Description

All residential energy efficiency programs rely on a local, engaged base of contractors to deliver high-quality services to homeowners. Understanding the types of contractors in your local market is key to designing effective plans for contractor engagement and workforce development. You need to identify two types of contractors: existing home performance contractors and other contractors that could expand their services to offer home energy upgrades. You should also research local or national training providers that could help you build and enhance the skills of your workforce in order to meet program needs.

Home performance contractors currently serving your local market are well positioned to deliver your program’s services. To meet your program’s overall objectives for energy upgrades, however, your program may need to expand beyond this pool of contractors. Contractors that specialize in home remodeling; heating, ventilation, and air-conditioning (HVAC); or other services could expand their services to offer energy upgrades, if that expansion fits their business interests.

To support contractor business expansion in the longer term, your program and its partners might train and help find employment for new home performance professionals. Home performance professionals require key skills to be effective, including knowledge of energy and building science, energy analysis software and diagnostic tools, health and safety, and sales.

This handbook provides information and tools to help you:

- Identify existing home performance contractors in your market
- Find other contractors that could expand their services to include energy upgrades
- Assess the need for new skills and certifications for contractors
- Evaluate existing training and education providers who could become workforce development partners
- Identify organizations that can help find workers and match them to jobs.
Find related information across other program components:

- **Market Position & Business Model – Assess the Market**
  Research and analyze the specific barriers, needs, and opportunities for a residential energy efficiency program in your community.

- **Program Design & Customer Experience – Assess the Market**
  Survey existing and potential demand for energy efficiency products and services based on an understanding of policies, housing and energy characteristics, demographics, related initiatives and other market actors.

- **Marketing & Outreach – Assess the Market**
  Identify and prioritize potential target audiences based on their likely receptivity to your program’s services.

- **Financing – Assess the Market**
  Determine how your target audience currently funds energy efficiency services, to what extent upfront cost is a barrier, and whether improvements to their financing options would increase the uptake of energy efficiency measures.

**Step-by-Step**

To assess the market relative to Contractor Engagement & Workforce Development, you should take the following key steps.

### Identify existing home performance contractors in your market

Many communities already have contractors that provide energy assessment and upgrade services to homeowners. Be sure to identify these contractors early on, as they can help your program hit the ground running by performing initial energy assessments and upgrades. They can also help you understand the local market and what services your program can provide to support them and potential customers. By leveraging their customer base, contractors can help sell your program’s offerings to their clients. These customers can become some of your program’s early adopters, while other outreach and marketing efforts may generate other customers beyond those currently reached by contractors. These contractors can also help mentor and employ newly trained home performance professionals.

#### Defining the Home Performance Workforce

- **Contractors** are businesses that provide home energy upgrade services to homeowners. Some contractors specialize in efficiency-related areas, such as insulation. Some may not focus on energy efficiency, but have expertise in relevant skills, such as servicing HVAC equipment, lighting, and remodeling homes. **Home performance contractors** focus on the overall efficiency, safety, and comfort of homes, often across several trades; however, they are not as prevalent.

- **Home performance professionals**, also known as technicians, are individuals who work for the contractors and implement the recommended energy upgrades the homeowner selects. They may specialize in improvements related to air and/or duct sealing; insulation; HVAC; and other related services such as plumbing, electrical, carpentry, and site work.

- **A home energy assessor**, also known as an auditor, is a trained professional who uses analysis tools to diagnose energy loss and develop recommended solutions. After installation, an energy assessor can verify that improvements were installed correctly and do not pose health or safety problems. In some cases, an energy assessor will rate or score a home for its efficiency. An energy rating or score will indicate how efficient the home is relative to a baseline. An energy assessor may work independently from contractors or work directly for contractors.

To find qualified contractors in your area, you can start by searching online directories and certification programs, such as:

- **Building Performance Institute (BPI)**, a nationally recognized institute, which develops standards and credentials for residential energy auditing and upgrades.
- **Residential Energy Services Network** (RESNET), a national, not-for-profit network, which sets standards for building energy efficiency rating and certification systems.
- **Efficiency First**, a nationwide network of energy efficiency professionals.
- **North American Technician Excellence**, a non-profit certification program for technicians in the heating, ventilation, air-conditioning and refrigeration industry.
- **Air Conditioning Contractors of America** (ACCA), a non-profit association that writes standards, connects contractors with each other, and provides technical resources.
- **Laborers International Union of North America** (LiUNA), an international union of construction workers with over 500,000 members.

In addition to looking online, coordinate with other energy programs to gain a thorough understanding of the contractors that are active in your community. Research:

- Your state’s [Weatherization Assistance Program](#).
- Your state’s energy office.
- [Home Performance with ENERGY STAR Programs](#) in your area.
- Approved contractor lists that your local utility may have.

As you research the existing home performance contractors in your community, keep track of the types of work they are doing and their qualifications. Note that some contractors may specialize in certain types of services or markets (e.g., residential, multifamily, commercial).

**Find other contractors that could expand their services to include energy upgrades**

Once you have an understanding of the home performance contractors in your community, consider reaching out to companies from other trades to expand the pool of contractors participating in your program. Every community has businesses that install or service energy equipment (e.g., HVAC systems) and businesses that maintain, build, and remodel home structures (e.g., building enclosures, electrical systems, and plumbing systems).

In addition to home performance contractors, at least four key types of companies provide services related to energy efficiency upgrades. These companies include:

- **Remodelers**, which provide a full array of home improvements, such as remodeling an individual room, replacing floors and walls, or adding rooms (They might also subcontract with specialized contractors, such as insulation contractors or solar energy contractors, for installing energy equipment or energy efficiency measures).
- **HVAC contractors**, which install and maintain HVAC equipment.
- **Insulation contractors**, which install insulation and sometimes air-sealing.
- **Retailers**, which sell goods and services, including energy efficiency products and services, directly to consumers.

Each of these business types has different drivers and barriers for partnering with a program to provide energy upgrade services to customers (see the [U.S. Department of Energy Business Models Guide](#)). Key incentives and disincentives for these companies to enter into or expand within the residential energy efficiency market are listed in the table below.
Incentives and Disincentives for Companies to Expand Within the Residential Energy Efficiency Market

<table>
<thead>
<tr>
<th>INCENTIVES</th>
<th>DISINCENTIVES</th>
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<tr>
<td>Adding energy upgrade services can attract new customers or add value for existing customers.</td>
<td>Expanding into a new market requires different skills, certification, and equipment. The associated costs can be sizable and create a barrier to entry, especially for smaller contractors.</td>
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<tr>
<td>Partnering with a residential energy efficiency program can provide financial or other benefits (e.g., free or low-cost marketing, qualified leads, subsidized training).</td>
<td>Because contractors target a similar demographic, competition within the home performance market can be high.</td>
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<tr>
<td>It may be possible to leverage financing and incentives (e.g., rebates, low-cost financing) to sell projects to customers.</td>
<td>Companies with profitable businesses might see no need to expand into new service areas.</td>
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<tr>
<td>There could be benefits to being associated with a high-quality brand and quality assurance program.</td>
<td>Additional reporting requirements and complying with workforce standards can contribute to higher service delivery costs.</td>
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Reach out to trade associations to identify specific types of contractors that might be interested in expanding their range of services to include energy efficiency improvements. For example, some HVAC contractors are represented by Air Conditioning Contractors of America (ACCA); there are also many local and regional trade associations. The document, Contractor Blueprint: Getting from HVAC to Home Performance developed by the California Center for Sustainable Energy and the Home Performance Resource Center, provides guidance for HVAC contractors on getting started in the home performance market, and can be helpful for establishing partnerships.

Integrating Home Performance Into Existing Trades in Connecticut

The Connecticut Energy Efficiency Fund provides electric and natural gas home energy-efficiency load management programs to customers through a partnership with HVAC contractors, builders, and remodelers. These trades bring with them existing customer relationships, established businesses with capacity and experience, and quality control via state licensing requirements. Program administrators reached these partners through focused outreach to HVAC trade associations, panel-style events, and targeted messaging. These efforts helped Connecticut to dramatically scale-up and transform the market for home performance services.


Assess the need for new skills and certifications for contractors

Contractors working with your program should have a core set of skills and qualifications. The expertise needed to deliver your program includes technical knowledge and skills in building science, health and safety, energy assessment, and installation of energy efficiency measures as well as critically important skills in sales, marketing, customer service, and business operations.

Contractor and Workforce Skills

Home performance contractors and the professionals they employ should be proficient in a range of knowledge and skills. They need to be able to conduct energy assessments, install energy efficiency measures, provide superior customer service, and manage a financially viable business. These topics and abilities include:

- Energy and building science concepts
- Quality, health, and safety standards
- Energy analysis software tools
- Diagnostic tools
- Sales and marketing
- Business operations.
To learn more about the range of skills and the requirements for different types of home performance professional, see the [DOE Guidelines for Home Energy Professionals](#). These guidelines address standard specifications for quality work, critical tasks and core competencies for effective training programs, and a framework for professional certifications. The guidelines include job task analyses that describe the tasks and skills needed for specific jobs, information about accredited training programs, downloadable training modules, and other resources.

The [Home Performance with ENERGY STAR Sponsor Guide and Reference Manual (v1.5)](#) is another source of information about requirements that home performance professionals must meet in order to participate in Home Performance with ENERGY STAR programs and to ensure that they provide quality energy efficiency services to customers.

Other handbooks include more guidance for developing a training program based on these skills and planning for deployment.

Identify the skills or certifications your contractors need and that your program can provide based on three key factors:

- **Your community’s housing characteristics and energy upgrade opportunities.** Through a market assessment, you can develop a good understanding of the age, quality, and condition of your community’s existing building stock. This includes the types of buildings (e.g., single family, multifamily), the types of construction (e.g., site-built, manufactured), the styles of homes (e.g., ranch, colonial, Cape Cod), and other considerations. These housing characteristics influence the energy efficiency measures that are appropriate and the types of contractors necessary to complete the anticipated work.

- **Your program’s service delivery objectives.** Your program’s objectives for energy assessments and upgrades will depend on contractors for implementation and to some extent marketing, since contractors will likely be involved in generating leads and closing sales for the program in addition to providing the services to homeowners. Accordingly, you should develop these service delivery objectives in coordination with contractors and other key implementation partners. Note: Your contractor engagement objectives should reflect the scale of your marketing and outreach efforts, as those efforts will influence the number of contractors you will need to support your program.

- **The current level of expertise of the contractor base.** The broader and deeper the experience of existing contractors, both in terms of the technical requirements and business acumen, the fewer needs they will have and the less your program will have to invest to support them.

The training that your program and its partners provide should reflect both the skills and capabilities required for home performance professionals and the needs in your local market.

### Evaluate existing training and education providers who could become workforce development partners

Although you may need many types of training to establish a robust, local home performance professional workforce, you do not need to create all of these training courses yourself. Many organizations provide training and education for home performance professionals. In this stage of your program, you should gain an overview of training and education providers and their existing educational offerings. After you determine your workforce qualifications and identify gaps, you will be able to further define specific training needs and determine which institutions can meet those needs.

Consider these strategies for finding training providers:

- Contact nearby [Weatherization Training Centers](#) to find centers that offer Weatherization Assistance Program training for low-income households.
- Search the [Home Energy](#) magazine directory of North American training programs to find public and private training providers.
- Contact the [state or local Workforce Investment Board](#) (WIB) for your region. WIBs direct federal, state, and local funding to workforce development programs and can connect you to local training programs that might be interested in collaborating.
- Partner with private training programs that provide home performance training to connect contractors with options that may be tailored to the local market.
- Reach out to community colleges and universities to access courses they may offer on home performance.
- Connect with local home builders associations and other trade organizations to identify who is offering or equipped to offer relevant training in your region.
- Identify organizations that provide accreditation for home performance training programs, such as the [Interstate Renewable Energy Council](#). Find organizations in your area, or that provide traveling training services or distance learning.
Linking local home performance professionals to continuing education credit courses can help boost their skills across a wide range of training areas. Organizations that provide continuing education credits for professionals at workshops and conferences include:

- **Home Performance Coalition** ACI national and regional home performance conferences
- The **Energy and Environmental Building Association’s** Houses That Work Education Program and National Conference
- The National Association of Home Builders’ (NAHB) **Remodeling Show**
- NAHB’s **International Builders Show**
- **GreenBuilder College**
- The U.S. Green Building Council’s **GreenBuild Conference**
- The American Institute of Architects’ **National Convention**.

Through this research, keep track of the potential training and workforce development partners in your community and those that seem particularly relevant to the home performance industry.

**Identify organizations that can help find workers and match them to jobs**

As part of your research on potential workforce development partners, identify organizations that can help your program provide jobs for unemployed or underemployed workers in the home performance or related industries. Reach out to local Workforce Investment Boards, which oversee One-Stop Career Centers, where job seekers can get employment information, find out about training opportunities, and connect to various programs in their area.

Depending on your program’s goals and objectives, you may want to target workforce development and employment efforts on workers who are unemployed or underemployed in your community. Strategies include:

- Reaching out to local unions to identify recently trained home performance professionals who are looking for more business
- Contacting real estate and construction associations to find unemployed or underemployed construction workers who could be retrained to perform energy upgrades
- Researching veterans organizations and programs such as **Veterans Green Jobs** to identify other potential workers.

You can find contact information for some local associations through national portals, such as:

- **Efficiency First**, a nationwide network of energy efficiency professionals
- **National Association of Home Builders** (NAHB), a national trade association comprised of more than 800 state and local associations that works to improve policy conditions for the housing and building industry
- **National Association of the Remodeling Industry**, a nationwide trade association dedicated to promoting the remodeling industry and helping connect homeowners with contractors
- **Air Conditioning Contractors of America** (ACCA), a non-profit association that writes standards, connects contractors with each other, and provides technical resources.

To find local associations that are active in your area, you should talk with the contractors and vendors in your market. Reach out through online research or the phone book, or in places such as the lumberyard or HVAC supply houses.

Ultimately, local contractors hire workers when there is sufficient work to do and reason to believe that supply of work will continue. The success of job-creation efforts will be directly tied to the volume of projects sold to customers. As you move forward, coordinate very closely with participating contractors to align any recruitment, training, and certification activities with their needs and to facilitate connections to trained workers.
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.

Maintain a sufficient workforce from program launch into program maturity

Your program will rely on its contractor base in order to succeed, so take steps to ensure that the capacity of the workforce is sufficient to launch your program and to maintain it as it grows. An evaluation of over 140 programs found that successful programs fostered and maintained relationships with a large pool of contractors. Many Better Buildings Neighborhood Program partners took the time to learn about contractors’ businesses and align program promotions with those needs. Focus on expanding contractors’ businesses and avoid interrupting or complicating a sale. Also, remember that it is important not to take contractors’ leads to their competitors, as can occur when programs pool all leads and distribute them on a rotating basis. Contractors are protective of leads they generated themselves, so this can become a disincentive for contractors to participate in your program.

If you understand contractors’ business processes and align promotions during contractors’ periods of greater availability, you can help ensure that your program will retain a reliable workforce into the future. One way that you can attract the contractors you need is to design your program in a way that will benefit contractors. Take steps to ensure that contractors want to work with your program, and to reduce barriers to their ability to do so.

- Enhabit, formerly Clean Energy Works Oregon, created a system to help ensure that the program did not interfere with competition among contractors, or cause contractors’ leads to be given to their competitors. Initially, the program pooled all leads and referred them to contractors on a rotating basis, assigning them to the next contractor in line. This led to some contractors’ leads being given to other contractors. The program later improved that process by assigning a code to each contractor, and when a contractor generated a lead, the customer would use the appropriate code. In that way, Enhabit would be able to assign the work to the appropriate contractor.

- Seattle’s Community Power Works coordinated with contractors before launching marketing initiatives that were going to drive a spike in demand. Contractors could then prepare in advance for the increase in customer interest, and the program was able to establish required timelines for contractors to follow, to ensure that new customers received an evaluation in a timely manner.

Design a program that provides value for contractors and considers their seasonal business cycles

Many residential energy efficiency programs run into challenges maintaining an appropriately sized, well-trained workforce from program launch through maturity, as well as through the fluctuating demand of the seasons of the year. Some programs found that their contractors preferred a smooth annual workload in order to avoid layoffs during the slow off-season months, while others found that they benefited from seasonal fluctuations in demand. By understanding your contractors’ schedules and capacity, you can schedule campaigns to generate demand for their services when they want it and pursue innovative strategies to help them manage their workload accordingly.

Coordinate with your contractors to identify their needs and preferences and explore ways that you can help drive demand or increase the number of available professionals.

- Austin Energy acquired an extensive understanding of the existing contractor workforce and gathered key insights into local contractors’ schedules and capacity. Austin’s hot weather keeps contractors busy dealing with home cooling issues during the warm months of the year. Austin Energy purposely launched its Best Offer Ever promotion in fall 2010 to take advantage of contractor availability and provide more work during otherwise slow contracting months. This approach increased the likelihood that upgrades would be completed in a timely manner, while also helping Austin-area contractors avoid seasonal layoffs.

- NeighborWorks of Western Vermont realized that fluctuating seasonal demand for home energy efficiency upgrades posed challenges for contractors. Contractors were reluctant to hire additional technicians during peak season because they knew that demand would ebb in the spring and summer. The result was a backlog of projects. The program created a pool of temporary employees to help contractors in need of home performance professionals, including small contractors. This approach helped participating contractors weather the changing demand for home performance upgrades by offering them the flexibility to grow and shrink their workforce as needed. Many contractors expressed enthusiasm for the temporary employee pool, and the extra staffing helped reduce the number of backlogged projects throughout the community.

Establish collaborative partnerships with contractors and communicate with them early and often
Contractors are more likely to serve as program champions when the program engages with them throughout program design, delivery, and improvement. Your contractors are the primary contact points with your customers, and the quality of their interactions and services strongly influences how customers view your program. Many Better Buildings Neighborhood Program partners found that gathering contractor input during the program’s planning phase helped ensure that the program would create value for contractors as well as for customers. The programs built personal relationships with contractors by demonstrating interest in their business concerns and needs. Indeed, an evaluation of over 140 programs across the United States found that programs were more successful when they fostered relationships with their contractors and communicated frequently with them.

By communicating regularly (e.g., via a monthly breakfast meeting, other outreach events) with a core group of contractors, programs were able to better monitor program implementation and receive suggestions for improvement. These programs elicited feedback from contractors about how customers perceived program offerings, as well as input about what was working and what was not for both contractors and customers. Some programs surveyed contractors to collect a regular stream of information about how program implementation was going and to get feedback before rolling out new offers or program design changes.

- **NeighborWorks of Western Vermont** maintained steady lines of communication with its network of contractors to help ensure that barriers to getting work done in a timely manner were identified early and that solutions were collaborative. The program held monthly one-on-one meetings with each contractor to review client status and progress and to identify any problems and potential training opportunities. The program also organized bimonthly group contractors meetings focused specifically on sharing new techniques or products. NeighborWorks used regular contractor communications, performance feedback, and contractor incentives and competitions to help contractors improve their assessment-to-upgrade conversion rates. By engaging contractors and including them from the start on any proposed program revisions or promotions, NeighborWorks was able to improve program delivery.

- **Enhabit**, formerly Clean Energy Works Oregon, program is charged with saving energy and supporting clean economic growth. Much of its success has come from engaging contractors in a continual learning and improvement process. Enhabit solicits feedback from contractors at meetings every two weeks and uses this feedback to guide improvements. With support from the Energy Trust of Oregon, a few contractors collaborated to create the **Home Performance Contractors Guild of Oregon**, which enables contractors to organize their opinions into a unified voice and have a more formal role in program and regional policy discussions. When Enhabit engaged a new financing partner, the program asked the Guild to examine the loan product and approval process. Input from the Guild helped ensure that the product was something that contractors would be able to explain and promote to customers.

- In Washington State, the **Repower Kitsap** program started in a region where the home improvement market was fragmented and under-developed. Contractors were initially wary of one another, tended to work only in their specialty, and often did not have working relationships with one another. The program established monthly brown bag meetings to discuss program goals and requirements and to gather contractor input on the program. The monthly meetings helped contractors get to know and trust one another and develop productive working relationships. Many contractors even shared leads with other contractors who specialized in the types of projects they could not or did not want to handle.
The Long Island Green Homes program began consulting with contractors during program design and continued to do so as the program launched and began full service operations. The program established contact with a core group of contractors it trusted, meeting with them regularly to review program status and direction. In particular, the program made it a priority to engage with contractors when rolling out program changes, asking them about their needs, concerns, and current state of business. In this way, the program ensured that program offerings were adding value for the home performance industry and that program requirements were manageable for contractors. For more information on the Long Island Green Homes’ launch and other pilot programs, visit the October 2011 Better Buildings Residential Network Peer Exchange Call Summary.

Help contractors enter the home performance market by lowering barriers to entry and providing training, networking, and mentoring opportunities

Entering a new market adds risk to contractors’ businesses. As several Better Buildings Neighborhood Program partners focused on their efforts to attract contractors, they realized that it would be valuable for them to help contractors enter the home performance market. Many programs took steps to lower or eliminate unnecessary hurdles or barriers to contractors’ successful entry into the market. These barriers included long delays to receive payment for the program, paperwork burdens that were sometimes excessive enough to make contractors reluctant to participate, program expectations that were unclear to contractors, and upfront costs (e.g. for equipment purchases).

To help contractors overcome these barriers and enter the home performance market, many programs have provided program orientations covering expectations and procedures, offered mentoring and networking opportunities, and worked with contractors to improve work processes. Some programs have offered equipment loan programs, subsidized training, and other services to lower the upfront costs of entering the home performance market. Taking steps to help contractors enter the home performance market can help you establish a trained workforce of high-quality contractors to support home performance work.

Rutland County, Vermont recruited and trained qualified technicians and “loaned” them to smaller contractors, to help them scale up to meet demand while mitigating business risk. The program set up a temporary labor pool that contractors could access when they needed greater capacity to meet demand. The labor pool helped new technicians enter the home performance industry, and helped smaller contractors weather seasonal fluctuation in market demand. Ten employees had worked in the labor pool as of 2012, with about three to five workers in the pool at any given time.

Fayette County, Pennsylvania helped contractors enter the market by providing grants and financing to minimize startup costs, and by giving contractors the opportunity to provide Building Performance Institute (BPI) certification to their technicians. The program partnered with a local private industry council to train technicians to become BPI certified at no cost to students. The partnership program helped new home performance professionals start new businesses, for example, by providing grants and low-interest loans to purchase computer software and professional equipment. Ninety-four individuals completed the training through the partnership program. Training and certification in the home performance industry provided Fayette County residents with an opportunity for stable and well-paying careers.
• New Hampshire’s Beacon Communities Project sought to reinvigorate the local economy of Berlin, New Hampshire, following the 2006 closure of a pulp mill. The program began working with local community colleges to provide BPI-certified training to develop more qualified home performance professionals. The program supplemented the training with mentoring opportunities for students who completed classroom trainings but needed more experience in the field before being hired by a contractor or starting their own company. In the nearly three years since the program’s launch in September 2013, 42 students were trained through these classes and mentorships. These trained students helped the program offer quality home performance upgrades to homeowners, and the mentorship helped students become qualified home performance professionals.

• Enhabit, formerly known as Clean Energy Works Oregon, provided networking and mentoring opportunities to help contractors enter the home performance market. The program connected new contractors with peer mentoring services, allowing them to shadow an experienced professional in the field and office and get focused guidance from top-performing contractors. Mentors are compensated with additional project leads from the program. Enhabit also held morning meetings twice monthly for contractors to connect with each other. Contractors were able to use these meetings to organize and coordinate with the Home Performance Guild of Oregon, helping enable the Guild to expand significantly and to hire its first full-time executive director. As of December 2015, the Guild had over 50 home performance contractor members across Oregon, including more than two-thirds of the program’s contractors.

Connect home performance professionals to trainings focused on the skills that employers want and the community needs

Effective home performance contractors require many types of skills and expertise. To help individuals develop those skills, programs can target training on the specific topics and skills needed for successful home performance work. Many Better Buildings Neighborhood Program partners found that they could cost-effectively increase their contractors’ access to training by engaging with expert partners to provide training, mentoring, and apprenticeship opportunities. A comprehensive evaluation of over 140 programs across the United States found that the more successful programs offered multiple training opportunities to contractors, either by delivering training or engaging partners to deliver training. By providing access to training, programs saw enhanced assessment quality, more effective sales approaches, increased rates of conversion from assessment to upgrade, more comprehensive upgrades, more effective and efficient installation processes, improved quality control, and increased revenues for contractors.

Training alone does not create jobs in the community, but you can increase the relevance of your training by using contractor input to select training topics. Several Better Buildings Neighborhood Program partners found that asking contractors what topics would be valuable also helped the program build an engaged and capable workforce. By providing access to the specific training that contractors want, programs can increase their chances of success by ensuring that they have a strong pool of contractors with a deep understanding of building sciences and the ability to install or subcontract a variety of energy-saving measures.

Some programs found success in working with education and training providers, such as community colleges, universities, and weatherization training centers, to offer valuable and appropriate training to their contractors. Apprenticeships, which can be a bridge between classroom training and being hired by contractors, helped some programs ensure that students acquired the skills that employers want. These programs also found that accredited, on-the-job training can be a relevant, less expensive, and more motivating supplement to classroom training.

• Community Power Works in Seattle piloted a new training approach to meet contractor needs and the requirements of the city’s high-road workforce agreement. The program’s original training programs relied on an outdated model of training, failed to prepare technicians properly to be hired, and lacked adequate mentorship and job-finding support for training graduates. The new approach included partnering with South Seattle Community College and the nonprofit Northwest EcoBuilding Guild, which offered classes and workshops, as well as participation by contractors to gather their feedback on training options. Training was available to both entry-level and experienced home performance professionals, and contractors were given the flexibility to hire first and train second (e.g., hire a technician who is not fully trained or certified but can begin or is in the process of completing certifications). In this way, the contractor could select from a wider pool of candidates and then provide supplemental training to those who need it. The training was fully subsidized by the program. By establishing these ongoing collaborative partnerships with contractors, Community Power Works helped to ensure that it has a robust workforce of trained professionals for the future. As a result of these partnerships, about 40 training graduates have worked around 23,000 hours on Community Power Works projects between April 2011 and December 2013.

• Philadelphia’s Energy Coordinating Agency collaborated with the Community College of Philadelphia to design an apprenticeship program for energy efficiency and building science. Two one-year programs—“Building Energy Analyst” and “Weatherization Installer and Technician”—led to journeyman credentials and BPI certification. These programs trained home performance professionals with the technical building science skills they needed, while also providing hands-on experience with energy efficiency analysis and installation of energy efficiency measures. Program trainees helped residents save an average of 20% to 30% on utility bills through weatherization and energy conservation services.
- **Austin Energy** emphasized making its contractor training locally relevant. The program encouraged trainers to highlight issues that were particularly applicable to the local climate and housing stock, and to focus on regionally-appropriate amendments to energy code. For example, basements are uncommon in Austin houses, so training should avoid seeming out of touch and refrain from discussing basement upgrades. The program also learned that trainers should allow time for participating contractors to raise issues and questions that are specific to their geographic area and most pertinent to the local community in which they work.

- **EnergyWorks Kansas City’s** program implementer, Metropolitan Energy Center (MEC), provided training and mentoring for home energy professionals, including training for BPI certification. Training courses included residential and commercial energy assessment, healthy homes, and deconstruction. One training session focused specifically on small and women-owned businesses. To follow up on the training, MEC instituted a mentored practicum experience in which each student was required to complete a full complement of diagnostic tests with the instructor in a dummy house. EnergyWorks Kansas City and MEC also worked with seasoned contractors to provide mentoring to newer contractors in the program. From 2011 to 2014, 90 individuals participated in MEC’s introductory home performance training program. The training and mentoring program allowed new technicians to enter the home performance market: from 2009 to 2014, the number of certified residential auditors in Kansas City increased from six to over fifty, almost all of whom have received training from MEC.
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

**A Business Case for Home Performance Contracting**
Author: Pacific Northwest National Laboratory
Publication Date: 2012
This report contains information on the market for home performance upgrades and the opportunities that exist for new home performance contractors; start-up needs and costs for firms entering the home performance contracting industry; home performance business approaches; and how established home performance contractors attract customers. It also contains detailed profiles of eight successful home performance firms across the United States.

**Home Performance with ENERGY STAR Contractor Stories**
Author: U.S. Department of Energy
These case studies highlight examples of participating contractors who have employed Home Performance with ENERGY STAR to help homeowners improve their home's comfort and lower their utility bills.

**LaborWorks@NeighborWorks of Western Vermont Focus Series**
Author: U.S. Department of Energy
Publication Date: 2012
LaborWorks@NeighborWorks is a nonprofit temporary labor pool developed by NeighborWorks of Western Vermont (NWWVT) to assist professional contractors involved with the NeighborWorks Home Energy Assistance Team (HEAT). In the first of this Focus Series, DOE interviews Melanie Paskevich, HEAT Squad coordinator, to get details on why NeighborWorks set up the temporary labor pool, how workers are recruited, and lessons learned for other programs to consider.

**NYSERDA Home Performance Case Studies**
Author: New York State Energy Research and Development Authority (NYSERDA)
Publication Date: 2013
Links to case studies of residential projects and contractors under the New York State Energy Research and Development Authority (NYSERDA)'s Home Performance with ENERGY STAR program.

**Spotlight on Austin, Texas: Let Your Contractor Be Your Guide for Big Rewards**
Author: U.S. Department of Energy
Publication Date: 2011
This case study discusses strategies that Austin Energy, a municipally owned utility, used to collaborate closely with building contractors to launch a new Best Offer Ever promotion quickly and effectively.

**Spotlight on Fayette County, Pennsylvania: Developing the Skills and Tools for Workforce Success**
Author: U.S. Department of Energy
Publication Date: 2012
This case study discusses strategies that Fayette County, Pennsylvania used to provide Building Performance Institute (BPI) certification and business skills training to aspiring energy efficiency contractors.

**Spotlight on Portland, Oregon: Making the Program Work for Contractors**
Author: U.S. Department of Energy
Publication Date: 2011
This case study discusses the strategies Clean Energy Works Oregon's (now Enhabit's) used to actively engage contractors to make the program successful (e.g., balancing contractors' work priorities, enforcing quality standards).

Program Presentations & Reports
Building the Workforce for Energy Efficiency Programs
Author: Steve Morgan, Clean Energy Solutions, Inc.
Publication Date: 2010
Courtesy of Clean Energy Solutions. This presentation provides an overview of topics related to building the workforce for energy efficiency programs, including market characterization, stakeholder engagement, training and certification, and community workforce agreements. It includes information on the experience of Clean Energy Works Oregon (now Enhabit) in Portland, Oregon.

Community Power Works Better Buildings Conference Presentation
Author: Andrea Petzel, Community Power Works
Publication Date: 2012
This presentation discusses the new approach to training that Seattle's Community Power Works program is using to support its high-road workforce agreement.

Contractor Recruitment Strategies
Author: Lee Butler, New York State Energy Research and Development Authority
Publication Date: 2010
This presentation provides information on strategies to successfully recruit contractors. Topics include setting goals, identifying contractors, contacting contractors, and following up with contractors.

Energy Efficiency Workforce Development in Maryland
Author: Lauren Swiston, Maryland Energy Administration
Publication Date: 2010
This presentation discusses workforce development experiences with residential energy efficiency programs in Maryland, including early successes, work with moderate-income populations, partnerships with utilities and colleges, challenges, and lessons learned.

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.

The Leadership Academy: Motivating Contractors to Participate
Author: Gary R. Myers, Poudre Valley Rural Electric Association
Publication Date: 2011
This presentation explains how to engage and motivate contractors and utility companies through the use of commitments, creating a dynamic program that they can become involved with, and the setting of standards for contractors.

Market Transformation in Connecticut: Integrating Home Performance into Existing Trades
Author: Jane Bugbee, The United Illuminating Company
Publication Date: 2012
This presentation highlights the Connecticut Energy Efficiency Fund's efforts to integrate HVAC contractors, builders, and remodelers into its home performance program, which expanded its customer base and significantly scaled up the program. It includes lessons on outreach strategies for integrating these types of contractors into the program.

Philadelphia's Energy Coordinating Agency Apprenticeship Programs
Author: Liz Robinson, Energy Coordinating Agency
Publication Date: 2012
This presentation discusses Philadelphia's Energy Coordinating Agency Apprenticeship Program in energy conservation and building science, including programs for journeyman credentials and BPI certification.

Program Materials
None available at this time.
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
None available at this time.

Tools & Calculators

DOE Building America Solution Center
Author: U.S. Department of Energy
Publication Date: 2013
An interactive website that provides residential building professionals with access to expert information on hundreds of high-performance design and construction topics, including air sealing and insulation, HVAC components, windows, indoor air quality, and much more.
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

The Contractor-Participation-Inducing Home Performance Program Design Recipe Part 1
Author: Mike Rogers, OmStout Consulting, LLC
Publication Date: 2012
Presentation summarizing the important elements needed to induce and sustain contractor participation in home performance programs.

Five Steps to a Profitable Contractor Base
Author: Courtney Moriarta, SRA International, Inc.; Emily Levin, Vermont Energy Investment Corporation; Tiger Adolf, Building Performance Institute; Brad Geyer, Fayette County Better Buildings Initiative; Sammy Chu, Suffolk County Department of Labor; Sam Flanery, Building Science Academy
Publication Date: 2012
Presentation on five steps to building a profitable contractor base. The steps include sensible program design and administration, certification and credentialing, communicating with contractors, contractor requirements (business vs. trade), and training and sales support.

Residential Contracting Business Boot Camp
Author: Mike Rogers, OmStout Consulting, LLC
Publication Date: 2013
This presentation provides guidance to contractors on business fundamentals, marketing and lead generation, successful consultative selling and closing, and measuring and improving performance.

Publications

Better Buildings Neighborhood Program Business Models Guide
Author: U.S. Department of Energy
Publication Date: 2012
This report serves as a resource for program administrators and building contractors who are or may be interested in starting or expanding their services into the residential energy efficiency market.

Building Retrofit Industry and Market (BRIM) Market Research Scan
Author: Innovation Network for Communities (Prepared for the Rockefeller Foundation)
Publication Date: 2011
This research report and slides provide a detailed segmentation of the building energy upgrade market and summarize market research on each segment. Market segments include single-family homes, multi-family homes, and several types of commercial and institutional buildings.

Contractor Blueprint: Getting from HVAC to Home Performance
Author: California Center for Sustainable Energy; Home Performance Resource Center
Publication Date: 2012
This guide shows HVAC contractors how to get started in the home improvement market. It explains the approach of treating a house like a system and provides step-by-step instructions on setting up a home performance contracting business.

DOE Guidelines for Home Energy Professionals
Author: U.S. Department of Energy
Publication Date: 2012
Guidelines for home performance professionals for quality work, effective training, and professional accreditation.
This guide assists 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, including co-marketing and brand guidelines (section 1), workforce development and contractor engagement (section 3), assessment and report requirements (section 4), installation specifications and test-out procedures (section 5), and quality assurance (section 6).

This blog post summarizes key elements of program design that relate to encouraging contractor participation and facilitating contractor and program success.

This publication provides tips from Better Buildings Neighborhood partners on incentivizing contractors.

This article explores the opportunities for HVAC contractors to move into home performance and includes discussion from contractors and industry experts.

This report explores the approaches and research needs identified in the Building Retrofit Industry and Market (BRIM) Initiative through in-depth discussion with residential energy upgrade experts including a discussion of Marketing & Outreach and the program/contractor interface.

This guide discusses the findings of research in moving existing companies, with a focus on HVAC, to deliver more comprehensive energy saving upgrade services. It also helps the industry understand the business processes and strategies for transitioning to such an approach.

None available at this time.