

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

**Program Name:** Residential: Lost Opportunity – ENERGY STAR Homes

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Customers and trade allies involved in construction of single-and multi-family homes (under four stores)

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$15.5 million	\$1.8 million	5,407 MWh	1,128 MWh	1.6 MW	0.3 MW	3.39

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** This program encourages the construction of energy efficient homes by establishing ENERGY STAR® Homes building performance standards for energy consumption and efficiency.

This regional fuel-blind utility initiative was developed in 1998 to help home builders, large-scale developers, and buyers design and construct homes that use up to 30% less energy than homes built to Model Energy Code standards.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 516 customers participated in 2006.

This program encourages energy efficient building shell measures and mechanical measures in new residential construction. It targets all end uses including appliances, heating, cooling, water heating equipment and lighting. In partnership with the Massachusetts Technology Collaborative (“MTC”), the Company also incorporates renewable technologies such as solar water heating and photovoltaics into the program’s measure mix where practical.

Builders and developers are offered incentives up to \$2,000 per home based on the final efficiency of the home, and whether the builder chooses certification based on a performance path using a Home Energy Rating (HERS), Building Operator Prescriptive approach, or a Codes Plus approach.

In addition, the value added services offered as a component of the program are blower door testing and the direct installation of CFL bulbs, regardless of performance path. Further, rebates for ENERGY STAR rated central air conditioners and heat pumps specified in accordance with the ENERGY STAR® HVAC program guidelines, HVAC Quality Installation Verification, and duct sealing are offered and accounted for within this program’s incentive portfolio.

The program is administered by National Grid within its service territory and coordinated regionally through the Joint Management Committee. The delivery mechanisms of the program (administration, marketing, and builder outreach) are competitively bid.

**Barriers, challenges, gaps:**

The current economic and sub-prime mortgage issues have dramatically affected new construction in this region. Most homes being completed at this time are larger homes or affordable housing.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

The program has not yet reached the market penetration of 30% in the region using the old ENERGY STAR requirements, so continued outreach to the building community is needed. The national data counting only looks at single family homes as a percentage of market share, so the program in New England, which includes significant construction in the 2-4 unit market, is not adequately reflected in national ENERGY STAR Homes statistics.

It continues to be a challenge to get builders to specify higher efficiency HVAC systems and to support correct sizing and proper commissioning. Additional incentives have not been successful yet in encouraging market transformation in this area.

The continuing existence of the program has improved overall building performance, particularly around shell envelope and air sealing practices in the region. However, builders are still not meeting all aspects of the current regional energy codes in non-ENERGY STAR Home construction in the region.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

Additional outreach to builders and more consumer marketing will be critical to increase program market penetration. Special emphasis is needed for HVAC sub-contractors. The Home Energy Rater market is also underdeveloped in this region.

### **Co-benefits:**

- Annual environmental benefits: Avoided 620 tons of greenhouse gases (2006)

### **Other issues/considerations:**

The program received the ENERGY STAR for Homes Outstanding Achievement Award in 2006 from the Environmental Protection Agency and Department of Energy.

Other efforts include the ongoing exploration of new and emerging products, energy related construction techniques, and green building program elements. Since 2004, the Massachusetts Technical School Outreach (“MATSO”) program has worked toward administering a broad array of educational experiences that reflect building industry trends. It introduces vocational high school students to energy efficient building techniques, provides instructors with supplementary educational tools, and assists in the development of cross-curricular ties between technical schools, professional organizations, and post secondary schools within the community.

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

**Program Name:** RESIDENTIAL: HVAC

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Residential customers, HVAC contractors, technicians, suppliers, distributors, and manufacturers.

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$3.7 million	\$0.9 million	2,207 MWh	584 MWh	1.9 MW	0.4 MW	4.47

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** This program seeks to raise consumer awareness of recent improvements in HVAC product technologies, provide an opportunity for the Company to help increase market share for ENERGY STAR-labeled furnaces, central air conditioners, and air source heat pumps through market transformation based initiatives and incentives, and encourage customers to choose higher efficiency standards when purchasing HVAC equipment. The program encourages Quality Installation Verification (QIV) using specialized tools as part of a third-party verification process and "digital check-ups" of existing equipment through training and incentives.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 1,464 customers participated in 2006.

The program requires ENERGY STAR® certification for rebate eligibility.

- A \$400 mail-in rebate is available for the installation of these high-efficiency furnaces. Through a partnership arrangement, the natural gas member companies of Gas Networks® fund \$200 of the rebate and the remaining \$200 is funded through the electric utility.
- A flat \$300 rebate for the purchase and installation of high efficiency central air conditioning equipment and air source heat pump condensers that meet or exceed the new 2006 ENERGY STAR® minimum standard SEER rating of 14, EER of 11.5, and HSPF of 8.2 (for heat pumps only).
- The program also includes a tuition reimbursement of up to \$250 for HVAC technicians who successfully pass the NATE-certification examination in air conditioning or heat pump service and/or installation.

In 2003, the Company, along with other gas and local electric utilities, sponsored research in collaboration with the American Council for an Energy Efficient Economy (“ACEEE”) to quantify the electric savings for ENERGY STAR labeled furnaces equipped with high efficiency fan motors. Research results indicated there are substantial electric savings gained through the installation of these furnaces. As a result, the Company worked closely with regional partners to develop a new residential heating market transformation program. In particular, the Company and GasNetworks®7 developed a dual electric/natural gas rebate program for furnaces with high-efficiency fan motors. This program was launched on May 1, 2003 and represents the first dual rebate program of its kind in the country.

The program is administered by the Company and coordinated with other gas/electric utilities and energy efficiency service providers whenever possible. The Company piggybacks these initiatives onto the Residential New Construction program’s incentive portfolio and will continue to refer participating ENERGY STAR® Homes builders and their HVAC contractors to the COOL SMART program for training and QIV.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

The Company also includes this initiative in the Residential Conservation Services/MassSAVE program by referring customers to COOL SMART for HVAC measures. The goal is to capture all available lost opportunities by promoting high efficiency air conditioning and heating equipment to Residential Conservation Services/MassSAVE program participants who are considering the purchase and installation of new or replacement HVAC equipment.

### **Barriers, challenges, gaps:**

The oversizing of HVAC systems and the lack of commissioning of residential systems, particularly in regards to charge and airflow have been well documented in the marketplace. Consumers have no mechanism to determine if their system was installed properly, as long as their home is warm or cool. Contractors have little incentive outside of utility programs to install systems correctly given the lack of oversight and the existence of contractors who will do the work with no diagnostic testing.

In New England, investments in quality installation and high efficiency central air conditioning equipment often do not pay back for consumers in a timely fashion. Society and electric utilities benefit from lower peak demand in the summer, but the consumer of a typical home will likely not see great savings. Utility investment is necessary to capture these savings.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

Contractor incentives, training, and equipment must be subsidized to encourage contractors to install high efficiency equipment correctly. Partnerships with the Northeast Energy Efficiency Partnerships and other regional efforts to leverage existing manufacturer/retailer interest and promotions are an important way to work more comprehensively in the market. Policy makers must support reasonable assumptions about free ridership if a significant investment in the early retirement of inefficient systems is a goal.

There is a general need in the region for more skilled contractors for this program, regardless of the delivery model. Training and outreach, as well as partnering with vocational schools and existing contractors are all needed to ramp up program delivery.

### **Co-benefits:**

- Annual environmental benefits: Avoided approximately 321 tons of greenhouse gases (2006)

### **Other issues/considerations:**

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

**Program Name:** RESIDENTIAL: Retrofit 1-4 - Residential Conservation Services/MassSAVE

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Residential customers in 1-4 unit homes regardless of heating fuel. Low-income customers are referred to the appropriate low-income programs.

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$53.1 million	\$7.3 million	49,209 MWh	4,532 MWh	7.5 MW	0.5 MW	1.74

\* *Expenditures, savings, and TRC values for National Grid’s Massachusetts Program*

**Program Description:** The Program provides home energy education, home energy assessments, incentives, and referrals to low-income programs and other follow-up services to all Massachusetts residents. This Home Performance with ENERGY STAR® program is designed as a “one-stop shopping” service for customers who have a strong interest in improving the efficiency of their home and/or implementing renewable energy measures.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 5,386 customers participated in 2006.

The program provides general energy efficiency and solar domestic hot water information to consumers on request.

It also offers a complete Home Energy Assessment (HEA) focusing on energy saving improvements in the house shell and hot water/heating systems. Recommended technologies include air and duct sealing, insulation, refrigerators, thermostats, ventilation, solar domestic hot water systems, and heating/cooling systems. It includes a lighting component where CFLs are installed in the home. Direct installation of CFLs has proven to be effective in achieving kWh savings and introducing this product to consumers.

Energy efficiency incentives are available up to 50% of the cost, up to a maximum of \$1,500. A \$10 incentive is available for ENERGY STAR® windows as well as an incentive of up to \$500 for efficient oil heating systems. Rebates on efficient gas heating systems are provided by GasNetworks®.

The program has been available to National Grid customers, in some form, since 1980.

The Company offers 0% financing on insulation, air and duct sealing, ENERGY STAR® windows, thermostats, and heating systems. Customers can receive financing of up to \$15,000 for five years for eligible measures (any eligible rebate amounts are subtracted from the final loan amount). Financing for windows is only available if the customer's existing windows are single pane and all viable recommended thermal shell upgrades are completed or included in the planned measure installation.

The program is administered by National Grid and delivered by independent contractors selected through a competitive bidding process. Currently, the Company contracts with one energy service provider for delivery of its program. National Grid’s program is certified as Home Performance with ENERGY STAR, and uses Building Performance Institute protocols and installation requirements.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

Over the past several years and under the direction of the Division of Energy Resources (“DOER”), the program has been redesigned. The goal of the redesigned program is to deliver to non low-income residential customers a two-tiered level of service intended to simplify customer participation and provide “one-stop shopping” home energy efficiency and renewable services.

- Tier One: consists of providing general energy efficiency information and education to consumers. It also includes a screening process designed to determine a consumer’s actual needs and general interest in making energy efficient improvements.
- Tier Two: consist of a Home Energy Assessment (“HEA”) and customer incentives designed to encourage customers to make investments in major energy efficiency measures.

### **Barriers, challenges, gaps:**

The program is delivered by a general contractor who is responsible for maintaining BPI and quality assurance standards. Sub-contractors report to the general contractor. If there is interest in transferring to a contractor based model, a several year transition period would be required, as well as contractor training and assistance in purchasing equipment and developing business systems.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

There is a general need in the region for more skilled contractors for this program, regardless of the delivery model. Training and outreach, as well as partnering with vocational schools and existing contractors are all needed to ramp up program delivery.

### **Co-benefits:**

- Annual environmental benefits: Avoided approximately 2,490 tons of greenhouse gases (2006)

### **Other issues/considerations:**

The program received the ENERGY STAR Excellence in Home Improvement for the Home Performance with ENERGY STAR program in 2007. The program was recognized by ACEEE as an exemplary program in 2007.

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

**Program Name:** RESIDENTIAL: Multifamily - EnergyWise

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Residential homes and facilities with five or more units.

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$6.76 million	\$4.3 million	89,938 MWh	5,062 MWh	8.7 MW	0.3 MW	1.91

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** This program provides an in-home energy analysis focusing on electric savings measures in facilities with five or more units. Customers in the targeted market segment tend to have inefficient lighting fixtures, appliances, thermostats, and inadequate insulation levels. The purpose of the program is to provide information and incentives to help customers replace inefficient equipment cost effectively.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 6,666 customers participated in 2006.

Eligible customers and/or building managers or associations receive a comprehensive energy audit. Energy education and the installation of low cost efficiency measures (e.g., hot water measures, air sealing for electrically heated buildings, CFLs) are provided at no direct cost. The contractors put major measures out to competitive bid in facilities that have greater than twenty units. Major measures include lighting upgrades, replacement of inefficient refrigerators, heat pump testing and upgrades, duct sealing, and insulation for electrically heated buildings. Custom electric saving measures (e.g. motors, pumps, and other equipment) are evaluated and provided through the Company's Energy Initiative program.

The program is marketed through direct contact with interested customers and homeowners, property owner's associations, bill inserts, customer newsletters, National Grid's website, home shows and other methods. Marketing efforts are integrated with the Low Income EnergyWise program. There is typically a waiting list for program services, though the program is usually able to serve customers within the year the participation request is made.

At the initial site visit, an auditor comprehensively assesses all end-uses in an effort to identify all cost-effective efficiency upgrades. Where appropriate, this assessment includes an evaluation of efficient lighting opportunities, diagnostic tests of air leakage (with a blower door, if appropriate), duct leakage (with duct blaster or equivalent), heat pump (focused on airflow and charge), insulation levels, water heating equipment, and refrigerator efficiency.

The customer or association pays \$10 per new lighting fixture in common areas, 25% of the cost of insulation in electrically heated buildings, and up to 65% of the cost of new refrigerators.

The Company began serving multifamily customers through the Multifamily Retrofit program in 1991. The EnergyWise program was first offered to customers in 1998, serving both single-family and multifamily customers. Starting in 2003, all customers in 1-4 unit facilities participate in the RCS program as opposed to the EnergyWise program. Work completed by EnergyWise energy service providers and their subcontractors must meet standards set

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

by the Building Performance Institute (BPI) or the Department of Energy for low income weatherization. At the initial site visit, an auditor comprehensively assesses all end-uses to identify all cost-effective efficiency upgrades.

### **Barriers, challenges, gaps**

The multifamily sector is often under-served by conventional demand-side management programs because such buildings often include both commercial and residential accounts. This situation leads to uncertainty over the appropriate programs to be applied to performing efficiency upgrades to common areas and dwelling units. It may also mean in non-master-metered buildings that property owners are willing to invest in improvements in only those parts of the building for which they pay the energy costs. These circumstances often mean that the delivery of services to the multifamily sector is fragmented, leading to missed opportunities and higher program delivery costs.

National Grid's *EnergyWise* program was created because of the difficulty of the split incentive problem in multifamily buildings. Often, a landlord owns a building or facility, but does not pay the energy bills. The tenant does not own the building, and therefore has no incentive to upgrade building components, but pays the energy bills and so would be positively affected by energy efficiency investments. It is also the case that it is inefficient to serve customers who live in multifamily facilities or condominium complexes on an individual basis through single-family program efforts. In *EnergyWise*, facilities are dealt with as a whole so owners can approve one contract and work can be put out to bid to get improved pricing. Additionally, National Grid found that many multifamily facilities have both residential and commercial meters, and so the facilities were often not served by the traditional energy efficiency programs. National Grid created a program to specifically target this underserved market.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

There is a general need in the region for more skilled contractors for this program. Training and outreach, as well as partnering with vocational schools and existing contractors are all needed to ramp up program delivery.

### **Co-benefits:**

- Annual environmental benefits: Avoided 2,790 tons of greenhouse gases (2006)

### **Other issues/considerations:**

The program was recognized by ACEEE as an exemplary program in 2007.

*EnergyWise* overcomes the hurdles of the split incentive between landlords and tenants by adopting a whole-building approach in the delivery of efficiency services. Multifamily proposals are developed and presented as a comprehensive package addressing all cost-effective opportunities in each building, irrespective of the electric account billing terms and customer class. As a result, the *EnergyWise* program has achieved significantly higher penetration of this sector than other comparable programs, and the savings it has realized are also significantly higher than others which do not adopt this innovative approach.

As part of its innovative investment in energy efficiency information systems, National Grid developed "In Demand", which provides all data analysis and tracking needs for the *EnergyWise* and other efficiency programs. This system allows our selected energy service providers access to customer usage data over the internet. This allows those vendors the ability to complete the energy analysis, experiment with different energy saving scenarios, print documents and contractors for customers, and invoice National Grid in one seamless system. This system has dramatically improved data accessibility for our energy service providers

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

and has automated many manual data tasks previously required by the program. In addition if the work has recyclable items, such as ballasts and lamps, the system will not allow the work to be billed until a Recycling Service has been created. The system will automatically calculate the number of lamps and ballasts that need to be recycled. Our recycling vendor can then access InDemand to schedule the pick-up of these materials.

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

**Program Name:** Residential Lighting  
**Working Group Contact:** Michael McAteer  
**Administering Entity:** National Grid  
**Targeted Sector:** All residential customers

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$79.8 million	\$6.5 million	464,011 MWh	75,434 MWh	25.3 MW	4,8 MW	7.98

\* *Expenditures, savings, and TRC values for National Grid’s Massachusetts Program*

**Program Description:** This program was designed to support the development, introduction, sales, promotion and use of energy efficient ENERGY STAR® residential lighting products and includes consumer rebates, negotiated cooperative promotions with retailers and manufacturers, and market transformation activities.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 267,762 customers participated in 2006.

The recommended technologies are ENERGY STAR® lighting products: compact fluorescent light bulbs, fluorescent fixtures (exterior, interior, ceiling fans with light kits and ventilation fans with light kits), and fluorescent torchiere, floor, and table lamps.

The program is administered by National Grid and coordinated with regional ENERGY STAR® initiatives. The joint utilities hired three contractors to perform program services: (1) a manufacturer/retailer outreach contractor to recruit and train retailers to participate, place point-of-purchase materials and instant rebate coupons in their stores, conduct product labeling and special promotions, and act as a liaison between the utilities, manufacturers, and retailers; (2) a fulfillment contractor to staff a toll-free line, produce and mail the catalog, and process instant rebate coupons and buy-down promotions; and (3) a vendor to perform marketing activities.

Rebates are typically delivered through one of four mechanisms: 1) catalog sales, 2) joint utility instant coupons regularly available at retailers, 3) special promotions, and 4) Negotiated Cooperative Promotions with the lighting industry. The on-line website ordering process is a great mechanism for consumers to get access to specialty products and to increase program marketing and awareness.

**Barriers, challenges, gaps:**

Compact Fluorescent lighting fills about 11% of the residential sockets in Massachusetts. The program has been successful in partial market transformation. Additional efforts are needed to continue participation in supermarkets and smaller retailers. Increased interest in product recycling and mercury abatement is a growing focus.

Light Emitting Diode technology is promising. It is important to wait until the technology is tested and ready for the residential market and ensure not marketing the product too soon, to avoid the consumer resistance to early CFLs which still affects consumer perception of that product.

**Ramp-up potential, limitations, where help is needed to fulfill potential:**

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

The negotiated cooperative promotion is an excellent mechanism to encourage program ramp up by soliciting the participation of manufacturers and retailers. This competitive process also allows utilities to specify product characteristics and ensure reasonable rebates and consumer pricing.

**Co-benefits:**

- Annual environmental benefits: Avoided approximately 41,000 tons of greenhouse gases (2006)

**Other issues/considerations:**

The program has won the ENERGY STAR Excellence in Energy Efficiency and Environmental Education awards in 2007 for the 8<sup>th</sup> consecutive year.

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

**Program Name:** RESIDENTIAL: ENERGY STAR Appliances

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** All residential customers.

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$39.0 million	\$6,7 million	23,030 MWh	1,713 MWh	9.6 MW	0.2 MW	1.27

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** The program is designed to increase the overall penetration of ENERGY STAR appliances and consumer electronics and transform these markets.

National Grid also works with the Consortium for Energy Efficiency (CEE) and others to encourage higher efficiency standards for qualifying ENERGY STAR®-labeled appliances.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 17,803 customers participated in 2006.

The program seeks to reduce the use of water and electricity used in homes for clothes washing, air conditioning, refrigeration, automatic dishwashing, consumer electronics, and dehumidification. In 2007, a \$75 incentive was available for ENERGY STAR Clothes Washers with a Modified Energy Factor of 2.0. An incentive of \$25 was available for ENERGY STAR Room Air Conditioners.

The recommended technologies are ENERGY STAR® clothes washers, room air conditioners, refrigerators, and dishwashers. Working with the national and regional campaigns, other appliances may be targeted for special efforts.

National Grid administers the ENERGY STAR® Appliance Program in coordination with other utilities in the region. The joint utility group hired three contractors to implement this program.

- The retail outreach service contractor provides manufacturer/retailer recruitment and training in program guidelines, placement of marketing materials, routine visits to retailers, product labeling, and acts as a liaison between the utilities, manufacturers, and retailers.
- The fulfillment contractor processes rebate applications as needed.
- The marketing vendor suggests, designs, and procures media for marketing campaigns

**Barriers, challenges, gaps:**

As the saturation of ENERGY STAR increases in the market place, the baseline of efficiency increases also, showing the market transformation effect of the program. In the short term, it may be difficult to cost effectively offer consumer rebates, thereby missing opportunities to build stronger partnerships with retail partners. It is critical that ENERGY STAR increase its standards on all rated appliances in a timely fashion to continue to promote high efficiency models.

**Ramp-up potential, limitations, where help is needed to fulfill potential:**

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

Policy makers must support reasonable assumptions about free ridership in order to encourage retailer/manufacture partnerships with utility rebates.

**Co-benefits:**

- Annual environmental benefits: Avoided approximately 940 tons of greenhouse gases (2006)

**Other issues/considerations:**

The program has won the ENERGY STAR Excellence in Energy Efficiency and Environmental Education awards in 2007 for the 8<sup>th</sup> consecutive year.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

**Program Name:** RESIDENTIAL LOW INCOME: Lost Opportunity - ENERGY STAR Homes- Low Income

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Customers and trade allies involved in construction of low-income and affordable single- and multi-family homes (under four stories)

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$2.1 million	\$0.5 million	502 MWh	163 MWh	0.2 MW	0.5 MW	2.13

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** This program encourages the construction of low-income and affordable energy efficient homes by establishing ENERGY STAR® Homes building performance standards for energy consumption and efficiency. Additional incentives are available to assist low-income developers.

This regional fuel-blind utility initiative was developed in 1998 to help home builders, large-scale developers, and buyers design and construct homes that use up to 30% less energy than homes built to Model Energy Code standards.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 225 customers participated in 2006.

This program encourages energy efficient building shell measures and mechanical measures in new residential low-income construction. It targets all end uses including appliances, heating, cooling, water heating equipment and lighting.

In partnership with the Massachusetts Technology Collaborative (“MTC”), the Company incorporates renewable technologies such as solar water heating and photovoltaics where practical.

Builders and developers are offered incentives based on the path they choose. In addition, the value added services are blower door testing and the direct installation of CFL bulbs, regardless of performance path. Additionally, rebates are provided for ENERGY STAR rated central air conditioners and heat pumps meeting the ENERGY STAR® HVAC program guidelines.

Other efforts include the ongoing exploration of new and emerging products, energy related construction techniques, and green building program elements. Since 2004, the Massachusetts Technical School Outreach (“MATSO”) program has worked toward administering a broad array of educational experiences that reflect building industry trends. It introduces vocational high school students to energy efficient building techniques, provides instructors with supplementary educational tools, and assists in the development of cross-curricular ties between technical schools, professional organizations, and post secondary schools within the community.

The program coordinates with a variety of community and low-income housing agencies to bring multiple sources of incentives to the developers for building energy efficient low-income house. Representatives from the Low-Income Energy Affordability Network (LEAN) oversee program design and delivery. Additionally, the Company

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

communicates with low-income housing advocates such as the Massachusetts Housing Finance Agency (MHFA), the Department of Housing and Community Development (DHCD), Habitat for Humanity, and others who participate in economic development and program planning with the Company.

### **Barriers, challenges, gaps:**

Affordable housing development is often characterized by extremely tight financial plans which leave little room for investments over code requirements. The program needs to continue to provide additional funding to assist affordable housing developers in incorporating energy efficiency improvements.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

Additional outreach to builders and more consumer marketing will be critical to increase program market penetration. Special emphasis is needed for HVAC sub-contractors. The Home Energy Rater market is also underdeveloped in this region.

There is a general need in the region for more skilled contractors for this program, regardless of the delivery model. Training and outreach, as well as partnering with vocational schools and existing contractors are all needed to ramp up program delivery.

### **Co-benefits:**

- Annual environmental benefits: Avoided approximately 90 tons of greenhouse gases (2006)

### **Other issues/considerations:**

The program received the ENERGY STAR for Homes Outstanding Achievement Award in 2006 from the Environmental Protection Agency and Department of Energy.

New York State - Energy Efficiency Portfolio Standard  
Working Group 2 – Program Summaries

---

**Program Name:** RESIDENTIAL LOW INCOME: Retrofit 1-4 - Appliance Management Program

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Residential customers with incomes at or below 60% of the state median income or meeting eligibility requirements established by the Low-income Heating Assistance Program and/or Weatherization Assistance Program.

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$43.3 million	\$5.0 million	43,770 MWh	3,101 MWh	5.7 MW	0.3 MW	5.07

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** The Program provides a comprehensive home energy analysis of baseload appliance use and installation of ENERGY STAR lighting and appliances and weatherization, delivered by Community Action Program (CAP) agency staff.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 3,374 customers participated in 2006.

The program seeks to reduce electricity used by residential appliances, lighting, and reduce heating fuel use in low income customers' homes. It may also leverage Massachusetts Technology Collaborative funds for enhanced energy efficiency related measures, home repairs such as repairing roofs, and an alternative energy feasibility study. Recommended technologies include weatherization measures (including health and safety components), lighting appliances, and heating system replacements in conjunction with the Massachusetts Heating System Repair and Replacement program. Room air conditioners are replaced in specific circumstances. All services are provided at no cost to the participants.

In special cases, where outside grant money can enhance program services, National Grid may approve participation for customers in specific communities for eligibility at 80% of median income. Starting in 2003, the Company joined with other utilities and the low-income network to sponsor the Energy Bucks marketing campaign. Energy Bucks is an integrated statewide campaign combining grassroots outreach, community-based activities and advertising to build awareness of the low income energy efficiency programs, fuel assistance, and utility discount rates.

By statute, the low-income programs are implemented by the low-income weatherization and fuel assistance network. National Grid works closely with the Network on all aspects of program design and implementation. National Grid oversees the use of its proprietary electric analysis software and provides software and technical training for the network staff.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

### **Barriers, challenges, gaps:**

Market research shows that about 25% of the eligible customers have participated in one or more of the low income services available to them. This is a significant accomplishment, but much more needs to be done to assist customers with energy affordability. The Energy Bucks campaign uses TV advertising, public relations through local community events, and direct outreach to targeted populations to encourage customers to participate in these programs.

The success of this program in reaching the target audience and creating real energy savings is largely attributable to the close relationships the CAP agencies have with low-income customers. The agencies provide a variety of services to these customers that have helped them gain the respect and trust of customers. This facilitates program marketing and helps in gaining customer cooperation on implementing the energy savings actions recommended in the program.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

There is a general need in the region for more skilled contractors for this program. Training and outreach, as well as partnering with vocational schools and existing contractors are all needed to ramp up program delivery.

### **Co-benefits:**

- Annual environmental benefits: Avoided approximately 1710 tons of greenhouse gases (2006)

### **Other issues/considerations:**

The program was recognized by ACEEE as an exemplary program in 2007 and 2005.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

**Program Name:** RESIDENTIAL LOW INCOME: Multifamily - EnergyWise - Low Income

**Working Group Contact:** Michael McAteer

**Administering Entity:** National Grid

**Targeted Sector:** Residential homes and facilities with five or more units populated by low-income customers who are eligible for housing assistance and/or have income at or below 60% of the statewide median income.

Funding		Total Budget	Cumulative Funds Spent*	Current Annual Expenditure*	Energy Savings*		Demand Savings*		Total Resource Cost (TRC)*
Years	Source				Cumulative (MWh)	Current Annual (MWh)	Cumulative System Coincident Load Reduction (MW)	Current System Coincident Load Reduction (MW)	
1990-2006	SBC	NA	\$13.1 million	\$3.9 million	15,757 MWh	4,192 MWh	1.5 MW	0.4 MW	3.89

\* *Expenditures, savings, and TRC values for National Grid's Massachusetts Program*

**Program Description:** This program provides an in-home energy analysis focusing on electric savings measures in low-income facilities with five or more units. Customers in the targeted market segment tend to have inefficient lighting fixtures, appliances, thermostats, and inadequate insulation levels. The purpose of the program is to provide information and incentives to help customers replace inefficient equipment cost effectively.

**Relationship to Staff Preliminary Proposal:** Not Fully Detailed

**Current status:** 6,874 customers participated in 2006.

Eligible customers and/or building managers or associations receive a comprehensive energy audit. Energy education and the installation of low cost efficiency measures (e.g., hot water measures, air sealing for electrically heated buildings, CFLs) are provided at no direct cost. The contractors put major measures out to competitive bid in facilities that have greater than twenty units. Major measures include lighting upgrades, replacement of inefficient refrigerators, heat pump testing and upgrades, duct sealing, and insulation for electrically heated buildings. Custom electric saving measures (e.g. motors, pumps, and other equipment) are evaluated and provided through the Company's Energy Initiative program.

The program is marketed through direct contact with interested customers and homeowners, property owner's associations, bill inserts, customer newsletters, National Grid's website, home shows and other methods. Marketing efforts are integrated with the Low Income EnergyWise program. There is typically a waiting list for program services, though the program is usually able to serve customers within the year the participation request is made.

At the initial site visit, an auditor comprehensively assesses all end-uses in an effort to identify all cost-effective efficiency upgrades. Where appropriate, this assessment includes an evaluation of efficient lighting opportunities, diagnostic tests of air leakage (with a blower door, if appropriate), duct leakage (with duct blaster or equivalent), heat pump (focused on airflow and charge), insulation levels, water heating equipment, and refrigerator efficiency. Eligible customers, building managers or associations receive a comprehensive energy audit. Energy education and the installation of low cost efficiency measures (e.g., hot water measures, air sealing for electrically heated buildings, CFLs) are provided at no cost. Major measures are put out to competitive bid in facilities with more than twenty units. Major measures include lighting, replacement of inefficient refrigerators, heat pump testing/upgrades, duct sealing, insulation for electrically heated buildings. Custom electric saving measures (e.g. motors, pumps) are provided through the Company's Energy Initiative program.

## New York State - Energy Efficiency Portfolio Standard Working Group 2 – Program Summaries

---

If 50% of the facilities' occupants are low income, services are delivered via direct installation with no customer copayment, with the exception of refrigerators. There are no co-payments required for public housing authorities including refrigerators. For privately owned, low-income multifamily buildings, the property owners pay the difference between the new refrigerator and the \$300 National Grid incentive.

### **Barriers, challenges, gaps:**

The multifamily sector is often under-served by conventional demand-side management programs because such buildings often include both commercial and residential accounts. This situation leads to uncertainty over the appropriate programs to be applied to performing efficiency upgrades to common areas and dwelling units. It may also mean in non-master-metered buildings that property owners are willing to invest in improvements in only those parts of the building for which they pay the energy costs. These circumstances often mean that the delivery of services to the multifamily sector is fragmented, leading to missed opportunities and higher program delivery costs.

National Grid's *EnergyWise* program was created because of the difficulty of the split incentive problem in multifamily buildings. Often, a landlord owns a building or facility, but does not pay the energy bills. The tenant does not own the building, and therefore has no incentive to upgrade building components, but pays the energy bills and so would be positively affected by energy efficiency investments. It is also the case that it is inefficient to serve customers who live in multifamily facilities or condominium complexes on an individual basis through single-family program efforts. In *EnergyWise*, facilities are dealt with as a whole so owners can approve one contract and work can be put out to bid to get improved pricing. Additionally, National Grid found that many multifamily facilities have both residential and commercial meters, and so the facilities were often not served by the traditional energy efficiency programs. National Grid created a program to specifically target this underserved market.

### **Ramp-up potential, limitations, where help is needed to fulfill potential:**

There is a general need in the region for more skilled contractors for this program. Training and outreach, as well as partnering with vocational schools and existing contractors are all needed to ramp up program delivery.

### **Co-benefits:**

- Annual environmental benefits: Avoided approximately 2310 tons of greenhouse gases (2006)

### **Other issues/considerations:**

The program was recognized as an exemplary program by ACEEE in 2007.