expenditures	Most recent 12 month Program Commitments	Current Outstanding Commitments/ Encumbrances	Most recent Quarterly Disbursements (Expenditures)
Lighting and Appliances (RLA)/Efficient Products	\$ 2,437	\$ 5,293	\$ 5,293	\$ -	\$ 1,323
ENERGY STAR Labeled Homes/New Construction	\$ 3,900	\$ 1,075	\$ 1,075	\$ -	\$ 269
Home Performance with Energy Star	N/A	\$ 528	\$ 528	\$ -	\$ 132
Cool Homes (HVAC)	\$ 2,817	\$ 3,248	\$ 3,248	\$ -	\$ 812
Energy Affordability Partnership (REAP)/Low Income	\$ 2,360	\$ 2,759	\$ 2,759	\$ -	\$ 690
Information and Education	\$ 390	\$ 559	\$ 559	\$ -	\$ 140
Keep Cool AC Bounty (phased out in 2003)	\$ -	\$ -	\$ -	\$ -	\$ -
Solar Pioneer	\$ 3,370	\$ 4,238	\$ 4,238	\$ -	\$ 1,060
Commercial & Industrial (C&I) New Construction & Renovation	\$ 5,593	\$ 7,381	\$ 7,381	\$ -	\$ 1,845
Retrofit Energy and Capacity (RECAP)	\$ 11,500	\$ 151	\$ 151	\$ -	\$ 38
Peak Reduction Program (no longer part of CEI)	\$ 650	\$ 193	\$ 193	\$ -	\$ 48
Customer-Driven Efficiency (CDE)	\$ 870	\$ 717	\$ 717	\$ -	\$ 179
LIP/Aedge	\$ 1,500	\$ 902	\$ 902	\$ -	\$ 225
Fuel Cell Development and Demonstration	\$ 1,100	\$ 328	\$ 328	\$ -	\$ 82
Solar Development and Demonstration	\$ 5	\$ 11	\$ 11	\$ -	\$ 3
Wind Turbine Development and Demonstration	\$ 8	\$ 210	\$ 210	\$ -	\$ 53
<b>Total</b>	<b>\$ 36,499</b>	<b>\$ 27,592</b>	<b>\$ 27,592</b>	<b>\$ -</b>	<b>\$ 6,898</b>

**Table B-4a. DHCR: Cumulative Reporting**

Reporting period from:  to:

(in thousand dollars)

Program Name	Cumulative Program Expenditures	Cumulative Program Commitments	Cumulative Outstanding Commitments/Encumbrances
Weatherization Assistance Program	\$ 382,444	\$ 382,444	\$ -
<b>Total</b>	<b>\$ 382,444</b>	<b>\$ 382,444</b>	<b>\$ -</b>

**Notes:**

**Cumulative Program Expenditures:** This figure is the total of the expenditures for Program Year 1997 through 2005, which covers the period of 4/01/1997 to 3/31/2006.

**Cumulative Program Commitments:** Since there are no cumulative outstanding amounts or encumbrances, the cumulative commitments equal the cumulative expenditures.

**Cumulative Outstanding Commitments/Encumbrances:** There are no cumulative outstanding commitments or encumbrances.

**Table B-4b. DHCR: Most Recent 12-Month Reporting**

Reporting period from:  to:

(in thousand dollars)

Program Name	Current Annual Budget	Most recent 12 month Program Expenditures	Most recent 12 month Program Commitments	Current Outstanding Commitments/Encumbrances	Most recent Quarterly Disbursements (Expenditures)
Weatherization Assistance Program	\$ 55,875	\$ 55,299	\$ 55,299	\$ -	\$ 18,921
<b>Total</b>	<b>\$ 55,875</b>	<b>\$ 55,299</b>	<b>\$ 55,299</b>	<b>\$ -</b>	<b>\$ 18,921</b>

**Notes:**

**Current Annual Budget:** Source: NYS Weatherization State Plan for Program Year 2005 (4/1/2005 - 3/31/2006).

**Most recent 12 month Program Expenditures:** For the purposes of this section of this report, Program Year 2005 was used as our most recent reporting period.

**Most recent 12 month Program Commitments:** Since there are no cumulative outstanding amounts or encumbrances, the cumulative commitments equal the cumulative amount.

**Current Outstanding Commitments/Encumbrances:** There are no outstanding commitments/encumbrances.

**Most recent Quarterly Disbursements (expenditures):** This figure equals the total amount expended for Program Year 2005, minus the total amount expended as of 12/31/2005

## **Appendix C.**

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### **Energy Efficiency and Distributed Generation Program Energy Savings Impacts**

**Table C-1. NYSEERDA: Financial and Energy Savings**

Cumulative time period	From:	1-Jul-98	To:	30-Sep-06
Most recent 12-month time period	From:	1-Oct-05	To:	30-Sep-06

(in thousand dollars)

Program Name	Most recent 12 month Energy\$ Savings	Cumulative Energy\$ Savings	Most recent 12 month Kilowatt hr (kWh) Savings	Cumulative Kilowatt hr (kWh) Savings	Most recent 12 month Kilowatt (kW) Savings	Cumulative Kilowatt (kW) Savings	Most recent 12 month (MMBtu) Savings	Cumulative (MMBtu) Savings
Single Family Home Performance	\$ 6,661	\$ 14,913	9,154,673	22,079,965	583	3,024	485,171	1,066,532
Market Support (see note 1)	\$ 11,890	\$ 45,823	59,786,981	303,839,724	20,489	107,625	325,628	341,920
Multifamily Building Performance	\$ 2,979	\$ 5,971	15,073,800	34,703,130	1,327	4,771	80,406	105,316
EmPower New York <sup>SM</sup>	\$ 2,815	\$ 4,620	15,322,182	27,396,093	1,834	3,034	62,597	74,756
Enhanced Commercial/Industrial Performance Prgm	\$ 10,203	\$ 95,492	81,273,426	761,878,003	31,773	138,393	2,336	3,381
Peak Load Management Program	\$ 922	\$ 14,536	7,358,261	116,006,764	10,389	515,889	0	0
New York Energy Smart Loan Fund Program	\$ 1,628	\$ 7,612	10,959,686	51,259,686	4,221	15,021	29,852	139,621
Aggregated Demand Reduction Program (SWP)	\$ -	\$ -	0	0	0	0	0	0
New Construction Program	\$ 8,054	\$ 28,378	64,277,036	226,477,036	8,294	46,494	TBD	TBD
Technical Assistance Program	\$ 16,256	\$ 110,495	99,000,000	666,700,000	17,070	123,170	452,034	3,164,000
Distributed Generation / Combined Heat and Power (see note 2)	\$ 525	\$ 5,561	18,337,902	90,037,902	4,239	19,739	-208,045	-671,440
Renewable Generation	\$ 282	\$ 628	2,041,467	4,541,467	1,062	2,504	0	0
New York Energy Smart Business Partners	\$ 1,328	\$ 7,180	10,600,252	57,300,252	2,400	12,600	0	0
Enabling Technologies	\$ -	\$ -	0	0	0	137,200	0	0
Aggregated Non SBC-funded Programs (see note 3)		\$ 12,553	33,506,673	268,053,383	0	0	703,747	11,866,184
Overlap Removed (see note 4)			20,270,295	142,194,616	5,410	27,592		
<b>Total</b>	<b>\$ 63,543</b>	<b>\$ 353,762</b>	<b>406,422,043</b>	<b>2,488,078,789</b>	<b>98,271</b>	<b>1,101,872</b>	<b>1,933,726</b>	<b>16,090,270</b>

Notes

1 - Due to the market transformation nature of the Market Support programs, they are evaluated on an annual basis, and as such, these savings values reflect the period from 12/31/04 to 12/31/05.

2 - DG/CHP equipment requires fuel to generate electricity, reflecting a net increase of fuel usage at the facility. However, because the electricity saved by the DG/CHP projects replaces electricity formerly purchased from the grid, the program has reduced net electricity usage.

3 - Programs not funded by the Systems Benefit Charge are not subject to the same level of rigorous evaluation as those funded by the SBC.

4 - Overlapping savings are a natural effect of programs – for example, overlap occurs when a customer first participates in the Technical Assistance (TA) Program to obtain a detailed energy audit of a facility; this customer may then participate in the C program.

TBD indicates that while savings are being achieved, they are not presently being reported by the program.

**Table C-2. NYPA: Financial and Energy Savings**

Cumulative time period From: 1/1/1987 To: 10/31/2006  
 Most recent 12-month time period From: 11/1/2005 To: 10/31/2006

(in thousand dollars)

Program Name	Most recent 12 month Energy\$ Savings	Cumulative Energy\$ Savings	Most recent 12 month Kilowatt hr (kWh) Savings	Cumulative Kilowatt hr (kWh) Savings	Most recent 12 month Kilowatt (kW) Savings	Cumulative Kilowatt (kW) Savings	Most recent 12 month (MMBtu) Savings	Cumulative (MMBtu) Savings
Clean Air For Schools Program	\$ -	\$ 28,179						1,155,840
County and Municipal HELP	\$ -	\$ 3,590		35,318,000				0
CT Emissions Offset	\$ -	\$ -						
CT Emissions Offset (Fuel Cells) Program	\$ -	\$ -						
Customer Facility Upgrades in Support of PLM	\$ -	\$ -						
Distributed Generation Program	\$ 30	\$ 30	2,080,000	2,080,000	250	250	2,829	2,829
Electrotechnologies	\$ -	\$ 18,123		25,596,000	0	13,201		255,960
Energy Services Program	\$ 1,084	\$ 22,301	14,304,000	182,225,000	3,527	51,132	182,808	1,259,706
Governmental Customers Energy Services Program	\$ 2,139	\$ 2,139	18,305,000	18,305,000	3,136	3,980	8,799	8,799
Industrials Program	\$ -	\$ 4,504		70,504,000		10,747		0
Long Island HELP	\$ -	\$ 74,006		564,904,000		237,019		0
New Construction	\$ -	\$ 3,428		214,110,000		40,323		0
Non Electric End-Uses	\$ -	\$ 25,807						2,014,313
NYC BOE Climate Controls	\$ 291	\$ 3,183					19	425
NYCHA Instant Hot Water System Replacement Program	\$ -	\$ -						
NYPA Facilities	\$ -	\$ -						
Public Housing	\$ -	\$ 48,064		820,641,000		108,659		0
Public Schools HELP	\$ -	\$ 39,968		397,538,000		159,776		0
SENY HELP	\$ -	\$ 298,400		4,005,379,000		780,734		0
SENY HELP LTEPA	\$ 108	\$ 60,818	1,418,000	675,107,000	162	154,977	14,180	78,459
Statewide HELP	\$ -	\$ 117,451		1,242,277,000		316,183		0
Steam Air Conditioning	\$ -	\$ -						
Watt Busters Program	\$ -	\$ 16,315		555,944,000		242,014		0
POCR - Coal Pilots Program	\$ -	\$ 6,190						209,658
POCR - College and University Loan Program	\$ -	\$ 15,655		178,645,000		22,420		0
POCR - Hybrid-Electric Transit Bus Program	\$ -	\$ -						27,906
POCR - Solar PV Grant Program	\$ -	\$ 38		480,000		360		0
POCR - Energy Efficiency & Renewable Grants Program	\$ 113	\$ 4,637	1,429,000	56,955,000	544	21,679	0	0
<b>Total</b>	<b>\$ 3,765</b>	<b>\$ 792,826</b>	<b>37,536,000</b>	<b>9,046,008,000</b>	<b>7,619</b>	<b>2,163,454</b>	<b>208,635</b>	<b>5,013,895</b>



**Table C-3. LIPA: Financial and Energy Savings**

Cumulative time period From:  To:   
 Most recent 12-month time period From:  To:

(in thousand dollars)

Program Name	Most recent 12 month Energy\$ Savings	Cumulative Energy\$ Savings	Most recent 12 month Kilowatt hr (kWh) Savings	Cumulative Kilowatt hr (kWh) Savings	Most recent 12 month Kilowatt (kW) Savings	Cumulative Kilowatt (kW) Savings	Most recent 12 month (MMBtu) Savings *	Cumulative (MMBtu) Savings *
Lighting and Appliances (RLA)/Efficient Products	\$ 26,903	\$ 87,107	162,325,900	617,939,200	3,355	12,937	-	-
ENERGY STAR Labeled Homes/New Construction	\$ 32	\$ 37	191,600	229,000	172	199	-	-
Home Performance with Energy Star	\$ -	\$ -	0	0	0	0	-	-
Cool Homes (HVAC)	\$ 4,326	\$ 12,781	26,103,100	89,937,900	8,674	37,055	-	-
Energy Affordability Partnership (REAP)/Low Income	\$ 4,334	\$ 12,850	26,151,300	90,274,600	788	3,274	-	-
Information and Education	\$ 4,039	\$ 11,545	24,371,600	79,894,200	1,855	8,634	-	-
Keep Cool AC Bounty (phased out in 2003)	\$ 3,368	\$ 11,493	20,324,000	79,853,000	0	26,436	-	-
Solar Pioneer	\$ 699	\$ 1,622	1,055,100	4,219,500	467	1,569	-	-
Commercial & Industrial (C&I) New Construction & Renovation	\$ 15,174	\$ 39,006	105,822,300	323,037,600	5,073	20,015	-	-
Retrofit Energy and Capacity (RECAP)	\$ -	\$ -	0	0	0	0	-	-
Peak Reduction Program (no longer part of CEI)	\$ 193	\$ 6,087	0	0	0	0	-	-
Customer-Driven Efficiency (CDE)	\$ 2,113	\$ 5,609	14,738,000	47,288,000	359	1,934	-	-
LIPAEdge	\$ -	\$ -		0	6,992	37,542	-	-
Fuel Cell Development and Demonstration	\$ -	\$ 178	264,198	3,758,278	45	435	-	-
Solar Development and Demonstration	\$ -	\$ -	782,000	2,588,480	0	353	-	-
Wind Turbine Development and Demonstration	\$ -	\$ -	89,500	257,980	0	26	-	-
<b>Total</b>	<b>\$ 61,181</b>	<b>\$ 188,315</b>	<b>382,218,598</b>	<b>1,339,277,738</b>	<b>27,780</b>	<b>150,383</b>	-	-

\* MMBtu savings are not captured at this time.

**Table C-4. DHCR: Financial and Energy Savings**

Cumulative time period From: 4/1/1997 To: 3/31/2006  
 Most recent 12-month time period From: 4/1/2005 To: 3/31/2006

(in thousand dollars)

Program Name	Most recent 12 month Energy\$ Savings	Cumulative Energy\$ Savings	Most recent 12 month Kilowatt hr (kWh) Savings	Cumulative Kilowatt hr (kWh) Savings	Most recent 12 month Kilowatt (kW) Savings	Cumulative Kilowatt (kW) Savings	Most recent 12 month (MMBtu) Savings	Cumulative (MMBtu) Savings
Weatherization Assistance Program	\$ 69,165	\$ 346,535	93,542,115	466,681,680			3,724,118	18,075,812
<b>Total</b>	<b>\$ 69,165</b>	<b>\$ 346,535</b>	<b>93,542,115</b>	<b>466,681,680</b>			<b>3,724,118</b>	<b>18,075,812</b>

**Notes:**

**Most recent 12-month Energy \$ Savings:** Reported savings are based on investments made in units assisted between April 1, 1997 and March 31, 2006. The figures represent the projected savings that accrued during the 2005-06 program year (April 1, 2005 through March 31, 2006). These savings are calculated on the number of units completed, and the anticipated savings as stated in the State Plan by USDOE.

**Cumulative Energy \$ Savings:** Reported savings are based on investments made in units assisted between April 1, 1997 and March 31, 2006. These savings are based on the number of units completed and the anticipated savings as stated in the State Plan for the first year, using a discount factor of 3.32% for each subsequent year. The discount factor is approved by USDOE.

**Most recent 12-month Kilowatt hr (kWh) Savings:** The anticipated electrical savings that accrued to assisted households during the 2005-06 program year. These savings are based on the anticipated baseload savings that accrued during the 2005-2006 period for units completed since April 1, 1997, using the methodology in the State Plan approved by USDOE. These savings are from electrical reduction measures including refrigerator replacements, lighting retrofits, and domestic hot water conservation measures.

**Cumulative Kilowatt hr (kWh) Savings:** The projected kWh savings of all units completed since April 1, 1997, from the date of completion through March 31, 2006.

**Most recent 12 month (MMBtu) Savings:** The anticipated heat energy savings for all heating fuels that accrued to assisted households during 2005-2006 program year. These savings are based on the anticipated MMBtu savings that accrued during the 2005-2006 period for units completed since April 1, 1997, using the methodology in the State Plan approved by USDOE. These savings are from heating reduction measures including insulation, blower door assisted air sealing, heating system replacements, tuning, and upgrades.

**Cumulative (MMBtu) Savings:** The projected heat energy savings of all units completed since April 1, 1997, from the date of completion through March 31, 2006.

# **CONSERVATION COORDINATION TASK FORCE REPORT TO THE GOVERNOR AND THE LEGISLATURE**

**JANUARY 30, 2007**

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**The New York State Department of Public Service  
The New York State Energy Research and Development Authority  
The New York Power Authority  
The Long Island Power Authority  
The New York State Education Department  
The New York State Department of Environmental Conservation  
The New York State Division of Housing and Community Renewal**