

Program Design & Customer Experience – Overview

Description

Key Resources

- [Residential Retrofit Program Design Guide](#) succinctly describes the key elements and characteristics of designing, implementing and evaluating a successful residential energy efficiency upgrade program. The material is presented as a guide for program planning from start to finish, laid out in chronological order of program development. It includes information similar to what can be found in the Residential Program Solution Center, but in a single, brief downloadable document.
- [A Policymaker's Guide to Scaling Home Energy Upgrades](#) is designed to help state and local policymakers to take full advantage of new policy developments by providing them with a comprehensive set of tools to support launching or accelerating residential energy efficiency programs.
- [Better Building Residential Program Implementation Plan Template \(Word Version\)](#) will help you develop a strategy for planning, implementing, and evaluating a successful residential energy efficiency program across all program components. A spreadsheet version is also [available](#).

Successful residential energy efficiency programs address the specific values, needs, and wants of their customers. The Program Design & Customer Experience handbooks will take you through a step-by-step process of designing, running, evaluating, and improving a successful residential energy efficiency program. Whether you are serving a new market where there have been no residential energy efficiency programs in the past or are offering new services to complement existing programs, you will find advice in these handbooks on how to:

1. [Assess existing market conditions](#) to help decide which customers your program will focus on and understand the products and services they need and want.
2. [Define program goals and objectives](#) to understand and communicate what you are seeking to accomplish.
3. [Identify and involve partners](#) who can help you administer and deliver your program.
4. [Design the program](#) to serve your customers' needs and meet your program's goals and objectives.
5. [Develop an implementation plan](#) to ensure that all program elements work together—from pre-launch to ongoing program delivery.
6. [Develop metrics and methods for an](#) evaluation plan that will help you understand the effectiveness of your program design and implementation.
7. [Develop program resources](#), such as a project tracking system to monitor interactions with customers and contractors and potentially identify program process bottlenecks or opportunities.
8. [Deliver your program](#) to meet the needs of your customers and partners.
9. [Assess and improve the program over time](#) to continually refine its design.
10. [Communicate program impacts](#) to ensure ongoing support from customers, partners, and other stakeholders.

These steps are not necessarily sequential and can be considered concurrently. Often an effective program involves an iterative process of revisiting several steps before settling on a program design to launch, while continuing to refine your program to achieve your goals.

The key to creating a successful program is defining what you want to accomplish and designing program elements to achieve it. Among the essential components of this approach are:

- Understanding the desires and values of the people whose decisions you are trying to influence
- Identifying and understanding what keeps your customers from more readily adopting energy efficient products and practices and helping them overcome informational, financial, and other barriers to home energy upgrades
- Defining and maintaining a focus on clear goals and objectives (e.g., a 2% reduction in residential energy use by 2020)
- Planning your program in light of a realistic assessment of resources needed and available to achieve your goals

- Establishing milestones that are both meaningful and attainable
- Asking “does this serve my customers’ needs?” throughout the program design and implementation process
- Operating with flexibility to re-assess all of the above over time as conditions warrant.

What Is a “Residential Energy Efficiency Program”?

As used in the Better Buildings Residential Program Solution Center, the term “program” refers to a series of coordinated activities that support specific strategic objectives to increase the adoption of residential energy efficient products and practices. Residential energy efficiency programs are delivered by many different types of organizations and their partners, including utilities, state and local governments, non-profit organizations, and for-profit companies.

Successful programs integrate several program components, such as [marketing and outreach](#) and [workforce development](#) so that supply can meet demand. In some cases, programs have used incentives to spur demand and offered [financing](#) to help consumers pay for home energy upgrades. A goal of effective programs is to ensure that there are enough customers to keep contractors engaged in providing residential energy efficiency services and that there are enough qualified contractors offering services to ensure that interested customers can get work done in a timely fashion. Effective programs also track and [evaluate](#) their work and refine strategies to respond to new information and opportunities.

From the homeowner’s point of view, success means that it is easy to understand what she needs to do to make her home more energy efficient (as well as comfortable, safe, and other benefits of home upgrades) and that all interactions with program staff and partners are useful and efficient—from initial contact to a successful home energy upgrade. You will want to build trust and ensure that customers have a positive experience so that they contact your program or home performance contractors again for future residential energy efficiency opportunities and refer their friends to the program. Ineffective program design and communication can lead to lost customers, frustrated partners, and ultimately the failure to meet program goals.

These handbooks provide more detail on designing and implementing a cohesive and balanced residential energy efficiency program.

- [Market Position & Business Model – Overview](#)
Identify your organization’s preferred market position by assessing existing market actors, gaps, competitors, and potential partners. Develop a business model that will allow you to deliver energy efficiency services.
- [Evaluation & Data Collection – Overview](#)
Develop evidence-based insights into your program’s performance through third-party process and impact evaluations. Learn how to develop effective data collection strategies and timely evaluations to identify important program achievements as well as opportunities for making program improvements.
- [Marketing & Outreach – Overview](#)
Spur consumer demand for your program’s services by understanding your target audience and motivating them to act using effective messaging, marketing and outreach tactics, and attractive program offers.
- [Financing – Overview](#)
Ensure that your program’s customers will have access to affordable financing, so they can pay for the services you offer.
- [Contractor Engagement & Workforce Development – Overview](#)
Support and partner with the workforce who will deliver your program’s energy efficiency services by understanding their capacity, recruiting contractor partners, enabling technical training and business development support, fostering clear communication, and refining program processes over time, in partnership with your workforce.

Stages

The following are important stages for successful program administrators to follow when implementing Program Design & Customer Experience activities; however, no two programs are the same, and program administrators need to take into account the unique aspects of their market to create the most effective approach possible. Select each stage to access its handbook.

1. **[Assess the Market](#)**
Research and analyze the specific barriers, needs, and opportunities for a residential energy efficiency program in your community.
2. **[Set Goals & Objectives](#)**
Establish program goals and objectives to clarify what you want your program to achieve and to guide program design and implementation over time.
3. **[Identify Partners](#)**
Establish relationships with organizations that can help deliver your program by enhancing your knowledge, resources, capabilities and access to customers and contractors.
4. **[Make Design Decisions](#)**
Solidify your program strategy and decide which customers you will focus on; what products, services, and support you will provide; and how you will partner with contractors and others to deliver services to your customers.
5. **[Develop Implementation Plans](#)**
Develop a detailed plan for launching and operating your program that integrates all program components into a process that is customer-friendly and efficient for contractors and other partners.
6. **[Develop Evaluation Plans](#)**
Establish metrics and measurement strategies for understanding whether you are effectively achieving your program goals and meeting your customers' needs, while identifying areas that can be improved.
7. **[Develop Resources](#)**
Develop the necessary materials, tools, and staff capacity to effectively deliver and manage your program.
8. **[Deliver Program](#)**
Ensure a positive customer experience with your program from launch through implementation over time.
9. **[Assess & Improve Processes](#)**
Improve your program's efficiency and effectiveness through regular information collection, assessment, decision-making, adaptation, and communication.
10. **[Communicate Impacts](#)**
Develop a strategy for communicating program impacts and benefits to key audiences to create and sustain support and engagement.

Tips for Success

In recent years, hundreds of communities have been working to promote home energy upgrades through programs such as the Better Buildings Neighborhood Program, Home Performance with ENERGY STAR, utility-sponsored programs, and others. The following tips present the top lessons these programs want to share related to this handbook. This list is not exhaustive.

Keep the program simple for your customers

Given all of the other things that compete for your audience's attention, it is critical that program participation steps are straightforward and easy to understand. Many programs have found that too much complexity makes it harder for interested homeowners to complete upgrade projects. These programs have focused on streamlining services, requiring as few steps as possible for customers, and keeping the message about the upgrade process simple.

- **Enhabit**, formerly Clean Energy Works Oregon, provided a **“One-Stop Shop” Home Energy Remodel** process to guide customers through a four-step process: apply, assess, finance, and transform. This simple process gave customers access to a comprehensive package of services that included low-interest financing and rebates, free energy assessments, assistance from an independent energy advisor, and the option to repay monthly loan obligations through their heating utility bills. To keep the process simple for customers and, in the process, improve program administration efficiency, Enhabit focused on process automation through its internal project tracking system.
- Recognizing that many different types of energy efficiency financing and rebates were available to its customers—but that it could be overwhelming to sort through them all—**RePower Bainbridge** helped customers access aggregated information by creating a **consumer-friendly guide** to all utility and non-utility incentives in its service area. The local utility benefited from the guide as well—it made the guide available to all of its customers.

Provide customers with a single point of contact to help them through the upgrade process

While homeowners may be interested in the benefits of an energy upgrade, many are deterred from completing an upgrade project because of the complex and unknown process. Often, a significant portion of homeowners who receive energy assessments do not continue with the upgrades. As part of the Better Buildings Neighborhood Program, multiple programs across the country tested a range of customer service strategies through a single point of contact to guide homeowners through the entire upgrade process. These program staff members are often called energy advisors or energy coaches and can provide a combination of services to help customers overcome barriers to home energy upgrades.

This approach – identifying barriers and providing targeted services through dedicated energy advisors to overcome them – has produced higher conversion rates and more satisfied customers; however, these services can also be time-intensive and increase the cost of program delivery. For more information on utilizing energy advising services to minimize informational, decision-making, and transactional barriers faced by homeowners, see [Energy Advisors: Improving Customer Experience and Efficiency Program Outcomes](#).

- **EnergySmart** in Boulder County, Colorado, found that having an energy advisor assigned to each program participant through the home energy upgrade process was a key to program success. Energy advisors built trust with the customer during an initial home visit and maintained a one-on-one relationship with homeowners throughout the process. Energy advisor services included installing low-cost measures, reviewing the assessment report and work scope, assisting with contractor selection, and helping with program paperwork. The relationship endured after the upgrade: after they completed their first upgrade, program participants frequently continued to stay in communication with energy advisors about additional projects and questions. Through customer surveys, Boulder found that 97% of customers rated their energy advisor as professional, knowledgeable, and timely. These customers agreed that “working with my Energy Advisor has been worth my time and effort.” In Boulder, around 60-70% of homeowners enrolled in the program took actions to upgrade their homes.
- Energy advisors for **Enhabit**, formerly Clean Energy Works Oregon, provided education, objective advice on the assessment report and work scope, and quality control to customers across nearly half of the state. Program staff helped customers initiate the process by scheduling a home energy assessment, and they provided a quality control review following upgrades. Advisors also monitored the progress of each project through internal project pipeline status reports, which helped reduce bottlenecks and minimize customer frustration. The energy advisor strategy helped Enhabit achieve a 94% customer satisfaction rating during the program pilot. Enhabit found that in some cases—such as having energy advisors present at assessments conducted by high performing contractors—the program could reduce energy advisor services without impacting customer satisfaction or reducing the number of upgrades completed. This knowledge allowed the program to reallocate their resources.

- The [Denver Energy Challenge](#) provided customers with free energy advisor services starting with an initial phone call. The energy advisors helped customers by identifying available rebates and financing options, finding qualified home improvement contractors, reviewing bids, providing education on energy improvements, and even connecting qualified residents with other free or subsidized energy improvement services outside of the Denver Energy Challenge. As a result of this support, nearly 75% of customers who worked with an energy advisor went on to complete a home energy upgrade.
- [NeighborWorks of Western Vermont](#) staff scheduled all contractor visits for its customers residing in small towns across Rutland County. Once contractors completed home energy assessments, energy advisors reviewed assessment reports with customers. This review helped customers understand the content of the reports and prioritize improvements to be undertaken based on their needs and budgets. Energy advisors helped customers apply for financing (as needed) – a common point in the upgrade process where projects stall – and move on to the next steps. The energy advisor acted as the customer’s primary point of contact for information about the assessment and upgrade process. This approach contributed to the program’s success in completing over 600 upgrades from 2010 through 2013.
- [Greater Cincinnati Energy Alliance](#) (GCEA) energy advisors helped homeowners through every aspect of the upgrade process, from requesting an assessment to hiring a contractor. The program found that offering energy advising services through one individual person – the energy advisor – made potential customers more comfortable with the program, even if many customers did not actually contact the advisor. This hands-on customer service increased the number of completed upgrades and ensured that a high standard of quality was maintained throughout the process.

Make upgrade options clear and concise for customers

Programs in many regions of the U.S. find that the concept of home performance is new to homeowners. Homeowners may not know how energy efficiency measures compare (e.g., energy savings benefits of insulation versus new windows) or have not heard about some effective measures, such as air sealing. Programs can help customers overcome decision paralysis with a prioritized list of upgrade recommendations and help deciding which measures to undertake. Several programs have devised simple approaches to help customers understand the energy savings, cost savings, and other benefits from various types of measures, so homeowners can choose what is best for them. Recognize that customers may have other priorities when considering an assessment’s proposed measures (e.g., improving the look of their home with new windows or replacing an aging furnace before winter weather sets in).

- [Austin Energy](#) developed a form to estimate energy savings using a point system that contractors could use with residents during a home assessment. The form helped contractors and customers quickly determine which measures would achieve 15% energy savings in the home. Texas A&M’s Energy Systems Laboratory validated the point system for the program to ensure its accuracy and integrity. The program found that this streamlined approach was appealing to customers and contractors.
- [Los Angeles County’s Energy Upgrade California](#) implemented the [Flex Path program](#) that used a point system to show the energy savings from a menu of energy upgrade measures. To be eligible for program rebates, residents then selected which measures they would like to undertake that would total over 100 points and achieve 15% energy savings.
- [Michigan Saves](#), formerly BetterBuildings for Michigan, provided customers with a “base package” that included an energy assessment, direct installs of compact fluorescent light bulbs and water saving devices, and basic measures like air and duct sealing. Customers could then choose to undertake additional measures (e.g., insulation, furnace replacement) in addition to the base package. The program found that the clear and concise base package was a good way to get people into the program, but it wasn’t sufficient to reach the program’s goal of 15% energy savings in upgraded homes. Getting homeowners to achieve higher energy savings through additional measures required incentives, such as rebates and low interest financing. For more information, see the case study [Experiment to Find the Right Mix of Incentives](#).

Keep the program simple for your contractors

Program administrators learn early on that they should minimize the burden for contractors entering and participating in the program. Satisfied contractors are a key to satisfied customers and successful programs. Many programs have realized that they should streamline program processes, minimize changes over time and communicate early with contractors about new offerings and potential changes. To reduce contractors’ reporting costs and help ensure timely and complete reporting, these programs have streamlined contractor reporting forms and requirements as much as possible. Many programs also avoid making contractors meet locally-specific certification requirements, instead requiring certification from nationally recognized programs. For more on working effectively with contractors, see the [Contractor Engagement and Workforce Development handbooks](#).

- [NeighborWorks of Western Vermont](#) focused on listening to the needs, wants, and issues of contractors, so the program could help them serve customers most effectively. The NeighborWorks program held individual monthly meetings with each contractor to review client status, as well as bi-weekly group contractor meetings to review program issues, alert contractors to any changes in the program, and provide learning opportunities.
- [Enhabit](#), formerly Clean Energy Works Oregon, has been very successful in engaging contractors in regular, ongoing communication and making adjustments to the program in response to contractor feedback. For example, when Enhabit engaged a new financing partner, the program asked contractors to examine the loan product and approval process. Leadership of the [Home Performance Contractors Guild of Oregon](#), an organization that provided a unified voice and formal role for program contractors, identified that the timing of loan signings came too late in the contractor sales process. The guild said the financing product would not be of much use to contractors because contractors would have to expend considerable effort in a project before knowing if their customer could get a loan to pay for it. As a result, Enhabit renegotiated with the financing partner to put the loan signing earlier in the sales process. For more information, see the case study [Making the Program Work for Contractors](#).

Incentivize the action you want your customer to take

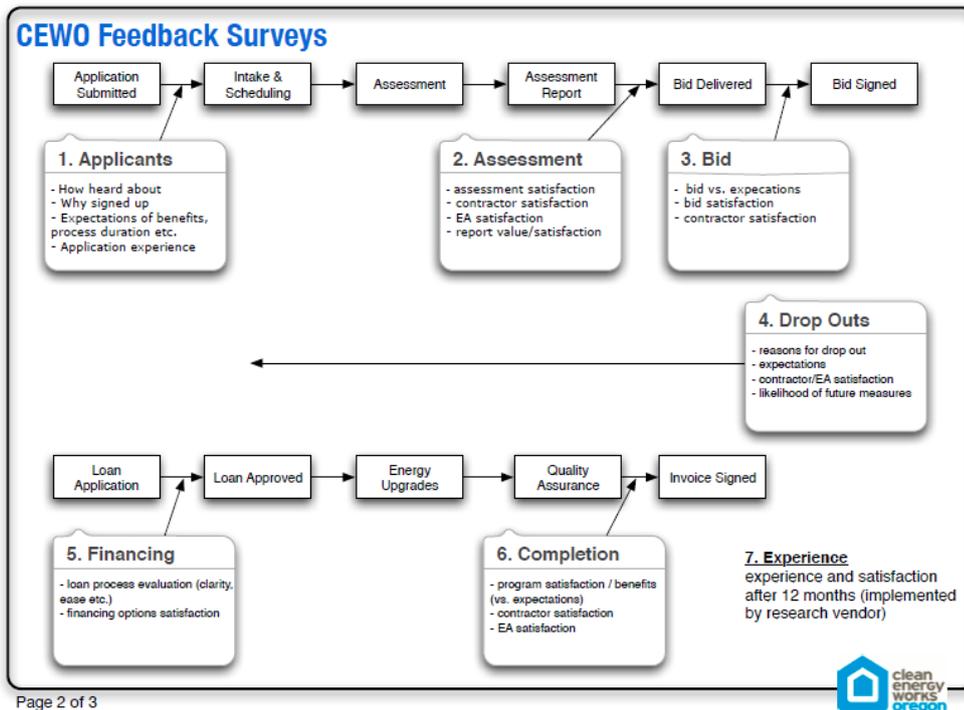
Successful programs know that it is not enough to get customers interested in their services. They know that homeowners that receive assessments but don't undertake upgrades don't receive the benefits of energy efficiency—and programs don't get credit for energy savings. Instead of emphasizing interim steps, these programs make sure their messages and incentives encourage customers to take actions that save energy—whether it is a home energy upgrade, updating heating system, or purchasing energy efficient appliances.

- Early in the [Michigan Saves](#) program, canvassers going door-to-door started their conversations with homeowners by emphasizing the “free stuff” that customers could get if they participated in the program (e.g., compact fluorescent light bulbs, sink aerators, and showerheads). When the canvassers passed leads on to contractors who then tried to market, other measures that customers would have to pay for (e.g., insulation, air sealing, duct work, furnace replacement), these customers felt like they had been signed up for something they didn't agree to. After that, the program modified its messages and incentive structure to reflect the ultimate goal—an energy upgrade. For more information on how Michigan modified the incentive structure of its program, see the case study [Experiment to Find the Right Mix of Incentives](#).
- Recognizing that the concept of home performance was relatively new in Cincinnati, the [Greater Cincinnati Energy Alliance](#) (GCEA) promoted low cost energy assessments through its contractors to generate interest for the program. GCEA found that a high percentage of homeowners took advantage of the low-cost assessments with no intention of proceeding to a home energy upgrade. This resulted in a lower-than-expected conversion rate of assessments to completed upgrade projects. In response, GCEA increased the cost of assessments, which excluded homeowners that were merely curious. As a result, the program's conversion rate increased. At the same time, the program realized that homeowners in the region were not prepared to pay the full market cost for an assessment. GCEA suggests that programs establish a price for home energy assessments that is high enough to reduce the number of homeowners pursuing assessments out of curiosity with little intention to upgrade their homes, but low enough to generate a demand sufficient enough to support a home performance industry. Multiple programs across the country have settled on an assessment price around \$100.
- The goal of [Enhabit](#), formerly Clean Energy Works Oregon, was to achieve at least 15% energy savings in each home, but it designed its rebates to reward even greater energy savings. For example, when rebates for 15% energy savings were \$500, rebates were \$1,000 for 25% energy savings, and \$1,500 for 30% energy savings. These incentive levels contributed to the fact that 85% of those participating in Enhabit's program reduced their energy use by more than 30%. Enhabit's Executive Director reported that “our incentive structure gets customers excited about aiming high and gives contractors a lever to encourage a more comprehensive scope of work.” To learn more about Enhabit's experience, see the case study [Use Incentives to Get Attention and Encourage Deep Savings](#). [Austin Energy](#) offered a similar tiered rebate system.

Measure and evaluate performance at key points in the process

[Measuring performance](#) at key points in the upgrade process (e.g., assessments, conversion rates, and financing applications) has helped programs understand where their processes are working smoothly and where they are not. This information has helped them continuously improve their program design and implementation. To monitor progress, successful programs have combined information from their project tracking systems with customer surveys, information from call centers, and feedback from contractors and lenders to understand the customer experience. Make data accessible for program staff to track progress, identify successful strategies, and detect points of failure.

- **Enhabit**, formerly Clean Energy Works Oregon, established an extensive process for getting customer feedback at key points in the program delivery process to evaluate customer satisfaction and better understand why some homeowners chose to undertake upgrades while others did not. The program identified seven points in the program delivery process to gather information through feedback surveys and phone interviews: application, assessment, bid, drop-out, financing, completion, and experience after 12 months. The program credited this kind of customer communication and feedback as one of the keys to its ongoing success.



Source: Clean Energy Works Research Planning, Will Villota, CEWO, 2012 (Presented during January 19, 2012 Better Buildings Residential Neighborhood Program peer exchange call).

- Boulder County's **EnergySmart** program sent an online customer **feedback survey** to homeowners who had completed upgrades. Among other things, the customer surveys affirmed customer satisfaction and identified the opportunity for word-of-mouth marketing. Surveys found that the vast majority of the respondents would recommend the EnergySmart service to a friend or neighbor. The surveys also surfaced some weaknesses that the program resolved. For example, some respondents noted contractor's lack of response and professionalism as an issue, which led the program to develop **guidelines for professionalism and customer contact**. Surveys also noted that the assessment report was long and confusing, leading the program to develop a new, customized report that was easier to follow and clearer about next steps.
- Connecticut's **Neighbor to Neighbor Energy Challenge** used qualitative contractor and customer feedback combined with quantitative data to **evaluate how well its outreach efforts led to home energy assessments**. When informal contractor feedback alerted program managers that relatively few interested customers were following through to have assessments conducted on their homes, the program analyzed project data and found that only around a quarter of customers who expressed interest in an assessment had completed one. To diagnose the problem, the program analyzed data to see how customers were acquired, how long it took to send leads to contractors, and how long it took contractors to follow up with customers to arrange for an assessment. Through qualitative analysis, the program found, among other things, that customers didn't understand what they were signing up for and may have been unwilling to say "no" to young and enthusiastic outreach staff. The program also found that its staff wasn't following up quickly enough with people that wanted more information. In response, the program improved its process for distributing leads to contractors (e.g., linking contractors to homeowners in 1-2 days), created a "receipt" for interested customers outlining next steps, and set up a system to call non-responsive leads after two weeks. With these and other steps, the program increased its close rate 35% in one month after changes were implemented.

Offer homeowners multiple types of assessments

Several successful residential energy efficiency programs offered multiple types of home energy assessments to appeal to a range of homeowner interests and needs. These ranged from online home assessments to brief walk-throughs to full diagnostic testing. A comprehensive [evaluation](#) of over 140 energy efficiency programs across the U.S. found that programs offering participants more than one option for home assessments were more successful than those that did not. Low-cost and less time-intensive assessment options allowed homeowners with fewer upgrade needs, more time constraints, or financial limits to participate. The evaluation found that offering a simplified pathway to participation, without energy modeling or diagnostic testing, could attract more contractors to participate in programs. More comprehensive and intensive assessments, however, may be more likely to motivate homeowners to undertake energy efficiency upgrades according to a [2014 Resources for the Future study](#), so it is important to offer these more comprehensive assessments to customers who are interested.

- [RePower Bainbridge](#) offered interested homeowners two pathways for participating in the program: pay a fee for an in-depth assessment with diagnostic equipment performed by a BPI-certified contractor or start with a more basic, free home assessment conducted by a RePower Bainbridge energy advisor. The free assessment provided homeowners with a customized list of the three highest priority recommended energy upgrades, information about the home's seasonal and base-load energy usage, information about non-energy benefits of upgrades, rebate availability, and recommendations for local home performance contractors. With the paid assessment, homeowners receive a detailed energy use report for their home, an Energy Performance Score, energy upgrade recommendations, and a comparison of the home's current energy costs to estimated costs following recommended upgrades. Through the program, 900 basic assessments were completed and 306 comprehensive audits were conducted. The basic assessments led to an 11.4 percent conversion rate, while the comprehensive audits led to a 40 percent conversion rate, resulting in 124 upgrades out of the program's 606 total.
- Boulder County, Colorado's [EnergySmart](#) program set out to create an upgrade process that was as easy as possible for participants. Energy advisors played a key role in lowering barriers to participation, including directing homeowners toward the most appropriate type of assessment for their needs. Options included a free phone consultation, a walk-through assessment with an energy advisor for \$50, or a comprehensive audit at \$135 – all subsidized by the program. Energy advisors explained upgrade options during audits, and would follow up with participants to encourage them to take action. The comprehensive audit was the most frequently selected option, and represented more than 50 percent of the total households that went on to complete an upgrade.
- Early in its program, [Clean Energy Works](#) (then operating only in Oregon) conducted a full Home Performance with ENERGY STAR assessment for each participating home; however, this approach was costly for the program and contractors. To reduce costs, Clean Energy Works implemented the [100-Point Performance Check](#). Assessors go through the list with homeowners during a free initial visual assessment. If the homeowner decides to undertake upgrades with the program, they can undertake more in-depth diagnostic testing.

Examples

The following resources are examples from individual residential energy efficiency programs, which include case studies, program presentations and reports, and program materials. The U.S. Department of Energy does not endorse these materials.

Case Studies

[Innovative Energy Efficiency Projects Implemented by Local Governments in the Southwest](#)

Author: Southwest Energy Efficiency Project

Publication Date: 2012

Descriptions of eight county-level and city-level energy efficiency programs in the Southwest.

[Spotlight on Michigan: Sweeping the State for Ultimate Success](#) (500 KB)

Author: U.S. Department of Energy

Publication Date: 2011

This case study describes an innovative program design used by BetterBuildings for Michigan to "sweep" neighborhoods in order to effectively reach its residential audience and achieve an 80% participation rate among those canvassed.

[Spotlight on Austin, Texas: Best Offer Ever Produces Upgrades in Record Time](#) (555 KB)

Author: U.S. Department of Energy

Publication Date: 2011

With its Best Offer Ever promotion, Austin Energy completed comprehensive energy upgrades in a record 564 homes in only six months--more than 10 times the utility's typical participation rate. To quickly develop momentum for BetterBuildings-Austin Energy's Clean Energy Accelerator program with homeowners, Austin Energy leveraged its existing Home Performance with ENERGY STAR infrastructure, experience, and contractor base but added a comprehensive rebate/financing offer for a finite launch period. Demand soared, and due to thoughtful planning, Austin Energy and its contractors were able to keep up with requests for energy assessments, inspections, improvements, and loan origination, while learning valuable lessons along the way.

[Spotlight on Rutland County, Vermont: How Local Ties Lead to Local Wins](#) (552 KB)

Author: U.S. Department of Energy

Publication Date: 2011

Building on its understanding of homeowners in Rutland County, Vermont, NeighborWorks of Western Vermont (NWWVT) enlisted respected local citizens and organizations to spread the word about home energy efficiency upgrade opportunities, an effort that helped drive demand for nearly 200 home upgrades in just six months

[Spotlight on Seattle, Washington: Community Partnerships Work to Extend Program Reach](#) (5 MB)

Author: U.S. Department of Energy

Publication Date: 2011

This case study shares how Seattle's Community Power Works engaged a vast network of partners to build on existing capacity and knowledge, extending the reach of its program in a short period of time.

Program Presentations & Reports

[Better Buildings Neighborhood Program Evaluation Report: Volume 6: Spotlight on Key Program Strategies From the Better Buildings Neighborhood Program](#)

Author: U.S. Department of Energy

Publication Date: 2015

Volume 6 of the Better Buildings Neighborhood Program Evaluation Report provides findings from a comprehensive impact, process, and market effects evaluation of the program period, spanning from September 2010 through August 2013. This volume includes case studies that describe successful strategies that programs used during the evaluation period.

[City of Durham's Neighborhood Energy Retrofit Program](#)

Author: Aaron Milano, City of Durham, North Carolina

Publication Date: 2011

Presentation explaining how Durham, North Carolina, implemented a neighborhood home energy upgrade program that achieved significant energy savings.

[Energy Upgrade California in Los Angeles County: The Flex Path Program](#)

Author: Steve Culbertson, BKi

Publication Date: 2012

This presentation talks about Energy Upgrade California's Flex Path pilot program which offers a menu of upgrade options for homeowners to select. Its flexible approach has been popular with middle-income homeowners interested in upgrades.

[Going Deep Green: A Whole House Approach: Lessons Learned](#)

Author: Kellie Stickney, SustainableWorks

Publication Date: 2012

Presentation on the SustainableWorks non-profit general contractor model for supporting energy upgrades in Washington state and lessons learned for implementing a whole house approach.

[Keeping It Simple from the Customer's Perspective - CPS Energy](#)

Author: Joni Zacharisen, CPS Energy; Clint McKenzie, City of San Antonio, Texas

Publication Date: 2012

Presentation describing the San Antonio program and tactics used to drive demand and enhance service delivery to make the program simpler for customers.

[Keeping It Simple from the Customer's Perspective - Greater Cincinnati Energy Alliance](#)

Author: Greater Cincinnati Energy Alliance

Publication Date: 2012

Presentation describing the Greater Cincinnati Energy Alliance program and tactics used to drive demand and enhance service delivery to make the program simpler for customers.

[Keeping It Simple from the Customer's Perspective - State of Michigan and Michigan Saves](#)

Author: Mary Templeton, BetterBuildings for Michigan

Publication Date: 2012

Presentation describing the State of Michigan and Michigan Saves programs and tactics used to drive demand and enhance service delivery to make the program simpler for customers.

[Long Island Power Authority - What's Working in Residential Energy Efficiency Upgrade Programs](#)

Author: Lianne Altmann, Long Island Power Authority

Publication Date: 2011

An overview of ENERGY STAR remodeling options and the associated cost savings.

[National Grid: Home Performance with Energy STAR](#)

Author: Jerry Hanna, National Grid

Publication Date: 2011

Brief presentation on the experience of a Massachusetts energy utility, National Grid, with the Home Performance with ENERGY STAR program.

[Rebuilding Our Local Economy: One Home at a Time](#)

Author: Clean Energy Works Oregon (now Enhabit)

Publication Date: 2012

Clean Energy Works Oregon (now Enhabit) provides a simple four-step process for homeowners seeking energy upgrades. It includes: (1) apply, (2) assess, (3) finance, and (4) transform. Along with financing, rebates are available for home energy assessments and energy upgrades (rebates vary based on energy savings). As of June 2012, the program completed 1,800 home energy remodels, received over 90% customer satisfaction, and saved \$500,000 in energy costs.

[Technology Solutions and Programmatic Approaches: Driving Innovation in Residential Energy Efficiency Strategies](#)

Author: Kat Donnelly, EMpowerDevices; Kerry O'Neill, Earth Markets

Publication Date: 2012

Connecticut's Neighbor to Neighbor Energy Challenge uses dashboards that display key project data for administrators and contractors to monitor progress over time. The program has evaluated performance at different steps in the process and identified strategies to improve performance where needed, such as sales training for contractors, energy advisors, monthly contractor scorecards, and multiple customer "touches." These improvements increased the close rate from 26 to 60 percent in one year.

[Using Data to Monitor Market Transformation](#)

Author: Melissa Glickman, Boulder County, Colorado (now EnergySmart)

Publication Date: 2012

EnergySmart Colorado uses surveys and a customer database to get feedback from homeowners that helps fine-tune program services and operations.

[Using Data to Monitor Market Transformation - Charleston WISE](#)

Author: Betsy Kleinfelder, The Sustainability Institute

Publication Date: 2012

As part of its "intentional learning" process, Charleston WISE collects information from homeowners that helps the program systematically test assumptions and implement continuous improvement.

[What's Working in Residential Energy Efficiency Upgrade Programs: Greater Cincinnati Energy Alliance](#)

Author: Andy Holzhauser, Greater Cincinnati Energy Alliance

Publication Date: 2011

Presentation on the organization, funding structure, and market focus of the Greater Cincinnati Energy Alliance.

[What's Working in Residential Energy Efficiency Upgrade Programs Promising Approaches and Lessons Learned](#)

Author: Anne Evens, CNT Energy

Publication Date: 2011

An overview of tools and approaches used to transform the energy efficiency market in Chicago.

[Energy Pro3: Productivity, Progress and Prosperity for the Southeast](#)

Author: Southeast Energy Efficiency Alliance

Publication Date: 2013

This report demonstrates the results achieved to date by the Southeast Energy Efficiency Alliance. It highlights the experiences of Consortium programs, their successes driving further investments in energy efficiency improvements, and the challenges that hindered their progress. It also details the infrastructure, resources, and opportunities that support the deployment of energy efficiency programming, and the approaches that the Consortium has found best suited to the region.

Program Materials

[Austin, Texas: Project Timetable](#) (34 KB)

Author: Austin Energy

Publication Date: 2010

A project planning timetable template from Austin Energy that reflects all program planning activities, including marketing.

[EmPower Louisiana, HERO-Existing Homes Program: Program Guidelines](#) (175 KB)

Author: Louisiana Department of Natural Resources

Publication Date: 2011

Describes program guidelines for EmPower Louisiana's Home Energy Rebate Option (HERO)-Existing Homes Program. Provides guidance to participants on how the EmPower Louisiana HERO Program will be implemented, and provides details on all aspects of the application and reporting process.

[Fayette County, Pennsylvania Housing Market Analysis - Prepared for the Fayette County Housing Consortium](#)

Author: Mullin and Lonergan Associates Inc.

Publication Date: 2011

Fayette County, Pennsylvania completed a county-wide housing market analysis in 2005. The Fayette County Better Buildings program used information contained in the analysis to help inform its program design. For example, the program drew on information about the county's "patch" communities, which are towns constructed in the early 1900s by coal companies to house workers--to ensure that the program would address the unique conditions within these communities.

[NYSERDA's Home Performance with ENERGY STAR Process Flow Charts](#) (23 KB)

Author: New York State Energy Research and Development Authority

Publication Date: 2010

Two visual flow charts, one that illustrates the process starting with customer interest to final incentive payment, and another that illustrates the program's quality assurance process.

[**Program Design Flowchart for Eagle County, Colorado \(55 KB\)**](#)

Author: EnergySmart Colorado

Publication Date: 2011

Example of a program design flowchart showing key steps and relationships for the energy efficiency program in Eagle County, Colorado.

[**Program Design Flowchart for Greensboro, North Carolina \(152 KB\)**](#)

Author: BetterBuildings for Greensboro

Example of a program design flowchart showing key steps and relationships for the energy efficiency program in Greensboro, North Carolina.

[**Project Implementation Plan: Colorado Retrofit Ramp-Up Project \(275 KB\)**](#)

Author: EnergySmart

Publication Date: 2011

Example of an implementation plan developed by EnergySmart Colorado at the beginning of the implementation of its Better Buildings Neighborhood Program.

[**Seattle Community Power Works Implementation Plan \(595 KB\)**](#)

Author: Community Power Works

Publication Date: 2011

Example of an implementation plan developed by Seattle's Community Power Works at the beginning of the implementation of its Better Buildings Neighborhood Program.

Toolbox

The following resources are available to help design, implement, and evaluate possible activities related to this handbook. These resources include templates and forms, as well as tools and calculators. The U.S. Department of Energy does not endorse these materials.

Templates & Forms

[Better Building Residential Program Implementation Plan Template \(Word Version\) \(2 MB\)](#)

Author: U.S. Department of Energy

Publication Date: 2015

The Better Building Residential Program Implementation Plan Template will help you develop a strategy for planning, operating, and evaluating a successful residential energy efficiency program. The template includes sections for all six program components (i.e., Market Position & Business Model, Program Design & Customer Experience, Evaluation & Data Collection, Marketing & Outreach, Financing, and Contractor Engagement & Workforce Development).

[Better Building Residential Program Implementation Plan Template \(Excel Version\) \(66 KB\)](#)

Author: U.S. Department of Energy

Publication Date: 2015

The Better Building Residential Program Implementation Plan Template will help you develop a strategy for planning, operating, and evaluating a successful residential energy efficiency program. The template includes sections for all six program components (i.e., Market Position & Business Model, Program Design & Customer Experience, Evaluation & Data Collection, Marketing & Outreach, Financing, and Contractor Engagement & Workforce Development).

[Better Building Residential Program Implementation Plan Template - Program Design & Customer Experience \(2 MB\)](#)

Author: U.S. Department of Energy

Publication Date: 2015

The Program Design & Customer Experience Implementation Plan Template will help you develop a strategy for planning, operating, and evaluating your program design activities.

Tools & Calculators

[Buildings Performance Database](#)

Author: U.S. Department of Energy

The Buildings Performance Database (BPD) is the largest national dataset of real building performance data, and enables users to perform statistical analysis on an anonymous dataset of hundreds of thousands of commercial and residential buildings from across the country. One of the most powerful applications of the tool is custom peer group analysis, in which users can examine specific building types and geographic areas, compare performance trends among similar buildings, identify and prioritize cost-saving energy efficiency improvements, and assess the range of likely savings from these improvements.

Topical Resources

The following resources provide additional topical information related to this handbook, which include presentations, publications, and webcasts. Visit [Examples](#) for materials from and about individual programs.

Topical Presentations

None available at this time.

Publications

[A Short Guide to Setting up a City-Scale Retrofit Program](#)

Author: Green For All; Center on Wisconsin Strategy

Publication Date: 2009

This guide provides energy efficiency program design guidance for local and regional programs. It focuses on cost-saving energy efficiency strategies, creation of high quality jobs, and services for the low-income sector.

[Energy Efficiency Quick Start Programs: A Guide to Best Practices](#)

Author: Southeast Energy Efficiency Alliance

Publication Date: 2014

SEEA created this document to inform the planning, design and delivery of early-stage energy efficiency programs in the Southeast. This document captures general concepts essential to the successful development and implementation of robust program portfolios, as well as lessons learned from prior experience on the regional and national levels.

[Existing Homes Program Guide](#)

Author: Consortium for Energy Efficiency

Publication Date: 2010

This guide provides background on the home improvement market in the U.S. and Canada and end users and systems in existing homes, as well as a description of energy efficiency program approaches and strategies.

[Home Performance with ENERGY STAR Sponsor Guide and Reference Manual \(v1.5\)](#)

Author: U.S. Department of Energy

Publication Date: 2014

The Sponsor Guide was designed to assist with developing an implementation plan for a Home Performance with ENERGY STAR program. It covers key elements of the plan, including the scope and objectives of the program and the policies and procedures that will ensure its success. The Sponsor Guide is divided into seven sections, each covering a specific requirement of the HPwES Program: Use and Management of the Home Performance with ENERGY STAR Mark, Program Design and Development, Workforce Development and Support, The Assessment, Project Installation, Quality Assurance, Tracking and Reporting.

[Residential Retrofit Program Design Guide](#)

Author: Oak Ridge National Laboratory

Publication Date: 2011

The Residential Retrofit Program Design Guide focuses on the key elements and design characteristics of building and maintaining a successful residential energy upgrade program. The material is presented as a guide for program design and planning from start to finish, laid out in chronological order of program development.

[Local Climate and Energy Program Model Design Guide](#)

Author: U.S. Environmental Protection Agency

Publication Date: 2015

This guide was developed for local climate and clean energy (i.e., energy efficiency, renewable energy, and combined heat and power) program implementers to help create or transition to program designs that are viable over the long term. The guide draws on the experience and examples of EPA's Climate Showcase Communities as they developed innovative models for programs that could be financially viable over the long term and replicated in other communities.

Webcasts

Home Performance with ENERGY STAR

[Presentation](#) (4 MB), [Media](#), [Transcript](#)

Author: Chandler von Schrader, U.S. Environmental Protection Agency; Casey Murphy, ICF International; Matthew Phillips, Austin Energy

Publication Date: 2010

Overview of the Home Performance with ENERGY STAR program for existing homes.

How to Design a Community Energy Alliance

[Presentation](#), [Media](#) (75 MB), [Transcript](#)

Author: Ben Taube and Jolyn Newton, Southeast Energy Efficiency Alliance; Eric Mackres, American Council for an Energy-Efficient Economy

Publication Date: 2010

Webcast on how to design a community energy alliance.

How to Design and Market Energy Efficiency Programs to Specific Neighborhoods

[Presentation](#), [Media](#) (62 MB), [Transcript](#)

Author: Michelle Leigh, County of Volusia, Florida; Andrea Petzel, City of Seattle, Washington; Lilah Glick, Greater Cincinnati Energy Alliance

Publication Date: 2011

This webcast offers information on successful marketing strategies, as well as design considerations and market research insights for creating and marketing successful projects in specific neighborhoods.

Integrating Experimental Design Into Your Program

[Presentation](#), [Media](#) (79 MB), [Transcript](#)

Author: Annika Todd, Lawrence Berkeley National Lab

Publication Date: 2011

Experimental design is often used to increase certainty about the actual impacts of a program and what strategies are worth repeating going forward. This webcast reviewed some experimental design techniques and gave examples of how they might fit into your programs.

Quality Assurance for Residential Retrofit Programs

[Presentation](#), [Media](#) (44 MB), [Transcript](#)

Author: Jim Grevatt, Vermont Energy Investment Corporation

Publication Date: 2010

Webcast about quality assurance for residential upgrade programs.

Residential Retrofit Program Design Guide Overview

[Presentation](#), [Media](#) (75 MB), [Transcript](#)

Author: Richard Faesy, Energy Futures Group; Andy Meyer, Efficiency Maine; Nikki Kuhn, Vermont Energy Investment Corporation

Publication Date: 2011

Webcast on the DOE Residential Retrofit Program Design Guide, which focuses on the key elements and design characteristics of building and maintaining a successful residential upgrade program.

Tips and Tools for Promoting Your Energy Efficiency Project

[Presentation](#), [Media](#) (53 MB), [Transcript](#)

Author: Jim Arwood, National Association of State Energy Officials; Nancy Raca, ICF International

Publication Date: 2010

This webcast provides information on why outreach is important for program success and how programs can promote their efforts.

Quick Links

[View All Program Design & Customer Experience Content](#)

The following list provides access to resources with more information on these key topics. Selecting a key topic will return a list of resources related to that topic. If you have suggestions for additional key topics, [please tell us](#).

- **Cost-Effectiveness Tests**

Cost-effectiveness tests compare the benefits of a utility or non-utility program's investment in energy efficiency with its associated costs. The five most common tests used by public utility commissions are: the participant cost test (PCT), the utility/program administrator cost test (PACT), the ratepayer impact measure test (RIM), the total resource cost test (TRC), and the societal cost test (SCT).

- **Customer Engagement**

Customer engagement tactics aim to form a relationship between a customer and a program or contractor to increase the likelihood that the customer will participate fully in the program. From pledges (which provide contractor leads and engage potential customers without requiring a full commitment from them) to testimonials (which encourage homeowners to share their upgrade experience with others), engaging customers in multiple ways can help increase program successes.

- **Data Exchange Specifications**

Data exchange specifications help facilitate the transfer of data between software systems used by a program and its partners or stakeholders. A standard specification for transferring data reduces the need to develop a data transfer protocol each time two systems need to transfer information. One emerging example for transferring data collected during an in-home assessment to a program's software system is home performance XML (HPXML).

- **Deep Energy Upgrades**

Deep energy upgrades aim to save at least 50% total energy use in homes. Work scopes are based on whole building assessments that review all building systems together. In addition to focusing on reducing energy use, deep energy upgrades often also address issues such as moisture control and ventilation which may be affected by upgrade measures.

- **Energy Advisors**

Energy advisors are typically program staff who help customers understand, manage, and successfully navigate the home energy assessment and upgrade processes. Customer services can range from providing independent technical advice to serving as the customer's primary point of contact for all program services. A program's decision to use energy advisors varies by community needs and program resources.

- **Financial Incentives**

By lowering the risk, decreasing the cost, or offering additional benefits, financial incentives (e.g., rebates, limited-time offers, special interest rates) can motivate potential or current customers to take a prescribed action.

- **Impact Evaluation**

Impact evaluations are the traditional approach to verifying program energy savings because they measure actual reductions in consumption by a residential energy efficiency program's participants. Formal impact evaluations seek to isolate the attributable impacts of a program's efforts by adjusting for weather differences and independent forces by comparison with a control group.

- **Market Segmentation**

Market segmentation divides target audiences into categories based on their attitudes, attributes, or buying habits. With this information, teams can research and craft messages that will resonate with specific audience groups and implement targeted marketing tactics to reach them effectively.

- **Neighborhood Sweeps**

Neighborhood sweeps are geographically targeted campaigns to reach a specific audience in an identified community over a defined period of time.

- **Non-Financial Incentives**

Non-financial incentives can entice potential or current customers into taking a prescribed action or changing their behavior at low cost to the offeror. Examples include public recognition, prizes, awards, and other tactics.

- **Non-Energy Benefits**

Energy efficiency programs provide identifiable benefits beyond energy savings, such as job creation, economic development, avoided emissions, and water savings. Quantifying these non-energy benefits may help program administrators demonstrate progress toward stated program and/or policy goals, or increase general awareness and support for program activities.

- **Pilot Projects**

Many programs run pilot projects to gain direct experience in their markets, while testing and refining program design before full-scale launch.

- **Policies and Regulations Impacting Energy Efficiency Programs**

Policies and regulations, such as energy efficiency targets, utility cost-effectiveness tests, financial regulations, and others, influence how your organization provides energy efficiency services.

- **Process Evaluation**

A process evaluation systematically assesses an energy efficiency program in order to document its operations and identify improvements that would enhance its efficiency or effectiveness while maintaining high levels of participant satisfaction. A process evaluation may be accomplished in-house or performed by a third-party to maintain independence.

- **Process Flow Diagrams**

Process flow diagrams illustrate key steps, decision points, and interaction points between programs, contractors, and partners from home energy upgrade project inception to completion. They are an important tool for ensuring effective coordination at critical points in the assessment and upgrade process, and identifying opportunities to streamline program processes.

- **Program Dashboards**

A tracking tool for programs, dashboards summarize critical metrics for monitoring progress toward meeting program goals, objectives, and efficient program processes. For many programs, they are an important tool for assessing and improving programs over time and communicating results to partners and stakeholders.

- **Program Management Information Technology (IT) Systems**

Program management IT systems help program administrators efficiently and effectively track energy upgrade activities, workflow, and data involving customers, contractors, utility and financial partners, and other stakeholders. Program managers need to consider the pros and cons of buying or developing a data collection solution that will meet their specific needs for aggregating, analyzing, storing, and visualizing data for program management, as well as a source of data for evaluations.

- **Quality Assurance**

Quality assurance ensures quality work that meets agreed upon standards through systems established by programs, contractors, and/or other partners. Strategies range from requiring certification of contractors, through processes to ensure the technical quality of installed improvements, to soliciting customer feedback once projects have been fully completed. Quality assurance protects homeowners by providing an independent review of work performed by contractors to ensure that it meets program standards. Quality assurance also protects the reputation of a program.

- **Requests for Proposals**

A request for proposals (RFP) is often necessary to engage the services of a program implementation partner or third party evaluator. An RFP should have a well-defined scope of work and clear description of how proposals will be evaluated.

- **Revenue Streams**

Funding for organizational and program activities can come from a variety of sources including, but not limited to, ratepayer funds collected by utilities, grants (federal, state, foundation, etc.), and income from services provided to program participants or contractors. In many cases, individual revenue streams will have specific requirements on how the funding may be spent as well as specific reporting requirements.

- **Working with Utilities**

Public, private, and non-profit organizations often seek to work in partnership with investor-owned and municipal utilities to provide energy efficiency services. Utilities may already be offering energy efficiency services that other organizations can enhance or promote, and utilities typically have access to energy consumption data that helps track program success.

