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## APPENDIX D

### ACRONYMS, ABBREVIATIONS, AND TERMS

#### ACRONYMS and ABBREVIATIONS

A&E: Architecture & Engineering  
ACEEE: American Council for an Energy-Efficient Economy  
AHAM: Association of Home Appliance Manufacturers  
ASHRAE: American Society of Heating, Refrigerating, and Air-Conditioning Engineers  
B/C: benefit-cost ratio or analysis  
BTU: British thermal unit(s)  
CEA: comprehensive energy audit  
CEE: Consortium for Energy Efficiency  
CFL: compact fluorescent light  
CHG&E: Central Hudson Gas & Electric Corporation  
CHP: combined heat and power  
C/I: commercial/industrial  
CIP: Commercial/Industrial Performance (formerly Standard Performance Contract Program)  
CNVP: cumulative net present value  
CO<sub>2</sub>: Carbon Dioxide  
ConEd: Consolidated Edison Company of New York, Incorporated  
DEC: New York State Department of Environmental Conservation  
DG: distributed generation  
DHCR: New York State Division of Housing and Community Renewal  
DHW: Domestic Hot Water  
DMA: Designated Market Area  
DOE: United States Department of Energy  
DPS: New York State Department of Public Service  
EDRP: Emergency Demand Response Program  
EER: Energy Efficiency Rating  
EMEP: Environmental Monitoring, Evaluation and Protection Program  
EPA: United States Environmental Protection Agency  
EPAct: Energy Policy Act of 1992  
ESCO: energy service company  
ESEERCO: Empire State Electric Energy Research Corporation  
FlexTech: Flexible Technical Assistance Program  
FRM: Federal Reference Method  
GDP: gross domestic product  
GDS: GDS Associates  
GWh: gigawatt hour(s)  
HERS: Home Energy Rating System  
HUD: United States Department of Housing and Urban Development  
HVAC: heating, ventilation & air-conditioning  
IOU: investor-owned utility  
kW: kilowatt(s)

kWh: kilowatt hour(s)  
LBL: Lawrence Berkeley Laboratory  
LED: light-emitting diode  
LEED: Green Buildings Leadership in Energy and Environmental Design  
LIFE: Low-Income Forum on Energy  
LSE: load-serving entities  
mmBTU: million British thermal units  
MOU: Memorandum of Understanding  
MT: Market Transformation  
MW: megawatt(s)  
MWh: megawatt-hour(s)  
M&V: measurement and verification  
MUSH: municipal, schools and hospitals  
NEEA: Northwest Energy Efficiency Alliance  
NEEP: Northeast Energy Efficiency Partnerships, Inc.  
NEMA: National Electrical Manufacturers Association  
NESCAUM: Northeast States for Coordinated Air Use Management  
NLPIP: National Lighting Product Information Program  
NMPC: Niagara Mohawk Power Corporation  
NO<sub>2</sub>: nitrogen dioxide  
NO<sub>x</sub>: nitrogen oxides  
NYISO: New York Independent System Operator  
NYSEG: New York State Electric and Gas Corporation  
NYSERDA: New York State Energy Research and Development Authority  
O&R: Orange and Rockland Utilities, Incorporated  
ORNL: Oak Ridge National Laboratory  
PAG: Program Advisory Group  
PM: particulate matter  
PON: program opportunity notice  
PSC: New York State Public Service Commission  
PTE: program theory evaluation  
PV: photovoltaic  
REACH: Residential Energy Assistance Challenge  
RFP: request for proposals  
RG&E: Rochester Gas and Electric Corporation  
R&D: Research and Development  
SBC: system benefits charge  
SCE: Southern California Edison  
SES: Sample Equilibration system  
SIR: New York State Standard Interconnection Requirements  
SO<sub>x</sub>: sulfur oxides  
SPC: standard performance contract  
TBE: theory-based evaluation  
TBTU: trillion British thermal units  
TREAT: Targeted Residential Energy Analysis Tools  
T&D: transmission and distribution  
WAP: Weatherization Assistance Program

## GLOSSARY OF TERMS

**allies:** service providers involved in projects that are funded through the **New York Energy \$mart<sup>SM</sup>** Program.

**awarded funds:** funds that have been contracted, approved for contracting, or set aside as a result of incentive applications.

**benefit-cost analysis (B/C):** also referred to as a cost-benefit analysis. A type of cost-effectiveness analysis that involves comparing the relative costs of operating a program (*e.g.*, program expenses, staff salaries, etc.) to the benefits (*e.g.*, gains to individuals or society, including avoided energy and capacity costs resulting from reduced power consumption associated with the installation of energy efficiency measures or reduced fossil fuel generation due to promotion of renewable energy resources, etc.) it generates.

**biomass:** materials that are biological in origin, including organic material (both living and dead). Biomass can be used as a fuel, and is made available on a renewable basis through natural processes, or as a byproduct of human activities.

**BTU:** the standard unit for measuring quantity of heat energy necessary to raise the temperature of one pound of water one degree Fahrenheit.

**carbon dioxide (CO<sub>2</sub>):** produced from the combustion of fossil fuels. It is the leading greenhouse gas associated with global climate change.

**causality:** “...the claim that x caused y. More specifically, in evaluation the claim that the program was responsible for the observed effect.”<sup>1</sup> An examination of causality is an important component of the **New York Energy \$mart<sup>SM</sup>** evaluation effort. Once complete, it will help to validate program interventions, justify the expenditure of public benefits funds, and assist policy-makers in decisions regarding future funding of public benefit programs. The potential results of causality can have impacts beyond proving “x caused y”.

**combined heat & power (CHP):** the process of producing both power and useful heat from a single energy source. The useful heat may be used for industrial processes, used on-site for space heating, or fed into a district heating grid. The use of heat from electricity generation and the avoidance of transmission losses because electricity is generated on site has been shown to result in significant reductions in primary energy usage compared with power stations and heat only boilers. As a result, economic savings are also realized by balancing heat and power loads through CHP applications.

**committed funds:** funds that have been allocated for a **New York Energy \$mart<sup>SM</sup>** program or project, but have not yet been awarded to a specific contractor or customer.

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<sup>1</sup> Carol H. Weiss. 1998. *Evaluation: Methods for Studying Program and Policies*, Prentice Hall, Upper Saddle River: New Jersey, Glossary, pg. 328.

**cumulative net present value (CNPV):** the difference between the total benefits in present day terms and the total costs in present day terms at a specified discount rate.

**custom measure:** an energy efficiency measure that has been designed to meet specific performance criteria and application requirements, and for which there is no widely available commercial product or application that can be used to substitute the design of such a measure. An example of a custom measure is an end use lighting application in which a specifier (end-use customer) defines the needs and requirements of the energy-efficient product to a designer who designs the custom measure (lighting) to the specifier's needs.

**distributed generation (DG):** a range of power generation technologies with systems varying in size (typically from just a few kW to more than 50 MW), operating regime, and fuel requirements. DG applications vary from larger central-station power plants and can include systems designed for power generation, enhanced reliability of power quality, peak shaving, and backup or emergency power supply. End use applications of DG technologies/systems include: Microgeneration, gas turbines, fuel cells, and reciprocating internal combustion engines, among others.

**encumbered funds:** describes **New York Energy \$mart<sup>SM</sup>** funding that has been awarded to an energy efficiency project, but has not yet been paid-out (spent) to the specific contractor or customer under contract.

**energy burden:** the percentage of income devoted to energy expenditures.

**energy efficiency measures:** energy-efficient products that are promoted through the **New York Energy \$mart<sup>SM</sup>** Program. Energy efficiency measures can lead to substantial energy and cost savings when they replace standard products.

**energy services industry programs:** refers to the **New York Energy \$mart<sup>SM</sup>** Standard Performance Contract (now called Commercial/Industrial Performance - CIP) and Institutional Performance Contracting Programs. These programs expand the number of ESCOs operating in New York and increase private sector investments in improving the energy efficiency of C/I and Institutional buildings. The component program areas are designed to increase market availability of energy-efficient equipment and products by providing financial incentives to overcome market barriers inhibiting demand for such equipment and products.

**environmental disclosure:** the provision of informed choice by elevating customer awareness of how their energy is produced and delivered to them. The goal of the Environmental Disclosure Program, funded through the **New York Energy \$mart<sup>SM</sup>** Program, is to facilitate informed customer choice, which could, in turn, lead to improved environmental quality and resource diversity.

**energy services companies (ESCOs):** made up of power aggregators, power marketers, brokers, and providers of energy products and services whose job is to match buyers and sellers, and tailor both physical and financial instruments to suit the needs of particular customers. They seek to minimize the transaction costs to customers to allow even the smallest residential customers to form buying groups or cooperatives that will give them the same bargaining power as large industrial customers, or to lower the risk, financing, contracting, and installation hassle and time costs for the installation of energy efficient products and services.

**expanded program:** represents the period July 1, 2001 to June 30, 2006, that expands the initial three-year program and retains NYSERDA as the administrator of approximately \$733 million of public benefits funds to continue the **New York Energy Smart<sup>SM</sup>** Program.

**expended funds:** describes **New York Energy Smart<sup>SM</sup>** funding that has been fully spent (contracted, awarded, and paid-out).

**funds awarded:** see **awarded funds**.

**green marketing:** the sale of green power in competitive markets where multiple suppliers and product/service offerings exist.

**green pricing:** an optional utility service that provides customers the opportunity to support a greater level of utility investment in renewable/green power production technologies.

**incremental cost:** equals the cost of energy-efficient equipment less the cost of comparable standard efficiency equipment.

**infrastructure development:** building the supply chain for energy efficient products to facilitate competition among end-use customers.

**initial three-year program:** represents the period July 1, 1998 to June 30, 2001, when NYSERDA was named by the PSC as the administrator of approximately \$175 million of public benefits funds known as the **New York Energy Smart<sup>SM</sup>** Program.

**inputs:** resources available to the program, including money, staff time, volunteer time, etc.

**installed measures:** energy efficiency measures that have been installed for end use application, as the direct result of one of the **New York Energy Smart<sup>SM</sup>** Program initiatives.

**intervention strategies:** planned and targeted actions that attempt to eliminate market barriers that inhibit the adoption of energy-efficient or renewable resource products, services, and technologies in the marketplace.

**investor-owned utilities:** refers to the six investor-owned utilities that contribute to the System Benefits Charge and which fund the **New York Energy Smart<sup>SM</sup>** Program. The six investor-owned utilities include: Central Hudson Gas and Electric Corporation; Consolidated Edison Company of New York, Incorporated; New York State Electric and Gas Corporation; Niagara Mohawk Power Corporation; Orange and Rockland Utilities, Incorporated; and Rochester Gas and Electric Corporation.

**load curtailment:** characterized by instantaneous, short term (*i.e.*, several hours) reductions in kW demand.

**low-income customer:** for purposes of the **New York Energy Smart<sup>SM</sup>** Program, low-income households are those having an income that is less than or equal to 80% of the State's median income. Median income is determined by the number of persons in the household.

**market actor:** an entity (*i.e.*, person, organization, group) that influences (*e.g.*, buys, sells, provides a service, provides information, distributes, transports, manufacturers, consumes, etc.) the decision chain for energy-efficient or renewable resource products, services, technologies, and program endeavors.

**upstream:** market actors who provide the initial energy-efficient or renewable resource product, service, or technology, such as manufacturers.

**mid-stream:** market actors who purchase the energy-efficient or renewable resource products, services, or technologies from upstream actors and who then sell them to downstream customers. Retailers, distributors, and wholesalers are examples of mid-stream market actors.

**downstream:** market actors who purchase and utilize the energy-efficient or renewable resource products, services, and technologies. Typical downstream market actors can include residential home owners, small business customers, and power plant owners/operators.

**market awareness:** a level of knowledge or sensitivity toward a product, application, service, technology, or process. For example, market awareness for the ENERGY STAR® brand in New York State is approximately 50%; meaning 50% of the potential market is aware (has knowledge) of the ENERGY STAR® brand and can recognize its label.

**market barrier:** instances that prevent or inhibit market adoption of specific technologies or higher levels of energy efficiency. Market barriers to the adoption of high efficiency and renewable resource measures can include lack of awareness, knowledge, and information on the technology, product, and service offerings; lack of product or service availability; and perceived higher risk or difficulty financing the higher incremental cost often associated with energy efficiency and renewable resources.

**market baseline assessment research:** the act of collecting market data to inform program design, implementation, and evaluation. Market baseline data is collected via surveys, focus groups, market studies, and secondary research (completed studies or data sources). Market progress research is used to measure the success of a program. Follow-up assessments can be compared to initial baselines to measure whether or not changes in market behavior resulted from program activity.

**market effect:** a change in the structure of a market or the behavior of participants in a market that is reflective of an increase in the adoption of energy-efficient products, services, or practices and is causally related to market interventions.

**market event:** different types of transactions that occur between product/service providers and their customers.

**market intervention:** a deliberate attempt by government or its agents to reduce market barriers and thereby change the level of investment in (or practice of) energy efficiency.

**market sector:** a semi-homogeneous group with similarities in their use of end use applications, composition of activities, or recognized values. Examples include the residential buildings sector, the commercial buildings sector, and the small business sector.

**market share:** the percentage of all possible sales represented by actual sales. It is reported as a percent of targeted products sold, then as a percentage of all products in a particular category. Increasing the

market shares of energy-efficient electric products, including ENERGY STAR® products, is a market transformation goal.

**market transformation:** a reduction in market barriers resulting from a market intervention, as evidenced by a set of market effects, that lasts after the intervention has been withdrawn, reduced, or changed.

**market transformation program area:** designed to increase the adoption and penetration of energy-efficient and renewably-fueled generation technologies and practices, and induce lasting structural and behavioral changes in the marketplace. The objectives are to reduce barriers that inhibit widespread adoption of energy-efficiency measures and renewable resources and to build a market capability for stocking and promoting these products to the point where future publicly-funded incentives and assistance may no longer be required. The program area also seeks to encourage building professionals to design, construct, and renovate buildings by incorporating high-efficiency equipment and renewable energy generation technologies and to build an infrastructure and network of competent energy service providers.

**measurement & verification requirements:** used to confirm that baselines are accurately defined, ensure that energy measures are properly installed to generate the predicted savings (or energy output), and determine the actual savings achieved by the energy efficiency, or renewable resource, project.

**message saturation:** identifies the percentage of a targeted population that has been influenced by a targeted media (radio, television, Internet, direct mailing, print-advertisement, etc.) message/campaign. If a targeted population consists of 100,000 people, and 10,000 people were reached (*i.e.*, viewed, heard, or responded to a message), then the message saturation was 10%.

**high:** a high percentage of a targeted population that was influenced by a targeted media message/campaign. Typically, message saturations greater than 75% are considered high.

**in-between:** a relatively “in-between”, not low and not high, percentage of a targeted population that was influenced by a targeted media message/campaign. Typically, message saturations between 40% to 60% are considered “in-between” depending upon the total size, distribution, and complexity (make-up) of the targeted population.

**low:** a low percentage of a targeted population that was influenced by a targeted media message/campaign. Typically, message saturations less than 25% are considered low.

**New York Energy \$mart<sup>SM</sup>:** New York’s public benefits program that was established by order of the New York State Public Service Commission (PSC) in January 1998.<sup>2</sup> The program began July 1, 1998, with funds collected from customers by the electric utilities through a non-bypassable system benefits charge (SBC). The PSC designated the New York State Energy Research and Development Authority (NYSERDA) as the Statewide administrator of most of the program funds. **New York Energy \$mart<sup>SM</sup>**

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

is the service mark name of the Program. Under this service mark, NYSERDA administers a portfolio of energy efficiency, low-income, and research and development programs.

**nitrogen oxides (NOx):** produced from the combustion of fossil fuels. Oxides of nitrogen are a pollutant associated with a number of environmental problems, including ground-level ozone (smog), eutrophication, and formation of particles.

**outcomes:** the result of programs, services, or products provided and refer to changes in knowledge, attitude, or behavior in participants.

**outputs:** the immediate products or activities of a program.

**peak demand reduction:** energy savings that occur during instances of peak electric system demand. Installation of energy efficiency measures and new renewably-fueled generation technologies can reduce peak electricity demand from existing fossil-fueled power plants.

**pending contracts:** represents contracts that are not yet completed because they await the completion or provision of additional requirements prior to moving forward.

**portfolio of lighting programs:** a selective grouping of the **New York Energy \$mart<sup>SM</sup>** programs that include lighting components as a portion of their energy efficiency funded measures.

**pre-qualified equipment:** energy efficiency measures that were tested and verified as capable of achieving energy savings prior to their installation in an end use application. Often, a list of pre-qualified equipment is a primary element in a program that offers assistance for a specified set of energy efficiency measures.

**process evaluation:** an evaluation that examines the extent to which a program is operating as intended by assessing ongoing program operations and whether the targeted population is being served. A process evaluation involves collecting data that describes program operations in detail, including the types and levels of services provided, the location of service delivery, staffing, sociodemographic characteristics of participants, the community in which services are provided, the linkages with collaborating agencies, the quality of services provided, perceptions by customers and program implementers, and assessment of program improvement opportunities or, if necessary, recognition of need for program re-design or termination.

**program implementor:** the provider of a **New York Energy \$mart<sup>SM</sup>** Program selected through a competitive solicitation process. Program implementors carry-out the provision of energy efficiency, low-income, renewable resource and other research and development programs under the **New York Energy \$mart<sup>SM</sup>** Program.

**program opportunity notice (PON):** a NYSERDA solicitation approach for identifying and procuring projects that demonstrate technical, economic, environmental, and other aspects within a particular technology area. Multiple awards and cost-sharing are generally expected.

**project incentives:** funding allocated through the **New York Energy \$mart<sup>SM</sup>** Program for the sole purpose of accelerating the trial, use, and adoption of energy-efficient and renewable resource products, services, or technologies.

**project promotion strategies:** focus on end or mid-stream market actors. The immediate outcome of project promotion strategies is the installation of renewable resource technologies and high efficiency measures at the facility of the end-use customer (s), or the increased awareness and availability of such measures, technologies, and installation and operation practices.

**request for proposals (RFP):** a NYSERDA solicitation approach for identifying and procuring projects that represent a specific area of interest and describe in a statement of work the high degree of specificity regarding the work contemplated and the evaluation criteria to be used. A single award with no cost-sharing is expected.

**solicitation:** an instrument that is used to identify an energy efficiency, renewable resource, or research and development project or program. A solicitation is the device used to publicly announce funding for a specific program effort. Solicitations are numbered for organizational purposes, usually by the year they were issued and by predetermined administrative program numbers.

**sulfur dioxide (SO<sub>2</sub>):** emitted into the atmosphere through natural and anthropogenic processes (*e.g.*, the combustion of fossil fuels) and is changed in a complex series of chemical reactions in the atmosphere to sulfate aerosols. It is a pollutant associated with acid rain and the formation of particulate matter.

**summer peak load:** the period of highest electric system demand, which occurs in the summer in New York State. The electric system load peaks during the summer in New York State, partially due to increased loads from cooling equipment (*e.g.*, room air conditioners, HVAC units, etc.). When peak load cannot be met, due to lack of available capacity (MW), transmission constraints often follow, triggering rolling brownouts and potential blackouts.

**synergy:** the combined effectiveness of a group of programs working together is greater than the total effectiveness achieved by each program working separately.

**System Benefits Charge (SBC):** a charge on a consumer's bill from an electric distribution company to pay for the costs of certain public benefits such as low-income assistance and energy efficiency.

**technical assistance program area:** includes the **New York Energy \$mart<sup>SM</sup>** Energy Feasibility Studies, Energy Operations Management, Rate Analysis and Aggregation, Energy Audit Pilot, FlexTech, Cooling Recommissioning, and Residential Comprehensive Energy Management Services Programs. This program area provides feasibility studies, low-cost energy audits, aggregation and rate analysis, and energy operations management services to improve the energy efficiency and operation of facilities.