



**BEST PRACTICES FOR ENERGY RETROFIT PROGRAM DESIGN**

# **CASE STUDY: NEW JERSEY HOME PERFORMANCE WITH ENERGY STAR**

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This document is one of nine case studies conducted by the Best Practices Committee of the Home Performance Resource Center to examine government-run incentive programs that target residential energy efficiency retrofits and renewable power generation. These nine case studies were used to compile best practices recommendations for the design and implementation of successful home energy retrofit programs, specifically focusing on the areas of financing and incentives, marketing, workforce development and business models. Additional documents in the *Best Practices for Energy Retrofit Program Design* series are available online at [www.hprcenter.org](http://www.hprcenter.org).

# CASE STUDY: NEW JERSEY HOME PERFORMANCE WITH ENERGY STAR

## SUMMARY

The New Jersey Home Performance with ENERGY STAR program provides performance-based incentives and financing to help homeowners statewide pay for energy efficiency improvements, and subsidizes some costs that companies accrue to enter the Home Performance industry. The program started in 2006, and many of its components were modeled after the New York Home Performance with ENERGY STAR program (which is the profiled in a separate case study in this series).

The program is administered by the New Jersey Board of Public Utilities Office of Clean Energy, which contracts with Honeywell Utility Solutions (a division of Honeywell International Inc. that specializes in demand-side management programs) to run several of the state's clean energy programs. Honeywell, in turn, has outsourced management of the Home Performance with ENERGY STAR program to Conservation Services Group (CSG), a Massachusetts-based nonprofit consultancy. Energy improvement loans are funded by Wisconsin-based Energy Finance Solutions (EFS).

## FINANCING AND REBATE PROCESS

Program benefits are organized into a three-step process – auditing, air sealing and comprehensive retrofit packages – with the greatest energy savings and incentives available to homeowners who proceed through all three steps.

Step 1 is a subsidized energy assessment performed by a BPI-certified contractor. CSG publishes a searchable list of program-approved contractors on the program Web site, or homeowners may request a list of qualified contractors by phone. (Until recently, customers could hire CSG directly for the assessment.) Contractors are also allowed to market their services directly to homeowners.

## PROGRAM PROFILE

### Incentive Type:

Subsidized audits; free air sealing; rebates and low- or no-interest loans for efficiency retrofits

### Time Frame:

Launched in 2006

### Homes in Jurisdiction:

3,517,293 (2008 census)

### Property Owners Participating:

1,138 as of Jan. 28, 2010

### Investment:

\$5,002,360 spent on 163 retrofits in 2008; program budgeted for up to \$23,652,926.69 in 2009

### Energy Savings:

108 MWh, 3,835 Dtherm in 2008

### Carbon Abatement:

Data not available

### Finance Mechanism:

Rebates and subsidies funded by ratepayer surcharges; financing provide by a nonprofit energy improvement lender

### Jobs Created:

Data not available

### Web Site:

[www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r](http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r)

Each assessment includes a visual inspection of the house, combustion appliance testing and preparation of a report detailing recommended efficiency improvements. Blower door tests are not required, but some contractors have chosen to include blower door testing in the basic audit in order to educate the homeowner about the benefits of Home Performance improvements and better sell the value of a retrofit.

Contractors receive \$300 for each assessment, \$125 of which is paid by the homeowner and \$175 by the program. Assessment data is entered into a program database, so if a homeowner later hires a different contractor for retrofit work, the new contractor will have access to that data and the homeowner will not have to pay for a second assessment. The \$125 assessment fee will be reimbursed to homeowners who have a minimum of \$2,000 worth of retrofit work completed under Step 3 of the program within three months.

Step 2 provides up to \$1,000 of fully subsidized air sealing if testing indicates that air sealing opportunities exist, and if no health and safety issues were found in the audit. Homeowners may choose any contractor for Step 2 air sealing from the list of approved contractors on the program Web site, or request a list of qualified contractors by phone, and they have the option of paying the contractor for additional work out of pocket on top of the \$1,000 subsidy. The state issues checks to contractors after the required documentation has been submitted to the program, unless the job is selected for quality control (in which case checks are sent after the work has passed inspection).

Step 3 provides energy improvement loans and rebates (outlined in detail below) for comprehensive energy retrofit packages that may include additional air sealing, insulation, HVAC upgrades, domestic hot water and other recommended eligible measures. Homeowners may hire the same contractor who conducted the assessment in Step 1, or select a different BPI-certified and program-approved contractor to complete the retrofit.

Homeowners with estimated heating savings of at least 5% but less than 25% who wish to receive a 10% cash rebate for Step 3 retrofit work can proceed with hiring a contractor, then pay the contractor in full. Upon completion of the work, the contractor submits required documentation to the program and the rebate is disbursed to the homeowner.

Homeowners with estimated heating savings of 25% or more are eligible to receive a combination of retrofit financing and a cash rebate covering 50% of jobs costs up to \$10,000. Homeowners at the 5-25% savings level who have not opted for a rebate are eligible for 5.99% financing. In either case, homeowners begin Step 3 by contacting Energy Finance Solutions (EFS) to apply for funding. EFS, which handles both financing and rebate disbursements for the program, is a service offered by the Wisconsin Energy Conservation Corporation, a nonprofit organization that designs and implements energy efficiency and renewable energy programs in partnership with government agencies and utilities. Once EFS has approved the funding application, the homeowner may proceed with hiring a contractor to complete the work, with no down payment required.

Upon completion of the work, the contractor submits required documentation to the program, which then assigns any applicable rebate amount to EFS. The contractor receives full payment directly from EFS, and the homeowner begins making loan payments to EFS.

CSG conducts quality assurance inspections on the first 10 jobs completed by all contractors who are new to the program, and on a percentage of all jobs after that. For jobs that fail a CSG inspection, the contractor must return to the job site and bring the work up to program standards, then submit further documentation and get another inspection. Contractors who pass their first 10 inspections receive a rebate from CSG of 50% of the cost of their first blower door.

## **PROGRAM DEVELOPMENT**

New Jersey Home Performance with ENERGY STAR was developed in part to help the state meet the goals of the New Jersey Energy Master Plan, which calls for a 20% reduction in energy use and a 5,700 MW reduction in peak demand by 2020. The program began in 2006, and recorded just 23 completed jobs in 2006 and 2007. In 2008, as the industry began to grow locally, the program grew tremendously, and through January 2010 had recorded 1,138 completed jobs. The program is poised for significant growth in 2010 and through the next decade, provided that financing and incentive levels are not reduced.

### **Marketing**

The program has a limited budget for paid media advertising. Program-run marketing efforts have largely focused on education seminars, community forums, home shows and other event-based marketing vehicles. The program has received some free media attention from print and television news outlets.

The program has set up a cooperative marketing fund for contractors modeled on a similar fund developed by New York Home Performance with ENERGY STAR. The fund provides contractors a 25% subsidy up to \$10,000 per year for their own marketing activities, including brochures, paid advertising and other marketing vehicles that directly advertise the Home Performance work the company performs. After the first year of participation, contractors must complete 10 jobs per year to be eligible for the marketing subsidy.

### **Workforce Development**

Shortly after New Jersey Home Performance with ENERGY STAR was launched, program administrators found that the effectiveness of the program was hindered by a shortage of qualified Home Performance contractors in the state. The program hired internal staff to conduct some of the assessments. This removed some of the burden from retrofit contractors, and allowed private contractors to take on retrofit customers who had already gone through the required assessments. In retrospect, program administrators say they should have put more effort into contractor recruitment at the outset.

The program provides contractors with some basic training on the how the program works, training that is required to qualify for participation. BPI accreditation is also required. CSG (a BPI Affiliate) provides training through contracted training entities and offers contractors a 75% rebate on training and accreditation after all required certificates are earned.

The program also partners with job training entities that prepare workers for green jobs. For example, through Isles, a nonprofit community development and environmental organization in Trenton, N.J., contractors can receive a six-month 50% subsidy on the hourly rate they pay workers who have graduated from their training. Funding is provided by New Jersey Department of Labor and Workforce Development. This is an effective way to bring new workers into the industry, and it enables companies to provide cost-effective on-the-job training to new workers.

### **Finance and Incentive Models**

The incentives and financing for Step 3 retrofits were changed in late 2009. For homeowners with estimated heating savings of 25% or more (based on the Step 1 assessment), the program now provides a 50% cash rebate up to \$10,000 plus 0% financing for 10 years on the balance of the retrofit costs. (Previously, rebates were capped at \$5,000, and 0% financing was not available.) Homeowners with estimated heating savings of at least 5% but less than 25% can get a 10% rebate up to \$2,000, or a loan of up to \$20,000 at 5.99% interest. The \$125 assessment fee paid by homeowners is refundable if the homeowner completes at least \$2,000 of work within three months of the assessment.

Contractors receive an additional 7% of job costs up to \$1,400 from CSG. This subsidy is designed to cover administrative costs that are required to participate in the program.

## **METRICS AND FEEDBACK**

As of Jan. 28, 2010, New Jersey Home Performance with ENERGY STAR had subsidized an estimated 3,000 assessments and provided financing and/or rebates for 1,138 retrofits, indicating a good assessment-to-retrofit conversion rate. The program is currently focusing more on gathering energy savings data from customers.

The program also has been successful at stimulating growth in the Home Performance industry. More than 60 contractors were actively engaged in program retrofit work in 2009 and early 2010, and as of as of March 15, 2010, the program had recruited a total of 135 participating contractors.

Feedback about the program has generally been positive, and contractors report that the financing and incentives available under the program have allowed them to attract more customers, expand their businesses significantly and hire more workers.

Some Home Performance contractors have complained about delays in payment, with checks issued months behind schedule in some cases. Program managers say they are attempting to address concerns that have come up as the program has grown and

program staff have been stretched. Delays in payment can happen when quality control inspections are not scheduled promptly, or when inspectors fail to coordinate inspection times with contractors. Delays also result from delayed check processing by the state.

The program indicates that the financing approval process normally takes two to three days, although in late December 2009, when there was worry about the program ending by the end of the month, there was a spike in funding applications and the approval process took two to three weeks. For jobs selected for quality control inspections, the process takes longer. The program reports that as of January 2010, inspections are done within four weeks.

## RECOMMENDATIONS

**Marketing and Contractor Training and Recruitment:** When planning to launch a new program, project managers should assess field conditions to determine if there is sufficient industry capacity to meet anticipated demand. If necessary, the program should increase outreach to contractors and incentivize training to develop the necessary capacity. If there is no existing customer base, programs should focus resources on marketing the program to boost immediate demand.

**Funding Disbursement:** Systems for funding disbursement should be efficient and not subject to bureaucratic delays. These delays are a disincentive for contractors to participate in the program. Program managers should plan and budget for needed staff increases to accommodate program growth, particularly with regard to quality assurance inspectors. Program administrators and staff also should maintain contact with the contractor through the inspection process, so the contractor can prepare to respond quickly to any issues raised.

**Financing and Incentive Structure:** The structure of the audit subsidy has proven to be an effective way to stimulate homeowner interest in Home Performance retrofits, and to encourage contractors to report the assessments they complete. The \$125 audit fee paid by homeowners gets them more invested in having retrofit work done, especially given that audit fees can be refunded to homeowners who spend an additional \$2,000 or more on retrofit work.

However, the audit reports would be more effective if blower door tests were required for all assessments. Furthermore, audit prices should not be set by the program, but rather subsidized by a fixed amount so contractors can match audit pricing to reflect

### SUMMARY OF RECOMMENDATIONS

- Focus marketing, contractor recruitment and training based on an assessment of industry capacity and the existing customer base
- Plan for sufficient staffing and efficient administrative processes to avoid delays in payment
- Provide easy and affordable pathways for homeowners to get involved with the program, with significantly higher benefits for deep whole-house retrofits.
- Stimulate industry capacity by offering subsidies for training, equipment and marketing

changes in the market and their own business models. This would allow companies may choose to charge even less for their own customers, depending on local market forces and on the availability of retrofit financing and incentive programs.

The program also has demonstrated the effectiveness of a tiered approach to incentives and financing that provides an easy path of entry into the program (via subsidized audits), a simple and low-cost prescriptive path (free air sealing for eligible homes) and a more intensive performance-based path that provides significantly higher incentives.

**Growing the Industry:** The program has stimulated industry growth by offering various subsidies for training, equipment purchases and marketing. Importantly, after a year of participation, many of the subsidies are only available to companies who complete at least 10 jobs per year, which helps ensure that program funding is not being wasted.

## SOURCES

This report is based in part on interviews and e-mail correspondence with Julie DeSeve, Program Manager, Conservation Services Group; Scott Needham, Princeton Air Conditioning; and Bill Asdal, Owner, Adsal Builders.

Interviews and background research were conducted for the Home Performance Resource Center by Marc Lubber and Coby Rudolph.

### **Publications:**

New Jersey Department of Labor and Workforce Development. *Green Job Training Partnership Program*

[www.lwd.dol.state.nj.us/labor/employer/training/Green\\_Page.html](http://www.lwd.dol.state.nj.us/labor/employer/training/Green_Page.html)

Consortium for Energy Efficiency. *New Jersey's Clean Energy Program Report, Submitted to the New Jersey Board of Public Utilities (Year-to-Date Through Fourth Quarter 2008)*

[www.cee1.org/eval/db\\_pdf\\_es/1018es.pdf](http://www.cee1.org/eval/db_pdf_es/1018es.pdf)

ContractingBusiness.com. *NJ Contractor Profits by Adding Home Performance Contracting* (Jan. 29, 2010)

[www.contractingbusiness.com/news/green\\_homes\\_america\\_princeton\\_air\\_conditioning\\_0129](http://www.contractingbusiness.com/news/green_homes_america_princeton_air_conditioning_0129)

### **Program-Related Web Sites:**

New Jersey Home Performance with ENERGY STAR:

[www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r](http://www.njcleanenergy.com/residential/programs/home-performance-energy-star/home-performance-energy-star-r)

Honeywell Utility Solutions: <https://buildingsolutions.honeywell.com/Cultures/en-US/Markets/Utilities>

Conservation Services Group: [www.csgrp.com](http://www.csgrp.com)

Wisconsin Energy Conservation Corporation: [www.weccusa.org](http://www.weccusa.org)

Isles, Inc.: [www.isles.org](http://www.isles.org)



The Home Performance Resource Center is a national 501(c)(3) nonprofit organization formed to conduct public policy and market research in support of the Home Performance industry. The Resource Center develops research materials for policymakers, energy program managers and industry stakeholders to promote job creation, economic recovery, lower household energy bills and deep reductions in residential carbon emissions through improved home energy efficiency.

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