

***Residential Lighting and Appliances Programs***

*Exemplary Programs*

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*Residential Lighting and Appliances Programs  
Exemplary Program*

***California Statewide Appliance Recycling Program  
Pacific Gas & Electric  
Southern California Edison  
San Diego Gas & Electric***

**PROGRAM OVERVIEW**

The California investor-owned utilities (IOUs) jointly offer customers in their respective service territories the Appliance Recycling Program (ARP), which encourages residential and small business customers to take old refrigerators and freezers out of service and recycle them. The IOUs also accept air conditioners from customers for recycling, but the main focus of ARP is the collection and recycling of freezers and refrigerators.

By offering ARP, the IOUs benefit their customers in the following ways:

- Reduces the customer's monthly energy bill.
- Reduces the need to produce more expensive power to run inefficient appliances.
- Reduces environmental impacts from running old refrigerators and freezers (e.g., CFCs).
- Eliminates the customer's inconvenience and cost of trying to get rid of inefficient units.

Details of the programs vary somewhat among the IOUs, but the individual programs share a common platform and menu of services. ARP pays rebates to customers who turn in their operable, old inefficient refrigerators or freezers (either primary or secondary). The returned units are taken out of service and recycled by program contractors, who also pick up the units from participating customers. This program began in 2000 as a statewide effort, managed through a contractor and administered by Southern California Edison. Below are brief descriptions of each IOU's program approach, services and focus.

*Pacific Gas & Electric*

The average household replaces a refrigerator every 10 years. However, many of the refrigerators being replaced are still functioning, so they become backup appliances— energy guzzlers lurking in basements, laundry rooms and garages or sold in a used-market. PG&E's appliance-recycling program was established to target those "second refrigerators," providing the dual benefit of cutting energy consumption and keeping the appliances out of landfills and their ozone depleting and greenhouse gases from reaching the atmosphere.

While the program also picks up air-conditioning units from those who are disposing of refrigerators and freezers, the real thrust of the program are the savings from getting rid of old refrigerators. PG&E has chosen to prioritize refrigerators as an attempt to reach out to the largest population sector possible. The use of refrigerators cuts farther across geographic, income and

other demographic lines than that of air conditioning. It is a program that appeals to a maximum number of customers, with significant energy savings and air pollution amelioration.

This program began in 2000 as a statewide effort, managed through a contractor and administered by Southern California Edison. In 2004 PG&E reevaluated the project and opted to take on the administration of its own program with a new contractor, JACO Environmental, Inc. The initial contract with JACO Environmental, Inc. was for two years and \$1.5 million to manage collection and recycling activities for approximately 20,000 units.

This shift in strategy was so successful that in late 2005, PG&E expanded its contract with JACO for the 2006-08 program cycle and made plans to recycle 50,000 units annually for a three-year contract budget of \$7 million. Recognizing the greater potential of this appliance-recycling program, PG&E significantly increased its original goals shortly after the initiation of this three-year contract and increased the contract budget to \$22 million. It recycled nearly 24,000 units in 2006. In 2007, they recycled approximately 46,829 units – an increase of 96%. PG&E reached the three-year program goal in September 2007, and they expect the same level of success in 2008.

PG&E allows residential customers to recycle up to two refrigerators or freezers per year. Participating customers can also have an air-conditioning unit picked up at the same time. The program provides a \$35 rebate for refrigerators or freezers, and \$25 for air-conditioning units. The Appliance Recycling program is designed to be extremely customer-friendly. PG&E's chosen contractor, JACO Environmental administers the appliance pick-ups and recycling. Customers can arrange for their free pickup by phone or online. After the units are picked up, they are recycled and the customer's rebate is processed. JACO Environmental recycles 98% of the raw materials of each unit it recycles, helping to preserve natural resources and prevent landfill contamination.

### *Southern California Edison*

Southern California Edison (SCE) has offered and administered an Appliance Recycling Program (ARP) within its service territory since 1994. The objective of ARP is to remove old, energy-guzzling refrigerators and freezers from the power grid by encouraging their owners to turn them in for recycling. Program participants receive \$35 for turning in their operable, old inefficient primary or secondary refrigerators and \$50 for turning in their operable, old inefficient primary or secondary freezers. SCE has recently piloted a room air conditioner early replacement program (through "Room A/C Turn-In Events" held at retail appliance stores) but the main thrust of ARP remains the collection of refrigerators and freezers.

The overall recycling services functions for SCE's ARP are managed by Appliance Recycling Centers of America (ARCA) with offices and recycling facilities in Minnesota and California, and JACO Environmental with offices and recycling facilities in Washington and California.

Over the years, this program has become an integral component of SCE's energy efficiency portfolio of programs, and recycling refrigerators and freezers is seen as one of the chief ways residential customers can lower their electric bills and help reduce overall energy usage. In

previous studies measuring the behavior of SCE customers towards energy efficiency, the refrigerator and freezer-recycling program was one of the most frequently mentioned programs to help them reduce their energy usage.

*San Diego Gas & Electric*

SDG&E’s Appliance Recycling Program is designed to provide long-term coincident peak demand reduction and annual electric energy savings by collecting and recycling the inefficient inventory of refrigerators, freezers and room air conditioner units from residential and nonresidential (small commercial) customers within the Company’s service territory.

In 2006, SDG&E contracted with Appliance Recycling Centers of America to administer the Appliance Recycling Program (ARP). ARCA provides long-term coincident peak demand reduction and annual electric energy savings in the residential and nonresidential (small commercial) sectors by retiring and permanently removing operating, inefficient refrigerators, freezers and room air conditioners from service in SDG&E’s territory.

**PROGRAM PERFORMANCE**

*Pacific Gas & Electric*

The Appliance Recycling Program has achieved very significant energy savings each year; gross energy savings per unit are 0.3 kW and more than 1,900 kWh per year for Refrigerator Recycling. On average, each recycled refrigerator avoids 1.07 tons of CO2 emissions. Since 2004 PG&E’s appliance recycling program has recycled 83,340 refrigerators, 14,387 freezers, and 1,370 air conditioning units. The table below summarizes results since 2004.

<b>Appliance Recycling Savings 2004-2007 (approximate)</b>			
<b>Year</b>	<b>Units Recycled</b>	<b>KW Saved</b>	<b>KWH Saved</b>
2004	10,681	1,357	7,223,535
2005	17,753	2,272	12,294,841
2006	23,834	2,709	17,092,135
2007	46,829	5,329	33,331,760

JACO Environmental recycles 98% of the raw materials of each unit it recycles, helping to preserve natural resources and prevent landfill contamination. The average refrigerator contains three pounds of aluminum and one pound of copper. Reusing those materials can save an average of 33 kWh per year in production costs for those metals. Refrigerators also contain HCFCs and CFCs—two major ozone depleters. Without this specialized treatment to capture these gases, they would escape to the atmosphere.

Customer satisfaction is very high for this program. On a recent customer survey, 94% of customers rated the program as “excellent,” “very good,” or “good.” Customer comments show

satisfaction with the convenience of collection and the rebate. Because disposal of large appliances has become more difficult in many areas, customers express gratitude with PG&E's free service that rewards them for a task many would pay to have taken care of. Although PG&E promises delivery of rebate checks within six to eight weeks, customers often receive them within two weeks due to enhanced rebate handling procedures.

#### *Southern California Edison*

In the 13 years that SCE has offered this program, the following milestones have been achieved:

- Recycled over 650,000 refrigerators and freezers.
- Removed over 119,000 kW of demand from the power grid.
- Reduced electrical consumption by over 650 million kWh.

In addition to the energy reductions and savings achieved through this program, ARP's recycling and disposal process is done in an environmentally friendly manner. In recognition of the program's impacts, SCE's ARP received the Stratospheric Ozone Award by the EPA in 2004 and, in 2007, SCE, ARCA and JACO received the Best of the Best Ozone Protection Award by the EPA as the "Appliance Recycling Team".

#### *San Diego Gas & Electric*

SDG&E initiated its ARP in June 2006. Since it began, ARP has recycled 21,898 units (through November 2007). These units taken out of operation have yielded a total of 24.4 million kWh and a peak demand reduction of 3.8 MW.

### **LESSONS LEARNED:**

#### *Pacific Gas & Electric*

From PG&E's early experience with the program development and implementation, the company recognized the large potential for its appliance recycling program and took actions necessary to realize this potential. Taking over the program's administration and signing with a new contractor has allowed the utility to exercise greater control and effectiveness in addressing its customer's needs. JACO Environmental, Inc. has proven to be an effective partner, sharing PG&E's concerns about public safety and the environment. Together PG&E and JACO are pushing forward on new ways to promote the program (for example, using Internet search) and streamline the execution of this program (through fine-tuning its delivery systems for speed, efficiency and effectiveness).

#### *Southern California Edison*

Over the years, ARP has used various approaches to become a more effective and customer focused energy efficiency program. Those include:

- *Ease in program process and timeliness of pickups:* ARP offers online appointment scheduling, pickups on Saturdays and strives to pickup up units within one week (3 – 5 days) of the scheduled appointment.
- *Focusing on energy savings associated with the disposal of inefficient units:* ARP uses charts in program materials to clearly show annualized energy savings and provides comparisons between replaced vs. disposed of (spare) units.
- *Enhancing procedures to ensure program compliance (i.e., customer eligibility, working condition of units):* ARP conducts random inspections of recycling services contractors to ensure program compliance.
- *Integrating with other Energy Efficiency/Demand Response programs:* ARP coordinates promotional and outreach activities with other energy efficiency and demand response programs.

## PROGRAM AT A GLANCE

**Program Name:** Appliance Recycling Program

**Targeted Customer Segment:** Residential (single and multi-family) and small business customers.

**Funding Sources:** California public goods charge (systems benefits charge)

*Pacific Gas & Electric*

**Program Start Date:** 2004

**Program Participants:** 46,829 units recycled in 2007

**Annual Energy Savings Achieved:** 33.3 GWh in 2006

**Peak Demand (Summer) Savings Achieved:** 5.5 MW in 2006

**Budget:** \$22 million for three year program cycle—2006-08

**Best Person to Contact for Information about the Program**

- Colleen Higham, Program Manager
- Phone: 415-972-5064
- Email: cmhh@pge.com

*Southern California Edison*

**Program Start Date:** 1994

**Program Participants:** 67,000 units in 2006.

**Annual Energy Savings Achieved:** 670,000 kWh in 2006.

**Budget: 2006-08:** \$22 million

**Best Person to Contact for Information about the Program**

- Tom Schober, SCE, Program Manager
- Phone: 626 633-3049
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*San Diego Gas & Electric*

**Program Start Date:**  
June 2006

**Program Participants:** 21,898 units recycled through Nov 2007.

**Annual Energy Savings Achieved:**  
24.4 million kWh through Nov 2007.

**Peak Demand (Summer) Savings Achieved:** 3,842 kW through Nov 2007.

**Budget:** \$8 million for three-year program cycle (2006-2008)

**Best Person to Contact for Information about the Program:**

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*Residential Lighting and Appliances Programs  
Exemplary Program*

***High Efficiency Appliance Rebate Program  
Pacific Gas & Electric***

## **PROGRAM OVERVIEW**

The PG&E High Efficiency Appliance Rebate Program offers tiered rebates for a variety of appliances, including clothes washers and dishwashers. Rebates are offered only for “super efficient” appliances as specified by the Consortium for Energy Efficiency (CEE).

The program has progressed based on evolving energy efficiency specifications developed by ENERGY STAR® and CEE. PG&E sits on the CEE Appliance Committee, which works with manufacturers to improve energy efficiency standards in the market place. PG&E has moved to a year-round program cycle to satisfy customers and to more effectively support retailer involvement in promoting the Appliance Program.

Dishwashers and clothes washers offer a cost-effective strategy to capture energy savings and guide residential customers to purchase energy-efficient equipment. Combined with the suite of other rebate offerings, including the Appliance Recycling Program, the PG&E residential rebate mix offers customers numerous opportunities to participate and save on their purchases of energy-efficient appliances as well as on their energy bill each month.

PG&E offers year-round rebates on high-efficiency clothes washers and dishwashers. Qualifying product specifications for clothes washers are based on specifications developed by CEE. Dishwasher standards are based on specifications developed by ENERGY STAR® and CEE. Rebates serve as incentives for customers to invest in high-efficiency appliances for their homes and businesses.

## **PROGRAM PERFORMANCE**

Customers have responded well to the program’s rebates offered for purchasing the most efficient appliances. A rebate of up to \$75 per appliance encourages customers to consider purchasing appliances that might cost a little bit more, but will save them in the long run.

The high volume of appliances purchased under this program has led to significant energy savings. PG&E’s High Efficiency Appliance Rebate Program is one of the largest high efficiency appliance programs in the country. The table below gives program results and goals:

Year	Total Units	KW	KWH
2004	41,695	323	1,620,362
2005	72,763	568	2,854,624
2006	57,364	1,681	4,813,639
2007 (goal)	57,364 (approx.)	1,681 (approx.)	4,813,639 (approx.)
2008 (goal)	57,364 (approx.)	1,681 (approx.)	4,813,639 (approx.)

In addition to the direct resource benefits that accrue to both PG&E and customers, the program benefits customers by helping educate them about energy efficiency. Surveys suggest the majority of customers are likely to participate in another PG&E energy efficiency program. The High Efficiency Appliance Rebate Program is constantly looking for new opportunities to provide information and education to customers about energy-efficient appliances and maximize participation in the program to help California customers save energy and money.

## LESSONS LEARNED

PG&E continues to seek new initiatives and enhancements to its High Efficiency Appliance Rebate Program. Three recent efforts illustrate this commitment to improving the program so as to provide greater value to customers, PG&E and the state as a whole.

PG&E has developed partnerships with water agencies to create additional opportunities to inform customers about its rebate programs and the benefits of energy efficiency. Energy-efficient clothes washers that use less water save energy in two ways, through direct energy savings of the appliance and reduced water use, which saves the energy required to heat the water. The benefits of reduced water use in a state that faces on-going water supply problems can be significant. During the 2004 program year PG&E developed co-marketing agreements with East Bay Municipal Utility District and Marin Municipal Water District to promote the water and energy savings benefits of energy-efficient clothes washers. In the fall of 2006 PG&E began discussions with water agencies throughout its service territory to provide shared customers with a single larger incentive, a single application, and a single rebate check. PG&E plans to launch territory-wide starting January 2008.

Another area where PG&E has introduced changes to the program is the form of rebates offered. Traditionally, PG&E have offered mail-in rebates to customers who purchase high efficient appliances. Although customers were generally satisfied with this system, PG&E has explored other models to affect the sale of high efficiency appliances and increase customer satisfaction with the rebate program. Recently PG&E partnered with appliance retailers in its service territory to offer instant rebates that are immediately credited to customers at the time of their purchases.

As the average efficiency of residential appliances continues to increase through standards and market changes, programs such as PG&E's need to respond and ensure that they indeed continue to promote products significantly more energy-efficient than the standard efficiency products available in the market. PG&E recognizes this need and is therefore working with the ENERGY STAR Program to pilot its *Save More* brand by partnering with a regional retailer to promote the highest efficiency clothes washers and dishwashers. ENERGY STAR is interested in exploring tiered rebates and is using existing tier structures, such as CEE, to see if the ENERGY STAR *Save More* brand can be leveraged to encourage customers to purchase the most efficient appliances on the market.



## PROGRAM AT A GLANCE

**Program Name:** High Efficiency Appliance Rebate Program

**Targeted Customer Segment:** Residential appliance customers.

**Program Start Date:** 1983

**Program Participants:** 57,364 units qualified for rebates in 2006.

**Annual Energy Savings Achieved:** 4.8 GWh in 2006 (1<sup>st</sup> year savings from units sold in 2006)

**Peak Demand (Summer) Savings Achieved:** 1.7 MW in 2006

**Budget:** \$3.56 million for rebates in 2006.

**Funding Sources:** California public goods charge (systems benefits charge)

**Best Person to Contact for Information about the Program**

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*Residential Lighting and Appliances Programs  
Exemplary Program*

***New York Energy \$mart<sup>SM</sup> Products Program  
New York State Energy Research and Development Authority***

**PROGRAM OVERVIEW**

The New York Energy \$mart<sup>SM</sup> Products Program promotes ENERGY STAR<sup>®</sup> appliances, lighting and home electronics. The Program also promotes several products that are energy-efficient, for which there are not yet ENERGY STAR labels, such as solid state lighting (SSL) and light emitting diode (LED) technologies. Partnerships are formed through the program with retailers, manufacturers, distributors, suppliers and trade allies that promote, manufacture and sell these products in an effort to achieve lasting changes in consumer markets for these products.

The program uses a 2-pronged approach: (1) increasing supply of qualifying products through partnerships with retailers, manufacturers and distributors, and (2) creating demand through consumer awareness and understanding of the ENERGY STAR label and the benefits of energy efficiency. The program provides services to retail partners throughout the eligible service territory. To become partners, retailers sign a partnership agreement to sell at least four models of ENERGY STAR products and provide monthly sales data. These services are provided by program field representatives, who also provide participating retailers with free program point-of-purchase (POP) materials, conduct sales staff training (both formal and informal), answer questions about the program, assist with using co-operative advertising funds, and develop promotional ideas. Manufacturers who wish to participate in the program must produce at least one ENERGY STAR or qualified energy-efficient product and submit quarterly shipping data. A program partner representative works directly with manufacturers to assist with using co-operative advertising funds and to develop promotional ideas.

The New York Energy \$mart<sup>SM</sup> Products Program is administered by the New York State Energy Research and Development Authority (NYSERDA). From 1999 to 2006 Aspen Systems Corporation was the primary program implementer with the following roles: midstream recruitment, incentive processing, quality control, quality assurance, evaluation and reporting. In 2006 Aspen Systems Corporation was purchased by Lockheed Martin with no personnel turnover. Lockheed Martin continues to implement the Program.

**PROGRAM PERFORMANCE**

The reported direct energy savings to date from the sale of ENERGY STAR and energy-efficient products in program partner stores since the program's inception is 647 GWh. This estimate is based on quarterly sales tracking and energy savings reports from the implementing contractor using savings coefficients and algorithms provided by NYSERDA. To achieve the program's goal of market transformation, long-lasting energy savings and the resulting environmental

benefits, considerable program resources have been used to influence the consumer's purchasing decisions. Program metrics have been developed and tracked by NYSERDA to measure the ongoing success of the program's market transformation efforts.

Since the Program's inception in 1999:

- Over \$19 million has been paid out to program retail and manufacturer partners in incentives for advertising and promotions.
- Over 6,500 retail staff trainings have been administered by program field representatives.
- Over 360,000 items of POP material have been issued to retail partners.
- Appliance partner stores have increased the ENERGY STAR display proportion of appliance models by 268% as a whole.
- ENERGY STAR proportion of lighting product models on display has increased by 335%.
- The number of stores that include energy efficiency sales-associate training has grown from 60% (1999) to 95% (2006) for appliance stores and 68% (1999) to 100% (2006) for lighting stores.
- 22 manufacturers (17 lighting; 5 appliance) partner with the program.

ENERGY STAR products currently account for 65% of appliances, 78% of room air conditioners, and 18% of lighting fixture sales in partner stores. New York has the highest market share of ENERGY STAR room air conditioners in the nation.

The program's ability to sustain long-term retail partnerships provides the foundation for continued success in energy savings as retail partners are the program's direct link with the public. The program's staff continue to build relationships with retailer partners and other midstream players, and as a result, retail partnership is at an all-time high with 734 current, active partners (256 active appliance partners, 408 active lighting partners, 69 active combined lighting and appliance partners, and 1 HVAC partner).

The New York Energy \$mart<sup>SM</sup> Products Program is unique in its approach to market transformation in that it does not offer rebates. Instead the program offers midstream incentives, education and community outreach to affect the midstream and end-user marketplace with the goal that on-going consumer demand will continue to drive and increase the availability of energy-efficient products.

The program is very cost-effective as documented by program evaluations. The total resource cost test yields a benefit-cost ratio of 3.08 with the program generating \$178.2 million in total resource benefits and \$57.7 million in total resource costs. Using a total program cost test yields a benefit-cost ratio of 5.4 with the program generating \$279.1 million in total participant benefits and \$55 million in total participant costs.

## LESSONS LEARNED

Market transformation programs need to be innovative in order to push the market in new directions. The program strives to implement innovative approaches to achieving this goal. For example, retail partners know they can rely on the program's dedicated field staff to answer questions, help with promotions, provide training and program updates, replenish point-of-purchase materials and label ENERGY STAR products on a 4-6 week rotation. Field representatives also work with partners to maximize the effectiveness of in-store promotions. As a result of these strong partnerships, the willingness of NYSERDA's retail partners to participate in advertising and special promotions over the past 8 years has been a significant factor in the ongoing growth and recognition of ENERGY STAR products throughout New York State.

With market share of ENERGY STAR appliances relatively high, the program has recently initiated a strong focus on lighting products. As a result, over 300 new lighting partners have been signed as partners since January 1, 2007. The program has also tried to extend its reach into large appliance stores, both a major regional chain and national box store have become appliance partners recently. In an effort to stay current with the market, the program has begun to promote home electronics products, select power management equipment, heating ventilation and air conditioning (HVAC) equipment and solid-state (LED) lighting. An HVAC equipment initiative is also in a pilot phase and is coordinated closely with NYSERDA's Home Performance with ENERGY STAR Program.

The Program's marketing approach is to provide its midstream partners the tools they need to sell ENERGY STAR and energy efficient products. This is a difficult task to achieve since the program's goal is to affect stores throughout New York State, whether they are urban, suburban or rural. To address this challenge the program has developed a number of tools, including a consumer and partner website, special promotions booklets and market share incentives for partners, and special marketing campaigns.

To document and share program experiences and results, the program has produced *The New York Energy Smart<sup>SM</sup> Products Program Policies and Procedures*, a publication that provides step-by-step guidelines for transferring the program concepts to other energy efficiency program sponsors. These guidelines draw upon eight years of successful New York Energy Smart<sup>SM</sup> Products Program implementation by NYSERDA. The Program Policies and Procedures provides detailed, section-by-section information on all aspects of program design, market coordination, midstream market activities, incentives, program monitoring and evaluation, and quality assurance.

## PROGRAM AT A GLANCE

**Program Name:** New York Energy Smart<sup>SM</sup> Products Program

**Targeted Customer Segment:** All residential customers, as well as manufacturers and retailers of residential appliances and lighting technologies

**Program Start Date:** 1999

**Program Participants:** 734 retail partners and 22 manufacturer partners

**Annual Energy Savings Achieved:** 647 GWh since program inception

**Peak Demand:** Not available

**Other Measures of Program Results to Date:** ENERGY STAR products currently account for 65% of appliances, 78% of room air conditioners, and 18% of lighting fixture sales in partner stores.

Program cost-effectiveness estimated to be 3.08 based on total resource cost test.

**Budget:** \$4.9 million (2006)

**Funding Sources:** New York State electric systems benefits charge.

**Best Person to Contact for Information about the Program**

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*Residential Lighting and Appliances Programs  
Exemplary Program*

***Northeast ENERGY STAR® Lighting and Appliance Initiative***

***Sponsoring Organizations: Cape Light Compact, Connecticut Light & Power, Efficiency Vermont, Long Island Power Authority, National Grid, NSTAR Electric, The United Illuminating Company, Until and Western Massachusetts Electric Company.<sup>1</sup>***

***Facilitator: Northeast Energy Efficiency Partnerships, Inc.***

**PROGRAM OVERVIEW**

The Northeast ENERGY STAR Lighting and Appliance Initiative's mission is to promote residential energy efficiency in the Northeast through regionally coordinated programs that increase the market penetration of ENERGY STAR qualified lighting and appliances. Together the initiative engages in cost-effective regional activities that yield greater results than a single state or service territory could produce alone.

Each year the sponsoring organizations execute a residential customer-focused lighting and appliance energy efficiency program that includes customer incentives (rebates), a multi-media marketing plan and field service outreach to participating retailers. Products covered by the programs include clothes washers, refrigerators, dishwashers, room air conditioners, dehumidifiers, CFLs, and light fixtures. The initiatives goals, established by the collaborating sponsors, are to:

- Increase awareness and sales of ENERGY STAR qualified appliances and lighting products,
- Gain retailer and manufacturer support in promoting ENERGY STAR qualified products,
- Increase brand equity for ENERGY STAR by positioning it as the preferred product choice, and
- Position the initiative's website, [myenergystar.com](http://myenergystar.com), as the premiere resource for energy efficiency in the region.

The Northeast ENERGY STAR Lighting and Appliance Initiative is an integrated, innovative and constantly evolving program providing a common platform of services provided by sponsoring organizations across the Northeast region.

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<sup>1</sup> NEEP's appliance and lighting efforts are also sponsored by and coordinate activities with the New York State Energy Research Authority, the New Jersey Clean Energy Program, Efficiency Maine and Public Service of New Hampshire, but without the extent of joint implementation as the listed entities.

## PROGRAM PERFORMANCE

The initiative has had significant impacts and success since its inception in 1998. Some key accomplishments include:

- Drove over \$250 million in sales of ENERGY STAR qualified lighting products through the provision of nearly \$100 million in consumer lighting rebates.
- Enlisted over 2,600 lighting retailers throughout the region to participate in the initiative who receive support from field staff to help increase sales of targeted products.
- Motivated increased sales and promotion of ENERGY STAR lighting and appliances among key industry actors through a comprehensive sales training program targeting retailers, sales staff, manufacturer representatives, buyer groups, distribution centers and corporate contacts.
- Executed joint multimedia marketing campaigns to promote ENERGY STAR qualified lighting and appliance products that incorporated communications through TV, radio, print media, outdoor advertising, on-line advertising, direct marketing, retail promotions, community events, grassroots outreach and other public relations. The investment in these campaigns have totaled more than \$14 million.

Most sponsoring organizations have evaluated their respective program efforts associated with the initiative. Collectively the initiative has boosted the market share of ENERGY STAR qualified products significantly above the national average as illustrated in the table below:

<b>2006 Total ENERGY STAR Appliance Market Share</b>		
<b>Type of appliance</b>	<b>Northeast Initiative</b>	<b>National Data</b>
Room air conditioners	53%	37%
Clothes washers	44%	34%
Dishwashers	93%	92%
Refrigerators	38%	30%

The initiative also has had a corresponding significant impact on inventories of ENERGY STAR qualified products among participating retailers. The regional sales floor inventories of ENERGY STAR qualified dishwashers rose from 74% in 2003 to 95% in 2006; ENERGY STAR qualified clothes washers rose from 33% to 57% in 2006.

## LESSONS LEARNED

The program has achieved success via innovative and effective efforts in key elements of the overall initiative. These include:

- *Consumer incentives and promotions:* (1) developed negotiated cooperative promotions among lighting industry partners—manufacturers and retailers – to provide incentives at the wholesale level and enable retail pricing net of incentives, (2) developed mail-in rebates and instant coupons for qualified products, and (3) developed printed and on-line

lighting catalogs of ENERGY STAR qualified products and available incentives, which have yielded over 8000 orders for over 31,000 products.

- *Customer education through marketing, advertising and public relations:* Annually the program sponsors develop a cohesive marketing and communications plan, built around seasonal opportunities to encourage energy efficiency. The marketing plans extend the seasonal communications platforms through a broad array of promotional activities, special events, grassroots and viral marketing, public relations and advertising that includes radio, newspaper, outdoor and television. The initiative has developed and uses a web portal, “myenergystar.com,” as a central hub of all sponsor activity. A successful recent example of media campaigns is “Save BIG,” a promotion launched in April 2007.
- *Community Events:* Initiative sponsors participate in several community events annually, which have proven very effective in educating customers about these products and promoting sales. Over 130, 000 ENERGY STAR CFLs and nearly 14,000 fixtures were sold at community events in 2006.
- *Retailer Training:* Field staff from sponsors work with the 2,645 active enrolled lighting and/or appliance retailers to conduct sales staff training, place point-of-purchase materials in stores and conduct product inventories. Hundreds of retail staff are trained each year on a variety of aspects of the initiative, including web materials, benefits of ENERGY STAR qualified products, rebate application processes, technical information on products, and proper disposal and/or recycling of CFLs.
- *Retailer events:* Initiative sponsor participate in a number of retailer-based events each year, such as in-store educational and special promotions.

One of the most important lessons from this initiative is the market power possible through regional collaboration. The benefits from such coordination and collaboration are many, yielding a collective impact much greater than likely would have been possible had each sponsor worked independently.

## PROGRAM AT A GLANCE

**Program Name:** Northeast ENERGY STAR® Lighting and Appliance Initiative

**Targeted Customer Segment:** Residential customers

**Program Start Date:** 1998

**Program Participants:** 2,645 active enrolled lighting and/or appliance retailers.

**Annual Energy Savings Achieved:** Collective initiative results not available, contact individual sponsoring organizations.

**Peak Demand (Summer) Savings Achieved:** Collective initiative results not available, contact individual sponsoring organizations.

**Budget:** \$18.4 million for 2006

**Funding Sources:** Systems benefits charges for Connecticut, Massachusetts, New York, Rhode Island and Vermont

**Best Person to Contact for Information about the Program:**

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*Residential Lighting and Appliances Programs  
Honorable Mention*

***Chill Out  
London Hydro***

**PROGRAM OVERVIEW**

The Chill Out program offered by London Hydro (Ontario, Canada) promotes the sales of ENERGY STAR® appliances—refrigerators, freezers and room air conditioners. The Chill Out program has increased the availability of ENERGY STAR products and reduced the availability of non-ENERGY STAR products at local retail stores. Retailers have adjusted inventory items in order to maximize sales opportunities for the ENERGY STAR qualified products.

London Hydro has used Chill Out to educate retailers on the benefits of selling ENERGY STAR and how to turn the brand into a value proposition for customers. As an example, London Hydro has used marketing information provided by Natural Resource Canada to demonstrate the value of buying ENERGY STAR at each retail outlet through multiple “Timmy’s Time” coffee and donut training sessions with participating retailers. Follow-up interviews with retailers confirm that ENERGY STAR rated appliances (of all types) now occupy more floor space than was previously available.

The program not only targets homeowners, but also residential property managers. In dealing with the property managers, London Hydro educates property managers on how purchasing ENERGY STAR refrigerators affects their income, rather than their expenses. Using detailed daily electricity consumption information from the utility records, program staff show potential customers the value of purchasing ENERGY STAR qualified appliances. Follow-up interviews confirm that in all cases to date, ENERGY STAR is now a criterion for purchasing equipment by property managers who have received training via Chill Out.

**PROGRAM PERFORMANCE**

London Hydro estimates the following direct energy savings and benefits:

- Direct energy savings for recycled units net of free riders: 28.8 GWh,
- Homeowner savings for the conservation kits supplied: 22 GWh, and
- Property management savings from supplemental CFL program 33.8 GWh.

Chill Out has increased the availability of ENERGY STAR products in London Hydro’s service territory. Retailers and wholesale appliance sales outlets now consistently promote the ENERGY STAR brand as an upgraded feature rather than a simple rating. Non-ENERGY STAR appliances are now seen as less valuable in both the customers’ and sales teams’ perspectives.

Chill Out also has improved affordability of ENERGY STAR products. The Chill Out program reduced the end users cost of purchasing ENERGY STAR products overall. In regular retail outlets Chill Out encouraged retailers to make special offerings such as free delivery, rebates and

other benefits not previously available. Heavy competition also has encouraged very competitive pricing on ENERGY STAR products and made available a greater selection of lower priced ENERGY STAR units. In the property management segment, pricing of ENERGY STAR products has dropped significantly as suppliers and consumers have purchased ENERGY STAR products in unprecedented quantities. Many property managers have purchased multiple truck load quantities of refrigerators, thereby obtaining very attractive volumetric pricing.

London Hydro utilizes the cost of saved energy (CSE) approach in calculating incentives and measurement effectiveness. London Hydro's ceiling for incentives is 3.9¢/kWh. In all segments of the program, the estimated CSE for ENERGY STAR products is below the ceiling rate. London Hydro's philosophy is to keep program costs to a minimum and direct as much funding as possible into the incentives, thereby increasing customer participation as much as possible.

## LESSONS LEARNED

London Hydro's approach to achieving high participation was to include all stakeholders in the program design and implementation process. Customers, suppliers, manufacturers, end-users, contractors and the utility all had to provide an investment of some value—monetary or non-monetary—to participate in the program. This philosophy ensures that all participants have a vested interest in ensuring program success.

The Chill Out program clearly resonated with London Hydro's customers; about 14,200 refrigerators, freezers and room air conditioners have been sold as a result of the program. Given London Hydro's residential customer base of 127,000 accounts, this represents a 11.2% participation rate—an exemplary achievement in such a short time. Permanent decommissioning of old units has been a key element of the program—ensuring that old, inefficient units do not enter secondary markets or remain as second operating units within participants' homes.

Throughout the campaign all rules centered on the purchase of new highly efficient ENERGY STAR products. London Hydro did not try to “re-invent the wheel,” rather London Hydro chose to leverage the respected and well-known ENERGY STAR brand. This falls within marketing's most fundamental philosophy of clear, concise, consistent messaging. The availability of support material greatly enhanced the Chill Out logo program.

## PROGRAM AT A GLANCE

**Program Name:** Chill Out

**Targeted Customer Segment:** Residential customers, including property managers

**Program Start Date:** Not available

**Program Participants:** 14,200 units total (combination of refrigerators, freezers and room air conditions) have been purchased by customers as a result of the program.

**Annual Energy Savings Achieved:** 50.8 GWh total from the recycled units and conservation kits

**Peak Demand (Summer) Savings Achieved:** Not available

**Budget:** \$1.5 million (Canadian dollars)

**Funding Sources:** Utility rates

**Best Person to Contact for Information about the Program**

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*Residential Lighting and Appliances Programs  
Honorable Mention*

***ENERGY STAR® Lighting and Appliance Program  
Nevada Power Company  
Sierra Pacific Power Company***

**PROGRAM OVERVIEW**

In 2003 Sierra Pacific Power Company (SPPC) and Nevada Power Company (NPC) launched two pilot conservation programs, an appliance rebate program and a CFL program, based on partnership with ENERGY STAR. The utilities had not attempted implementing a conservation program for approximately a decade. The two utilities found that the ENERGY STAR partnership and national ENERGY STAR promotions (“Double Your Savings” and “Change a Light, Change the World”) were vital elements to the success of these initial pilot programs. The programs engaged local retailers and created regional promotional activities to raise consumer awareness about the benefits of ENERGY STAR. SPPC and NPC used the experience gained in the pilot programs to create full-scale programs available to all of their residential customers.

For more than four years, Sierra Pacific Power Company (SPPC) and Nevada Power Company (NPC) have jointly operated the ENERGY STAR® Residential Lighting and Appliance Program, a market-based residential DSM project that reaches residential customers through the retail channel. The program provides direct incentives to consumers to encourage retail purchases of energy-efficient lighting products and appliances.

Direct incentives are typically delivered to SPPC and NPC customers through discounted pricing for ENERGY STAR qualified lighting products and rebates for clothes washers and refrigerators. The program is managed by SPPC. Ecos Consulting designed the program and implements it under contract with the company.

**PROGRAM PERFORMANCE**

Since this Program’s 2003 inception, SPPC and NPC have provided customers incentives totaling approximately \$3,000,000. The cumulative first-year energy savings from these measures is approximately 78.3 GWh per year for a variety of lighting and appliance measures that have estimated measure lives ranging from 6 to 13 years.

Due to the success of the 2003 and 2004 programs, funding for rebates and incentives more than doubled in the 2004 - 2005 program years. This increased incentive budget allowed the program to extend its appliance promotion length from three months to six months. The goals for 2005 were significant. The program planned on moving over 100,000 lighting products, including CFLs, light fixtures, and ceiling fans with light kits, and close to 6,000 appliances.

In early 2006, SPPC and NPC identified the need for additional energy savings in their residential programs to further help them meet their renewable energy/energy efficiency portfolio standard. CFLs not only represented one of the most cost-effective options for acquiring savings, but research also indicated that the CFL market penetration in the SPPC/NPC service area was estimated at less than 1 percent of the total market share for medium screw-based lighting—significantly less than more mature markets where penetration rates range from 5 percent in the Northwest to 10 percent in California.

Additional funding was approved in late-2006 to increase CFL sales targets nine-fold. To meet the new targets, the program needed to move 861,416 CFLs in the fourth quarter. The program developed an aggressive marketing effort that launched mid-September, called the Community Retailer Lighting Partnership Promotion. It utilized the ENERGY STAR Change a Light, Change the World campaign messaging and tools, media and consumer outreach events, and custom promotion pricing with 114 retailers and 5 lighting manufacturers participating throughout the SPPC/NPC service territories.

In 2006 the Program achieved annual energy savings of 63,182,255 million kWh, which represents 105.7 percent of the goal. The table below provides an overview of the total program goal compared to actual energy savings achieved.

2006 Program	CFLs and Builders		Appliances		Total 2006 Program	
	kWh	%	kWh	%	kWh	%
NPC Goal	41,250,094	100.0%	752,000	100.0%	42,002,094	100.0%
NPC Actual	44,116,391	106.9%	510,943	67.9%	44,627,334	106.3%
SPPC-NV Goal	17,503,066	100.0%	239,600	100.0%	17,742,666	100.0%
SPPC-NV Actual	18,219,241	104.1%	304,926	127.3%	18,524,167	104.4%
SPPC-CA Goal	n/a	n/a	47,330	100.0%	47,330	100.0%
SPPC-CA Actual	n/a	n/a	30,754	65.0%	30,754	65.0%
Total Goal	58,753,160	100.0%	1,038,930	100.0%	59,792,090	100.0%
Total Actual	62,335,632	106.1%	846,623	81.5%	63,182,255	<b>105.7%</b>

By steadily increasing program delivery efficiencies, the NP-SPPC Lighting and Appliance team has been able to achieve a leveled cost of less than \$0.01 per kWh---making the program highly cost-effective.

## LESSONS LEARNED

The state of Nevada has one of the fastest growing Hispanic populations in the country, having nearly doubled to as much as 20% since the 1990 Census. Many of the state's metropolitan areas boast an even larger Hispanic percentage. In North Las Vegas, for example, 37% of the population is Hispanic. As a result, the NP and SPPC programs direct significant effort toward this market segment.

In 2004 the program continued successful strategies and expanded its outreach to the Hispanic community. Leveraging the U.S. Department of Energy's goal to reach out to the Hispanic community with ENERGY STAR, the utilities teamed with The Home Depot, D&R International and Entravision to educate the Hispanic community in Las Vegas about ENERGY STAR and energy efficiency. The resulting promotion was the first of its kind in the country.

The program has continued expanding its outreach to the Hispanic community. For example, the program conducted its second annual Hispanic Outreach promotion in July of 2005, which featured five separate events that spanned an entire month in both the Las Vegas and Reno markets. Each weekend during these promotions, The Home Depot hosted a variety of kids' activities and workshops, all conducted in both Spanish and English. The events were covered by two television channels, two radio broadcasts and three Hispanic news publications. The program team also collected 700 surveys from event participants to aid in further understanding this under-served segment of the market. The program has demonstrated that targeted, language-specific promotions can effectively reach this growing market demographic.

Another important lesson from this program is the ability for companies to initiate and achieve significant program impacts in a relatively short time.

## PROGRAM AT A GLANCE

**Program Name:** ENERGY STAR® Lighting and Appliance Program

**Targeted Customer Segment:** Residential customers

**Program Start Date:** Pilot in 2003; full-scale in 2004

**Program Participants:** Over 700,000 CFLs were sold via program channels in 2006 via 114 retail partners and 5 lighting manufacturers.

**Annual Energy Savings Achieved:** 63.2 GWh in 2006

**Peak Demand (Summer) Savings Achieved:** Not available.

**Other Measures of Program Results to Date:** Levelized cost of saved energy estimated to be less than \$0.01/kWh

**Budget:** \$2.68 million for incentives in 2007

**Funding Sources:** utility ratepayers

### Best Person to Contact for Information about the Program

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