



BEST PRACTICES FOR ENERGY RETROFIT PROGRAM DESIGN

PROJECT OVERVIEW AND METHODOLOGY

MARCH 2010

This document is part of a series of reports developed by the Best Practices Committee of the Home Performance Resource Center to aid program managers, program designers and policymakers in the design and implementation of successful home energy retrofit programs. The series is based on nine case studies of state and local programs in California, Colorado, New Jersey, New York, Oregon and Texas, with analysis by four separate working groups focused on 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.

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INTRODUCTION

Facing high unemployment and more stringent energy conservation goals, policymakers around the country are looking to Home Performance retrofitting as one of the best ways to create jobs in construction and related industries and reduce our dependence on fossil fuels. Consequently, numerous residential energy efficiency programs are under development at the federal, state and local levels to save energy and create jobs.

Home Performance companies provide unique insight into how programs can be most effective – they have experienced the realities of working with customers, hiring employees, dealing with energy efficiency programs and growing their businesses. Because energy efficiency programs rely on sufficient capacity and consistent quality among service providers, the informed perspective of Home Performance companies should be incorporated in program design and implementation.

The Home Performance Resource Center (HPRC) has undertaken a Best Practices Case Studies project that will research existing residential energy retrofit programs and identify best practices for the industry. The goals of the Best Practices Case Studies project are 1) to present research about the successes and challenges that residential energy programs have faced, including data from Home Performance companies participating in those programs; and 2) to develop recommendations that will help programs most successfully partner with the Home Performance industry to meet the challenge of retrofitting American homes on a large scale.

The HPRC Best Practices Case Studies project will produce nine case studies to review program data and provide a set of recommendations in four key areas: 1) finance and incentives, 2) marketing, 3) workforce development and 4) business models. As utilities and state and local agencies develop home energy retrofit programs, it is our intent to offer these case studies and recommendations as a public resource, to help program designers, program managers and policymakers craft and implement their programs most effectively. The case studies also will serve as the basis for a Best Practices White Paper, which will provide additional guidance regarding the structure and implementation of residential energy efficiency programs.

WHO IS INVOLVED

HPRC Board

HPRC board members are top executives at prominent Home Performance companies and trade organizations, including Affordable Comfort Inc. (ACI), the Building Performance Institute (BPI) and the California Building Performance Contractors Association (CBPCA).

Best Practices Committee

The Best Practices Committee is an official standing committee of the Home Performance Resource Center chaired by David Bangs, chair of Home Performance Washington and a national board member of HPRC's parent organization, the Home Performance trade association Efficiency First.

Best Practices Committee Participants:

Leadership

David Bangs	Committee Chair
Matt Golden	Chairman, Home Performance Resource Center
Jared Asch	National Director, Home Performance Resource Center

Committee Representatives

Scott Needham	Workforce Development
Brian Toll	Finance and Incentives
Damian Hodkinson	Business Models
Ed Thomas	Industry Marketing

Four Working Groups

The Best Practices Committee has formed four working groups composed of industry leaders with particular expertise in each working group's focus area. Each working group is composed of five to ten Home Performance contractors, auditors and industry professionals. The chair of each working group serves on the national Best Practices Committee. The four working groups will address specific components of program design and industry growth as follows:

Finance and Incentives Working Group: Identifies strong national, state and local finance models that give property owners access to capital to pay for home energy improvements and allow retrofitting costs to be amortized over time. In many cases, energy bill savings can fully offset the cost of financing energy improvements, making retrofit projects cash-flow-positive from day one.

Marketing Working Group: Reviews specific program markets and the industry as a whole to identify successful strategies for contacting, educating and engaging consumers to adopt home energy improvements on a large, national scale.

Workforce Development Working Group: Pinpoints strategies that will allow the Home Performance industry to 1) identify and hire the most alert, intelligent and well-trained workers available; and 2) position Home Performance jobs as attractive, well-paid careers. HPRC's work in these two areas will help to expand the available workforce and maintain quality workmanship as the industry grows.

Business Models Working Group: Investigates successful business models for home energy retrofitting to guide program development and facilitate rapid growth of the Home Performance industry.

PROJECT DELIVERABLES

Nine Case Studies

The Best Practices Committee will collect and review data from the following state and local programs and develop a case study for each program:

- **Berkeley FIRST** (Berkeley, California) – A pioneering Property Assessed Clean Energy (PACE) financing program for solar installations only
- **Palm Desert Energy Independence Program** (Palm Desert, California) – A PACE program that utilizes local government general fund allocations to finance renewables and HVAC system improvements
- **Sonoma County Energy Independence Program** (Sonoma County, California) – A California AB811 program using independent bonds (similar to PACE financing) to fund both renewables and efficiency retrofits
- **ClimateSmart Residential Energy Action Program/ClimateSmart Loan Program** (Boulder, Colorado) – A PACE bond program that funds both renewables and home energy retrofits
- **New Jersey Home Performance with ENERGY STAR** (New Jersey) – A finance and incentives program that is creating strong demand
- **New York Home Performance with ENERGY STAR** (New York) – Provides incentives or low-interest financing to make residential energy efficiency improvements, with strict standards for whole-house retrofits
- **Long Island Green Homes** (Babylon, New York) – An energy improvement loan program funded by reclassifying carbon as solid waste and tapping into a municipal solid waste reserve fund, with loans repaid through garbage collection bills
- **Clean Energy Works** Portland (Portland, Oregon) – Provides full up-front financing for residential energy efficiency and renewable energy measures
- **Austin Energy Residential Power Saver Program** (Austin, Texas) – Demand Side Management program of a municipally owned utility that offers various incentives, rebates and improvement loans for efficiency improvements and renewables

The research will use the following criteria to examine how programs track results and determine success:

- Energy savings, including reduction in BTU or Kilowatt hours as well as money saved by homeowners
- Job creation
- Health benefits
- Safety measurers

Recommendations

The project will make recommendations on the following issues:

Finance and Incentives: Whole-home energy audit structure and incentives; retrofit incentives; financing; considerations for small jurisdictions; and considerations for larger jurisdictions

Marketing: Program launch strategies; long-term marketing programs; maximizing conversion rates; regional variations and other special considerations (climate, market size, program design)

Workforce Development: Increasing interest in and awareness of the industry; training; certification and eligibility; job creation; long-term, sustainable employment

Business Models: Growing the industry; setting industry standards; the auditor-contractor relationship (including recommendations for programs with integrated contractors and for programs with independent auditors)

White Paper

Recommendations proposed by the Best Practices Committee and approved by the HPRC board will form the basis of a Best Practices White Paper, which will serve as a guide for program managers, program designers and policymakers in the design and implementation of successful energy retrofit programs. The paper will leverage the unique boots-on-the-ground perspective of HPRC Best Practices Committee members who are actively working in the industry to provide insight into maximizing the cost-effectiveness of home energy retrofits, and into scaling the industry quickly and sustainably while maintaining quality and preventing fraud.

PROJECT PHASES

1. Defining Goals
2. Research
3. Case Study Reports
4. Analysis and Recommendations
5. White Paper Development

1. Defining Goals

Criteria: The Best Practices Committee, with input from the board, defined a set of criteria to guide the research, analysis and recommendations of the project.

Research Questions: Working groups, made up of industry leaders, HPRC staff and others, developed research questions to address four topics: finance and incentives, marketing, workforce development and business models.

Case Study Template: HPRC will use examples of previous EPA case study projects to outline a case study template for the project.

2. Research

Working within the parameters of the intended goals and the research questions outlined by the working groups, the case study research data will include:

Initial Research: Background research, review of program Web sites, survey of news reports and other media sources

Contractor Interviews: Interview one to three contractors who have participated in the program

Program Manager Interviews: Interview program managers, program designers, policymakers or related staff

Associate and Partner Interviews: Where applicable, interview third-party organizations that have been involved in design and management of the program, such as independent management companies, utilities, local business groups or nonprofits

Follow-Up Questions and Additional Research

3. Case Study Reports

HPRC will use the data gathered to author and publish nine case studies. Steps involved will include:

Drafting: Synthesize research data gathered from different sources and use relevant data to answer case study questions.

Gather Additional Information: Collect other available information required for the case study.

Writing and Editing: Hire a professional writer to write and edit the case studies and to prepare the documents for publishing.

Publishing: Submit the case studies for publication in various periodicals, and make them available on the HPRC Web site.

4. Analysis and Recommendations

Recommendations for programs will be generated by working group members, proposed by the Best Practices Committee and approved by the HPRC board. Recommendations will be based on case study data and analysis along with direct business experience of working professionals. The recommendations process will entail:

Review of Case Studies: Working group members, including industry leaders and Home Performance experts, will review the case studies and submit to their working group draft recommendations on issues relevant to each group's focus area.

Working Group Recommendations: Each working group will come to consensus on a set of recommendations for their focus area.

Best Practices Committee Proposed Recommendations: The Best Practices Committee, made up of working group chairs and HPRC board and staff representatives, will review recommendations from the working groups and use them to create a complete set of proposed recommendations.

Peer Review: Select industry experts from the board of Efficiency First will review the Best Practices Committee's recommendations, challenge when deemed appropriate, and participate in a recommendations review session with HPRC Best Practices Committee members.

Board Review and Approval: The HPRC board will review the recommendations proposed by the Best Practices Committee and approve a final set of recommendations that incorporates any required changes.

5. White Paper Development

The White Paper will be completed in the following manner:

White Paper Drafting: HPRC staff will draft a document based on recommendations approved by the board and the Best Practices Committee.

Editing: HPRC will hire a professional writer to edit the white paper and prepare the document for publication.

Final Approval: The HPRC board will approve a final white paper document.

Publishing: HPRC will submit the white paper for publication in various industry journals, magazines and other relevant media, and make it available on the HPRC Web site.



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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