

BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of
Consolidated Edison Company of New York, Inc.
Case No. 06-G-1332
March 2007

Prepared Testimony of:

Gas Energy Efficiency Panel

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1 Q. Please state your full names and business
2 address.

3 A. Our names are Michael W. Wayand, William
4 Saxonis, and Sandra D. Reulet. Our business
5 address is Three Empire State Plaza, Albany, New
6 York 12223.

7 Q. Mr. Wayand, by whom are you employed and in what
8 capacity?

9 A. I am employed by the New York State Department
10 of Public Service as a Utility Engineer 3 in the
11 Policy Section of the Office of Gas & Water.

12 Q. Mr. Wayand, are you presenting other testimony
13 in this proceeding?

14 A. Yes, my educational and professional background
15 is provided as part of that testimony.

16 Q. Mr. Saxonis, by whom are you employed and in
17 what capacity?

18 A. I am employed by the New York State Department
19 of Public Service (Department) as a Utility
20 Analyst 3 in the Office of Electricity and
21 Environment.

22 Q. What is your education and professional
23 background?

1 A. I received a Bachelor of Arts degree in
2 political science from Salem State College in
3 1977 and a Masters of Arts degree in political
4 science in 1979 from the Nelson A. Rockefeller
5 College of Public Affairs and Policy at the
6 State University of New York at Albany. I have
7 been employed by the Department since 1995.
8 From 1980 through March 1995, I was employed by
9 the New York State Energy Office. For most of
10 those years, I served as the manager of the
11 evaluation unit, which was responsible for
12 conducting comprehensive evaluations on a wide
13 range of energy efficiency programs. My work on
14 energy program evaluation is recognized
15 nationally, and I have authored numerous
16 articles on various evaluation related topics.
17 I currently serve on the Board of Directors of
18 the International Energy Program Evaluation
19 Conference.

20 Q. Please briefly describe your current
21 responsibilities with the Department.

22 A. My primary responsibility is monitoring and
23 analyzing the operation of the New York State
24 Energy Research and Development Authority's

1 (NYSERDA) Energy Smart program portfolio. The
2 programs are funded with revenue collected from
3 the System Benefits Charge (SBC) Fund. The
4 current annual budget is about \$175 million and
5 approximately \$1.0 billion has been encumbered
6 or expended since the program's inception in
7 1998.

8 Q. Have you previously testified before the New
9 York State Public Service Commission?

10 A. Yes. I offered testimony on demand management
11 programs in the most recent electric rate case
12 filed by Consolidated Edison Company of New
13 York, Inc., Case 04-E-0572.

14 Q. Mrs. Reulet, by whom are you employed and in
15 what capacity?

16 A. I am employed by the New York State Department
17 of Public Service and I currently serve as the
18 Gas Policy Development Coordinator for the
19 Department. In addition, I also serve as a
20 Business Advocate for the Office of Economic
21 Development.

22 Q. Mrs. Reulet, are you presenting other testimony
23 in this proceeding?

24 Q. Yes, my educational and professional background

1 is provided as part of that testimony.

2 Q. What is the purpose of this testimony?

3 A. The purpose of this testimony is to address the
4 Consolidated Edison Company of New York, Inc.
5 (Con Edison or the Company) Gas Energy
6 Efficiency Program (Program), and to recommend
7 that the program be extended for one additional
8 year at a funding level of \$14 million in the
9 rate year. We believe that it is warranted to
10 maintain a gas energy efficiency program in the
11 Con Edison service territory because it provides
12 numerous benefits, and that this belief is
13 widely supported among the interested parties.

14 Q. Please summarize the Company's position
15 regarding the Program.

16 A. Con Edison asserts that no additional funding
17 for gas energy efficiency initiatives should be
18 provided at this time, and that the \$5.2 million
19 to be collected from customers by September 30,
20 2007 should be fully expended to fund gas energy
21 efficiency programs, after which such programs
22 should be analyzed to determine whether they are
23 cost effective.

24 Q. Please describe the Program.

- 1 A. The Commission adopted the Program in an Order
2 issued September 27, 2004, in Case 03-G-1671
3 (Rate Order). In that Order, the Commission
4 approved a \$5.0 million gas efficiency program
5 as a three-year pilot, and a \$0.2 million gas
6 efficiency study (Study) to examine the
7 potential to achieve additional cost-effective
8 gas savings in the Company's service territory.
9 The Rate Order also authorized NYSERDA to
10 design, implement and administer the three-year
11 pilot Program and the Study, with input from an
12 advisory group of interested parties.
- 13 Q. What are the goals and objectives of the
14 Program?
- 15 A. The Program consists of new gas efficiency
16 initiatives for firm residential, commercial and
17 low income gas customers that supplement and
18 expand existing efficiency programs - this
19 Program complements existing efficiency programs
20 administered by NYSERDA and currently funded by
21 the SBC. The public policy goals of the Program
22 are to achieve the energy and non-energy
23 benefits of gas efficiency in the residential
24 and commercial markets, demonstrate potential

- 1 gas and costs savings, and improve energy
2 efficiency and access to energy options for low-
3 income customers.
- 4 Q. How are the Program and Study costs (totaling
5 \$5.2 million) recovered from ratepayers?
- 6 A. The \$5.2 million is being recovered from all
7 firm customers through the Monthly Rate
8 Adjustment (MRA) bill surcharge applicable to
9 Service Class No. 1, 2, 3, and 13 customers, and
10 corresponding Service Class No. 9 firm
11 transportation customers over a three-year
12 period ending September 30, 2007.
- 13 Q. Explain the specific cost allocations for this
14 Program.
- 15 A. The cost allocations for this Program include:
16 program costs, NYSERDA's administrative costs,
17 and Con Edison's lost revenues resulting from
18 implementation of the Program. The \$5 million
19 in Program funding was allocated as follows:
20 approximately \$4 million for program costs, and
21 \$1 million collectively to NYSERDA's costs and
22 lost revenues. Moreover, the Program further
23 allocates 50% of the funds between low-income
24 gas efficiency programs; 25% to other

1 residential gas efficiency programs, including
2 single family and multi-family buildings; and,
3 25% to commercial gas efficiency programs.

4 Q. Please elaborate on the current status of the
5 Study that was authorized by the Commission in
6 the Rate Order.

7 A. NYSERDA completed the Study to evaluate the
8 natural gas energy efficiency potential within
9 Con Edison's service territory, and filed it
10 with the Commission on June 22, 2006. A copy of
11 the Executive Summary from the Study is attached
12 as Exhibit __ (EEP-1). The Commission
13 subsequently issued a notice soliciting comments
14 on that Study on August 14, 2006 (which will be
15 discussed in more detail later in this
16 testimony). In addition, NYSERDA commissioned a
17 study to evaluate the natural gas energy
18 efficiency potential throughout New York State.
19 That Statewide Study comprehensively assessed
20 the potential to achieve cost-effective gas
21 efficiency savings throughout the State,
22 including an examination of: gas price reduction
23 benefits; gas usage and bill reduction benefits;
24 environmental and other societal benefits;

1 potential program designs; potential program
2 costs; and comparisons of the costs and benefits
3 of the programs identified. NYSERDA issued the
4 Statewide Study on October 31, 2006 (which can
5 be viewed at
6 [http://www.nyserda.org/energy Information/otherd
7 ocs.asp#NaturalGas](http://www.nyserda.org/energy%20Information/otherdocs.asp#NaturalGas)).

8 Q. Explain the Company's position regarding the
9 current three year pilot program?

10 A. Con Edison states that the level of program
11 activity is not adequate to provide the
12 information necessary to determine if the gas
13 energy efficiency programs are cost beneficial
14 and whether they should be continued and/or
15 expanded. The Company notes that NYSERDA had
16 only spent or encumbered slightly more than \$1
17 million of the \$4 million available for the
18 pilot programs as of the quarterly report filed
19 with the Commission on August 29, 2006 (for
20 progress as on June 27, 2006). Con Edison does
21 not anticipate that NYSERDA will expend or
22 encumber the full amount of funds authorized
23 before this Program expires on September 30,
24 2007.

- 1 Q. What does the Company propose for the period
2 commencing October 1, 2007?
- 3 A. Con Edison believes that the current program
4 should be permitted to run its course, with
5 modifications, and no additional funding. The
6 Company contends that the \$5.2 million
7 authorized under the Rate Order will have been
8 recovered from customers by the end of the third
9 year of the current rate plan (September 30,
10 2007), and that any unspent funds at that time
11 should continue to be used to fund programs
12 identified by NYSERDA so that concrete data can
13 be developed and analyzed in considering future
14 changes to, and/or an expansion of, the current
15 Program.
- 16 Q. What are the modifications proposed by the
17 Company?
- 18 A. The existing funding agreement between Con
19 Edison and NYSERDA provides for a reconciliation
20 of the total Program costs expended by NYSERDA
21 (including administrative and evaluation fees),
22 versus the amount of funding collected by the
23 Company during the current rate plan, with the
24 difference, plus interest, being returned to Con

1 Edison customers. Con Edison proposes that this
2 funding agreement be modified so that NYSERDA
3 need not return these unspent funds and
4 therefore, can continue to use the funding for
5 energy efficiency programs. The Company states
6 that once the \$5 million for programs has been
7 expended and the programs evaluated, any
8 interested party could petition the Commission
9 to increase funding for such programs, with a
10 full opportunity for other interested parties to
11 comment.

12 Q. What is the Panel's reaction to the Company's
13 overall comments regarding the level of Program
14 activity?

15 A. Staff believes that NYSERDA will have all \$4
16 million of the available funds fully encumbered
17 by the September 30, 2007 expiration date of the
18 Program. Staff has reviewed the most recent
19 status reports provided by NYSERDA: 1)
20 Quarterly Report for the Period Ending December,
21 27, 2006 (attached as Exhibit __ (EEP-2)), 2)
22 Annual Report for the Rate Year Ending September
23 27, 2006 (attached as Exhibit __ (EEP-3)), and
24 3) a Supplemental Status Report provided in

1 February 2007 (attached as Exhibit __ (EEP-4)).
2 These combined reports portray a pilot Program
3 that is now more fully developed, and in fact,
4 demonstrate considerable overall progress. For
5 example, more than \$2.1 million was encumbered
6 for energy efficiency programs as of December
7 27, 2006 - this is approximately double the
8 amount that was encumbered only six months
9 prior. The reports demonstrate that the Program
10 is clearly progressing at a much quicker rate,
11 which is to be expected now that the individual
12 programs have been up and running for a period
13 of time. Moreover, the reports reveal more than
14 simply dollars being spent or encumbered. As
15 shown on page 2, Table 2 of Exhibit __ (EEP-3),
16 the usage per customer savings and environmental
17 benefits illustrate the estimated total program
18 accomplishments through the end of the reporting
19 period. Further, Exhibit __ (EEP-4) includes
20 detailed case studies that depict numerous
21 benefits and savings achieved as part of the
22 pilot Program.

23 Q. What is your general position regarding gas
24 energy efficiency programs in New York State?

1 A. Staff notes that increased energy efficiency is
2 a major policy initiative -- for both the State
3 and the nation as a whole -- and is supportive
4 of efforts to encourage customers to use gas
5 more efficiently. For example, Governor Spitzer
6 noted in the 2007 State of the State address
7 that "[i]n order to lower the second highest
8 energy costs in America, we must implement an
9 aggressive conservation strategy led first and
10 foremost by an effort to reduce the state's own
11 energy consumption." Lieutenant Governor
12 Paterson expressed similar concerns in a speech
13 to the Energy Association, in January 2007, in
14 stating that "[w]e must immediately reduce New
15 York's energy consumption by conserving energy,
16 which will cut our costs, our dependence on
17 foreign energy sources, and environmental
18 damage." The full text of the speech is
19 submitted in Exhibit __ (EEP-5). Further, the
20 United States Department of Energy (USDOE) has a
21 sizeable number of energy efficiency initiatives
22 nation-wide. The USDOE web page asserts that it
23 is committed to reducing America's dependence on
24 foreign oil and developing energy efficient

1 technologies for buildings, homes,
2 transportation, power systems and industry
3 (located at
4 <http://www.energy.gov/energyefficiency/>).

5 Q. Please continue.

6 A. It is widely recognized that gas energy
7 efficiency programs can provide a multitude of
8 benefits, including: 1) assisting customers with
9 managing costs during an environment of high
10 energy prices; 2) reducing demand on constrained
11 natural gas interstate pipeline deliveries,
12 which is particularly relevant to New York City
13 (e.g., Transcontinental Gas Pipe Line Zone 6);
14 and 3) reducing CO2 emissions, which has a
15 positive impact on air quality and the
16 environment.

17 Q. Are you familiar with any major studies that
18 support the implementation of natural gas
19 efficiency programs?

20 A. Yes. The Southwest Energy Efficiency Project
21 released a study (SWEEP Study) in January 2006,
22 titled "Natural Gas Demand-Side Management
23 Programs: A National Study." The SWEEP Study
24 is based on a survey of natural gas efficiency

1 programs operated by utilities with
2 comprehensive programs (located at
3 <http://www.swenergy.org/pubs/index.html>). The study
4 provided data for 10 major utilities located in
5 various regions throughout the country. This
6 research focused on the overall effectiveness of
7 the program portfolio, rather than individual
8 programs.

9 Q. What were some of the key findings of the SWEEP
10 report?

11 A. The SWEEP Study found that gas efficiency
12 programs were cost effective with overall
13 benefit-cost ratios in the range of 1.6 to 5.6.
14 For example, every dollar invested results in
15 \$1.60 to \$5.60 in energy efficiency savings.
16 Most programs experienced benefit-cost ratios in
17 excess of 2.0. As of 2004, the majority of the
18 utilities in the SWEEP Study were spending at
19 least 0.7 percent of their revenues on natural
20 gas energy efficiency programs. Staff
21 considered the overall potential for cost
22 effective natural gas programs, such as those
23 indicated by the SWEEP Study, in developing our
24 recommended funding level for the Con Edison gas

1 energy efficiency program, which we will discuss
2 in more detail later, and believe that our
3 recommendation is reasonable as compared to
4 various other natural gas energy efficiency
5 programs operated throughout the country -- from
6 a small state like Vermont to the nation's
7 largest state, California.

8 Q. Is the Panel aware of any on-going proceedings
9 that may have an impact on Con Edison's gas
10 energy efficiency Program?

11 A. Yes, it should be noted that there is a pending
12 case, Case 05-G-1061, before the Commission to
13 examine the potential for a statewide gas SBC,
14 as well as Case 03-G-1671 which solicited
15 comments on the Study and NYSERDA's
16 recommendations. A Commission decision in
17 either of those cases could potentially result
18 in a change in program scopes, and or how a
19 program is structured, administered, and funded.

20 Q. Please summarize the comments received by the
21 Commission within the past year that pertain to
22 natural gas efficiency programs.

23 A. First, the Commission solicited comments in
24 August 2006 in response to the Study submitted

1 by NYSERDA (the evaluation of the natural gas
2 energy efficiency potential within Con Edison's
3 service territory, filed with the Commission on
4 June 22, 2006). Although parties acknowledged
5 some disagreement with the Study's methodology,
6 most parties agreed with the Study's primary
7 conclusion that significant gas efficiency gains
8 can be achieved in the Con Edison service
9 territory, and therefore expressed support for a
10 gas energy efficiency program. Second, the
11 Commission also sought comments within the SBC
12 extension proceeding (details can be viewed at
13 <http://www.dps.state.ny.us/sbc.htm>),
14 specifically asking whether the SBC program
15 should be expanded to encompass natural gas
16 efficiency programs, and how such natural gas
17 efficiency programs should be designed and
18 funded. Nearly 80 comments were received on
19 this issue, demonstrating a full range of views
20 from strong support to opposition regarding a
21 natural gas efficiency program (a summary of all
22 the parties' comments may be viewed in Appendix
23 B, at
24 <http://www3.dps.state.ny.us/pscweb/WebFileRoom.n>

1 [sf/Web?SearchView&View=Web&Query=%5BCategories%5](#)
2 [D=Staff+Reports+And+%5BIssueDate%5D%3E=8/30/2005](#)
3 [+And+%5BIssueDate%5D%3C=8/30/2005+And+%5BCaseNum](#)
4 [ber%5D=05-M-0090&SearchOrder=4&Count=All](#)).

5 Q. With regard to comments received in response to
6 the Commission's Notice regarding NYSEDA's
7 recommendations for a Con Edison gas energy
8 efficiency program -- was there any general
9 consensus among the parties as to what the
10 appropriate level of funding should be for such
11 a program?

12 A. No, recommendations varied greatly, from
13 opposition to any level of funding to advocating
14 levels as high as \$32 million annually. Con
15 Edison opposed additional funding for any new
16 gas efficiency programs until the pilot Program
17 in its service territory is completed and is
18 fully evaluated. The New York City Economic
19 Development Corporation (NYCEDC), Natural
20 Resources Defense Council (NRDC), Pace Energy
21 Project (Pace), and the Association for Energy
22 Affordability (AEA) argued that Con Edison
23 should move forward with a full scale gas
24 efficiency program funded at \$32 million per

1 year for five years.

2 Q. What is the Panel's recommendation with regard
3 to continuing a gas energy efficiency program
4 specific to Con Edison's service territory?

5 A. We believe it is warranted that Con Edison
6 continue to have a gas energy efficiency program
7 in its service territory. We note that current
8 Program funds are expected to be fully
9 encumbered, and the pilot Program is set up to
10 expire, on September 30, 2007. Therefore, we
11 are recommending that the current Program be
12 extended for an additional year, with all of the
13 basic pilot Program elements remaining the same
14 except for the increased funding level (e.g.,
15 percentage allocations, reporting requirements,
16 administration fees and lost revenues to be
17 recovered from Program funds).

18 Q. Please clarify the Panel's concern regarding the
19 potential expiration of the gas energy
20 efficiency program for Con Edison's service
21 territory.

22 A. As demonstrated by NYSERDA's Quarterly Reports
23 and discussed in its Supplemental Status Report,
24 it takes time to develop and nurture these types

1 of programs to truly generate interest and get
2 the enrollment momentum going. The success of
3 these programs directly correlates to program
4 credibility. If this program is stopped, and
5 then restarted again at some later point in
6 time, it is reasonable to expect that the
7 overall program credibility will suffer,
8 ultimately resulting in reduced interest and
9 declining enrollment due to uncertainties
10 surrounding the program. NYSERDA may have to
11 stop taking applications well before the current
12 Program's September 30, 2007 expiration date.
13 If the program were to be started up again,
14 NYSERDA (or any other Program administrator)
15 would need to once again ramp up the marketing,
16 likely resulting in additional overhead cost.
17 The "start-stop" could cause confusion and
18 frustration among consumers, and there would
19 also likely be lost opportunities.

20 Q. Could you provide an illustration of a "lost
21 opportunity?"

22 A. Yes; consider a new building that goes up with
23 an average efficiency furnace because the
24 Program is not available to help fund the

1 more energy efficient furnace. If the program
2 starts up again 7 months later, it is generally
3 not cost effective to replace the almost brand
4 new heating equipment and replace it with the
5 more energy efficient product.

6 Q. The Panel has stated above that it recommends
7 extending the current program for an additional
8 year. What is the Panel's recommendation
9 regarding the appropriate level of funding for
10 this Program in the rate year?

11 A. Staff recommends a much higher level of funding
12 for gas efficiency than provided for in the
13 pilot Program because of the demonstrated
14 initiatives and the potential benefits discussed
15 above (e.g., the SBC electric program, the DOE
16 initiatives, etc.). Accordingly, we recommend
17 that \$14 million is the appropriate gas Program
18 funding level for the rate year.

19 Q. Please discuss your rationale for increasing the
20 level of Program funding to \$14 million for the
21 rate year.

22 A. It is the Panel's belief that a much higher
23 funding level is necessary to achieve more
24 significant natural gas energy efficiency

1 savings in the Con Edison service territory. We
2 consider our recommended increase in funding to
3 \$14 million as a reasonable funding level for
4 the rate year.

5 Q. What other considerations did Staff make before
6 coming to a conclusion regarding the appropriate
7 funding level for the gas Program in the rate
8 year?

9 A. The Study prepared by NYSERDA's consultant
10 assumed an average annual energy efficiency
11 budget of \$15 million per year over a five-year
12 period. It was projected that the \$15 million
13 budget could be funded by 1.1% of 2004 sales
14 revenue. However, the Study included the
15 efficiency potential of interruptible customers,
16 and excluded the potential of firm
17 transportation customers (residential,
18 commercial, and industrial). Staff believes
19 that it is more appropriate for Program costs to
20 be borne by firm sales and transportation
21 customers (excluding generation), but not by
22 interruptible customers. Surcharging
23 interruptible customers could reduce the
24 competitiveness of gas to oil, or reduce the

1 Company's revenues, if the price of gas were to
2 remain competitive with the surcharge included.
3 Therefore, Staff determined that 1.1% of the
4 sales figure for years 2004 through 2006
5 (including firm transportation customers and
6 excluding interruptible sales and transportation
7 customers) depicts funding levels ranging
8 between \$13.3 and \$14 million. However, Staff
9 also considered several other factors in its
10 determination of a reasonable funding level.

11 Q. Please continue.

12 A. Staff considered the fact that the public
13 benefits of the SBC program have already been
14 recognized by the Commission in its Order issued
15 December 21, 2005 in Case 05-M-0090. Of note,
16 the SBC program currently collects 1.42 percent
17 of Con Edison revenues for energy efficiency on
18 the electric side (approximately \$87 million per
19 year for five years), versus the 1.1 percent of
20 sales revenue used for analytical purposes in
21 the Study. In addition, Staff believes that the
22 natural gas interstate pipeline constraints that
23 are unique to the NYC area (e.g.,
24 Transcontinental Gas Pipe Line Zone 6), must be

1 taken into account, because they widely impact
2 NYS as a whole. Consequently, we determined
3 that \$14 million is a reasonable funding level
4 for the gas Program in the coming rate year.

5 Q. Does the Panel have any other recommendations
6 with regard to the funding of the gas Program?

7 A. Yes. NYSERDA's fees total approximately nine
8 percent of the total Program budget (the program
9 administration fee is seven percent, and the
10 program evaluation fee is two percent), which
11 would translate to \$1.26 million out of a \$14
12 million budget. Consequently, we are
13 recommending that the administrator's fees such
14 as described above be applied only to the actual
15 amount of Program dollars spent or encumbered as
16 of September 30, 2008. For example, if only \$8
17 million is encumbered as of September 30, 2008,
18 administration and evaluation fees should be
19 capped at \$720,000 (nine percent of \$8 million),
20 minus lost revenues.

21 Q. What is your recommendation regarding a Con
22 Edison natural gas energy efficiency Program
23 after the rate year?

24 A. We recommend that a collaborative be formed

1 immediately to design and implement a long-term
2 gas energy efficiency program in Con Edison's
3 service territory, to begin by October 1, 2008.
4 The collaborative should determine the program
5 goals and objectives, funding levels, and other
6 critical elements (e.g., such as who should
7 administer the long-term program, appropriate
8 levels for administration fees, and what methods
9 should be used to evaluate the success of the
10 programs). A listing of our recommended goals
11 and objectives for the collaborative is included
12 in Exhibit __ (EEP-6).

13 Q. Does the Panel have any other recommendations?

14 A. Yes, in order to assist the collaborative in
15 making an informed decision, we are recommending
16 that the Commission require the administrator to
17 provide a Final Report on the pilot Program by
18 January 30, 2008. The Final Report should
19 assist the collaborative in making an informed
20 decision based on actual data and results
21 achieved in Con Edison's service territory. A
22 list of deliverables that Staff recommends be
23 included in the Final Report is in Exhibit __
24 (EEP-7).

- 1 Q. Does this conclude the Panel's testimony?
- 2 A. Yes.

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In the Matter of
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March 2007

Prepared Exhibits of:

Energy Efficiency Panel

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**NATURAL GAS ENERGY EFFICIENCY RESOURCE DEVELOPMENT
POTENTIAL IN CON EDISON SERVICE AREA**

EXECUTIVE SUMMARY

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MARCH 9, 2006

Notice

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EXECUTIVE SUMMARY

E.1 PURPOSE AND CONTEXT OF STUDY

The New York State Energy Research and Development Authority (NYSERDA) commissioned this study of the potential for energy efficiency to displace natural gas consumption in the Consolidated Edison of New York, Inc. (Con Edison) service area in response to the Public Service Commission Order¹ issued for Con Edison's gas and steam businesses. This study evaluates the potential to reduce gas consumption using existing and emerging efficiency technologies and practices, with the overall goal to lower end-use natural gas requirements in residential, commercial, and industrial facilities. The study assessed Con Edison's gas efficiency potential for the 10-year period between 2007 and 2016.

The study had five main objectives:

- Evaluate the potential cost-effective natural gas efficiency savings (economic potential) in the Con Edison service area over a 10-year horizon (2007-2016)
- Evaluate natural gas efficiency program designs and recommend programs for implementation
- Estimate the potential cost-effective natural gas efficiency savings in the Con Edison service area over a 10-year horizon (2007-2016) from the implementation of a portfolio of recommended efficiency programs given a specified funding level (program scenario). The 10-year horizon includes program delivery for 5-years with 5-years post-program market effects
- Examine and recommend utility lost revenue recovery mechanisms
- Develop a reference case natural gas price forecast and, if applicable, consider the potential impact of efficiency programs on natural gas prices.

The analysis indicates that a large amount of natural gas efficiency would be cost effective when compared to forecasted natural gas prices. The authors of the study suggest caution in interpreting and using the analysis. The economic potential estimates do not account for market barriers to adoption of efficiency technologies or the costs of market intervention strategies to overcome these barriers.

The analysis also identifies substantial opportunities for delivery of cost-effective efficiency programs. The authors again recommend caution when interpreting the program scenario results. The study recommends a set of efficiency programs that would optimize efficiency efforts, given specific funding constraints and various policy objectives. However, alternative cost-effective portfolios could be developed at funding levels other than those assumed in the study while

¹ Cases 03-G-1671 and 03-5-1672, *Con Edison Company of New York, Inc. – Gas and Steam Rates, Order adopting the terms of a Joint Proposal* (issued September 27, 2004).

satisfying policy constraints such as sector distribution, low income funding, and gas efficiency targets. The authors believe that, if fully understood, the economic potential and program scenario analyses can be useful to inform ultimate decisions about future natural gas efficiency programs and spending.

E.2 STUDY SCOPE AND APPROACHES

The project scope called for analyses of “economic” and “program scenario” efficiency potentials from natural gas efficiency technologies and practices among residential, commercial, and industrial facilities. The terms are defined below:

- **Economic Potential:** Economic potential refers to the total technical natural gas efficiency potential over the planning period from all measures that are cost effective, as compared with the avoided gas consumption valued at the forecasted natural gas supply costs. Economic potential does not take into account market barriers and costs of market intervention. Potential is defined as the additional savings over and above those expected to occur without gas program intervention.²
- **Program Scenario Potential:** Program scenario potential refers to the estimated maximum natural gas efficiency impacts over the planning period, given specific program designs and assumed funding levels. Program scenario potential considers economic and other barriers to efficiency adoption and specific funding and program strategies.

The study scope included all applicable natural gas efficiency technologies, with the exception of fuel switching, electricity generation measures, and combined heat and power technologies. The study analyzed more than 2,000 distinct efficiency measures, consisting of approximately 150 different technologies and practices applied to numerous facility types and markets (*e.g.*, new construction, major renovation, planned equipment replacement and remodeling, and early retirement of operating equipment and systems).

The study addressed only Con Edison’s full service gas customers and did not consider efficiency opportunities for transportation customers who use Con Edison to deliver gas purchased from third parties. These customers are likely to have significant efficiency potential, and programs designed to capture energy efficiency should target these customers. While not specifically analyzed, the efficiency potential from transportation gas consumption would be similar, in terms of the overall percent of consumption, to the full service customers. The study considered the potential from all firm and non-firm full service customers.

E.2.1. ECONOMIC POTENTIAL APPROACH

The basic conceptual framework for the economic analysis involved eight steps:

- Developing a comprehensive list of efficiency technologies and practices

² The base case forecast and technology penetrations include effects from autonomous efficiency improvements that would result from natural market shifts, existing and expected codes and standards, and continuation of New York’s current level of investment in electric energy efficiency.

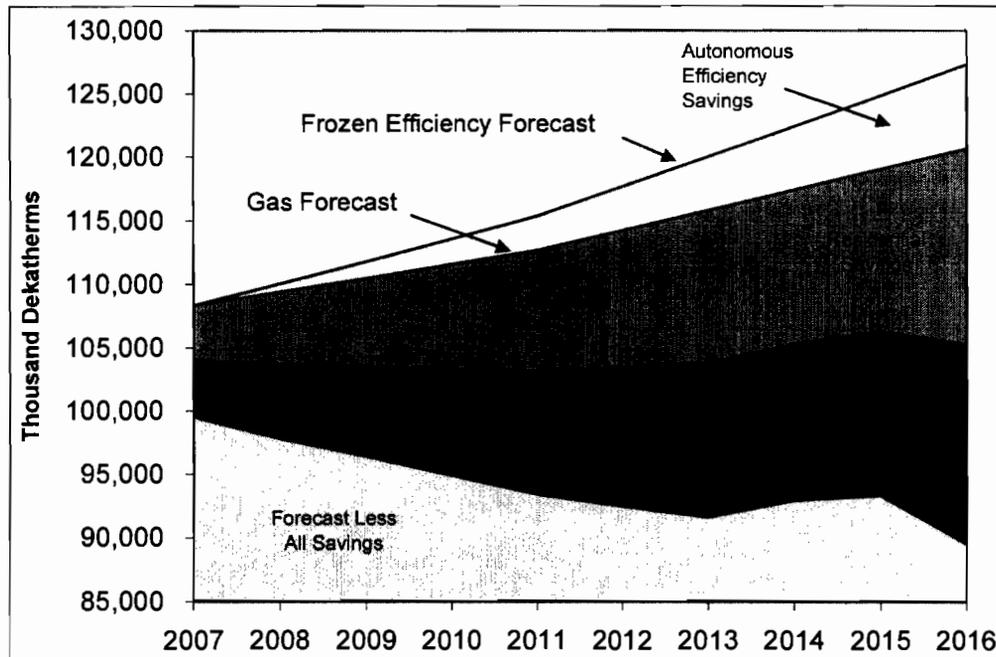
- Selecting efficiency technologies and practices for analysis based on an initial qualitative screening
- Characterizing the selected technologies and practices, including defining baseline and efficiency levels, costs, savings, and measure lives
- Characterizing the existing and forecasted markets for each technology and practice, including identifying important industrial and commercial sectors, estimating and disaggregating sector-level gas sales by facility type and end use, quantifying housing units and equipment saturations, and forecasting new construction activity
- Estimating baseline penetrations among the existing and forecasted markets of standard efficiency technologies and practices, given likely natural efficiency gains, likely codes and standards, and existing New York electric efficiency programs
- Applying per unit efficient technology and practice characterizations and baseline penetration projections to the relevant existing and forecasted markets to arrive at net potential impacts and costs
- Developing avoided costs using a proprietary national gas supply-and-demand model for commodity costs and Con Edison data for capacity peak storage, transmission, and distribution costs
- Screening efficiency measures for cost-effectiveness based on avoided cost estimates
- Removing all non-cost-effective measures
- Adjusting for mutually exclusive measures and interactions among measures

The study relied on a variety of data to support the above approach, including: prior potential analyses; published research studies; equipment and market assessments; baseline studies; NYSERDA, Con Edison and New York Public Service Commission data; engineering analyses; building simulation modeling; and personal communications with industry experts.

E.2.2. ECONOMIC POTENTIAL RESULTS

The study concludes that the economic efficiency potential, if realized, could reduce Con Edison's annual natural gas generation requirements for its full service customers by more than 32,000 thousand dekatherms (MDth) by 2016. This represents 26.5% of Con Edison's expected 2016 requirements. The study also shows peak day economic potential of more than 300 MDth in 2016. Figure E.1. illustrates how the captured economic potential would reduce forecasted loads. Theoretically, if all the cost-effective gas efficiency measures (*i.e.*, economic potential) are implemented, there would be no load growth during the planning period.

Figure E.1. Gas Sales Forecast Less Sector Energy Savings

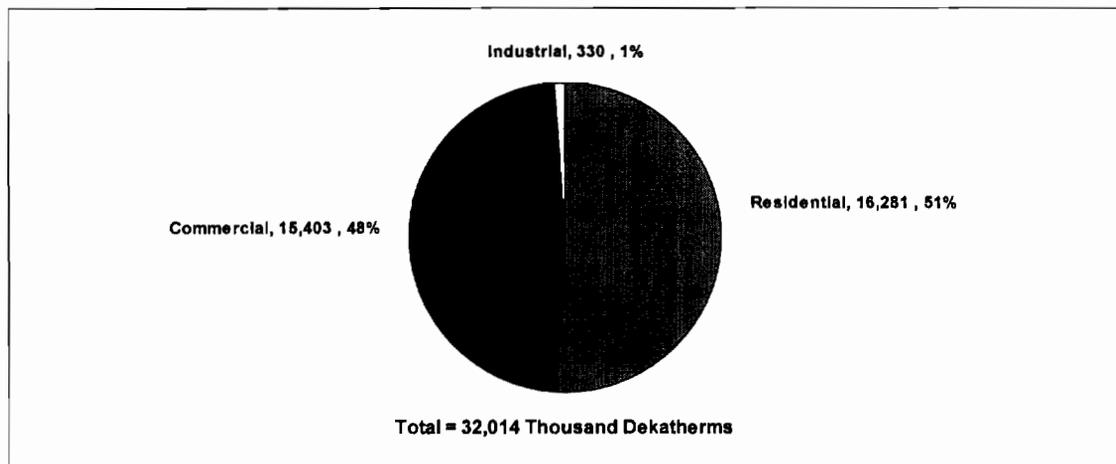


Notes: Industrial sales are too small to depict separately, but are included in "Forecast Less All Savings".

"Autonomous efficiency" is the efficiency that is expected to occur from naturally occurring improvement, changes to codes and standards, and current and future electric efficiency programs.

Figure E.2. shows that 2016 energy savings for the residential sector are slightly more than savings for the commercial sector, and only 1% of savings are attributable to the industrial sector. The greatest opportunities for efficiency are in space heating, followed by domestic water heating, service technologies, and food production.

Figure E.2. 2016 Economic Potential by Sector and as Percent of Total



The economic potential, if captured, would be extremely cost-effective. Present value net benefits (in 2005 dollars) would be \$4,128 million. In other words, the economic welfare in the Con Edison service area would be improved by this amount if economic potential could be captured with no additional program costs.³ The overall benefit-cost ratio (BCR) is 3.23. The results are based on a total resource cost test (TRC) that considers all the benefits and costs from efficiency from a societal perspective. The TRC test does not, however, include any monetized values for externalities. Table E.1. shows the TRC economic results. The commercial sector would provide about 52% of the total net benefits and has the highest benefit-cost ratio, at 3.87.

Table E.1. 2016 Total Resource Net Benefits and Benefit-Cost Ratio

Sector	Gross Benefits (\$Million)	Net Benefits (\$Million)	Costs (\$Million)	Benefit/Cost Ratio**
Residential	\$3,079	\$1,979	\$1,100	2.80
Commercial	\$2,872	\$2,130	\$742	3.87
Industrial	\$27	\$18	\$9.3	2.94
All Sectors	\$5,979	\$4,128	\$1,851.3	3.23

*Net Benefits = Benefits minus costs, present worth 2005

** B/C Ratio = Gross Benefits/Costs

When considering the overall levelized cost of saved energy, the economic potential costs, excluding program design costs, would be \$1.92 per dekatherm, a figure considerably lower than current avoided costs. The economic potential, if captured, would also result in lifetime reductions of 47 million metric tons of CO₂, 21 thousand metric tons of SO₂, and 7,346 metric tons of NO_x.

³ Note that it would take significant effort and program intervention costs to capture a large portion of the economic potential and, even then, 100% would not be achievable.

Finally, capture of economic potential would result in annual customer bill savings in 2016 of approximately \$300 million, based on 2004 average gas rates.

E.2.3. PROGRAM SCENARIO POTENTIAL APPROACH

The program scenario potential considers economic and other barriers to efficiency adoption, relying on past experiences of exemplary gas and electric efficiency programs. The assessment of the program scenario potential assumes five years of program delivery at an average budget of \$15 million per year, with five years of post-program market effects. Neither the authors, NYSERDA, nor any of the advisory group members intend the selected funding level to represent a recommendation for future gas program funding. Rather, the funding level is provided to inform future discussions about appropriate funding levels and program portfolios.

Development of Program Portfolio

In developing a program portfolio, the study sought to meet certain criteria, including: maintaining equity across sectors by matching sector-level spending to existing sector revenues; providing low-income services, set at 20% of the residential budget; and providing a balance between short-term resource acquisition efforts and long-term market-transformation benefits. In addition, the study sought to provide program services targeting all Con Edison gas customers and to address all important end uses. Finally, the study explicitly designed the recommended programs around broad markets, rather than specific customers and technology types. In other words, the study designed programs that would comprehensively address multiple opportunities and customer types, with strategies and services designed around specific market and supply channels to reflect the way transactions typically occur in the marketplace.

Central to the approach and the focus on comprehensively addressing each market in the context of its unique characteristics, the study indicates the most successful and cost-effective approach to delivering gas programs in the Con Edison service area is to integrate them with electric efficiency services. To that end, an integrated delivery of fuel-neutral, one-stop-shopping programs to combined gas and electric customers was assumed.⁴ The budgets and penetration rates presented reflect the assumption. The study did not, however, attempt to redesign, restructure, or analyze the existing electric programs. However, the current broad array of electric programs addresses all the same markets and service categories that are proposed here.

Developing the optimized investment portfolio included:

- Reviewing NYSERDA, Con Edison, and other existing electric and gas programs in New York
- Reviewing exemplary gas programs throughout the country

⁴ this approach did not assume that electric customers who do not purchase gas from Con Edison (*e.g.*, Brooklyn Union customers or those using oil) would contribute financially to the gas portion of programs, nor would they benefit from the gas services.

- Identifying the strategies and services that have been central to gas and electric efficiency program successes in the State and in other jurisdictions
- Assessing the economic potential results and identifying where the most important opportunities exist, both in terms of end uses, markets, customer types, and technologies
- Selecting a small set of broad-based programs designed to address key markets and take full advantage of the lessons learned from the implementation of exemplary programs reviewed for the study

The selected investment portfolio includes seven programs for the Con Edison service area:

Cross-Sector

- Heating, hot water, and washer equipment rebates

Residential

- New construction (ENERGY STAR® Homes)
- Home performance with ENERGY STAR®
- Low-income retrofit

Commercial / Industrial

- New construction
- Existing construction
- Food service and processing

Program Scenario Potential Savings Analysis

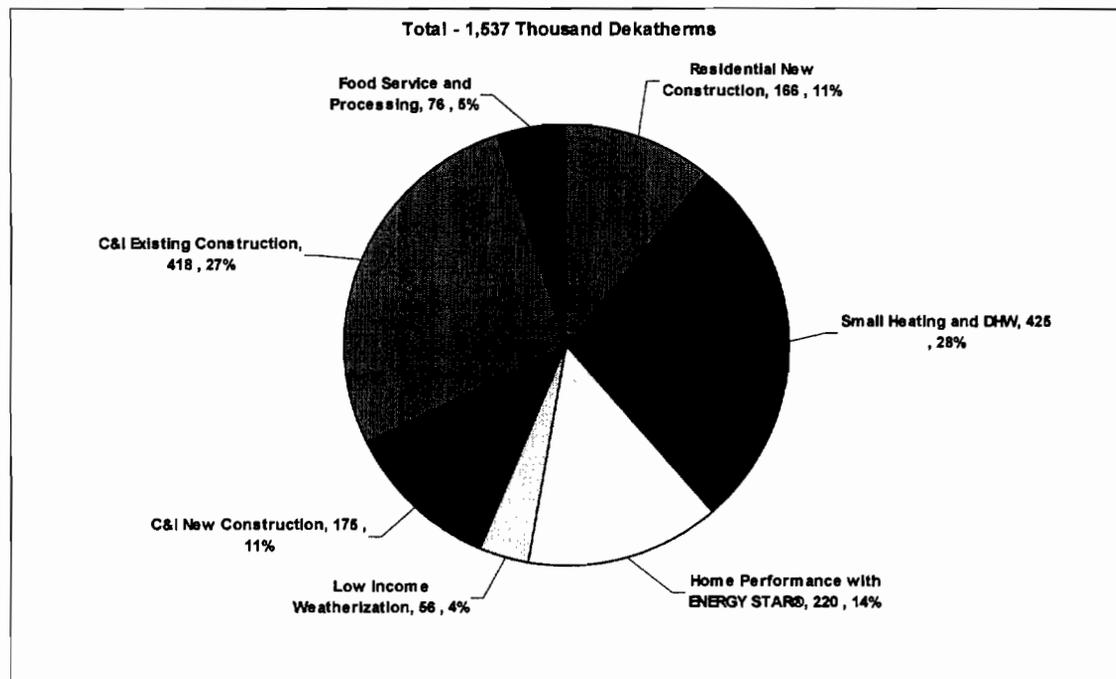
The starting point for analyzing the savings and costs resulting from implementing the program scenario is the economic potential described in section E.2.2. The following steps were used to estimate the program scenario potential:

- Mapping each measure permutation (combination of technology, market, and facility type) to a program
- Estimating the future market acceptance of each efficiency measure based on anticipated market intervention policies and programs.
- Applying the future measure penetrations to the economic potential analysis results to yield annual measure costs and savings
- Developing non-measure program budgets (costs for all program activities except measure incentives) that reflect the costs of delivering the programs within the Con Edison service area, assuming integration with electric programs
- Developing program incentive costs based on program design features and estimated measure costs for the measures
- Analyzing the portfolio to develop estimates of overall costs, benefits, net benefits, and benefit-cost ratios

E.2.4. PROGRAM SCENARIO RESULTS

Based on the funding and policy criteria constraints described above, annual program scenario savings are estimated at 1,537 MDth by 2016, and peak day load reductions are estimated at 11.8 MDth. These savings represent 1.3% of forecasted 2016 gas requirements. These estimates are based on programs operating for five years. If programs were to continue for a full 10 year period, savings by 2016 would be significantly higher. Figure E.3. shows program scenario potential by program. Neither the authors nor NYSERDA make any representations as to whether this funding level is appropriate. The scenario is presented to inform decision makers about the types of recommended programs and the overall gas efficiency cost-effectiveness at a sample level of spending.

Figure E.3. 2016 Program Scenario Potential by Sector and as Percent of Total.



The program scenario is highly cost-effective. Pursuit of the program scenario would result in estimated net benefits to the economy of \$122 million, with an overall benefit-cost ratio of 2.13. In other words, for every dollar invested in efficiency, the scenario would return \$2.13 to the local economy. The largest net benefits would come from the C&I Existing and Small Heating and DHW programs. Substantial net benefits would also come from the C&I New Construction, Residential New Construction, and Home Performance with ENERGY STAR® programs. Table E.2. shows economic results by program.

Table E.2. 2016 Total Program Scenario Resource Net Benefits

Cumulative net benefits (benefits minus costs, present worth 2005)	\$ (Million)
Residential New construction	\$ 13.5
Small Heating and DHW	\$ 25.4
Home Performance with ENERGY STAR®	\$ 14.0
Low Income Weatherization	\$ 3.0
C&I New construction	\$ 21.9
C&I Existing construction	\$ 40.2
Food Service and Processing	\$ 2.3
Total - Program Scenario Potential	\$ 122.2
Cumulative benefit/cost ratio 2005	
	2016
Residential New construction	2.22
Small Heating and DHW	1.80
Home Performance with ENERGY STAR®	1.97
Low Income Weatherization	1.57
C&I New construction	2.25
C&I Existing construction	2.73
Food Service and Processing	1.73
All Programs - Program Scenario Potential	2.13

When considering the overall levelized cost of saved energy, pursuit of the program scenario would cost \$5.6 per dekatherm, a figure considerably lower than current avoided costs. The program scenario would also result in lifetime reductions of 1.9 million metric tons of CO₂, 481 metric tons of SO₂ and 241 metric tons of NO_x. Finally, annual customer bill savings in 2016 would be \$1.1 million, based on 2004 average gas rates.

E.3 LOST REVENUE RECOVERY MECHANISMS

The lost-revenue analysis considered the following types of programs:

- The Con Edison pilot program implemented by NYSERDA, lasting from October 2004 through October 2007. The order in Case No. 03-1671 provided for Con Edison to recover its lost revenues from the pilot program. The program, including lost revenues, is funded by a \$5 million assessment on firm customers.
- A more extensive program, modeled as five years of program implementation and five years of post-program effects, with funding levels higher than the pilot and with Con Edison implementation.
- The more extensive program funded through an SBC-like charge and implemented by a third party.

The three program structures illustrate important differences, as follows:

- The pilot program has limited funding and a majority of the savings would occur shortly before or possibly just after the next rate case. Since rates are reset in each rate case to reflect expected sales, lost revenues from the pilot program are likely to be small. The Order provides for Con Edison's recovery of lost revenues.
- For the program scenario presented above, the increased funding would increase potential lost revenues. Most potential lost revenues could be captured in the sales forecasts in future rate cases, especially since such programs could be designed to be reflected in Con Edison's next rate case. If Con Edison is provided latitude in funding and implementation decisions with respect to the program, the company should not be rewarded for reducing the effectiveness of the program or punished for improving the program. Hence, a mechanism should be designed to recover the difference between the projected effects of the program (which can be incorporated in the rate case) and the best estimate of the actual revenue effect of the program.
- With programs receiving SBC funding and not administered by utilities, program effectiveness and lost revenues are obviously less sensitive to Con Edison's behavior, so ensuring exact computation of lost revenues would be less important. The projection of sales and revenues in each rate case could reflect the expected effects of the energy-efficiency programs, as they would any other drivers affecting load (*e.g.*, building starts, federal and state efficiency standards). Since Con Edison would have limited influence on the effectiveness of the program, no lost-revenue mechanism would be necessary. As a matter of fairness, the Commission could still choose to implement a lost-revenue adjustment to compensate Con Edison for actual increments of lost program revenues over the projected effects and compensate ratepayers if actual lost revenues are less than expected.

Lost revenues, estimated as described above, can be recovered through a combination of three approaches:

- **Forecasting expected sales reductions** during a rate case which results in higher unit rates, allowing the utility a fair opportunity to recover the revenues. This approach is not applicable to the Con Edison pilot program. In the next rate case, this approach would be straightforward and consistent with the Commission's approach to setting rates.
- **Automatic adjustment clauses** permit utilities to recover costs outside rate cases. The schedule for recovery can be independent of the schedule of rate cases (which for Con Edison occur every few years), and the utility's cash flow can be largely maintained.
- **Deferral accounting** allows the utility to accumulate costs, usually with an interest credit, until they can be included in a general rate case or other ratemaking proceeding. Deferred accounting mechanisms also maintain utility earnings but do nothing for cash flow until the deferred account is reflected in rates. No additional proceedings are required, although the utility may file rate cases more frequently if the deferred balance grows very large. Since the costs are not actually recovered from customers until after a full review, the utility receives the usual level of regulatory protection.

The lost revenues from the pilot program, including interest charges, are likely to be under \$200,000 at the time of the next rate case, assuming the efficiency measure installation schedule in NYSERDA's Pilot Program Plan proves to be correct. For the program scenario presented above, lost revenues would vary with the rate of program implementation and saturation and with the interval between program start and the next rate case. If Con Edison does not file a rate case until

2016, and if Con Edison is allowed to recover lost revenues via deferral accounting, lost revenues could accumulate to \$25 to \$30 million. But it is unlikely Con Edison would delay their next rate case until 2016. Since the program scenario is modeled as starting in January 2007, if the next rate case is timed to match the expiration of the current rate plan, with an effective date of October 2007, the lost revenues prior to that rate case would be only about \$50,000. If the program runs for three years before the next rate case, lost revenues might be in the range of \$1.5 to \$2.5 million, including interest. After the first rate case, whenever it occurs, most lost revenues could be captured in base rates, and any after-the-fact lost-revenue adjustment would be much smaller.

In short, for all the program scales considered in this report, Con Edison's lost revenues can be dealt with largely through forecasting sales reductions in rate cases. Deviations from the forecast are likely to be minimal and can be deferred for collection in subsequent rate cases.

**QUARTERLY REPORT (FOR THE PERIOD ENDING DECEMBER 27, 2006)
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
GAS EFFICIENCY PILOT PROGRAM**

QUARTERLY GAS PLAN PROGRAM SUMMARY

This report details the Program's progress through December 27, 2006. Budget status information and solicitations released during the most recent quarter are presented below.

Table 1 provides information on the solicitations issued in this quarter.

Table 2 presents overall budget information through the end of the reporting quarter. Funds available for the Low Income Program have increased since the last quarter due to the loss of one project where funds had been previously committed.

Figure 1 shows the budget and spending through the end of the reporting period.

Table 1--Solicitations Released in Quarter Ending December 27, 2006

Solicitation Number	Solicitation Name	Solicitation Release Date	Solicitation Closing Date
PON 1046	Technical Assistance	12/01/06	5/31/07
PON 1101	Enhanced Commercial/Industrial Performance Program	11/13/06	9/27/07

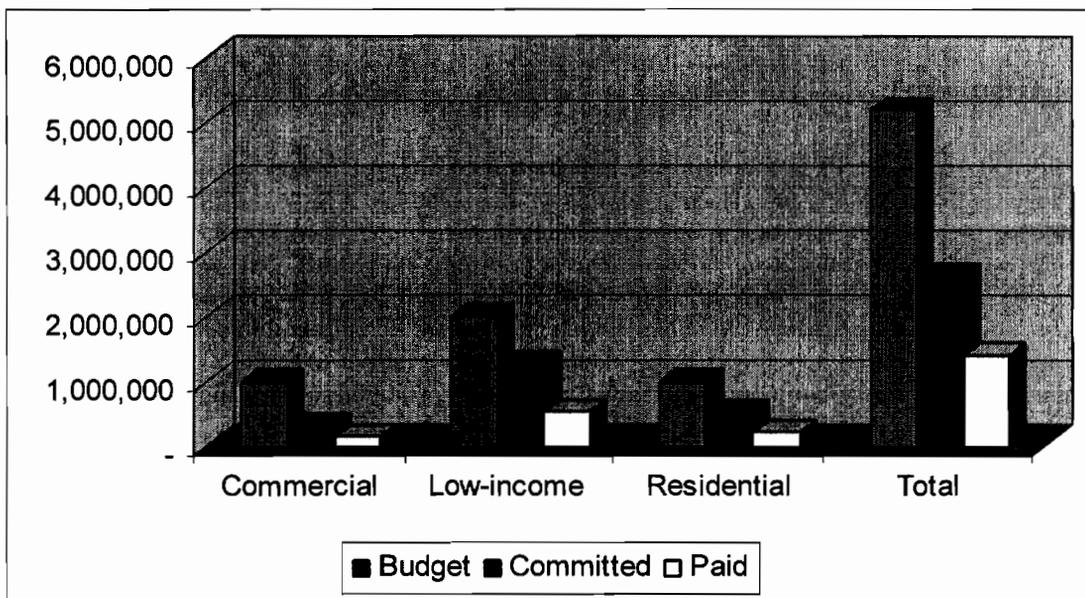
Table 2--Overall Budget Status as of December 27, 2006

Program	Budget	Paid	Committed	Available
Commercial	\$1,000,000	\$160,792	\$313,478	\$686,522
Low Income	2,000,000	531,654	1,292,695	707,305
Residential	1,000,000	217,413	518,816	481,184
Subtotal	<u>\$4,000,000</u>	<u>\$909,859</u>	<u>\$2,124,989</u>	<u>\$1,875,011</u>
Gas Efficiency Study	200,000	199,593	\$199,593	\$407
Evaluation	100,000	25,000	25,000	75,000
Administration	350,000	277,308	277,308	72,692
Reserve for Lost Revenue	550,000			550,000
Total Program	<u>\$5,200,000</u>	<u>\$1,411,760</u>	<u>\$2,626,890</u>	<u>\$2,573,110</u>

RESIDENTIAL AND LOW-INCOME PROGRAMS

NYSERDA's multifamily Building Program started its transition to one all-encompassing program on October 1, 2006. Acceptance of new buildings into the program was halted as the program began to change from its previous implementation contractor, HR&A of New York, Inc., to TRC Engineering, Inc. During the transition period, work on newly accepted buildings was stopped and the projects were placed in a queue. While the transition will continue through April 1, 2007, new buildings and all the buildings in the queue in 2006 will sign participation agreements with NYSERDA to enter the gas program. Newly committed buildings are expected to encumber the bulk of the remaining gas program budget, plus additional reprogrammed funds from the single-family homes program. In the first two quarters of 2007, gas program activity is expected to be extensive.

Figure 1. Budget and Spending Summary (Includes study, evaluation, administration, and lost revenue reserve)



The Residential and Low-Income portions of the gas program involve several single family and multifamily building programs. The single-family homes program originally included funding for New York ENERGY STAR® Labeled Homes (\$100,000 for non-low-income and \$500,250 for low-income homes) and Home Performance with ENERGY STAR (\$200,000). Some of the funds allocated to the single-family homes programs are being shifted to the multifamily program because the multifamily program is over-subscribed by higher-than-expected demand. The funds will be added to the multifamily program, which will increase funding for the ResTech, Assisted Multifamily, and ENERGY STAR Multifamily Buildings Programs (originally budgeted \$200,000 for non-low-income and \$1,000,000 for low-income) by \$575,250.

Program marketing expenditures now total \$98,038.63 out of the \$200,000 allocated for marketing. Detailed descriptions of these programs may be found in the approved gas program plan.

Assisted Multifamily Program (AMP) — AMP has been allocated \$500,000 to target low-income multifamily projects that are exclusively Con Edison gas customers. Sixty-one (61) AMP projects are currently potential candidates for the gas pilot. Of those, four (4) have

executed participation agreements encumbering a total of \$111,801 of the \$500,000 gas funds. The projected annual gas savings from these four (4) AMP projects is 9,000 MMBtu.

ResTech — Staff has allocated \$300,000 for the ResTech program. Sixteen (16) ResTech projects have been identified as eligible to participate in the Gas Pilot Program. This includes one project with Columbia University, which is actually a grouping of several multifamily buildings that are being served under a mini-bid process to save administrative costs and increase the total number of buildings completed.. The total amount of encumbered ResTech gas funds is \$420,778.

ENERGY STAR Multifamily Pilot Program (EMP) — EMP in New York is part of a national pilot program coordinated in Oregon, Wisconsin, and New York by a National Working Group of multifamily experts under the oversight by the United States Environmental Protection Agency (U.S. EPA). The pilot is testing various methodologies to design, construct, test, and rate energy-efficient multifamily buildings to enable them to receive an EPA ENERGY STAR label. NYSERDA is overseeing this effort in New York, and HR&A is implementing this effort under the AMP contract with NYSERDA.

The Gas Plan allocated \$200,000 to market-rate, non-low-income projects participating in EMP. To date, EMP has identified two (2) market-rate projects in Con Edison's gas territory. One (1) of these projects executed a Participation Agreement with NYSERDA encumbering \$75,414 of gas funds this quarter. In addition, technical service funds encumbered for this project total \$15,854. Of those, \$15,341 have been invoiced.

The Gas Plan also allocated \$1,000,000 to low-income EMP projects. Five (5) low-income new construction projects are under way in Con Edison's gas territory. All five projects have executed participation agreements with NYSERDA. The low-income projects have encumbered \$398,583 towards incremental costs and \$129,304 towards technical assistance with \$90,172 invoiced from the incremental cost budget and \$86,220 from the technical assistance budget. One (1) low-income project, which has completed its savings projections, estimates annual gas savings of 327 MMBtu compared with a comparable building meeting ASHRAE Standard 90.1-2004.

New York ENERGY STAR Labeled Homes (NYESLH) — This program was allocated \$100,000 in homebuilder incentives for the construction of 200 market rate, one-to-four family New York ENERGY STAR Labeled homes in the Con Edison gas service territory. These homes will include high efficiency gas heating equipment that exceeds current program standards. As of this report, all 200 of these projects have been tentatively committed though a project named the AVR New Construction Project. Due to the fact that this Project was committed, all the original funds allocated for it remain. The development of 21 duplexes and 53 triplexes will be built in Queens. Following the completion of this Project, all funds budgeted for this Program will be exhausted.

Assisted New York ENERGY STAR Labeled Homes (ANYESLH) — This Program was originally allocated \$500,250 to provide incentives to homebuilders and customers for constructing low-income one-to-four family New York ENERGY STAR Labeled Homes. These homes will include high efficiency gas heating equipment that exceeds current program standards. After the redistribution of funds to the low income Multifamily Programs, the ANYESLH Program was given a budget to support the completion of 100 projects. As of this report, 77 ANYESLH have been committed through a project named Stebbins Bristow. This development is being constructed by the Blue Sea Construction Company and will be located in the Bronx. In tandem with this project, NYSERDA's program implementer, the Conservation Services Group (CSG), and various field staff have conducted several recruiting meetings with existing and new affordable housing developers and local Habitat for Humanity chapters to secure additional opportunities.

Home Performance with ENERGY STAR (HPwES) — This program was originally allocated \$200,000 to provide incentives to participating home performance contractors for upgrading the energy efficiency of existing one-to-four family homes in the Con Edison gas service territory. The homes are to be retrofitted with high-efficiency gas heating equipment that exceeds the minimum standards of the current Program. After the redistribution of funds to the Multifamily Programs, the Home Performance with ENERGY STAR Program was given a budget to support the completion of 100 projects. CSG and various field staff are currently working with existing participating home performance contractors to educate them of this opportunity. New contractors are constantly being recruited, trained and accredited to facilitate the infrastructure development desired in Westchester County. It is anticipated that all projects budgeted in this Program will be committed by September 2007.

Residential Marketing — NYSERDA spent more than \$23,039 in community newspapers and trade publications in the New York City and downstate markets to increase participation in the Con Edison Gas Efficiency Program. Some of the advertising produced added value options such as editorial space and color ads. Many publications printed a quarter-page ad about the Con Edison Gas Efficiency Program.

Planned Activities and Proposed Expenditures — Activity in the low income and residential portion of the program will be significant next quarter, especially for the Energy Star Multifamily Program (EMP) and the Home Performance with Energy Star Program because of the market's response to the higher cost of gas this winter, *i.e.*, participants' interest in energy efficiency is increased and will drive demand for program funds. Staff in the residential program will work closely with staff in Energy Efficiency Services to coordinate the new construction program activities.

COMMERCIAL GAS EFFICIENCY PROGRAM

The commercial component of the Gas Program will help eligible non-residential Con Edison gas customers better manage their energy costs and operate more productively. Natural gas measures have been added to existing **New York Energy SmartSM** programs to enable staff to provide one-stop assistance. These programs include the Energy Audit Program, FlexTech Services, the Technical Assistance Program, the Enhanced Commercial Industrial Performance Program, and the **New York Energy SmartSM** Loan Fund. Marketing will target eligible Con Edison gas customers. The commercial program is funded at \$1,000,000.

Marketing — Most of the marketing efforts have been in conjunction with the electric programs, allowing the Gas Pilot to ride the coattails of these long-standing programs. None of the marketing budget has been tapped yet. A gas equipment vendor outreach effort is planned for next quarter.

Technical Assistance — Technical Assistance has completed 24 walkthrough audits and one detailed study.

Enhanced Commercial Industrial Performance Program — The former Commercial Industrial Performance Program and Smart Equipment Choices Program were combined to provide enhanced one-stop access for customers and service providers. The new, combined program name is the Enhanced Commercial Industrial Performance Program (ECIPP). ECIPP has 9 completed projects.

Loan Fund — Loan Fund has no completed loan subsidies. But, the first loan subsidy is being processed.

PLANNED ACTIVITIES AND PROPOSED EXPENDITURES

Outreach will focus on customer organizations, gas equipment vendors, business and trade groups, and economic development organizations. The Program will attempt to utilize the customer service efforts of Con Edison. A gas equipment vendor outreach effort is planned for the quarter ending March 27, 2007.

**ANNUAL REPORT (FOR THE RATE YEAR ENDING SEPTEMBER 27, 2006)
CONSOLIDATED EDISON COMPANY OF NEW YORK, INC.
GAS EFFICIENCY PILOT PROGRAM**

ANNUAL GAS PLAN PROGRAM SUMMARY

This report updates the status and progress made from inception through September 27, 2006 of NYSERDA's gas efficiency pilot program in the Consolidated Edison service territory, and serves as the first annual report.¹ Budget status information and program accomplishments for the first annual report are presented in table format below.

Table 1 presents overall budget information through the end of the reporting period.

Table 2 presents program accomplishments through the end of the reporting period.

Table 1. Overall Budget Status as of September 27, 2006

Program	Budget	Paid	Committed	Available
Commercial	\$1,000,000	\$88,882	\$116,952	\$883,048
Low-Income	\$2,000,000	\$171,465	\$1,308,596	\$691,404
Residential	\$1,000,000	\$162,046	\$363,448	\$636,552
Subtotal	<u>\$4,000,000</u>	<u>\$422,392</u>	<u>\$1,788,996</u>	<u>\$2,211,004</u>
Gas Efficiency Study	\$200,000	\$199,593	\$199,593	\$407
Evaluation	\$100,000	\$25,000	\$25,000	\$75,000
Administration	\$350,000	\$272,565	\$272,565	\$77,435
Reserve for Lost Revenue	\$550,000			\$550,000
Total Program	<u>\$5,200,000</u>	<u>\$919,550</u>	<u>\$2,296,154</u>	<u>\$2,913,846</u>

¹ An annual report through September 27, 2005 was not issued because the brief time frame between approval of the Program Plan -- in the PSC Order issued and effective on June 13, 2005 -- and the deadline for the September 27, 2005 report was occupied with preliminary early program design issues, and no program impacts were available to report.

Table 2. Program Accomplishments as of September 27, 2006

	Residential and Low-Income Programs	Commercial Programs
Number of Projects	97	28
Number of Participants¹	2,535	28
Installed Therm Savings (Annual)	3,270	22,000
Contracted Therm Savings (Annual)	265,577	77,941
Contracted Annual Bill Savings²	\$464,760	\$118,860
Contracted Environmental Benefits³		
CO ₂ (Annual Tons)	1,567	460
SO ₂	Negligible	Negligible
Nox	Negligible	Negligible
Contracted Life Cycle Customer Savings⁴	\$6,013,000	\$1,537,800
Contracted Life Cycle Avoided Costs⁴	\$4,231,000	\$1,386,800
Incentives Paid		
Dollar Amount	\$1,574,005	\$79,656
Percentage of Spending	94%	68%
Total Amount Expended to Date	\$1,672,044	\$116,952

Notes:

1. Residential and low-income participants are dwelling units.
2. Contracted therm savings were estimated at \$17.50 per decatherm for residential customers and \$15.25 per decatherm for commercial customers.
3. Estimated annual emissions reductions are based on 0.0585 tons of CO₂ per decatherm.
4. Amounts are based on an average measure life of 15 years with 3% annual inflation.

The Program serves firm residential, low income, and commercial natural gas customers in the Consolidated Edison territory and provides incentives for gas efficiency initiatives. The gas efficiency program offerings complement but do not supplant existing efficiency programs currently funded under the System Benefits Charge. To relieve the administrative burden and reduce costs, NYSERDA uses established programs, procedures, and implementation contractors in offering gas efficiency incentives to eligible program participants. NYSERDA's Gas Efficiency Program Plan (Gas Plan) was approved by Order of the Public Service Commission on June 13, 2005.

RESIDENTIAL AND LOW-INCOME PROGRAMS²

The Residential and Low-Income portion of the gas program includes several single family and multifamily building programs. The single-family homes program includes funding for New York ENERGY STAR[®] Labeled Homes (\$100,000 for non-low-income and \$500,000 for low-income homes) and Home Performance with ENERGY STAR (\$200,000). The multifamily program includes funding for ResTech (\$300,000), Assisted Multifamily (\$500,000), and ENERGY STAR Multifamily Buildings (\$200,000 for non-low-income and \$1,000,000 for low-income). Program marketing expenditures will total \$200,000.

² For complete program descriptions, refer to the May 2006 New York Energy Smart Program Evaluation and Status Report and the SBC III Operating Plan, both found on NYSERDA's website (www.nyserda.org).

Assisted Multifamily Program (AMP) — AMP has been allocated \$500,000 to target low-income multifamily projects that are exclusively Con Edison gas customers. Thirty-two (32) AMP projects are currently candidates for the gas pilot. Of those, three (3) have executed participation agreements encumbering a total of \$105,364 of the \$500,000 gas funds.

ResTech — NYSERDA has allocated \$300,000 for the ResTech program. Ten (10) ResTech projects have been identified as eligible to participate in the Gas Pilot Program. The total amount of encumbered ResTech gas funds is \$323,682.

ENERGY STAR Multifamily Pilot Program (EMP) — EMP in New York is part of a national pilot program coordinated in Oregon, Wisconsin, and New York by a National Working Group of multifamily experts under the oversight by the United States Environmental Protection Agency (U.S. EPA). The pilot is testing various methodologies to design, construct, and rate energy-efficient multifamily buildings to enable them to receive an EPA ENERGY STAR label. NYSERDA is overseeing this effort in New York, and HR&A is implementing this effort under the AMP contract with NYSERDA.

NYSERDA's Gas Plan allocated \$200,000 to market-rate, non-low-income projects participating in EMP. To date, EMP has identified two (2) market-rate projects in Con Edison's gas territory. One (1) of these projects executed a Participation Agreement with NYSERDA encumbering \$75,414 of gas funds

The Gas Plan also allocated \$1,000,000 to low-income EMP projects. Five (5) low-income new construction projects are under way in Con Edison's gas territory. Of these, three (3) projects have executed participation agreements with NYSERDA. The other two (2) low-income projects are currently in the design phase. The low-income projects have encumbered \$398,583 towards incremental costs and \$129,304 towards technical assistance.

Assisted New York ENERGY STAR Labeled Homes (ANYESLH) — This program was allocated \$500,000 to provide incentives to homebuilders for constructing low-income one-to-four family New York ENERGY STAR Labeled Homes. NYSERDA's program implementer, the Conservation Services Group (CSG), has conducted several recruiting meetings with existing and new affordable housing developers to secure potential sites. NYSERDA's NYC field staff and CSG's field account managers have met and continue to schedule meetings with developers that build a substantial portion of the low-income housing in the New York City region. CSG, at the direction of NYSERDA, is completing the final elements of the program management database to track these projects separately from the rest of the program. The program is expected to support the construction of approximately 650 New York ENERGY STAR Labeled homes for low-income Con Edison gas customers.

New York ENERGY STAR Labeled Homes (NYESLH) — This program was allocated \$100,000 to provide incentives to homebuilders for constructing market rate, one-to-four family homes in the Con Edison gas service territory. The homes will include high-efficiency gas heating equipment that exceeds current program standards. The list of qualified eligible equipment has been finalized. CSG and NYSERDA NYC field staff is continually working with currently participating builders and recruiting new

homebuilders with potential housing sites. The program expects to support construction of approximately 200 New York ENERGY STAR homes for Con Edison gas customers.

Home Performance with ENERGY STAR (HPwES) — This program was allocated \$200,000 to provide incentives to participating home performance contractors for upgrading the energy efficiency of existing one-to-four family homes in the Con Edison gas service territory. The homes will be retrofitted with high-efficiency gas heating equipment that exceeds current program standards. The list of qualified eligible equipment has been finalized. CSG is currently working with existing participating home performance contractors and recruiting new contractors with potential retrofit housing sites. The program expects to support upgrades in approximately 400 homes for existing Con Edison gas customers.

Residential Marketing — NYSERDA spent more than \$22,219 in community newspapers and trade publications in the New York City and downstate markets to increase participation in the Con Edison Gas Efficiency Program. Some of the advertising produced added value options such as editorial space and color ads. Many publications printed a quarter-page ad about the Con Edison Gas Efficiency Program.

COMMERCIAL GAS EFFICIENCY PROGRAM³

The commercial component of the Gas Program helps eligible non-residential Con Edison gas customers better manage their energy costs and operate more productively. Natural gas measures have been added to existing **New York Energy SmartSM** programs to enable staff to provide one-stop assistance. These programs include: the Energy Audit Program, FlexTech Services, the Technical Assistance Program, Smart Equipment Choices, the Commercial/Industrial Performance Program, and the **New York Energy SmartSM** Loan Fund. The commercial program is funded at \$1,000,000.

As with the residential and low-income programs, the gas components of the programs are in the beginning stages of implementation. Few gas efficiency measures have been installed, and little reportable gas savings have accrued in time for this annual report. Accomplishments of the Commercial Gas Efficiency Program are detailed below.

FlexTech and Technical Assistance — The FlexTech and Technical Assistance programs were revised in August 2005 to permit detailed studies of medium and large customer projects previously ineligible for funding under the **New York Energy SmartSM** Program. Studies will include the costs and benefits of installing gas measures at efficiency levels established by implementation programs. One study has been completed. Many offers to conduct studies have been extended.

Energy Audit Program — The Energy Audit Program has been augmented to include combustion efficiency testing of applicable gas-fired equipment and ultrasonic steam trap testing. The fee structure has been altered for these audits making the cost either \$100 or \$400. Gas measure review has been initiated for small commercial ratepayers. Twenty-four gas audits have been initiated.

³ Ibid

Commercial/Industrial Performance Program — The Commercial/Industrial Performance Program (CIPP) previously excluded incentives for natural gas measures. An incentive of \$1.00 per therm saved has been added. One application has been received under this program.

Smart Equipment Choices Program — Modifications were made in December 2005 to the program to include gas incentives. Appreciable interest in his program has been expressed, and six applications have been received. Three projects have been completed.

New York Energy SmartSM Loan Fund — The Loan Fund uses the same pre-qualified list as the Smart Equipment Choices Program and minimum equipment efficiency levels are consistent for equipment pre-qualified under the CIPP, SEC, and Loan Fund programs. One new loan subsidy application has been initiated.

Consolidated Edison Gas Efficiency Program

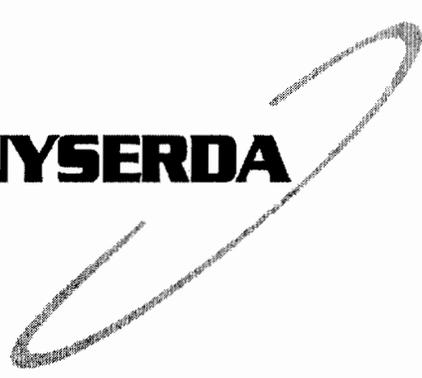
Pursuant to Case 03-G-1671

(2004-2007)

Supplemental Status Report

Prepared by :

NYSERDA



Section I - Introduction

A September 27, 2004 New York State Public Service Commission (PSC) order adopted a rate plan for Con Edison gas operations on rate Case 03-G-1671. The rate plan required that a gas efficiency pilot program (Pilot) be implemented and a gas efficiency potential study (Study) be conducted for the Con Edison Gas Utility territory during the term of the Gas Rate Plan. Administration of the Pilot and Study, and formation of a 12-member Advisory Group, was assigned to the New York State Energy Research and Development Authority (NYSERDA).

At a December 1, 2004 stakeholder meeting, NYSERDA presented the details of the PSC order, distributed a draft of the Pilot Plan, and presented plans for the Study. NYSERDA accepted comments on the draft plan until December 16, 2004. NYSERDA also met with the Advisory Group on December 21, 2004, and further discussed details of the Pilot, and filed the Pilot Plan with the PSC on December 27, 2004. Based on PSC input and further Advisory Group input, a revised plan was submitted on February 24, 2005. The PSC issued an order approving the plan on June 13, 2005. A full chronology is included in the body of this report.

The Pilot is being funded at \$5 million for the term of the rate agreement, and consists of gas energy efficiency initiatives that have supplemented and expanded existing efficiency programs. The funding covers administrative and program costs, as well as utility lost revenue recovery, to the extent it exists. The funding is recovered from firm Con Edison gas customers through the Monthly Rate Adjustment (MRA) applicable to SC 1, SC 2, SC 3 and SC 13 customers, and any corresponding SC 9 firm transportation customers. The Pilot funding allocation is as follows: 50% for low income gas efficiency programs; 25% for non-low income residential gas efficiency programs, and 25% for commercial gas efficiency programs.

The Study was conducted to estimate levels of gas efficiency potential in the Con Edison gas service territory for a five year program through 2011, and to evaluate impacts such as gas price reduction benefits, gas usage and bill reduction benefits, environmental and other societal benefits, potential program designs, implementation recommendations, lost revenue recovery mechanisms, an evaluation and quantification of the proposed program costs, and a comparison of the costs and benefits of each program. The Study was completed by Optimal Energy, Inc. in March of 2006 and submitted to the PSC.

The Pilot is in its final year of implementation and all Pilot funds will be committed by September 27, 2007. Project construction, monitoring and evaluation has begun and will continue through the rate agreement period. A final evaluation report will be provided within six months of the end of the rate term. NYSERDA is submitting this informal supplemental report to assist the PSC assessment of the efficacy of further gas efficiency programs. The information presented in this report includes pertinent gas-program information derived from the Pilot, the Study, and SBC funded efficiency projects.

SECTION II- Chronology

The following is a chronology of the work conducted by NYSERDA staff in implementing the Pilot to date. It provides major milestones completed, including internal approvals by management required to conduct the program.

- 9/27/04 PSC Order adopting terms of Joint Proposal (Authorizes the concept for Gas Efficiency Programs; offers administration of programs to NYSERDA)
- 10/12/04 NYSERDA meets with DPS to initiate discussions about expectations and the need to develop and file a Plan by 12/27/04.
- 10/22/04 Initiate review of Gas Programs from other states
- 12/1/04 Stakeholder meeting to solicit a Gas Advisory Group and review the proposed program strategy and timetable.
- 12/21/04 Meet with Gas Advisory Group to review draft Consolidated Edison Gas Efficiency Program Plan.
- 12/27/04 Consolidated Edison Gas Efficiency Program Plan submitted to PSC
- 1/24/05 Begin negotiating with Program Support Contractor for a proposal to evaluate gas efficiency measures. The analysis will help NYSERDA in designing the details of the programs and determine pre-qualified measures to be included in program, effective level for incentives, and deemed savings.
- 2/24/05 NYSERDA submits revised Consolidated Edison Gas Efficiency Program Plan to PSC. NYSERDA Program Development Management Committee approves use of gas funds in existing EES programs contingent upon PSC order approving Consolidated Edison Gas Efficiency Program Plan.
- 3/10/05 Meet with Con Edison staff to discuss development of Commercial Gas Program
- 5/31/05 Contract signed with Program Support Contractor to analyze gas efficiency measures to incorporate into programs
- 6/13/05 PSC Order approving Consolidated Edison Gas Efficiency Program Plan
- 6/14/05 Modified FlexTech and Technical Assistance programs to incorporate the use of gas funds. Minimal changes as studies were already fuel-neutral.
- 6/14/05 Modified Energy Audit contracts to allow for the evaluation of gas measures; will include Combustion Efficiency Tests and Steam Trap testing.

9/1/05 Program Support Contractor report completed

10/12/05 Gas measures incorporated into Commercial Industrial Performance Program (PON 909)

11/3/05 Boiler Efficiency Training series completed. One of the few items that could be planned and initiated prior to PSC Order approving Plan and allowing funds to be encumbered.

11/14/05 Gas measures incorporated into Loan Fund program (PON 941)

11/28/05 Gas measures incorporated into Smart Equipment Choices program (PON 968)

2006 Gas program marketing - Allow larger electric program marketing to carry effort. Also allows funds to remain available until 2007.

3/15/06 Brief Con Edison staff on Residential and Commercial Gas Programs

5/9/06 Received first Smart Equipment Choices application

6/27/06 Quarterly reporting of \$70,000 Commercial Gas Funds committed. Predominantly technical assistance, audits, training series, and program start-up costs.

8/4/06 Received first Custom Smart Equipment Choices application

8/23/06 Received first Loan Fund application

9/19/06 Received first Commercial Industrial Performance Program application

9/27/06 Quarterly reporting of \$117,000 Commercial Gas Funds committed. First installation program commitments.

10/1/06 Smart Equipment Choices and Commercial Industrial Performance Programs closed to allow for program consolidation.

11/13/06 Enhanced Commercial Industrial Performance Program (PON 1101) released combining previous Smart Equipment Choices and Commercial Industrial Performance Programs to give simpler, consolidated access to programs.

12/19/06 Meet with Con Edison marketing staff and account managers to discuss ways to streamline the NYSERDA process.

12/27/06 Quarterly reporting of \$313,000 Commercial Gas Funds committed. Installation programs increase participation.

- 2007 Initiate Gas Efficiency Program outreach independent from electric program marketing to ensure funds committed during remainder of Gas Efficiency Program Plan period until September 27,2007.
- 1/28/07 Agreements released to three Outreach Assistance firms to market Commercial Gas Efficiency Programs and assist applicants with paperwork.

SECTION III - Benefits and Synergies of an integrated Electric and Gas Efficiency Program

The Con Edison Gas Efficiency Potential Study provides information on the potential for gas savings in the Con Edison Utility Territory, funded at a suggested funding level of \$15 million per year for five years. The Study points out that there are benefits and synergies that result from the integration of a combined electric and gas efficiency program. These benefits include:

- Reduces confusion in the market,
- Provide better customer service by allowing one-stop-shopping of comprehensive energy solutions,
- Increases penetration rates of market shares and number of homes or business receiving treatment,
- Makes program offerings more attractive to market participants including manufactures, retailers, installation contractors, and consumers,
- Reduces the incremental cost of promoting gas efficiency, and
- Allows for quicker program ramp up.

The preliminary results of the Con Edison Gas Efficiency Pilot Program indicates that an integrated efficiency program effort is needed to provide better measures with separable, complimentary and/or conflicting costs and benefits. Having fair and consistent treatment of issues such as:

- Allocation of site, system, and societal costs and benefits for measures which have complimentary electric and gas benefits such as insulation or demand control ventilation.
- Allocation of site, system, and societal costs and benefits for fuel switching measures which have conflicting electric and gas benefits and costs such as geothermal , power generation , and steam/gas/electric chilling and heating systems.
- Incentive design that equitably assigns value for measures which have dual-fuel and/or fuel-switching benefits and costs.
- Reporting for measures and programs that have singular, dual and switching fuel impacts.
- Evaluation for measures and programs that have singular, dual and switching fuel impacts.
- Gas and electric efficiency measures which are completely separable, but probably should have consistent incentive design relative to societal and customer benefits.
- Improvements in environmental impacts.

Whole building, all fuels efficiency programs will provide New York State rate payers with maximum benefits. The combination of electricity and gas measures installed enables a building owner to most effectively determine how best to reduce energy costs and bill savings. The savings in administration costs of such combined programs is also a compelling reason to integrate programs.

SECTION IV - Commercial Program Design Benefits and Lessons from Pilot and Potential Study

Opportunities the Pilot and Study Provided

The Pilot and Study have afforded an excellent opportunity to learn what works in a gas efficiency program and in developing an integrated one-stop electric and gas program offering for customers and service providers. The Pilot has enabled some investigation of potential full-scale gas program design including measure selection, benefit cost analysis, incentive setting, outreach approaches, stakeholder participation, and similarities and differences to program features for electric efficiency.

Program Integration

Whole building programs will work well for New Construction where the customer has already made capital commitment to construct an entire new building already. Unless they have already committed to a substantial or “gut” renovation, existing facilities typically require too much capital and project management to require whole building upgrades, so NYSERDA programs have been designed to allow customers to select measures based on the customer’s priorities and available resources. However, potential benefits of integration and bundling discussed below could lead to greater whole-building emphasis for existing buildings programs.

Integrated outreach and marketing of gas and electric efficiency services can be more effective for certain measure, service provider and customer sector combinations. To most effectively address the small commercial market, the Gas Potential Study recommends an effort that integrates gas with electric programs, incentives with market transformation programs, and small commercial with multifamily. Strong integration of program administrator and utility efforts are likely needed for this customer segment too. The Gas Pilot work to date supports this recommendation. Small commercial customers provide small potential energy savings to cover the costs to the program, customers, and service providers; of education, support, marketing, project development, and project execution. And small commercial customers incur higher installation costs for measures due to economies of scale. A well-integrated program that blends both large and small, firm and non-firm rate customers can help overcome these barriers for small commercial customers.

Commercial gas projects often have long pay backs, typically 5 to 10 years. Electric programs have the ability to bundle short payback lighting and control measures with longer payback items

such as chillers or windows to maximize and not bypass the energy-efficiency potential of a facility. A gas program integrated with an electric program will enable the same short payback lighting and control measures to be bundled with gas measures to maximize and not bypass gas efficiency.

Although, the program has been operational a short time, the Commercial Gas Pilot has had more interest from Westchester and Bronx than Manhattan. It is likely that the billing mix of the more-upstate and less-urbanized areas will have a higher gas/electric ratio, thus increasing gas interest. This gas interest can be used to help carry electric interest into Westchester and Bronx customers and service providers.

Outreach, Marketing, and Program Control

The small dollar amount of Pilot funding is providing the opportunity to experiment and learn from very controlled outreach and marketing intended to prevent program over-subscription. It is easy to build over-expectations and disappointments when program funds run out early. Some small, controlled methods of gas-only outreach are being experimented with during calendar year 2007 to help exhaust the program incentive funds. Otherwise, outreach and marketing has not been carried out independent of efforts designed to move the large amounts of electric efficiency funding in the Con Edison territory.

Utilities

Small gas customers seem to have stronger relationships with their gas utilities than large gas customers or electric customers. This may be because the gas utility is much more important to the needs for health and safety from explosion, fire, and cold for small customers with limited internal resources on which to rely.

Gas utility support of efficiency and coincident economic and environmental benefits is enhanced by a utility's desire to sell measures switching fuels away from oil and electricity.

Fuel Switching

If there is a full-scale statewide or system-wide gas efficiency program, then net incentives, costs and benefits from fuel-switching will need more attention. Resolving this equitably will be enhanced by having an integrated electric and gas program.

Noteworthy observed Gas Market Issues

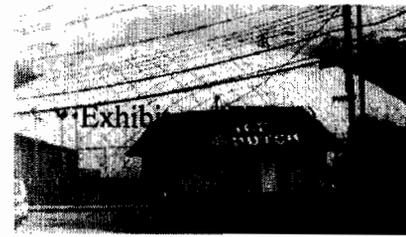
Interest in gas is often enhanced in specific sectors (food service, laundries, and industrial) whereas electricity is more universal. Some commercial buildings can have a 10:1 ratio of electric to gas expenses, which makes them focus considerably more on electric use.

There are technology limitations. For instance, roof top units are frequently used in small to medium sized commercial buildings, but there are no high-efficiency options. NYSERDA is working with the Consortium for Energy Efficiency Gas Committee to resolve this nationwide.

SECTION V - Case Studies Demonstrating Benefits

The following three case studies from the Commercial Pilot are included to help illustrate the effectiveness of a commercial gas efficiency program in the Con Edison Utility Territory.

Ice Hutch Recreational Ice Skating Arena



Ice Hutch Recreational Ice Skating Arena

Mount Vernon, NY – Westchester County

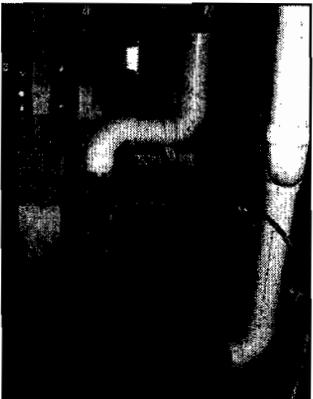
Background

Ice Hutch is a domed recreational ice skating arena and sports complex. The arena is located on the grounds of Hutchinson Field in Mount Vernon, New York - Westchester County's third largest city. It is home to youth and adult ice hockey leagues and is used for public recreational skating. The Ice Hutch is open 12 months a year for skating, and the cost of maintaining an ice sheet for a full year results in an annual energy bill of approximately \$200,000.



Objectives

Ice Hutch management recently purchased a new boiler with an ENERGY STAR® label. The new boiler has an Annual Fuel Utilization Efficiency (AFUE) rating of 93%. AFUE is the ratio of heat output of the furnace or boiler compared to the total energy consumed by the furnace or boiler. An AFUE of 90% means that 90% of the energy in the fuel becomes heat and the other 10% escapes. Since AFUE is a measure of a gas furnace's efficiency in converting fuel to energy - the higher the rating, the more efficient the unit. ENERGY STAR qualified gas furnaces have higher AFUE ratings making them up to 15% more efficient than standard models. The 93% rating of the new Ice Hutch boiler indicates it is one of the most efficient units available. The boiler provides hot water for ice resurfacing and for the locker rooms. In addition, 3/4" thick polyolefin pipe insulation was applied to all accessible hot water lines.



Results

The New York State Energy Research and Development Authority (NYSERDA) provided the Ice Hutch with an incentive of \$600 towards the boiler and \$915 for insulation. The total of the two incentives was \$1,515 and was received through NYSERDA's Enhanced Commercial Industrial Performance Program (ECIPP).

Benefits

The newly installed boiler and insulation have annual estimated savings of 2,900 therms and annual cost savings of \$4,600.

NYSERDA

For more information about these services, contact NYSERDA
toll free 1-866-NYSERDA, locally (518) 862-1090,
or e-mail: info@nyserda.org

Con Edison Commercial Gas Efficiency Program**John E. Andrus Memorial, Inc.**

Hastings On Hudson, New York – Westchester County

Background

John E. Andrus Memorial, Inc., doing business as Andrus on Hudson, is a 194,000 square foot residential health care facility located in Westchester County. Andrus on Hudson is a 247 bed facility, which provides Short Term Rehabilitation, Hospice and Skilled Nursing Care where elders can enjoy a high quality of care, independence and well being.

Objective

Andrus on Hudson wanted to upgrade their boiler room, heat distribution system, and domestic hot water system. They worked with NYSERDA staff during the planning stage of this renovation project, to insure that equipment being specified would qualify for NYSERDA incentives. As part of this project to reduce their energy costs and improve reliability, they installed three new energy efficient boilers, 2" fiberglass pipe insulation, replaced steam traps, and incorporated an energy management system (EMS).

Results

NYSERDA provided Andrus on Hudson with an incentive of \$25,000 through NYSERDA's Enhanced Commercial and Industrial Performance Program to offset the cost of the equipment. By using M&T Bank, a lender participating in the New York Energy Smart Loan Fund, Andrus on Hudson received a low-interest loan. Overall, NYSERDA provided Andrus on Hudson with \$36,000 for their gas-efficient improvements.

Benefits

Andrus on Hudson will save approximately 46,000 therms annually from the installation of this new gas-efficient equipment, and will save \$194,000 in interest costs from the reduced rate loan.

NYSERDA, a public benefit corporation established by law in 1975, administers funds made available through Con Edison Monthly Rate Adjustment (MRA). \$1,000,000 has been made available to Con Edison firm gas customers through five of NYSERDA's programs: Technical Assistance, FlexTech, Energy Audit Program, Energy SmartSM Loan Fund, and the Enhanced Commercial/Industrial Performance Program (which includes the program formally known as Smart Equipment Choices).



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Con Edison Commercial Gas Efficiency Program**Carnegie Hotel Valet & Linen Services**

Bronx, New York – Bronx County

Background

Carnegie Hotel Valet & Linen Services is a commercial laundry company, located in the Bronx, which provides services to the hotel sector around the tri-state area. They provide a complete laundry service to hotels which includes laundering bed linens, towels, and table cloths, and dry cleaning services. They are expanding their business, and have purchased a considerable amount of new equipment

Objective

Carnegie Linen consumes large amounts of steam and hot water in their process and has made every effort to be as energy efficient as possible. They installed four high-efficiency boilers, a boiler stack economizer, replaced all their steam traps. These 49.5 hp boilers are specifically manufactured for the New York City market; since in NYC, a 50 hp or greater boiler requires a Stationary Engineer. They installed a tunnel washer, which is also called a continuous batch washer, since it has multiple sections with each performing a specific portion of the wash process. Water flows in the opposite direction of the goods allowing the water to be reused throughout the process. This process saves considerable time, labor and energy. They install a water-cooled variable speed drive air compressor, which uses city water as cooling water. This “free” pre-heated water is used for process water and the efficiency of the air compressor is increased by using cooler water. And they even reclaim the heat from the waste water before it is sent down the drain.

Results

NYSERDA provided Carnegie Linen with a total incentive of \$110,000, through Tiers 1 and 2 of the Enhanced Commercial Industrial Performance Program, for the installation and implementation of these gas-efficient measures.

Benefits

Carnegie Linen will save approximately 156,000 therms annually from the installation of this new gas-efficient equipment.

NYSERDA, a public benefit corporation established by law in 1975, administers funds made available through Con Edison Monthly Rate Adjustment (MRA). \$1,000,000 has been made available to Con Edison firm gas customers through five of NYSERDA’s programs: Technical Assistance, FlexTech, Energy Audit Program, Energy Smart Loan Fund, and the Enhanced Commercial/Industrial Performance Program (which includes the program formally known as Smart Equipment Choices).

The logo for NYSERDA, featuring the word "NYSERDA" in a bold, sans-serif font, with a stylized, curved line or swoosh underneath it.

For more information about these services, contact NYSERDA
toll free 1-866-NYSERDA, locally (518) 862-1090,
or e-mail: info@nyserdera.org

SECTION VI - Examples of Benefits Accrued by Commercial Participants

- A commercial laundry now pre-heats process water with air compressor cooling water. A seemingly simple heat exchange concept. Yet, without the guidance, information, and economic incentives of an energy efficiency program, many organizations often are not comfortable trying to overcome the costs and risks of trying something different from business-as-usual.
- A facility went back and installed pipe insulation as a result of program communication and success with an initial boiler measure funded by this Pilot program.
- A facility was intending to renovate their boiler room. An upgrade many facilities desire, but often forego for years. After being informed of the possible equipment choices and Pilot program incentives, they decided to specify program-qualifying equipment when they renovated the boiler facilities. The facility installed a new high-efficiency boiler instead of the lower-efficiency in-kind replacement that otherwise would have occurred. Additionally, the Pilot program interacted with the external design vendor and engineering teams, so that the success may more likely be replicated at non-program participants.
- Equipment and service vendor outreach is just being initiated in a controlled manner by the program as strong early vendor participation was unnecessary for the Pilot to achieve program goals by the announced September, 2007 program end date. The vendor outreach efforts will provide these businesses information on energy efficient equipment to assist them in overcoming the risks and costs of informing themselves and their customers of trying something new by participating in the pilot until September 2007 and hopefully in the future with or without future program assistance.
- The program leverages opportunities to meet customers one-on-one to inform them and change mind-sets on many efficiency improvements outside the Pilot. Based on conversations with program staff, one customer reduced their overall energy bill 5% with simple operational improvements such as turning off unused lights and setting back thermostats.
- A customer was interested in a commercial food oven produced by a manufacturer. The program worked with the manufacturer to have the equipment efficiency tested to determine program eligibility. The equipment was eligible, though not previously verified. This provides the manufacturer's local representatives and its customers better likelihood to install equipment providing the economic benefits to both.

SECTION VII - Reasons to Prevent a Program Interruption

- Programs gain momentum and marketplace acceptance over time, which greatly increases the program effectiveness over time. Time is needed by marketplace sellers and

purchasers to learn new facility energy systems, equipment, and strategies. Confidence is needed that the program and marketplace will remain stable enough to invest in learning new information and practices. The momentum, marketplace acceptance, and effectiveness are impeded or even destroyed when the program is stopped and restarted.

- Customers, service providers, and manufacturers need stability of program criteria and timing when planning, developing, and executing projects. Project planning phases are two months to two years. Project installation phases are often two months to five years. Manufacturing product development phases occur over similar multi-year timeframes.

Businesses constantly tell us that they need to be able to count on the future consistency and continuity. Vendors and manufacturers need stability so they are not undermined in their efforts to work with customers. Customers need reliable marketplace conditions, including program rules and reasonable time frames to match their business decisions, otherwise they are not comfortable investing in anything.

- When customers and service providers encounter program operational gaps, it creates short-term and long-term problems. In the short-term, the customers and service providers are frustrated and believe they have been treated unfairly. They expect funding and service with timing that matches their project execution, not timing that matches program approvals and releases. In the long-term, credibility of the energy-efficiency measures and the organizations and programs associated with them are severely hurt or lost.
- If program is not available at the time project decisions are made, then obvious lost opportunities occur. The project may not proceed at all or the project may proceed, but with less efficiency.

Projects that can plan and count on program availability result in more and better decision making towards efficiency improvements than otherwise would have occurred.

- Uninterrupted time frames that enable program design to influence early project decision making, also reduce potential free-ridership from projects where decisions are already made.

SECTION VIII - Opportunities the Residential Gas Efficiency Pilot Provided

Many of NYSERDA's residential programs, funded by the electricity fee-based System Benefits Charge Program, were whole building, all-fuels programs, especially for the low income sector. Since the whole building format funded and tracked all fuel savings (electric and fossil fuel), the integration of the Pilot funds into existing programs was a fairly seamless process. The Pilot and Study however, afforded NYSERDA's Residential Energy Affordability Program (REAP) an opportunity to reinforce information concerning the types of projects that provide cost-effective

gas efficiency measures in the residential market, and the magnitude of the savings potential. The residential portion of the Pilot was implemented using NYSERDA existing residential offerings, since the existing programs already used a whole building-all fuels approach to energy efficiency. As such, REAP staff did not have to develop new procedures to incorporate gas efficiency measures. Verification that the building was serviced in Con Edison gas territory, and methods to track and quantify the gas measures associated with the gas funds, were basically the only additional issues needing to be addressed.

Projects funded in the Pilot however, were still subject to the same market forces as projects funded with SBC funds. In conducting whole building- based programs, the duration of the projects are normally quite long, especially for new construction programs. Existing building projects required, on average, over one year, with several large projects (such as Coop City with over 15,000 dwelling units) taking over four years to complete. When one includes the post-construction monitoring period, which should be a minimum of one year in order to get valid data for at least one heating and cooling season, the time required to collect actual energy savings can be several years. Also, most residential programs were targeting market transformation results, and as such, provided incentives to mid-stream market participants in an effort to help develop a robust energy-based business infrastructure. This process takes longer than a strict resource acquisition program, and tended to take longer to implement, but provided more longer-term benefits. Due to the above, an analysis of actual savings for all Pilot projects will not be completed by the end of the three year Pilot program.

In the SBC, whole-building program, many single family and multifamily residential buildings have installed gas efficiency measures. The single family homes program has funded thousands of new Energy Star Labeled Homes, and thousands more existing homes have been serviced in the Home Performance with Energy Star program. In both ResTech and the Assisted Multifamily Program, over 200,000 units have either been completed or are currently in the program's pipelines. NYSERDA has tracked the metrics of these programs, and each have been evaluated by third parties to ensure accuracy of the energy saving claims. Many of these buildings have gas efficiency improvements that would mirror those expected in a gas efficiency program.

SECTION IX - Multifamily Programs

To provide the Public Service Commission with supplemental data on a residential gas efficiency program, REAP staff have analyzed previous multifamily SBC projects that were conducted under the ResTech and Assisted Multifamily Program. These projects are New York City gas customers whose projects could have been funded under a gas efficiency program such as the Pilot. The projects included 8 ResTech projects representing 424 units, and 24 AMP projects representing 2,872 unit. The analysis looked at annual gas savings, annual electric savings, bill savings and project costs. As can be seen in the following Table, the total cost of the projects was \$11,738,956, which includes all soft costs associated with energy assessments, design costs, and the cost of the installation of the measures. Annual gas savings totaled 523,730 therms and annual electric savings were 6,352,761 kWh. Total annual bill savings are \$1,358,074 including both gas and electric savings. Therm and kwh costs were those actually paid by the building

owners, as indicated in the energy assessments or actual bill analysis. The Savings to Investment ratio of the entire set of projects was 1.4, indicating positive savings compared to total project costs.

Project Name	Units	Annual Gas Savings (MMBtu)	Annual Electric Savings (kWh)	Annual \$ Savings	Project Cost	Project SIR (Avg. Life = 15 yrs)
RESTECH PROJECTS						
77 Carpenter Avenue (Tara Close Co-op)	100	1,613	24,448	\$26,615.00	\$216,638.00	1.5
177-179 Duane Street	12	261	12,400	\$7,065.00	\$40,201.00	2.1
231-239 West 148th Street	104	3,178	53,900	\$61,674.00	\$93,995.50	7.8
411-13 Bleeker Street	6	179	24,860	\$4,426.00	\$31,640.00	1.7
68 East 93rd Street	9	302	539	\$5,294.00	\$50,727.00	1.2
1328-1360 Midland Ave (Fleetwood Acres)	167	1,687	251,997	\$170,386.00	\$979,904.00	2.1
2073 Fredrick Douglas Blvd (Eliza Court)	6	34	3,578	\$1,845.00	\$14,600.00	1.5
2367 8th Avenue	20	438	11,469	\$5,995.00	\$23,346.00	3.1
ASSISTED MULTIFAMILY PROJECTS						
129th Street Residence	76	312	18,845	\$5,758.00	\$37,288.00	1.8
1410 Prospect Avenue	13	434	19,497	\$8,781.00	\$82,532.00	1.3
1950 Andrews Avenue - The Castle	223	4,313	230,741	\$90,383.00	\$1,056,973.00	1.0
210 West 146th Street	69	2,460	302,131	\$80,608.00	\$482,360.00	2.0
9 Argyle Road HDFC	12	602	22,925	\$9,590.00	\$70,431.00	1.6
Ben Michalski Residence, The	18	379	20,465	\$6,503.00	\$84,798.00	0.9
Carlos Rios Sr. Residence	102	550	114,156	\$23,941.00	\$225,159.00	1.3
Euclid Hall	292	60	60,549	\$8,537.00	\$62,510.00	1.6
Frederic Fleming House	34	363	53,315	\$13,876.00	\$69,611.00	2.4
Fulton Park Plaza (Fulton Park 4)	288	3,089	2,751,277	\$219,223.00	\$2,824,153.00	0.9
Inwood Houses	95	3,137	104,365	\$46,609.00	\$449,557.00	1.2
Ivan Shapiro House	55	980	68,785	\$20,123.00	\$140,288.00	1.7
Kelly Hotel, The	26	295	21,415	\$6,796.00	\$44,574.00	1.8
Kowal House, The	72	40	68,687	\$12,105.00	\$103,138.00	1.4
Kurt and Leah Schneider Apts.	54	81	43,722	\$7,397.00	\$67,062.00	1.3
Livonia Terrace	173	6,342	212,152	\$97,875.00	\$678,281.00	1.7
New Frontiers I	92	2,027	158,542	\$50,701.00	\$332,607.00	1.8
Prince George, The	416	6,077	696,144	\$84,832.00	\$460,168.00	2.2
Prospect Arms	91	1,949	97,132	\$29,190.00	\$381,900.00	0.9
Red Oak, The	231	3,991	125,573	\$57,430.00	\$711,326.00	1.0
St. John's Place (1604 St. John's Place)	98	188	142,290	\$22,962.00	\$230,129.00	1.2
Valley Lodge	46	590	101,082	\$20,288.00	\$177,572.00	1.4
West 135th Street Apartments	198	3,217	414,108	\$105,025.00	\$995,298.00	1.3
West 147th Street HDFC	98	3,205	121,672	\$46,241.00	\$520,189.00	1.1
	3,296	52,373	6,352,761	\$1,358,074.00	\$11,738,955.50	1.4

During the existing SBC program, NYSERDA developed several case studies which illustrated the gas saving potential in multifamily buildings. Seven of these case studies are include below.

Assisted Multifamily Program

101 South 3rd Street

Brooklyn, NY



"The financial assistance of NYSERDA's Assisted Multifamily Program allowed 101 South 3rd Street to close the gap on funding so that they could undertake critical capital improvements and make aggressive energy goals a reality. One year later, the co-op has realized significant annual energy savings of over \$14,500."

- Rebecca Reich
Financial Packager
Assisted Multifamily Program

101 South 3 rd Street	
Ownership:	101 South 3 rd Street HDFC
Management:	David Pagan, Los Sures
Number of Units:	35
Actual Financing:	
AMP Contribution	\$21,219
Weatherization Assistance Program	\$69,210
<u>Owner Contribution</u>	<u>\$58,718</u>
Total Project Costs	\$149,147
Observed Energy Savings:	
Annual Gas Savings	283 MMBtu
Annual Electricity Savings	-4,689 kWh
Total Annual Savings	\$14,515
Gross Lifetime Savings	\$144,480
Simple Payback:	10.3 years
Savings to Investment Ratio:	1.01

Note: Minimal fees for construction oversight and energy monitoring are not included in the calculations for Projected Gross Lifetime Savings, Simple Payback and Savings to Investment Ratio.

101 South 3rd Street Pursuing Energy Efficiency as a Cooperative

Brooklyn's 101 South 3rd HDFC is a cooperatively-run multifamily residence, managed by the non-profit group Los Sures. Seeking to improve the energy efficiency of the building and save critical operating expenses, the HDFC approached NYSERDA's Assisted Multifamily Program for technical and financial assistance.

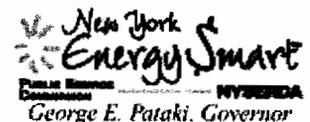
NYSERDA engineers provided a comprehensive, no-cost energy assessment of the property, identifying critical improvements that management could make to cut energy usage. AMP staff found that the installation of 202 low-e argon-filled double-paned windows in the apartment units could save substantial energy dollars. Installation of an energy management system could help the building maintain comfortable conditions while conserving energy. Engineers also recommended heating system upgrades, insulation of roof cavities, the upgrade of lighting throughout the building with efficient compact fluorescent bulbs, and the replacement of 35 refrigerators with new high-efficiency ENERGY STAR[®] models.

AMP provided a grant of over \$21,000 to assist the HDFC in implementing the recommended measures, and the Weatherization Assistance Program offered a financial commitment of an additional \$69,000. One year after undertaking these recommended upgrades, 101 South 3rd Street HDFC saved over \$14,500. Through their participation with AMP, the property has successfully cut their energy expenditures by 49% and expects savings of over \$144,000 across the life of these investments.

NYSERDA's Assisted Multifamily Program provides a range of technical and financial incentives to low- and moderate-income multifamily residential properties for capital projects involving energy efficiency improvements. It provides owners of affordable housing with no-cost technical assistance, access to low-cost financing, and, in many cases, grants.

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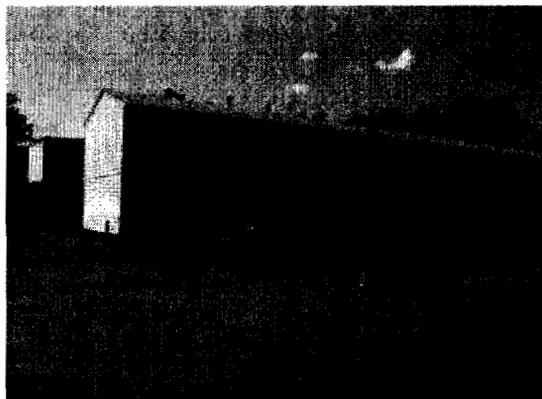
New York Energy Smart
Public Energy
Commission
George E. Pataki, Governor

Dated: February 2006

Assisted Multifamily Program

Elm Street Apartments

Syracuse, NY



"NYSERDA's Assisted Multifamily Program gave us the financial and technical assistance we needed to implement energy upgrades that will enable our tenants to spend less on utility bills and more on other items their families need."

- Sara Pascarella
Pascarella Development and Management

Elm Street Apartments	
Owner/Manager:	Sara Pascarella
Company:	Pascarella Development & Management
Number of Units:	54
Project Financing:	
AMP Contribution	\$27,381
Energy Smart Loan*	\$265,000
Owner Cash Contribution	\$732
Total Energy Efficiency Project Costs	\$293,113
Projected Energy Savings:	
Annual Gas Savings	1,599 MMBtu
Annual Electricity Savings	30,858 kWh
Total Annual Savings	\$16,600
Gross Lifetime Savings	\$351,753
Simple Payback:	17.4 years
Savings to Investment Ratio:	1.2

* The Energy Smart Loan Fund provides a 4% reduction of the interest rate for a loan term of up to 10 years. In this instance, the incentive would be almost \$44,000.

Note: Minimal fees for construction oversight and energy monitoring are not included in the calculations Simple Payback and Savings to Investment Ratio.

Elm Street Apartments Pinching Energy Pennies a Little Less

The Elm Street Apartments in Syracuse were abandoned and condemned until Pascarella Development & Management purchased the buildings in 1998. Since Pascarella acquired the property, the company has spent more than \$200,000 to rehabilitate the buildings into a fully rentable private housing development. The 54-unit complex, originally constructed in the early 1950s, includes three buildings, 317, 325 and 327 Elm Street. All of the units are affordable and tenants are responsible for utility payments.

Though they had already performed substantial renovations at Elm Street, the ownership sought technical and financial assistance from the New York State Energy Research and Development Authority's (NYSERDA's) Assisted Multifamily Program (AMP) to reduce energy consumption, save on energy costs for the building ownership and the property's tenants, and provide a healthier and more comfortable living environment for residents.

AMP engineers determined that Elm Street Apartments could save a substantial amount of money each year by improving the roof, adding insulation to attic areas and wall cavities, and re-siding the building in vinyl. Upgrades for exterior lighting and domestic water heaters for laundry equipment would help to reduce the property's operating budget. Engineers also recommended that the 20 oldest existing gas domestic water heaters for apartments be replaced with more efficient units, and that programmable thermostats be placed in every apartment. AMP provided a grant of more than \$27,000 to help Elm Street Apartments fund these measures, and installation was completed in October 2004. All told, these improvements are projected to save \$16,600 annually.

NYSERDA's AMP provides a range of technical and financial incentives to low- and moderate-income multifamily residential properties for capital projects involving energy efficiency improvements. It provides owners of affordable housing with free technical assistance, access to low-cost financing, and, in many cases, grants.



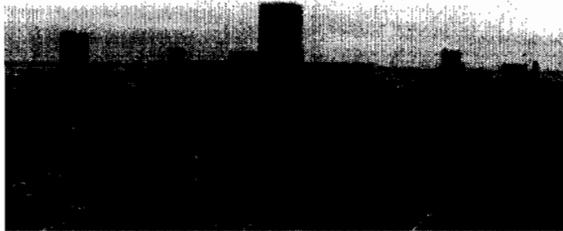
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Dated: June, 2005

Assisted Multifamily Program

Parkchester North Condominium



"Grenadier is very pleased to have participated with both NYSERDA and the Board of Managers of Parkchester North Condominium in securing these grant funds. Not only will these items complement the broader renovation undertaken by the condominium, but the energy efficiencies generated by them will continue to have significant cost savings for the condominium in the future."

- Barbara Tillman
Senior Vice President
Grenadier Realty Corp.

Parkchester North Condominium Architecturally Pleasing and Energy Efficient

Parkchester North Condominium is a 3,985-unit, 55-building complex in the Soundview area of the Bronx. Constructed more than 60 years ago, the Helmsley Organization converted the property to condominium ownership in 1972. Today, the complex is sponsored by the Parkchester Preservation Corp. and managed by Grenadier Realty Corp. For over 60 years, Parkchester has served as a model of affordable housing for working families in New York City.

When the property was ready to launch a major capital improvement initiative, Grenadier Realty, with the support of the Parkchester North Board of Managers, sought technical and financial assistance from NYSERDA's Assisted Multifamily Program (AMP) to reduce energy consumption, save on utility costs and provide a healthier and more comfortable living environment for residents.

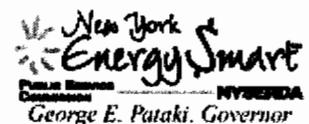
AMP engineers determined that Parkchester North could save a substantial amount of energy and money each year by improving heating and steam distribution systems, installing water-saving measures and replacing refrigerators with energy-efficient models. Lighting upgrades in the apartments, common and outdoor areas would also reduce the property's operating budget. AMP provided a grant of over \$4.7 million to help Parkchester North fund these measures. The complex is expected to save over \$24 million on energy costs over the life of these measures.

The grant was contingent upon the replacement of all of the complex's windows – 25,450 in total -- with energy-efficient models. To preserve the architectural character of the building, NYSERDA energy specialists worked closely with Parkchester North to select and install customized, energy-efficient, low-emission argon-filled double-pane casement windows.

NYSERDA's AMP provides a range of technical and financial incentives to low- and moderate-income multifamily residential properties for capital projects involving energy efficiency improvements. It provides owners of affordable housing with free technical assistance, access to low-cost financing, and, in many cases, grants.



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Parkchester North Condominium	
Management Company: Grenadier Realty Corp.	
Number of Units:	3,985
Project Financing:	
AMP Contribution	\$4,711,280
Community Preservation Corp. Loan*	\$10,101,192
Total Energy Efficiency Project Costs	\$14,812,472
Projected Energy Savings:	
Annual Gas Savings	54,796 MMBtu
Annual Electricity Savings	4,179,200 kWh
Total Annual Savings	\$1,488,560
Gross Lifetime Savings	\$25,352,224
Simple Payback:	9.9 years
Savings to Investment Ratio:	1.7
NYS Peak Demand Reduction	316 kW

* This figure represents the portion of a \$90 million CPC capital improvement loan dedicated to energy efficiency measures.

Note: Minimal fees for construction oversight and energy monitoring are not included in the calculations for Projected Gross Lifetime Savings, Simple Payback and Savings to Investment Ratio.

Assisted Multifamily Program

Rutland Road Houses

Brooklyn, NY



"We would like to thank NYSEDA and the Weatherization Assistance Program for their financial and technical assistance, which will help this property make major strides in energy efficiency. The savings in our operating expenditures will enable us to continue making property improvements without passing additional costs onto residents."

William R. Lucas
President

The Amistad Management Corporation

RUTLAND ROAD HOUSES	
Owner/Management: The Amistad Management Corporation	
Number of Units:	438
Project Financing:	
AMP Contribution	\$992,000
<u>Weatherization Assistance Program</u>	<u>\$1,261,000</u>
Total Energy Efficiency Project Costs	\$2,253,000
Projected Energy Savings:	
Annual Gas Savings	223 MMBtu
Annual Electricity Savings	1,334,017 kWh
Total Annual Savings	\$162,931
Gross Lifetime Savings	\$2,424,000
Simple Payback:	13.8 years
Savings to Investment Ratio:	1.08

Note: Minimal fees for construction oversight and energy monitoring are not included in the calculations for Projected Gross Lifetime Savings, Simple Payback and Savings to Investment Ratio.

RUTLAND ROAD HOUSES Saving Energy Dollars to Improve the Bottom Line

Home to approximately 1,900 residents, Rutland Road Houses is an affordable housing complex in Brooklyn's East Flatbush neighborhood. The property -- which was constructed about 25 years ago -- is owned by Rutland Road Associates, LP and managed by The Amistad Management Corporation. The five-building complex consists of 438 apartments ranging in size from one to four bedrooms.

In an era of steadily rising energy costs, utility bills place unusually intense pressure on property owners in economically disadvantaged communities. Facing increasing fuel costs despite limited economic resources, the building owners applied for technical and financial assistance from NYSEDA's Assisted Multifamily Program (AMP). AMP engineers visited Rutland Road Houses and performed a no-cost energy assessment, recommending a set of capital improvements to reduce energy consumption, reap future savings on utility costs, and provide a healthier and more comfortable living environment for its residents.

Rutland Road adopted these recommendations, installing 4,000 thermal, low-E argon windows in apartments and common areas, replacing refrigerators with energy-efficient models, improving insulation and upgrading lighting. Water conservation measures, including installation of low-flow showerheads and faucet aerators, will also save valuable energy dollars. Rutland Road also installed carbon monoxide detectors in each apartment and improved roof ventilation in order to better safeguard the health and safety of residents. AMP provided a grant of over \$992,000 for these upgrades. The U.S. Department of Energy's Weatherization Assistance Program, managed by the New York State Division of Housing and Community Renewal, contributed \$1.26 million. This unique public partnership allowed for Rutland Road to undertake an ambitious energy upgrade program without compounding the existing financial burdens that an affordable housing manager faces in a distressed community. AMP engineers estimate that these measures will save nearly \$163,000 annually and more than 1.3 million kilowatt hours per year.

NYSEDA's AMP provides a range of technical and financial incentives to income-eligible multifamily residential properties for capital projects involving energy efficiency improvements. It provides owners of affordable housing with no-cost technical assistance, access to low-cost financing, and, in many cases, grants.



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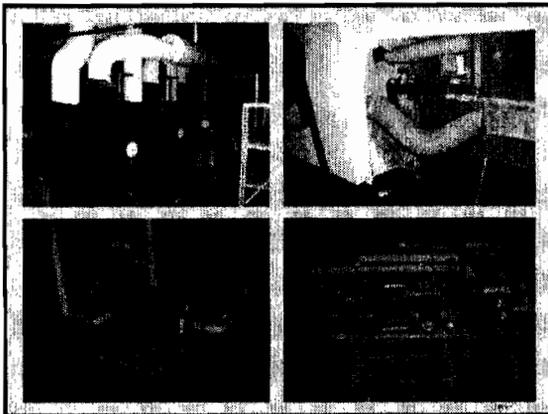


Dated: July, 2005

Assisted Multifamily Program

Union Free School Apartments

Camillus, NY



"For a relatively small investment, Union Free School Apartments was able to implement some critical energy savings measures and see real savings in their energy bills."

Richard Leigh, PE
Senior Engineer
Assisted Multifamily Program

Union Free School Apartments	
Property Ownership:	Union Free School Associates
Owner/Manager:	Charles Rock
Number of Units:	27
Project Financing:	
AMP Contribution	\$6,202
<u>Owner Contribution</u>	<u>\$7,016</u>
Total Project Costs	\$13,218
Observed Energy Savings:	
Annual Gas Savings	111 MMBtu
Annual Electricity Savings	150 kWh
Total Annual Savings	\$1,405
Projected Gross Lifetime Savings	\$14,943
Simple Payback (in years):	6.6 years
Savings to Investment Ratio	1.62

Note: \$4,000 in fees for construction oversight and energy monitoring are not included in the calculations for Projected Gross Lifetime Savings, Simple Payback and Savings to Investment Ratio.

Union Free School Apartments Reducing Energy Costs for Affordable Housing

Once a historic school, the 50-year old Union Free School was converted into an apartment complex in the early 1990s. Located in Camillus, NY, Union Free School Apartments is a three-story building that includes 27 apartments for seniors on limited incomes, as well as an office and laundry, electrical, mechanical and storage rooms. Two natural gas-fired boilers in the mechanical room provide heat to the building, sending hot water to radiators in the apartments and common areas.

The New York State Energy Research and Development Authority (NYSERDA) provided technical and financial assistance through the Assisted Multifamily Program (AMP) to help improve the energy efficiency of the building. Engineers contracted by AMP conducted an energy assessment in August 2001 and recommended insulation of pipes, replacement of pump motors, installation of weather stripping on doors, and boiler tuning to increase energy efficiency. AMP provided a grant of over \$6,000 to help Union Free School make the recommended improvements. The improvements were a success and proved very cost-effective to the owner. The building reduced fuel consumption by eight percent. Altogether, Union Free has saved \$1,405 in their first year of operation after implementing these measures.

NYSERDA's AMP program provides a range of technical and financial incentives to low- and moderate-income multifamily residential properties for capital projects involving energy efficiency improvements. It provides owners of affordable housing with free technical assistance, access to low-cost financing, and, in many cases, grants.

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Assisted Multifamily Program

Clemens Manor Apartments



"Even though we had completed a building rehabilitation, engineers from the Assisted Multifamily Program demonstrated to us that we could save money by making additional changes relating to our energy usage. These savings will help to improve our operating budget and help keep Clemens affordable for our residents."

- Donna Hall
Director of Operations & Legal Development
Providence Housing

Clemens Manor Apartments	
Management Company:	Providence Housing
Managing Agent:	Donna Hall
Number of Units:	30
Actual Financing:	
AMP Contribution	\$41,290
NYSEG Power Partners Grant	\$11,900
Owner Contribution	\$20,000
Total Project Costs	\$73,190
Observed Energy Savings:	
Annual Gas Savings	1,650 MMBtu
Annual Electricity Savings	22,130 kWh
Total Annual Savings	\$17,700
Gross Lifetime Savings	\$211,000
Simple Payback:	4.1 years
Savings to Investment Ratio:	2.94

Note: Minimal fees for construction oversight and energy monitoring are not included in the calculations for Projected Gross Lifetime Savings, Simple Payback and Savings to Investment Ratio.

Clemens Manor Apartments Building Energy Efficiency on a Strong Foundation

The Clemens Manor Apartments building is a former YMCA, originally constructed about 70 years ago. Located in Elmira, the building is home to 30 apartments, as well as offices on the first floor and a full utility basement.

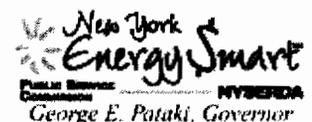
A total gut rehabilitation was recently completed, resulting in the replacement of doors, windows, insulation and surfaces, and the installation of new appliances and mechanical systems. With a strong foundation for energy conservation already established, the Clemens ownership decided to take their work one step further, seeking out technical and financial assistance from NYSERDA's Assisted Multifamily Program (AMP) to reduce energy consumption, save on utility costs and provide a healthier and more comfortable living environment for residents.

AMP engineers from Taitem Engineering determined that Clemens Manor could save a substantial amount of energy and money each year by modifying the ventilation system to reduce over-ventilation, installing lighting upgrades in apartments and common areas, and adding a boiler pump control to prevent unnecessary boiler pump operation. Additional measures, such as the weather-stripping windows and replacement of electric clothing dryers with more efficient gas models, also would help improve the property's operating budget. AMP provided a grant of over \$41,000 to help Clemens management fund the recommended measures. Observation of fuel and electric bills for a year before and a year after energy improvements showed that Clemens Manor saved \$17,700 in the first year following installation of these upgrades.

NYSERDA's AMP provides a range of technical and financial incentives to low- and moderate-income multifamily residential properties for capital projects involving energy efficiency improvements. It provides owners of affordable housing with technical assistance, access to low-cost financing, and, in many cases, grants.

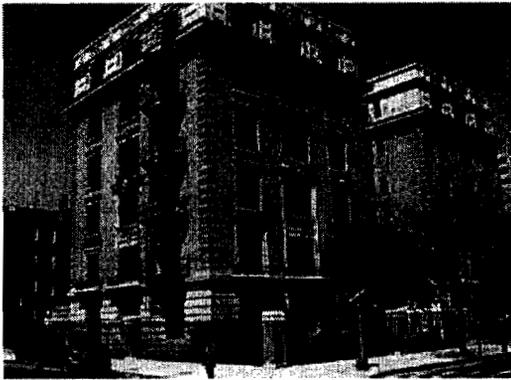


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Assisted Multifamily Program

Gateway Apartments



"Affordable housing is critical to our community. The creation of an energy efficient building is essential to PACC's ability to maintain the affordability of this property. We are grateful for NYSERDA's financial and technical assistance in this effort, and recognize the lasting value these energy investments will have for our residents."

- Deb Howard, Executive Director
Pratt Area Community Council

GATEWAY APARTMENTS	
Management Company:	Pratt Area Community Council
Managing Agent:	Deb Howard
Number of Units:	35
Actual Financing:	
AMP Contribution	\$54,767
Owner Contribution	\$161,753
Total Project Costs	\$216,520
Projected Energy Savings:	
Annual Gas Savings	1,200 MMBtu
Annual Electricity Savings	74,000 kWh
Demand Reduction	16.1 kW
Total Annual Savings	\$18,900
Gross Lifetime Savings	\$245,000
Simple Payback:	11.1 years
Savings to Investment Ratio:	1.15

GATEWAY APARTMENTS

Creating Value for Community Residents

Gateway Apartments is an affordable housing complex at 277 Gates Avenue in the Bedford-Stuyvesant neighborhood of Brooklyn, NY. Once foreclosed and nearly vacant, the 85-year-old terra cotta adorned residence was in need of extensive renovation. As part of an arrangement to purchase the property from the U.S. Department of Housing and Urban Development, Pratt Area Community Council (PACC) agreed to undertake significant rehabilitation to improve living conditions in the residence. The building now serves as a home to low- and moderate-income families.

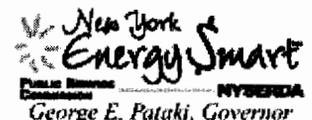
Engineers from the *Assisted Multifamily Program* evaluated Gateway Apartments to identify cost-effective energy upgrades, helping PACC to ensure that its investment in the rehabilitation could recognize a return in the form of greater energy savings. NYSERDA provided direct grant support to the construction, covering 25% of the total energy efficiency upgrade costs. With implementation of the recommended enhancements complete, Gateway is now setting new standards for energy efficiency in smaller-scale affordable apartment buildings. Collectively, tenants are expected to see a reduction in their energy bills of about \$3,000 annually. An additional \$18,900 annual savings will improve the operating budget and durability of the underlying financing.

Energy efficiency upgrades included the replacement of 290 apartment windows with thermal break, argon-filled, low-e windows—among the most energy-efficient available. Common areas now feature bi-level lighting with motion sensors and highly efficient compact fluorescent bulbs. The roof cavity received 16 inches of blown-in cellulose, doubling its insulation value. The building's new sealed-combustion gas boiler exceeds Energy Code requirements by more than 10%. An energy management system installed in the boiler room will use temperature sensors placed in apartments to monitor and ensure consistent heating across the apartment units. Further savings of energy and water will come from low-flow showerheads and ENERGY STAR® lighting and refrigerators installed in every apartment. Hardwired smoke/carbon monoxide detectors will increase the safety of tenants and ensure compliance with the new code requirement.

Gateway Apartments will now be able to offer its residents an improved quality of life and significant savings on their monthly utility expenditures. "When I first came into the building, everything was really run down," said resident Sandra Gallman, who lives at the property with her daughter and grandson. "Now everything seems to work better."



For more information about the New York Energy SmartSM Assisted Multifamily Program, please call (212) 977-5597, extension 237, or visit www.GetEnergySmart.org



SECTION X - Single Family Programs

In the single family homes market (one to four units), NYSERDA has implemented two major programs, one for new and one for existing buildings. These Programs have achieved great success in the major markets of upstate New York. The New York ENERGY STAR Labeled Homes (NYESLH) Program, for new homes, has built over 8,500 homes to date, and the Home Performance with ENERGY STAR (HPwES) Program, for existing homes, has completed energy efficiency improvements in nearly 15,000 homes to date. Both of these programs have an “assisted” component with additional incentives to help facilitate low income homeowner participation.

The emphasis of the programs has been on the development of a robust energy efficiency service infrastructure balanced with an aggressive consumer awareness and marketing effort. Training, certification and vibrant quality assurance systems ensure the best services occur. NYSERDA launched these programs systematically across the state, starting in upstate areas in 2001, and expanding to New York City this year.

The effort in New York City has been focused on the outer boroughs, where the majority of the housing stock is more single family than multifamily. The first step to addressing the low-rise residential housing stock, which is so prevalent in the Con Edison Gas territory, is the development of technical standards and best practices. To best service these buildings, a knowledgeable Contractor and Builder infrastructure is necessary and is on the brink of becoming established. Due to the building stock, many New York City areas where the programs are growing have been in the Keyspan Gas service area. As such, single family homes program participation in the Con Edison Gas territory has not yet started in earnest. Between now and the end of the Pilot program in September of 2007, NYSERDA will concentrate marketing efforts in Westchester County and the Bronx to serve 400 new and existing homes serviced by Con Edison Gas.

The current SBC programs for single family homes in the rest of New York have shown that an all fuels approach to energy efficiency results in significant gas and bill savings for homeowners. NYSERDA staff and evaluation contractors have conducted numerous analyses of the NYESLH and HPwES programs through annual New York Energy \$martSM Program (SBC) Evaluation Reports to determine both gas and electricity efficiency savings.

As stated earlier, the HPwES program has achieved great success in the upstate markets. Evaluation activities through December 31, 2006 have shown that statewide the HPwES program saves 5,568,550 therms and 12,717,839 kWh per year. This equals a reduction of \$8.1 million every year on their utility bills, and they will continue to save for years to come. On average, single family homes that are serviced by through the HPwES program save 967 kWh per year and 412 therms per year. Based on average energy costs across the state, the average single family home owner who participates in the HPwES Program saves \$713.38. Considering an average work scope of \$7,351 and an average life span of improvements of 15 years, the HPwES

Program as a whole realizes an SIR of 1.46. Energy costs in the New York City area are noticeably higher than the rest of the state, thus home owners will see an even quicker return on investment for energy efficiency related improvements. Savings figures for low income customers are even more dramatic because of an SIR requirement for work scope approval and the inherent fact that their houses are typically in a greater need of services. Con Edison gas customers can expect to realize as great or greater savings from the HPwES Program.

The New York ENERGY STAR Labeled Homes Program has also undergone numerous evaluation activities. As of December 31, 2006, the NYESLH Program has been shown to save 3,779,510 therms and 7,630,461 kWh per year statewide. Converting to dollars, NYESLH homeowners save nearly \$5.4 million on their utility bills per year, and will continue to do so for years to come. The latest round of evaluation activities have shown the average NYESLH that uses natural gas for space of DHW heating saves its owner 589.6 therms per year. This same home also saves its owners 891 kWh per year from high efficiency appliances and lighting. Overall, these homes save their owners an average of \$601.19 per year. Considering an average life of 15 years and an average incremental cost of \$4,757, the NYESLH buyer realizes an SIR of 1.86. Many homes in New York continue to use oil as its heating source. Oil fired furnaces and boilers are inherently less efficient than natural gas fueled equipment, which helps soften statewide savings figures. In the Con Edison Gas territory, increased savings from high efficiency natural gas equipment will occur and savings will be even more dramatic.

NYSERDA has some exciting NYESLH Program activities committed in the Con Edison Gas territory. The projects include:

Stebbins Bristow, Blue Sea Construction Company, Bronx, NY

7 Two-Family Low Income Buildings
21 Three-Family Low Income Buildings

Powell Cove Estates, AVR Realty New Construction Project, College Point, Queens, NY

21 Duplexes
53 Triplexes

Habitat for Humanity – Yonkers, NY

12 Low Income Duplexes

Sleepy Hollow Westchester, NY

44 Townhouses

Combined, these projects total 158 buildings which will house 346 families. It is estimated that they will save upwards of 110,000 therms per year.

Both the Home Performance with ENERGY STAR and New York ENERGY STAR Labeled Homes Programs would see a substantial increase in therm savings if a gas SBC was initiated. Currently, our Programs are funded from an electric SBC. As a result, the minimum standards of eligible equipment specified in the Programs have been based on achieving maximum electric

savings. However, should a gas SBC commence, NYSERDA will be able to specify the highest available gas efficiency equipment on the market. This will result in increased overall savings and ultimately a higher return on investment for energy efficiency improvements to both homeowners, and the programs. Significant efforts are currently underway to establish an expert HPwES contractor and NYESLH Builder infrastructure, in conjunction with marketing to homeowners in the Con Edison Gas service territories.

SECTION XI - Residential Outreach and Marketing

The gas pilot budget included \$200,000 for marketing in the residential program. To date, \$98,039 has been spent on marketing, with the remainder to be spent over the next two months. The following is a summary of the marketing efforts to date.

A contract under the New York Energy Smart Communities program to promote the first phase of the Pilot to non-interruptible gas customers, including multifamily buildings and single-family homes through marketing and outreach activities, was executed by Bob Lawrence and Associates' Kingston office team of Pat Courtney, Jessica Barry and Charlene L. LaDay-Hill during the summer of 2006. The team accomplished all required tasks between May 31 and August 31, 2006. They undertook outreach activities such as speaking engagements at seminars and meetings, in addition to creating and distributing an online newsletters and partnering with community-based groups to reach members and clients. In particular they targeted architects, engineers, developers, building owners and managers, homeowners, renters, etc. and made them aware of the incentives available through the program.

They provided customers with referrals to program contractors, and assisted them in obtaining program applications as needed. They also referred interested HVAC contractors to appropriate program entry points to become partners in delivering program services. In addition, they worked in conjunction with the New York City Energy Smart Communities partnerships to deliver these services in their regions as well as to Con Edison gas service customers. Their outreach efforts helped bring customers in the Con Edison territory into existing programs such as:

1. ResTech
2. Assisted Multifamily Program (AMP)
3. Home Performance with ENERGY STAR®
4. Assisted Home Performance with ENERGY STAR and
5. New York ENERGY STAR Labeled Homes.

The following are dates and tasks accomplished during the contract period:

May 24th Jessica Barry spoke at the Superintendents' Technical Association's (STA) Bronx Chapter meeting held at Hostos Community College in the Bronx to promote the Pilot. There were 20 attendees. The STA is an organization whose members are multifamily building managers.

Produced June's Online Newsletter approved by NYSERDA. It was distributed to more than 1,250 contacts. The primary focus of the issue was the Pilot. Two case studies highlighting related programs, such as the Assisted MultiFamily Program (AMP) and the New York Energy Smart Loan Fund, were mentioned in this issue. Also detailed information about the NYSERDA programs as they relate to gas efficiency were addressed.

Jessica Barry submitted a radio/cable access plan was submitted to NYSERDA for approval in early June.

June 16th Pat Courtney attended the Westchester County government's monthly Conservation Café featuring "Cleaner Air & Lower Energy Cost" Breakfast at Westchester County Center in White Plains. She addressed a group of about 20 attendees and informed them about the Pilot.

June 17th Pat Courtney spoke to the board of directors at the Chapel Hill Lifestyle Center in Peekskill about the Pilot. The attendees were concerned with rising gas prices and other energy costs at their homeowner association's health club.

June 19th Jessica Barry addressed a group of 50 attendees at the Builders' Institute of Westchester's COOP Condo Meeting in White Plains. Jessica spoke about the Pilot to the group of board and staff cooperatives members.

June 20th Charlene LaDay-Hill attended the Bronx's Chamber of Commerce's Business Expo. Charlene maintained a booth and promoted the Pilot. She answered questions from the attendees as well as create future networking opportunities. This event attracted more than 200 people. Some groups represented included NYSERDA contractors, multifamily building managers, residential developers, etc.

July 31st Jessica Barry spoke at the Urban Agenda meeting about the Pilot. The Urban Agenda tackles public policy issues particularly in the area of public housing. Jessica said that the attendees were excited about the information and will promote the program to multifamily housing decision makers.

Produced July's Online Newsletter approved by NYSERDA. It was distributed to more than 1,300 contacts. The primary focus of the issue was the Pilot. Detailed information about the NYSERDA programs as they relate to gas efficiency was also provided. The 2006 Multifamily Building Conference was featured. This edition promoted Bob Lawrence & Associates' Aug. 23rd Housing Authority Seminar entitled "Energy Efficiency In An Era Of Skyrocketing Costs: Is Your Housing Authority Ready? Copies of the newsletter were emailed to key NYSERDA contacts: Karen Villeneuve, Lori Clark and Ryan Moore.

In August, Jessica Barry produced three energy shows for cable access. Mini-D.S., V'S and Beta-SP tapes were submitted to the following cable access stations:

- Manhattan Neighbourhood Network

- Bronx Net TV
- Pleasantville Community TV
- Larchmont-Mamaroneck Community TV
- Rye Community TV
- New Castle Community TV
- Greater Ossining TV

Show 1:

Steve Eber from Keyspan Energy Services Company gave a presentation about natural gas efficiency in multi-family buildings. He talked about what to do first (how to get the low-hanging fruit) in terms of making energy improvements to a building. Steve's presentation was followed by a discussion about NYSERDA's programs. Pat Courtney, coordinator, Mid-Hudson Energy Smart, and Whitney Boyer, building manager, discuss the impact of rising energy prices and how to access NYSERDA's resources, including Smart Equipment Choices, the Energy Smart Loan Fund, ResTech, and Assisted Multifamily Program.

Show 2:

Asit Patel, Senior Energy Engineer from the Association for Energy Affordability, demonstrated how to test a boiler for steady-state combustion efficiency. Simple, yet invaluable information was given on how a building owner, superintendent, or manager, can choose a contractor that will service and test the efficiency of a heating system in a way that will keep a boiler running at optimum efficiency, keep energy costs down significantly, and extend the life of the heating system. The information provided can be applied to any residential building, from a single-family home to a large multi-family building complex. The demonstration was followed by a discussion on NYSERDA's programs for multi-family buildings. Jessica Barry from New York Energy Smart Communities, and Nikki Coddington, Energy Conservation Coordinator for the Town of Greenburgh, discuss ResTech, Assisted Multifamily Program, Smart Equipment Choices, the Energy Smart Loan Fund, Submetering, Building Manager trainings, as well as give examples of simple energy-saving improvements.

Show 3:

Andy Padian, Director of the Multifamily Division of Steven Winter Associates, gave a presentation to the Superintendents Technical Association on low to no-cost solutions to reducing energy use by at least 20 percent. The show captured a segment that is part of a larger training series offered by SWA called the "Ten Big Management Mistakes." Andy's presentation was followed by a discussion on NYSERDA's programs for multi-family buildings. Jessica Barry from Mid-Hudson Energy Smart, and Nikki Coddington, Energy Conservation Coordinator for the Town of Greenburgh, discuss ResTech, Assisted Multifamily Program, Smart Equipment Choices, the Energy Smart Loan Fund, Submetering, Building Manager trainings, and give examples of simple energy-saving improvements.

Pat Courtney on Tuesday, August 29, met with a group representing the boards of directors of

approximately 18 co-ops and condos in four New York City boroughs. Most were members of the Council of New York Cooperatives and Condominiums, an organization of about 1200 members located at 250 W. 57th Street. Of this group, just one person already was pursuing a ResTech application for her co-op. Another said her co-op had obtained an Energy Smart Loan last year. The rest knew a bit about NYSERDA, and all were very receptive to the information about the ConEd gas efficiency program, ResTech, the Energy Smart Loan Fund and Smart Equipment Choices. Not surprisingly, they were also very interested in the PV program. At the end of the evening, the executive director, Mary Ann Rothman, invited Pat to speak at their 26th annual housing conference, November 12, at Baruch College. She had planned a panel discussion on energy-efficiency and wanted Pat to be one of the three panelists.

Charlene LaDay-Hill distributed the August Online newsletter, with NYSERDA approval, to over 1,300 contacts. This edition covered the Aug. 23rd Housing Authority Seminar entitled "Energy Efficiency In An Era Of Skyrocketing Costs: Is Your Housing Authority Ready?" and promoted the three energy shows that Jessica Barry produced. Copies of the newsletter were emailed to key NYSERDA contacts: Karen Villeneuve, Lori Clark and Ryan Moore.

The seminar, "Energy Efficiency In An Era of Skyrocketing Costs: Is Your Housing Authority Ready?" was held Wednesday, Aug. 23rd from 9 a.m. to 3 p.m. in White Plains, NY. The seminar attracted a diverse range of large and small public housing authorities. The event was sponsored by the New York State Energy Research and Development Authority (NYSERDA), the White Plains Public Housing Authority, the U.S. Department of Housing and Urban Development (HUD) and Mid-Hudson Energy Smart Communities, a NYSERDA community outreach program. More than 35 attendees heard in the morning from Ken O'Connor of HUD's Buffalo office, on ways to tap into the federal agency's funds to promote energy efficiency. Afternoon speakers included representatives from four energy service companies--AMERESCO, NORESKO, Siemens, and Water & Energy Corporation--who presented case studies on their successful efforts to help housing authorities trim their electric, heating and cooling bills.

The following housing authorities were represented: Yonkers, White Plains, Kingston, Monticello, New Rochelle, New York City, Port Jervis, Spring Valley, Ramapo, and Greenburgh

Additional Services Provided

June 15th Jessica Barry attended a Quarterly Contractor's Meeting held at the NYSERDA office in New York City. Jessica explained the Pilot to other NYSERDA contractors and organizational representatives in the multifamily building industry. Jessica also used the meeting opportunity to retrieve information about future events for promotion of the Pilot.

Pat Courtney and Jessica Barry attended the MultiFamily Buildings Conference on June 26th and 27th at the New Yorker Hotel. Jessica videotaped the event for future cable access and radio promotions. Pat created future networking opportunities and helped staff the NYSERDA booth. Pat was able to answer questions from attendees regarding the Pilot, and began a dialogue with the New Rochelle Housing Authority concerning their next steps with NYSERDA's AMP program.

Charlene attended the Rockland County Community Business Week events held July 24th, 26th, 28th in Stony Point, Montebello and New York City. Although this county is not in Con Ed territory, Charlene met many Westchester county and New York City attendees who live in Con Ed territory and were very interested in the Pilot. Charlene gave those specific attendees information about the program.

Newsletter Article: September Issue of "Super!" This article placement ran in the Superintendents Technical Association's newsletter in the Bronx and Manhattan. It is a follow up to Jessica Barry's presentation to this group.

Pat Courtney assisted Dean Zias with a presentation at the 1st Annual Green Building Conference held Friday, August 18th from 9 a.m. to 2 p.m. at Iona College, Spellman Hall, in New Rochelle, NY, at which she outlined the Pilot. The event was sponsored by Westchester County Habitat for Humanity.

SECTION XII - Estimated Natural Gas Savings for a \$6.5 Million Gas Efficiency Program

The Gas Potential Study investigated the gas savings and impacts of a \$15 million per year gas efficiency program for the Con Edison Utility Territory. Some have suggested that a \$6.5 million program would also be appropriate, however would provide smaller gas savings. PSC staff asked NYSERDA to re-analyze the gas potential savings of a scaled back program funded at the \$6.5 million per year program.

The tables that follow presents the estimated natural gas savings that may be expected to result from a \$6.5 million five-year natural gas efficiency program operated by Con Edison. The estimated savings for a program of this size was derived by NYSERDA and Optimal Energy, Inc. based on the March 9, 2006, *Natural Gas Energy Efficiency Resource Development Potential in Con Edison Service Area* study prepared by Optimal Energy Inc. under contract to NYSERDA. The second table that follows reflects the estimated savings determined by the study for a \$15 million per year five-year program.

**Estimated Annual Natural Gas Savings by Program
in the Con Edison Service Area
Assuming \$6.5 Million/Year for 5 Years**

Incremental Annual	Average Annual Funding (2005\$ Million/yr)	Annual (MDth/yr)												
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
Residential New Construction	\$1.0	6	13	21	25	30	14	14	14	15	16			
Small Heating and DHW	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Home Performance With Energy Star	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Low Income Weatherization	\$1.4	12	12	12	12	12	--	--	--	--	--	--	--	--
C&I New Construction and Planned Replacement in Existing Construction*	\$4.1	18	30	47	61	79	27	31	34	38	42			
C&I Existing Construction	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Food Service and Processing	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total Programs	\$6.5	36	55	80	98	121	41	45	48	53	58			
Cumulative Annual	5-Year Funding (2005\$ Million)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016			
Residential New Construction	\$5.0	6	19	40	65	95	108	112	136	151	166			
Small Heating and DHW	--	--	--	--	--	--	--	--	--	--	--			
Home Performance With Energy Star	--	--	--	--	--	--	--	--	--	--	--			
Low Income Weatherization	\$7.0	12	22	34	45	56	56	56	56	56	56			
C&I New Construction and Planned Replacement in Existing Construction*	\$20.6	18	48	90	144	212	227	242	269	296	327			
C&I Existing Construction	--	--	--	--	--	--	--	--	--	--	--			
Food Service and Processing	--	--	--	--	--	--	--	--	--	--	--			
Total Programs	\$32.6	36	89	164	254	363	391	410	461	503	549			

* These values should be considered very rough estimates. These values are based on prorating savings from original study. A detailed analysis would be necessary to have a higher confidence in the values. Savings estimated by increasing the original C&I New Construction values by 36% of the original C&I Existing Construction Program (\$6.5-(\$1+\$1.4+\$2.3) = \$1.8, \$1.8+\$2.3 = \$4.1, \$1.8/\$2.3 = 78%) to reflect that portion of possible planned replacement opportunities from Existing C&I Construction.

**Estimated Annual Natural Gas Savings by Program
in the Con Edison Service Area
Assuming \$15 Million/Year for 5 Years**

Incremental Annual	Average Annual Funding (2005\$, Million/Yr)	Annual (Mcf/yr)									
		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Residential New Construction	\$1.0	6	13	21	25	30	13	14	14	15	16
Small Heating and DHW	\$3.3	22	40	51	61	71	34	35	36	37	38
Home Performance With Energy Star	\$1.2	7	14	21	24	26	26	26	26	26	26
Low Income Weatherization	\$1.4	12	12	12	12	12	--	--	--	--	--
C&I New Construction	\$2.3	6	11	18	25	32	14	16	18	20	22
C&I Existing Construction	\$5.1	32	52	81	100	130	36	41	45	49	54
Food Service and Processing	\$0.7	3	5	8	11	15	7	8	8	9	9
Total Programs	\$15.0	86	147	212	259	314	130	138	147	155	165
Cumulative Annual		5-Year Funding (2005\$, Million)									
Residential New Construction	\$5.0	6	19	40	65	95	108	122	136	151	166
Small Heating and DHW	\$16.7	22	62	113	175	245	280	315	351	388	425
Home Performance With Energy Star	\$6.0	7	20	42	66	92	117	143	168	194	220
Low Income Weatherization	\$6.9	11	22	34	45	56	56	56	56	56	56
C&I New Construction	\$11.4	6	17	35	59	91	104	119	136	154	175
C&I Existing Construction	\$25.3	32	84	151	234	334	338	339	365	391	418
Food Service and Processing	\$3.6	3	8	15	27	41	48	56	65	71	76
Total Programs	\$75.0	86	232	430	671	954	1,051	1,150	1,277	1,405	1,536

Certain changes to the portfolio of efficiency programs were necessary to in order to derive an estimate of savings from the smaller program. Some programs that were initially part of the larger \$15 million per year program, were eliminated all together, as some programs cannot be expected to deliver any real savings without sufficient size and scope, which requires having an adequate budget. For example, the Small Heating and Domestic Hot Water program, Home Performance with Energy Star program, and the Food Service and Processing programs each require a minimum level of funding to be effective. Since the initial study assumed these programs were funded close to the minimum level required, any reduction in funding would render them ineffective, and for the requested reduced funding purpose they have been eliminated. The Residential New Construction program and the Low Income program average annual funding level of \$1.0M/year and \$1.4M/year, respectively, are assumed to continue with the lower funding amount, and consequently the associated estimated natural gas savings have not changed.

However, to effectively apportion the available funding for C&I, the C&I New Construction program and the C&I Existing Construction program were merged to form a C&I New Construction and Planned Replacement in Existing Construction program at a combined average annual funding level of \$4.1M/year. The initial study assumed an average annual funding of \$2.3M/ year for C&I New Construction and \$5.1/year for C&I Existing Construction. The combined program should focus efforts on incremental improvements to minimize lost opportunities for natural gas savings. For example, if a new building installs insulation at the time of construction with a lower level of efficiency, then it would be a lost opportunity to upgrade that insulation to a higher efficiency since the cost to upgrade at a later date would likely be prohibitive. Additionally, if an existing building's boiler breaks and must be replaced, it would be a lost opportunity if the owner selected a less efficient boiler, rather than installing a higher efficient boiler.

The proposed programs, at \$6.5 million/year funding, address all sectors, industrial, commercial, and residential, including low-income. Alternatively one could select the programs with the highest benefit cost ratio or the programs with the largest overall savings. However, all sectors may not benefit from such a structure. It should be noted that the \$6.5M/year funding is 43% of the original \$15M/year funding, but only 36% of the original savings. One of the reasons contributing to this disproportionate savings is that the Low Income Program accounts for a higher percentage of the total funding.

SECTION XIII - Conclusions

The Pilot program and the Study demonstrate that an efficiency program can deliver significant cost-effective natural gas savings, with an economic potential of 26% of forecasted sales in 2016. The potential savings of a gas efficiency program at a funding level of \$15 million/year for five years is 1.3% of forecasted sales by 2016. Additional funding would be required to realize natural gas savings beyond the program potential. Natural gas savings may still be realized at a lower funding level of \$6.5 million/year for five years, however at reduced savings at 0.5% of forecasted sales by 2016.

**Speech by New York Lieutenant Governor David A. Paterson
Delivered at the Energy Association Breakfast
January 17, 2007**

Introduction

Ladies and gentlemen, it is a well known truth that those who don't adapt perish. And New York and our nation face two immediate and inseparable challenges as we contemplate our future – an energy policy fiasco and an environmental policy quandary. New York must be at the forefront of addressing both. We have to rethink our state and national energy policies, because our current energy sources are increasingly expensive, limited, and unsustainable.

As stated repeatedly during our campaign, Governor Spitzer and I have three overall objectives in energy policy. One, we want to dramatically accelerate and increase the development of energy infrastructure to meet the challenges ahead. It includes four key elements: increasing the efficiency of how New Yorkers use electricity, building more renewable generation, re-powering old fossil power plants, and building new clean power plants. Two, we want to drive down the cost of electric service to New Yorkers throughout the State. And three, we want to be good environmental stewards.

The Governor has asked me to take the lead on one of the key elements, building much more renewable generation. We aspire to meet and exceed the earlier goal of renewable generation, providing a quarter of our electricity within six years. To satisfy this ambition, all our energy sectors must pitch in: renewable developers, state authorities; and let's not forget the regulated utility sector.

And I have good news for you: Renewable generation will be a rapid-growth and profitable business in New York. It also requires an increase and modernization in New York's transmission and distribution network which will be another rapid-growth and profitable business. If New York is going to move forward, we must provide a reliable infrastructure that can meet the increase in demand from its citizens and increase our economy.

To accomplish this, we have to change our attitude about energy. Energy is no longer a commodity; today, energy is currency. For every new car that's developed, every new bridge that's built, and every new medical procedure that's invented, we have to ask not what it will cost but how much energy it will take to create and maintain it. As energy prices go up, and they will keep going up, we must accept that the old ways of living and doing business aren't sustainable fiscally, environmentally nor energetically.

So, we must make two fundamental adjustments. First, we must immediately reduce New York's energy consumption by conserving energy, which will cut our costs, our dependence on foreign energy sources, and environmental damage. Second, conservation will buy us time to invest in and develop reliable domestic sources of renewable energy such as wind, solar, hydropower, and fuel cells. This will reinvigorate our Research & Development community, our economy, and our foreign policy. Renewable energy is a realistic solution to America's long-term energy needs. The basic technology already exists – it just needs to be developed. And investing in our scientific research institutions will help them solve this challenge, maintain America's advantage in this critical area of technology, and maintain our scientific research dominance over the rest of the world. And they are a critical part of the Spitzer-Paterson energy plan.

"Conserve Today, Renew and Build Tomorrow"

Last May I delivered a speech before the Association for Energy Affordability, in which I summed up our energy plan in four words: conserve today, renew tomorrow. I would like to amend these to say “conserve today, renew and build tomorrow”. We have to stop throwing good power after bad. We will start with energy conservation and efficiency, because it can provide immediate benefits. And that will earn us the time to accelerate the development of domestic renewable energy sources that are the real long-term solutions. We can't wait any longer. But we must also be honest about the present limitations of renewable energy. Today, renewable energy sources can only provide some of the power New York demands. The technology must be developed further if renewable energy is going to be our ultimate solution and we must also look at building and expanding clean energy infrastructure as quickly as possible and I mean all aspects – generation, transmission and distribution. We need to drive down the cost of energy to all New Yorkers, and in doing so, be a good environmental steward.

The Conservation Program

A strong conservation and efficiency policy with incentives will earn us the time to accelerate the development of domestic renewable energy sources, a critical part of the long-term approach to addressing our energy needs.

Conservation is also the best way for New York to achieve immediate results. However, conservation does not mean privation or austerity. It means reducing costs by maximizing efficiency. We want New York businesses to raise their profits by cutting their energy costs, not cutting back their business. We want New York's families to reduce their utility bills, not reduce their way of life. Conservation works and makes good business sense, because saving energy means saving money.

Big business has already saved billions of dollars through energy conservation. General Electric recently vowed to raise its stock price by increasing its energy efficiency 30 percent by 2012. Over the past decade, chemical giant DuPont has saved nearly \$2 billion by cutting its energy use by 7 percent, while simultaneously raising its production nearly 30 percent. And in 2001 oil giant BP saved \$650 million by reducing its energy bills over ten years. New York State needs to recognize what major companies already know – conserving energy is good business.

If energy conservation helps big business save billions of dollars, then it can help New York families lower their expenses at home. The average American family spends some \$1,500 on utility bills, which can potentially be reduced by 10-90 percent by making manageable adjustments to the house.

Finally, when it comes to conservation, New York State government must get its own house in order. We need to do a complete audit of State energy usage, and put in objectives to reduce energy consumption by at least 33% by 2020 and make New York the most efficient user of energy in the nation.

The Renewable Energy Program

When it comes to developing renewable energy, the precursor to discovery is the journey to discovery. To some, this commitment to renewable energy may sound visionary, to others, like a pie in the sky. But government must be able to reach beyond the immediate needs of its citizens and plan for the future. For thirty years we have waited for the market to solve this energy problem. We can't wait any longer. It's time for New York's government to have some vision, to lay the foundation for tomorrow's solution. But New York already has a real head start. Renewable energy already provides nearly 20 percent of New York's total energy usage, compared to 6 percent nationwide. And New York is fertile ground for further innovation in this area. Many of New York's universities are pursuing cutting-edge energy research, there

are 170 renewable energy companies in New York, and our agricultural sector can contribute greatly to this process.

The long-term benefits of renewable energy are clear – it could liberate New York from its dependence on fossil fuels, reduce our greenhouse gas emissions, create high-skill high wage jobs for New Yorkers, stimulate in-state investment, and raise tax revenues. But we can't guarantee how successful our investments in renewable energy will be or how fast we can develop these technologies. We know where we want to go, and we have a real head start, but we don't know how precisely to get there or how long it will take. However, that is the risk of vision – having to pay the price of the journey before you arrive at your destination.

Our plan includes the following proposals for renewable energy as it relates to electricity:

We propose to increase renewable energy's complementary role in New York's power grid. Solar and wind power will be an important part of this effort. We must encourage installing solar panels on large commercial ventures, in public housing, and in schools. Streamlining the state approval process and make it easier for new wind farms to connect to the electricity grid will be an essential part of our efforts.

We propose to strengthen energy efficiency standards for buildings and promote green buildings statewide. Buildings consume nearly a third of America's energy nationwide, so reducing this demand in the construction or renovation stage could bring real rewards. We should consider requiring the school construction authority to use the best available technologies for energy-efficient buildings. We will also expand net metering laws, which allow ratepayers to sell back to the utilities excess power they generate from renewable energy.

Meeting these goals will take collaborative effort on everyone's part. This is where we ask for your help. Your contribution and participation as we move forward will be vital to ensuring the integrity of our state's energy system. Working together, we can meet the energy challenges facing New York, increase the state's renewable energy capacity while simultaneously fostering economic development and protecting the environment in our state.

Conclusion

It's time for some vision in our energy policy. It's like looking at a child and seeing the adult she will become. That's why you send kids to school and that's why you put money in the bank.

Eliot Spitzer and I are committed to making energy conservation and renewable energy essential aspects of New York's energy policy. We choose this path because we recognize that our current energy policies are unrealistic and unsustainable, and by setting this new course, we will create new jobs, new technologies, and a new ethos for New York.

In recent times, honesty has been conspicuously lacking in our leaders. Eliot and I aren't simply focused on presenting an energy plan; we want to present honesty as a government policy. One that will make our state thrive in the future. Shakespeare taught us that "No legacy is so rich as honesty" and so I end with this – we hope to be remembered for our successes but we plan to be memorable for our honesty.

Thank you very much.

COLLABORATIVE GOALS AND OBJECTIVES

The collaborative of interested parties should:

- Examine pilot program cost effectiveness.
- Recommend program structure and design, and who should administer the program, as well as customer allocations (% of program dollars allocated to low-income, commercial, residential).
- Recommend funding level, accountability, and reporting requirements.
- Consider appropriate level of administration fees, and anticipated efficiencies to be gained as program funding levels are increased.
- Method for measuring and accounting for lost revenues, if at all.
- Determine methods for evaluating program success.
- Address to the extent necessary, other issues or changes resulting from the Commission's investigation of any gas energy efficiency programs (i.e., state-wide, or Con Edison specific).

Pilot Study Evaluation Report

NYSERDA shall be required to file with the Commission, and provide copies to the natural gas collaborative, a comprehensive and creditable evaluation of the Con Edison Natural Gas Energy Efficiency Program. The report is to be filed with the Secretary of the Commission no later than January 30, 2008. At a minimum, the report should provide:

- A summary of the program offerings
- An overview of the evaluation process
- Program statistics (i.e., number of participants by program area, number and type of measures installed)
- Program costs (at a minimum, include a breakdown of NYSERDA and participants costs, overhead expenses)
- Energy savings (include energy savings beyond natural gas)
 - Review of the techniques used to measure and verify energy saving impacts
 - Review of the methods for providing adjustments to estimate net energy savings (i.e., gross energy savings adjusted to reflect any potential impact from factors such as free riders and spillover)
 - Electricity savings expressed as annualized system coincident peak KW reduction and kWh savings
 - Natural gas savings expressed in dekatherms, both peak day and annualized
- A cost/benefit analysis using the Total Resource Cost test (TRC)
- A review of environmental and societal benefits (to the extent quantifiable)
- A review and assessment of program implementation
- An analysis of the degree of success of the program in meeting its goals and objectives
- Lessons learned for future program improvement