



BUILDING AMERICA ENERGY RENOVATIONS

A Business Case for Home Performance Contracting

PREPARED BY

Pacific Northwest National Laboratory

October 2012

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Preface

The U.S. Department of Energy recognizes the enormous potential for improving the energy efficiency, safety, and comfort of existing American homes. This report gives an overview of the needs and potential opportunities that exist in the U.S. housing market for home performance contracting. This report can serve as a resource for weatherization contractors, HVAC contractors, builders, and others considering entering the home performance contracting industry.

The report discusses opportunities and trends in the industry, along with market drivers such as consumer demand; federal, state, and local programs; and utility and non-governmental programs. Different business models applicable to the home performance industry and points of entry are described and a discussion of the distinctions between weatherization and home performance companies is included. Studies were conducted of eight companies who have successfully entered or transitioned into the home performance industry from various related fields. Analyses of these companies are provided, including business metrics, start-up costs, and marketing approaches. Case studies of each of these businesses are also included.



DOE's Building America Program works with many of the nation's leading building scientists and has teamed with over 600 builders, contractors, and vendors to conduct field research projects on more than 42,000 homes across the United States. Building America applies building science research to achieve more energy efficient, comfortable, healthy, and durable homes. You can learn more about Building America and download additional copies of this document and others, including climate-based best practice guides for new construction, guides for retrofit construction, research reports, and case studies at www.buildingamerica.gov

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1.0 Introduction



Green building and remodeling are among the brightest spots in the residential construction market. At the forefront of this trend is the business of upgrading existing homes from a whole-building perspective to increase energy efficiency, comfort, health, and durability. The industry term for this approach is “home performance.”

An increasing number of homeowners in the United States are realizing the value of improving their homes’ energy performance (Table 1). Over 50,000 homes were upgraded in 2011 through Home Performance with ENERGY STAR, a federally supported residential energy-efficiency program. Not only do residential energy-efficiency upgrades increase comfort, lower utility bills, and enhance a home’s value, upgrading the existing housing stock is a priority for federal, state, and local authorities. The growing interest in home energy performance has created a unique opportunity for contractors who are prepared to serve this developing market.

Home energy performance goes beyond simply adding insulation and caulk or replacing a heating system by taking a whole-house approach to increasing a home’s energy efficiency, health, safety, comfort, and durability. Through its research and education efforts, the U.S. Department of Energy’s (DOE) Building America Program advocates this building science-based approach to home performance upgrades of existing homes.

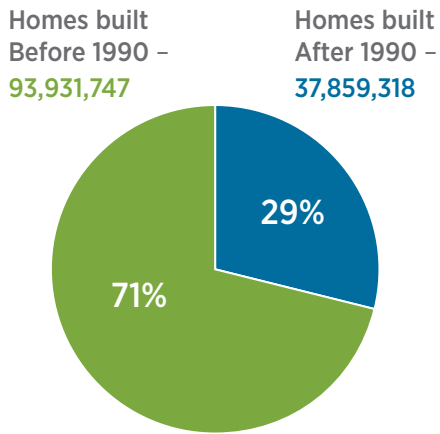
Weatherization contractors, new home builders, remodeling firms, HVAC contractors and entrepreneurs who are new to the market are among those who have successfully transitioned into the home performance contracting industry. With the vast majority of existing U.S. homes predating any energy-efficient building codes (Figure 1), opportunities abound across the country for improving the home performance of our nation’s housing stock (Figure 2).

Table 1. Homeowner Investment in Energy Efficiency – A Start, But a Lot of Room for Growth

Metric	# of Homes
Number of U.S. homes that have added insulation	25.5 million
Number of U.S. homes that have added weather stripping/caulking	40.8 million
Number of U.S. homes that have replaced all windows	16.8 million
Number of U.S. homes that use energy-efficient light bulbs	68.1 million
Number of U.S. homes that have had an energy checkup performed	4.6 million
Source: EIA 2010, 2011	

Data from the Energy Information Administration’s Residential Energy Consumption Survey show that less than 30% of homes built before 1992 are well insulated (EIA 2011a). The statistics are not much better for the 28% of houses built since 1992; only 52% of those homes are considered to be well insulated.

Figure 1. Existing Housing Stock Built Before and Since Modern Building Codes



(Source: U.S. Census Bureau - American Community Survey, 2005-2009)

Home Performance Contractors Featured in Case Studies:

Building Doctors, Inc., Los Angeles, CA
Energy Saving Services, Kalamazoo, MI
GreenHomes America, Syracuse, NY
GreenStreet Solutions, Cleveland, OH
ISAAC Home Energy Performance, Rochester, NY
Neil Kelly, Portland, OR
Renewal System Solutions, Decatur, GA
The Home Energy Detective, Manassas, VA

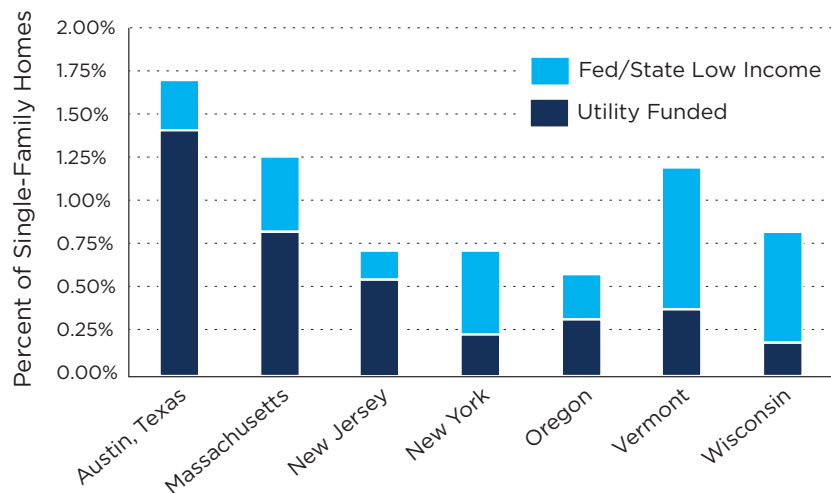
As the figures on this page show, there is significant potential for improving the energy efficiency of America's existing housing stock.

This report will help you understand:

- 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, with descriptions of different points of entry into the industry including weatherization contracting, remodeling, and HVAC companies, as well as the ranges of services provided, from companies that provide only an energy “checkup” to full-service contracting
- an analysis of the eight businesses profiled in the case studies, including data on growth, program participation, start-up costs, and marketing channels
- how established home performance contractors attract customers.

This guide contains detailed profiles of eight successful home performance firms from across the United States that have seen strong business growth despite the recession. These companies provide real-world examples of business experience and practices that are helping industry growth.

Figure 2. Percent of Existing Homes Retrofitted in Selected U.S. Housing Markets in 2010



A recent study conducted by the Regulatory Assistance Project estimated that, in several markets around the United States, less than 2% of single-family homes have had whole-house energy efficiency upgrades (Source: Neme et al. 2011 based on data from U.S. Census Bureau 2011, DOE Weatherization & Intergovernmental Program, and individual utility programs).

2.0 Opportunities, Drivers, and Trends in the Home Performance Industry



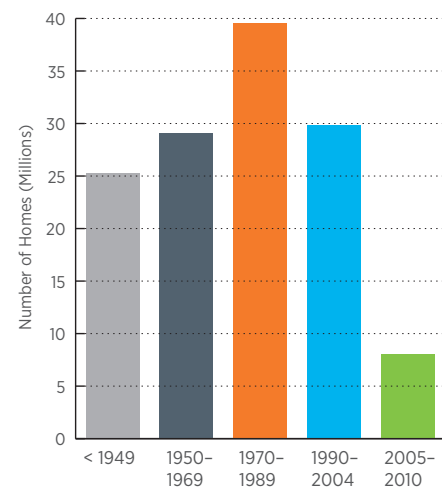
There are many opportunities for contractors who are interested in starting a new home performance business or expanding a current weatherization or other contracting company into home performance. Many public and private programs exist to assist expansion of the industry. This chapter explores opportunities related to the current status of the U.S. housing stock, current industry trends, and public programs.

2.1 Opportunities in Older U.S. Housing Stock

According to the 2009 Residential Energy Consumption Survey (RECS), the U.S. housing stock includes approximately 114 million occupied houses that serve as primary residences (EIA 2011a).^{*} Only 28% of the existing homes were built after the 1992 Energy Policy Act, which mandated more stringent building energy efficiency codes. Age profile data from the 2005-2009 American Community Survey shown in Figure 3 tell a similar story with more than 70% of the residential housing stock in the United States (nearly 95 million homes) estimated to have been built before 1990.

As Figure 4 and Table 2 show, the Northeast has the greatest percentage of older houses but in all regions at least 19 million homes were built before 1990 (U.S. Census Bureau, 2010).

Figure 3. Age Profile of U.S. Housing



(Source: U.S. Census Bureau, American Community Survey 2005-2009)

^{*} According to the U.S. Census, the total number of houses in the United States is approximately 130 million. The 114 million represented here are the houses that are primary residences, excluding vacation homes, seasonal homes, second homes, military housing, and group homes.

Homes that are on the National Register of Historic Places

State jurisdictions have different requirements for updating homes that are on the National Register of Historic Places. Contact your State historic preservation office for details. Also see Building America's "Energy Performance Techniques and Technologies: Preserving Historic Homes." This guide can be accessed on the Building America website or directly at the link below. http://apps1.eere.energy.gov/buildings/publications/pdfs/building_america/historic_homes_guide.pdf

Figure 4. Age of U.S. Housing by Region

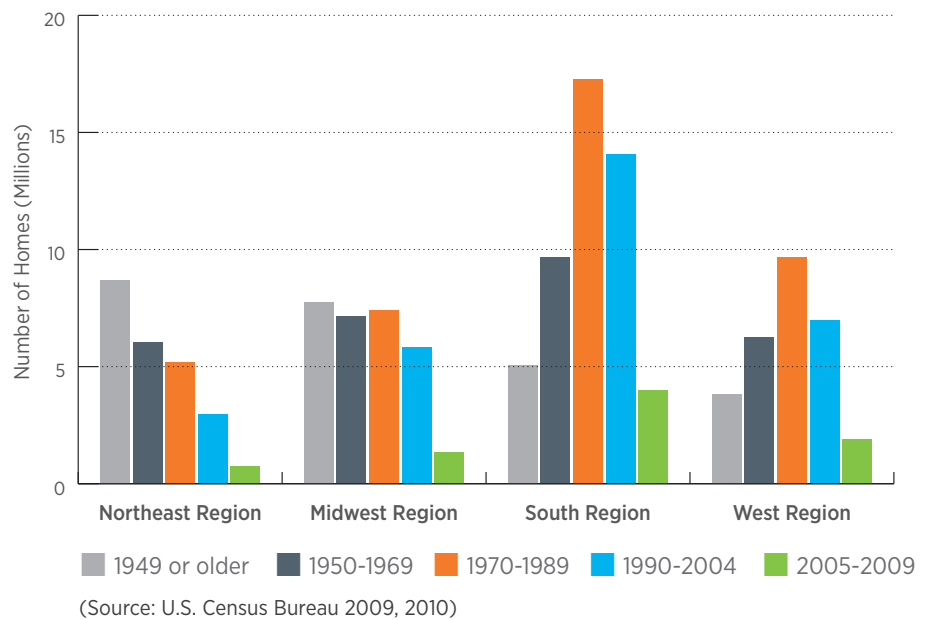


Table 2. All Homes in U.S. by Region and by Year

Age of house	Northeast	Midwest	South	West	Total
	# of Homes	# of Homes	# of Homes	# of Homes	# of Homes
pre 1949	8,799,921	8,043,772	5,329,567	3,861,124	26,034,384
Built 1950-1969	5,987,229	7,186,232	9,987,329	6,285,799	29,446,589
Built 1970-1989	5,186,236	7,454,689	17,364,663	9,618,869	39,624,457
Built 1990-2004	2,841,238	5,759,949	13,596,417	6,688,111	28,885,715
post 2005	325,986	638,451	1,836,559	907,571	3,708,567
TOTAL	23,140,610	29,083,093	48,114,535	27,361,474	127,699,712
Built before 1990	19,973,386	22,684,693	32,681,559	19,765,792	95,104,430
Percentage built before 1990:	86%	78%	68%	72%	75%

(Source: U.S. Census Bureau, American Community Survey 2005-2009)

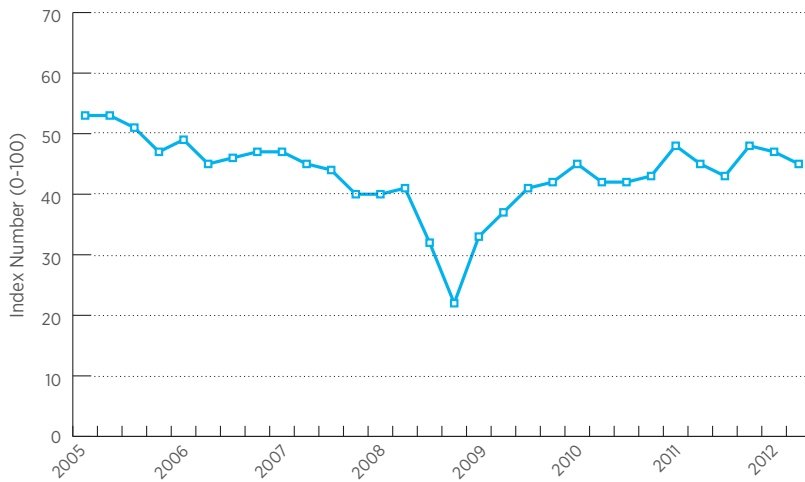
"Though falling in 2007-9, expenditures on replacements intended to improve energy efficiency, such as installation of new insulation and windows or doors, dropped about half as much as spending on other types of replacements such as plumbing and flooring."

From the report *A New Decade of Growth for Remodeling*, Joint Center for Housing Studies of Harvard University (Harvard 2011a)

2.2 Home Performance Industry Trends

The home performance industry is young and still relatively small, but there is potential for significant growth in the coming years. The National Association of Home Builders (NAHB) publishes a quarterly remodeling index that tracks developments in the remodeling sector. After falling to an all-time low in the fourth quarter of 2008, the index had rebounded more than 22 points by the second quarter of 2012, as shown in Figure 5 (NAHB 2012).

Figure 5. National Association of Homebuilders Quarterly Index of Remodeling Projects



(Source: NAHB 2012)

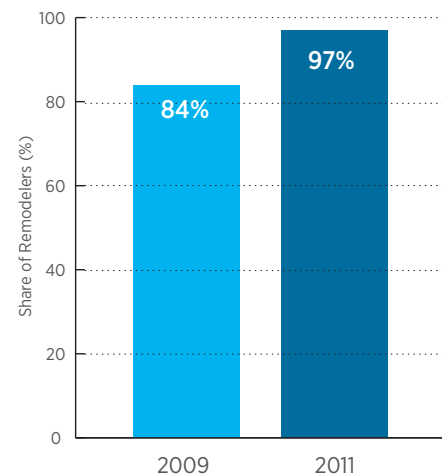
Although the recession of 2009 resulted in declining profits and sales across the remodeling industry, contractors who emphasized energy efficiency fared better than their competition. As Tom Kelly of Neil Kelly, a remodeling company in Portland, Oregon, stated, “We are a recession-challenged company. Adding home performance has helped us recover some of our losses.” In 2011, 22.5% of Neil Kelly’s total business revenues came from its home performance division, up from approximately 8% in 2010.

According to Harvard’s Joint Center for Housing Studies (JCHS) report *The State of the Nation’s Housing 2011*, expenditures on maintenance and improvement of existing homes rose from 25% of total residential fixed investment at the height of the homebuilding boom, to nearly 45% by 2011. While real home improvement spending in 2010 was down 26.7% from its peak, it was a much more modest decline than the 76.4% drop in new residential construction spending. And even while overall spending on remodeling was down, spending on energy-efficiency measures was up (Harvard 2011b). Between 2007-2009 when the housing and remodeling industry took the largest losses, expenditures on energy-efficient measures such as window and door replacement and insulation installation remained 50% higher than other services like new flooring or plumbing (Harvard 2011a).

The Harvard study noted that the government stimulus package, tax credits, and homeowner desire to save money have combined to make energy-efficiency improvements a growth market for remodeling contractors. According to the Harvard report, “share of remodelers that reported completing energy-efficiency or sustainability-related projects in the previous year increased from 84% in early 2009 to 97% in early 2011.”

Figure 5 illustrates NAHB’s Remodeling Market Index (RMI) between 2005 and 2012, which uses a comprehensive survey to measure the remodeling industry around the country. An Index of 50 would indicate that an equal number of remodelers reported higher activity and lower activity compared to the previous quarter.

Share of Remodelers Reporting Energy-Efficiency Projects in Previous Year



(Source: Harvard 2011b)

Examples of Energy-Efficiency Organizations

Affordable Comfort, Inc. (ACI)

ACI is a national nonprofit organization, promoting home performance market development through interactive methods such as conferences aimed at bringing together a variety of stakeholders including contractors, vendors, manufacturers, program administrators and government officials. The ACI annual conference, held in different locations around the country each year, has seen significant growth since the initial 1996 event. Participation has grown from 300 in 1996 to 2,200 in 2011.

www.affordablecomfort.org/index.php

Energy and Environmental Building Alliance (EEBA)

EEBA is a national organization that provides information and education on sustainable building practices. EEBA engages a variety of stakeholders, helping promote policy development, building practices, and industry development for the environmental building industry. EEBA helped develop Houses That Work™, which is an educational program helping stakeholders learn the whole-house approach to building science. Sessions are available nationwide and information can be found at the EEBA website.

www.eeba.org

Efficiency First

Efficiency First is a national nonprofit organization that supports the home performance industry. Members include contractors, manufacturers, retailers and service providers of energy efficiency and home performance services. Members receive educational materials, marketing tools, policy information and updates. Efficiency First has local chapters in 16 states.

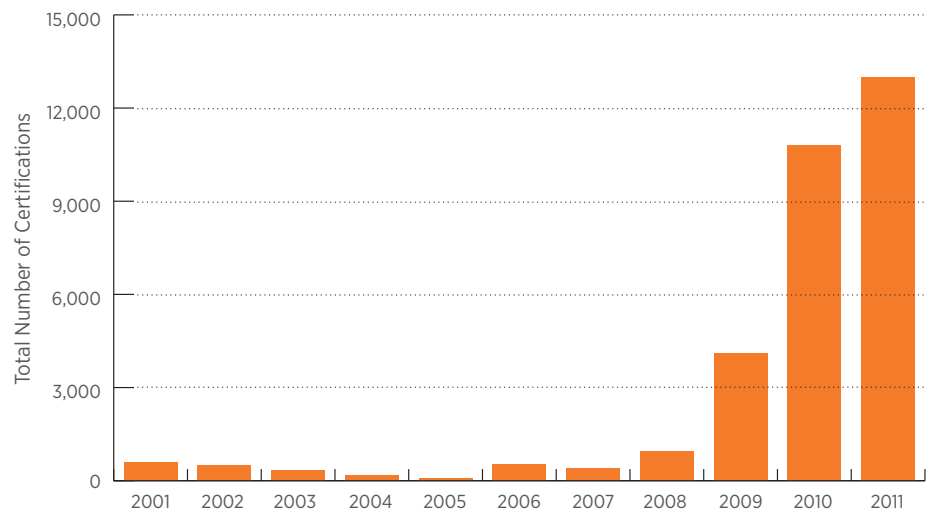
www.efficiencyfirst.org/about/

The Harvard study also indicates that the large number of foreclosures now experiencing resale could be a boon to the industry. “The Home Improvement Research Institute reports that buyers of distressed homes spend an average of 14% more on improvements within the first year of ownership than buyers of non-distressed homes” (Harvard 2011b).

2.3 Growth in Home Performance Organizations and Certification Programs

Another indicator of industry growth can be seen in the continued expansion of the building science-based contractor certification programs. Many national and regional training and certification programs now exist focusing on some or all aspects of home performance. The increase in certifications is in part due to the growth in state and local home energy upgrade programs that require test-in and test-out by certified contractors. One such program is Building Performance Institute (BPI), which reported a 229% increase in certifications granted in 2010 over 2009 levels (BPI 2011). Figure 6 illustrates the growth in total BPI certifications since 2001 (McDowell 2012).

Figure 6. BPI Certifications Awarded 2001–2011



The continued expansion of non-governmental organizations focused on the promotion of residential energy efficiency is another sign of industry growth. The sidebar shows a few examples of the many organizations that have national outreach. Many regional organizations have also come into existence in recent years to work with contractors and regional governments to facilitate energy-efficiency programs.

2.4 Public Programs as Drivers

Growth in the home performance industry has been aided by a variety of public programs offered at the national, state, and local levels as well as by other programs offered primarily through utilities and banks. Some of these programs provide lists of qualified contractors to homeowners interested in home performance upgrades. Some programs provide financing options; others offer rebates or incentives to builders or homeowners for home performance upgrades.

2.4.1 National Programs

HOME PERFORMANCE WITH ENERGY STAR – In 2010, Home Performance with ENERGY STAR, a national program that promotes residential home performance upgrades, announced they have partnered with 35 programs in 30 states to promote residential energy efficiency. Contractors can apply to become a participating contractor with the Home Performance with ENERGY STAR program in their state. The program provides job leads to contractors and in some cases financial incentives to builders or homeowners. Since 2001, more than 150,000 houses have been upgraded by Home Performance with ENERGY STAR including 50,000 homes in 2012 (EPA 2012), despite the 2007-2008 downturn in the housing market. Homeowner demand for home performance upgrades has resumed its pre-recession growth rate and is projected by the EPA to increase (Von Schrader 2011).

Although the numbers continue to demonstrate growth, they represent less than 1% of all homes in the United States. EPA and DOE have ambitious goals for Home Performance with ENERGY STAR; the goal for 2013 includes a ramp-up effort to upgrade one million homes. The program is supported by DOE and EPA and administered locally by various agencies.

Figure 7. Growth in Home Performance with ENERGY STAR Upgrades 2002-2011

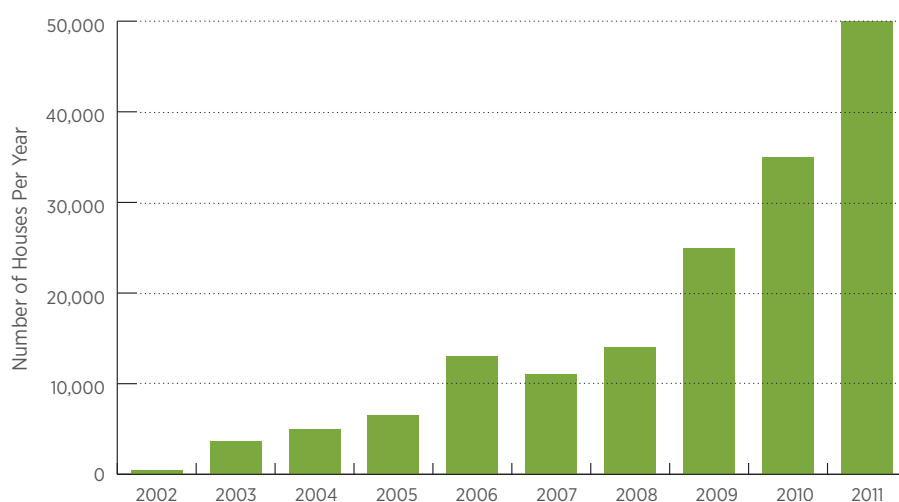
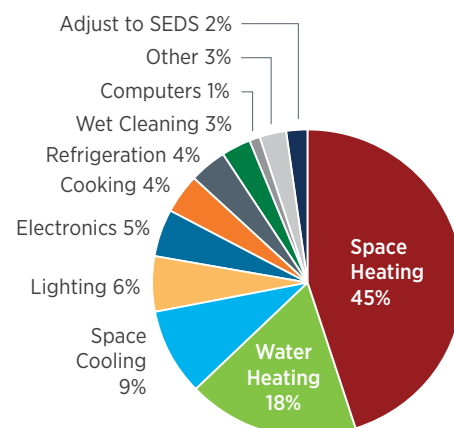


Figure 8. Residential Energy Consumption by End Use



Note: The "Adjust to SEDS" category is the Energy Information Administration's adjustment to reconcile supply-side (State Energy Data System [SEDS]) and end-user (principally the *Residential Energy Consumption Survey*) estimates of energy use. (Source: DOE 2011a)

A Whole-House Approach

Figure 8 shows a typical home's energy consumption by end use (DOE 2011a). Heating and cooling account for 54% of energy consumption. When homes are properly sealed, insulated, and ventilated, a large portion of this energy can be saved.

Home Performance with ENERGY STAR and other programs use contractors trained to take a whole-house approach to home upgrades that considers the interactive effects of air sealing, insulation, and HVAC equipment with the building's design to ensure building durability, comfort, and safety along with energy performance. The contractor starts with a thorough energy checkup (also known as an audit or test-in). Based on the checkup, the contractor will recommend upgrades such as proper air sealing, insulating, ventilating, and updating of inefficient equipment. The contractor will conduct a post-retrofit checkup, or test-out, to ensure that energy-efficiency measures were correctly implemented and that any combustion appliances are operating safely.



Better Buildings Neighborhood Program

www.eere.energy.gov/buildings/betterbuildings/neighborhoods/

BETTER BUILDINGS NEIGHBORHOOD PROGRAM –

The U.S. Department of Energy's Better Buildings Neighborhood Program partners with both public and private entities to educate and promote energy-efficiency upgrades in buildings around the nation. The program awarded \$508 million to 41 grantees serving communities around the country for whole-building energy efficiency upgrades. The goal of the Better Buildings Neighborhood Program is to upgrade 100,000 buildings by 2013, saving consumers \$65 million on their energy bills, and to engage more than 10,000 contractors in work in energy efficiency upgrades (DOE 2012).

“RECOVERY THROUGH RETROFIT” – In 2009, the Middle Class Taskforce and the Council on Environmental Quality published “Recovery through Retrofit,” a document that outlines recommendations for how the home performance industry can become self-sustaining after publically funded programs end. This program is affiliated with DOE's Home Score program, which is in pilot phase around the country. To see the report, see www.whitehouse.gov/sites/default/files/Recovery_Through_Retrofit_Final_Report.pdf

FEDERAL TAX INCENTIVES FOR ENERGY EFFICIENCY –

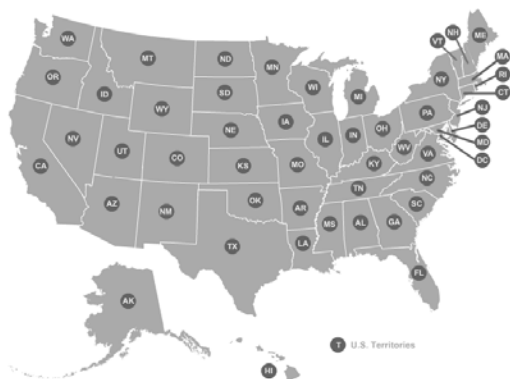
Beginning in 2010, the Federal government offered homeowners a variety of tax incentives for energy-efficient measures including a tax credit of up to 30% on qualified insulation, weather stripping, heat pumps, windows, and doors. In 2011, the tax incentive was capped at \$500 and restricted to solar, geothermal, wind turbines, and fuel cell purchases (DSIRE). This incentive will remain active until 2016.



DSIRE

To find specific information about the programs available in each state, go to DOE's Database of State Incentives for Renewables & Efficiency (DSIRE) website and select the state of interest.

www.dsireusa.org



2.4.2 State and Local Programs

Contractors interested in entering the home performance industry should take the time to learn about the specific programs offered by their state and local governments as well as by local and regional utilities and banks. Programs can provide customer leads through web-based listings of approved contractors, financial incentives to contractors, and financial assistance or tax credits to homeowners. Many programs require a certified energy checkup before funds will be loaned for upgrades. Information for each state can be found at the DSIRE website.

Table 3 shows the number of financial incentive programs for energy efficiency offered by federal and state governments and utilities, as of February 2012, according to DOE's Database of State Incentives for Renewables & Efficiency (www.DSIREusa.org). Incentive programs include tax incentives, rebates, grants, loans, and bonds for energy-efficiency projects. By far, rebate programs are the most common with more than 1,000 programs available around the country.

While these incentive programs change frequently, contractors should keep informed of the offerings in their vicinity, both to educate their customers and to be aware of the marketing opportunities these programs present. It is worth noting that the vast majority of the programs currently available are utility-sponsored, not government-sponsored, and thus are less likely to be tied to federal funding.

2.4.3 Non-Governmental Programs

Investor-owned utilities, utility cooperatives, and banks are also sources of programs that increase the affordability of home performance upgrades. Utilities in nearly every state offer programs to help offset the cost of residential energy upgrades. Programs include loans, rebates for energy-efficient appliances, and rebates for specified home performance upgrades performed following a certified energy checkup.

Programs can also involve state or local governments in cooperation with utilities or banks. For example, Lane Electric Cooperative in Eugene, Oregon, is partnering with Pacific Cascade Federal Credit Union and First Tech Credit Union to buy down homeowner loans up to \$9,000 for residential energy upgrades. The homeowner obtains the loan from the credit union and Lane Electric Cooperative pays the interest to give the borrower a 0% loan rate on the qualified upgrades (www.dsireusa.org).

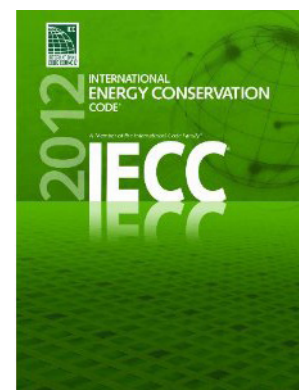
2.4.4 Codes as Drivers

When adding energy-efficiency measures such as insulation, air sealing, or new windows to an existing house, homeowners typically don't have to meet the code-required levels for new homes, unless they are building an addition or finishing a basement or attic. However, the latest codes are good goals to aim for; reaching them will improve the home's energy efficiency and increase its resale value, especially in comparison to new homes that are required to meet increasingly stringent energy codes. Most states base their codes on the International Energy Conservation Code (IECC). The code is updated every three years. Many states have adopted the 2009 IECC, which is approximately 15% more efficient than the 2006 IECC. The 2012 IECC was published in June 2011 and is considered to be approximately 15% more efficient than the 2009 code.

Table 3. Summary of Federal State and Utility Financial Incentive Programs for Energy Efficiency (as of Feb. 2012)

Program	Fed.	State	Utility	Totals
Tax Incentives	5	32		37
Rebates		72	1,038	1,110
Grants	3	21	27	51
Loans	4	107	117	228
Bonds		3		3

(Source: www.DSIREusa.org)



International Energy Conservation Code (IECC)

www.iccsafe.org

“With or without federal tax credits, history has demonstrated that market forces can be the most powerful incentive for energy-efficient retrofits. In the years ahead, energy consumption is likely to rise dramatically in rapidly developing countries such as China and India. As American households come to believe that higher home energy costs are inevitable, the perceived payback from retrofits will rise and green remodeling activity will increase.”

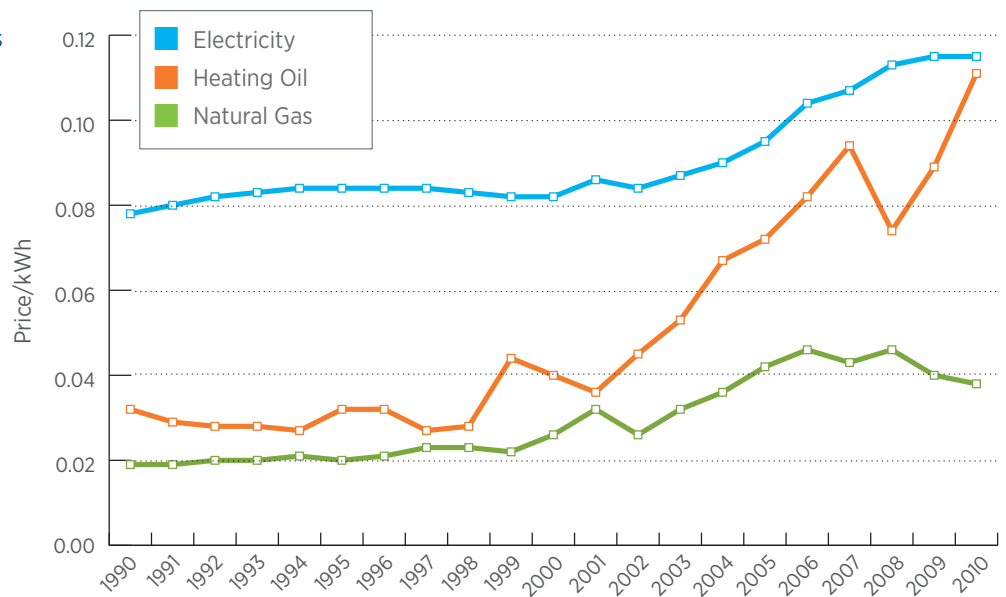
From *A New Decade of Growth for Remodeling*, Joint Center for Housing Studies of Harvard University (Harvard 2011a)

Rising energy prices are one motivator for homeowners investment in energy-efficiency improvements.

2.5 Fuel Prices as Drivers

Rising fuel prices can be a motivator for increased homeowner interest in energy-efficiency improvements. The three primary energy sources for household heating and cooling in the U.S. residential sector are electricity, natural gas, and oil. Figure 9 illustrates the increase in prices over the past two decades for these three fuel types (EIA 2012a,b,c). Electricity prices have increased by a third, natural gas prices have doubled, and heating oil has seen dramatic cost increases since 1998.

Figure 9. Residential Energy Costs by Source (EIA 2012a,b,c)



Note: Natural gas data and heating oil data were converted to be equivalent to kWh for ease of comparison.

3.0 Transitioning into the Home Performance Market



Contractors have successfully moved into the home performance industry from a variety of related businesses. Once in the industry, there is some variability in how they do business and what services they choose to offer. This chapter describes those various business models.

A recent report by DOE's Better Buildings Neighborhood Program analyzed the transition into the home performance industry from other related fields, including HVAC, remodeling, and full-service home performance contractors (DOE 2011d). The report noted that, regardless of where contractors start from, there are certain common costs and services that all will experience in the home performance market.

In Figure 10, which is taken from that report, these costs are broken out as a percentage of labor costs on a typical \$10,000 job. While installation accounts for the majority of labor costs, a significant portion goes to the home energy checkup. Checkups are important for marketing and consumer education (and health and safety) but do not fall into the category of traditional marketing.

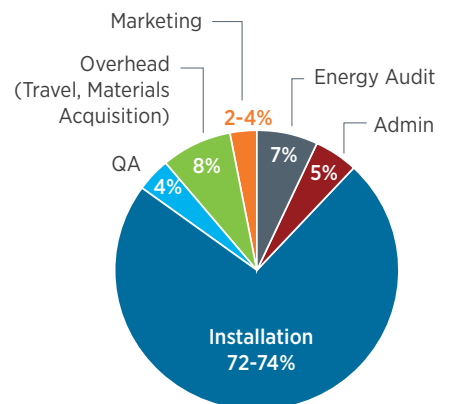
Overhead, another significant percentage, includes paying for staff to get trained and certified in home performance skills such as conducting energy checkups. The report noted this training includes on-the-job training, generally for a period of three months at an average cost of \$15,000 per employee (DOE 2011d). Quality assurance (QA) includes a follow-up checkup after performance upgrades are made. Test-in and test-out checkups are often required as part of incentive programs.

Administration includes the cost of keeping aware of available financial incentive programs and performing the necessary paperwork to help customers obtain those incentives. According to the Better Buildings study, a typical home performance contractor needs 2 to 2.5 full-time employees to process 500 energy-efficiency projects per year (DOE 2011d).

DOE Better Buildings Neighborhood Program "Business Models" Guide

In-depth information about business models associated with the home performance industry can be found in a recent document published by DOE's Better Buildings Neighborhood Program, the "Business Models Guide," which can be found at www.eere.energy.gov/buildings/betterbuildings/neighborhoods/getting_started_business_model.html

Figure 10. Distribution of Contractor's Labor Costs for a Typical \$10,000 Whole-House Energy Upgrade Project



(Source: DOE 2011d)

DOE Guidelines for Home Energy Professionals

A guideline for conducting high-quality work, training, and professional certification for home energy professionals can be found through the DOE's Weatherization and Intergovernmental Program at www.eere.energy.gov/wip/retrofit_guidelines.html

The Better Buildings study noted that the additional staffing needed to track program compliance might be costly in terms of labor hours, but it is an important way for home performance contractors to differentiate themselves from remodelers (DOE 2011d) and the incentive programs themselves are an important driver motivating many customers to seek home performance services. Contractors interviewed for this study all reported additional costs associated with processing and keeping track of incentives offered to homeowners.

3.1 Weatherization as a Point of Entry into the Home Performance Market

Contractors serving many market sectors may transition into the home performance industry. One important path is the transition from weatherization contractor to home performance contractor; the distinction between the two is described below.

3.1.1 Weatherization & Home Performance Contractors

Transitioning into home performance contracting can provide many benefits for weatherization contractors who are currently participating in the federal Weatherization Assistance Program (WAP). Benefits include: additional revenue opportunities, increased profits, and long-term stability because they would not be reliant solely on government funding. Weatherization contractors already possess many of the tools, equipment, knowledge and skills that are needed to become home performance contractors. Assistance is often available in the form of training at trade association conferences and seminars, many of which satisfy the continuing education requirements for maintaining BPI certification.

The nature of the energy upgrade work itself is similar – weather stripping, insulation, HVAC system upgrades, air sealing, and duct sealing – but there are different business practices and customer bases involved. As one considers the opportunities in home performance contracting, it is important to understand the difference between working as a weatherization contractor and as a home performance contractor.

3.1.1.1 Weatherization Contracting

Weatherization contractors participate in the federal Weatherization Assistance Program, a program designed to reduce the utility bills of low-income households by increasing their home energy efficiency. In order to participate in the WAP, households must meet the income requirements stipulated by the federal government. WAP is administered by state agencies, non-governmental organizations, or other local administering agencies.

What is a home energy “checkup”?

The home energy checkup (also referred to as an audit or assessment) is conducted within the context of a whole-house system-based approach to ensure homeowner health and safety as well as energy performance. The home energy assessment should be conducted by a contractor who is trained in building science principles, such as those described in the DOE Guidelines for Home Energy Upgrade Professionals and the U.S. Environmental Protection Agency's Healthy Indoor Environment Protocols for Home Energy Upgrades, as well as those recommended by Home Performance with ENERGY STAR, the Building Performance Institute (BPI) standards, state weatherization programs, or accredited college program recommendations.

The agency that oversees the WAP in a region typically handles all administrative details and assigns specific jobs to contractors. In many cases, this agency will also require that the contractor's performance on each job be verified through a test-out process by an independent, third-party assessor. Contractors are paid once projects are complete. To be eligible, contractors must apply, meet the requirements for, and be accepted into the program. Different states/jurisdictions have different contractor requirements that can range from insurance to training. See Table 4 for a comparison of the services provided by weatherization contractors and those provided by home performance contractors.

3.1.1.2 Home Performance Contracting

Some home performance contractors work strictly on their own, while others affiliate with one or more federal, state, local, or utility programs. Programs typically require contractor participants to meet certain requirements, such as having industry-recognized training and certifications. The contractors interviewed for this report have certifications from Building Performance Institute (BPI), the National Comfort Institute (NCI), the North American Technician Excellence Inc. (NATE), the Electric & Gas Industries Association (EGIA), the Air Conditioning Contractors of America (ACCA), Green Building Professional, the Master Builder Association, and Leadership in Energy and Environmental Design (LEED). Incentive programs may also require verification of contractor performance through a test-out of each job by a third-party assessor; home performance contractors who are working on projects independent of programs will usually conduct their own test-in and test-out to verify improvements. Whether participating in a program or not, home performance contractors are not limited to low-income housing. Most home performance upgrades are performed in homes that are owned by persons earning above \$60,000 per year (DOE 2011d).

While there are often rebates and support provided by federal, state, local, or utility-based programs, home performance contractors are responsible for developing, operating, and maintaining all of the business aspects of their contracting company including marketing and acquiring new customers, handling administrative duties, accounting, scheduling, and often assisting their customers in obtaining financing or providing financing.

Table 5 compares business operations of weatherization contractors and home performance contractors. When considering becoming a home performance contractor, these factors are important because time, labor, and equipment costs increase for each additional business component the home performance contractor must integrate into their company, although the potential for profits increases as well.

Table 4. Services Provided by Weatherization Contractors versus Home Performance Contractors

Weatherization Contractor Services	Home Performance Contractor Services
Health & safety upgrades	Health & safety upgrades
Air sealing/duct sealing	Air sealing/duct sealing
Equipment replacement	Equipment replacement
HVAC upgrades	HVAC Upgrades
Insulation	Insulation
Weather stripping	Weather stripping
Ventilation	Ventilation
Window replacement	Window replacement
	Home energy checkups
	Test-out checkup
	Solar hot water
	Photovoltaic

Comparison based on a review of program requirements, company information and interviews with Home Performance contractors.

Table 5. Comparison of Typical Business Operations for Weatherization and Home Performance Contractors

Weatherization Contractor Business Operations	Home Performance Contractor Business Operations
Accounting	Accounting
Administrative	Administrative
Billing	Billing
Human Resources	Human Resources
Quality Control	Quality Control
Scheduling	Scheduling
Training	Training
Program Compliance Tracking	Program Compliance Tracking
Program-Targeted Business Development	Consumer-Targeted Business Development
Program-Targeted Branding	Consumer-Targeted Branding
Program-Targeted Customer Acquisition	Consumer-Targeted Customer Acquisition
Program-Targeted Marketing	Consumer-Targeted Marketing
	Financing

Comparison based on a review of program requirements, company information and interviews with Home Performance contractors.

3.2 Other Points of Entry

In addition to the weatherization contractor-to-home performance remodeler path, there are several other possible points of entry into the home performance industry. Some businesses have started out as remodeling companies, new construction builders, HVAC sales and service companies, insulation contractors, energy auditors, and general contractors. Some come into the business with no related experience. Points of entry that are demonstrated in the case studies are described below. The services offered by home performance contractors range from single-focus businesses like energy auditors who provide home checkups to full-service home performance contractors who provide assessment and all aspects of home performance upgrades to customers. These models are also described below.

3.2.1 Home Remodelers

In 2010, the remodeling industry employed over 234,000 people, providing \$8.9 billion in wages from 80,300 separate establishments around the country (DOL 2011). The remodeling market including green remodeling was estimated at \$290 billion in 2009, faring better than new construction during the most recent recession (Harvard 2011a). The remodeling industry is already well-aligned with the home performance industry. Remodelers have experience with sales, marketing, and financing issues. Whether they add home performance as an additional service offered to remodel customers or market home performance as a separate stand-alone service, entering the home performance industry can be an effective way to build brand.

The remodeling contractor might be a full-service contractor performing most of the work in-house or it might act as a general contractor, sub-contracting the specific jobs to other firms or individuals. Both models can scale up to home performance contracting.

Remodeling contractors who have established businesses can capitalize on good relationships with past customers to market home performance upgrades. They can also suggest a home energy checkup and sell home performance upgrades as part of a new remodeling job. Neil Kelly (Portland, OR) offers free energy checkups to current customers who are using its remodel and design services and reports that one-third of these checkups results in additional home performance upgrades.

3.2.2 HVAC Vendors and Contractors

HVAC contractors looking to expand their business should consider adding services that will allow them to perform energy checkups and energy-efficiency upgrades to homes. The typical HVAC company is currently focused on a portion of the home performance industry. By expanding the scope to include home energy checkups, weatherization, insulation, and appliance installation, HVAC contractors can become home performance sub-contractors. Many HVAC contractors are affiliated with programs such as NATE, ACCA, and EGIA, which encourage training and certifications. These programs can give contractors an excellent grounding in building science principles.

HVAC contractors typically service heating and cooling systems for a large base of customers, many of whom contract for scheduled preventive maintenance plans. This provides an excellent marketing opportunity for home performance upgrades, especially when a technician has already developed a good rapport with the homeowner.

Building America recognizes the opportunity for HVAC contractor expansion into the home performance industry. A recent study conducted by IBACOS for Building America identifies specific strategies HVAC contractors can use to expand their current business models by subcontracting or integrating building shell work into the HVAC business (Burdick 2012). ISAAC Home Energy Performance, one contractor highlighted in the case studies accompanying this report, utilizes some of these strategies and has successfully developed a home performance contracting company. Beginning in 2009, ISAAC Heating & Air Conditioning started a new company, ISAAC Home Energy Performance. Since starting in 2009, ISAAC Home Energy Performance has grown from 2 employees to 14 and now includes full-time administrative staff, building analysts, and a contracting crew. The company also uses crews from their parent company, ISAAC Heating & Cooling, for equipment installation.

3.2.3 Consultant/Assessor Home Performance Contractor

This model focuses exclusively on the home energy checkup, also known as an assessment or audit. Consultants work with contractors, sub-contractors and state, local, or federal home energy-efficiency programs to conduct home energy assessments. This process includes the initial home energy “checkup” and the test-out verification once the home energy upgrades are conducted. Generally, consultants do not organize or conduct any work in the home; instead, they become general contractors, subcontracting out all upgrade work to others.

A recent expert meeting conducted by IBACOS and other Building America partners identified 3 core reasons HVAC companies are well positioned to enter the home performance market:

1. An HVAC contractor may already have an ongoing service relationship with a homeowner.
2. The core competencies of an HVAC company are already in line with the technically complex systems within a house.
3. An HVAC company has much to gain from incorporating whole-house thinking into their service offering (i.e., improved shell with new HVAC = better performance = fewer call backs and more referrals)

(Burdick 2012)

For more information and discussion about HVAC contractor opportunities see the article titled “HVAC to Whole-House Performance Contractor?” in the September/October 2012 issue of Home Energy Magazine. www.homeenergy.org/show/article/magazine/126/nav/issues/id/1803/viewFull/yes

Access the full guide outlining transition strategies and detailed information through the following link: www.nrel.gov/docs/fy12osti/54336.pdf

Financial Management Resources from the National Association of Home Builders

The National Association of Home Builders provides builders and contractors with financial management resources. For information on classes, articles, and guides on accounting, job cost estimation, administration, communication, controlling costs, and other topics, see www.nahb.org/reference_list.aspx?sectionID=241



Table 6. Full-Service Contractor Services and Business Operations

Contracting Services	Business Operations
Air Sealing	Customer Acquisition
Duct Sealing	Billing
HVAC Upgrades	Accounting
Insulation	Financing
Equipment Replacement	Training
Water Heater Upgrades	Administrative Support
Weather Stripping	Marketing
Indoor Air Quality	
Health and Safety	
Appliance Installation	
Window Installation	
Photovoltaic	
Solar Hot Water	

Comparison based on a review of program requirements, company information and interviews with Home Performance contractors.

To participate in public programs, certification through BPI or another recognized entity is usually necessary. Building America suggests all assessors become certified; certification helps ensure accuracy and high-quality analysis to homeowners and other industry professionals. The Home Energy Detective, outlined in one of the case studies conducted for this report, employs this business model. Read more about The Home Energy Detective in chapter 6.

3.2.4 Full-Service Home Performance Contractors

Full-service contractors have the most dynamic and scalable models in the industry. Full-service contractors employ assessors, work crews, sales/marketing staff, and support staff. Successful full-service contractors focus as much on their daily business operations as they do on their contracting work. General accounting and business operation knowledge are key factors in creating a successful full-service home performance contracting company.

As a recent analysis by the Better Buildings Neighborhood Program suggests, this model enables contractors to earn a higher profit margin and scale their business, but it also increases general responsibilities (DOE 2011d). Full-service contractors strive to conduct all upgrades with in-house crews. Some specialized jobs or repair work, such as window or roof replacement or large electrical or plumbing projects are subcontracted, but as much work as possible is retained in-house.

Typical business operations for the full service model are shown in Table 6 which also lists services typically offered by full-service contractors. Detailed analysis of contractor offerings can be found in the case studies in chapter 6.

4.0 Marketing for Success



Home performance contractors are largely responsible for their own marketing. Understanding what drives homeowners to purchase home performance upgrades is important for developing successful marketing strategies.

4.1 Homeowner Motivators

A recent study conducted by the Lawrence Berkley National Laboratory (LBNL), which was conducted to help program designers improve utility energy-efficiency programs, identified some key lessons learned that might be applicable for home performance contractors seeking their own customers (Fuller et al. 2010). Those lessons are summarized here:

- **SELL PEOPLE SOMETHING THEY WANT** – High-energy bills alone may not be a pressing issues for many people, so address other important motivators such as health, comfort, energy security, competition, or community engagement.
- **STUDY THE TARGET POPULATION** – Tailor messages based on market demographics.
- **PARTNER WITH A TRUSTED MESSENGER** – For contractors this could mean becoming a trusted messenger through involvement in community organizations like local builders associations or Habitat for Humanity; teaching community education courses; or hosting workshops. One contractor interviewed in our study has a local radio show on energy-efficiency topics; another teaches courses on energy efficiency at a local college.

“We act as consultants rather than sales people—this means finding the source of the homeowners ‘pain’ and providing them with solutions.”

Joe Thomas, Renewal System Solutions



Comfort issues and high utility bills are primary reasons homeowners call Renewal System Solutions. Renewal reaches out to existing clients of its parent company, a design-build firm, and also connects with potential customers through community involvement, tradeshows, seminars, websites, and networking.



Building Doctors uses a doctor theme for branding. The theme is conveyed in its advertisements, truck decals, billboards, and even its uniforms.

- **LANGUAGE IS POWERFUL** – Use words customers understand; personalize messages; use vivid examples.
- **CONTRACTORS ARE PROGRAM AMBASSADORS** – For contractors, it is important to remember that every contact with the customer, the quality of the jobs performed, and the professionalism of the employees all reflect positively or negatively on a company's image.
- **ONE TOUCH IS NOT ENOUGH** – energy efficiency can be a hard sell. It's not visual and it can be expensive; it requires multiple outreach approaches and, using a marketing rule of thumb, customers are likely to need to hear the message at least three times, before they will be moved to buy.

The study conducted at LBNL offered the following suggestions for marketing messages that might appeal to homeowners, especially when paired with a consistent message such as saving homeowners money (Fuller et al 2010):

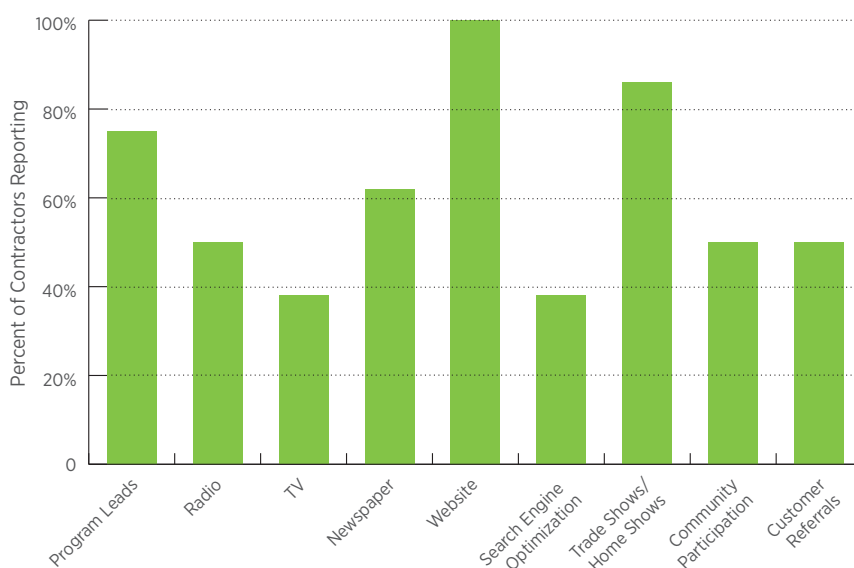
- **COMFORT:** Increase your family's comfort and wellbeing.
- **PRACTICAL INVESTMENT/SECURITY:** Make an investment to protect and maintain your most valuable asset.
- **SELF-RELIANCE:** Become a self-reliant American—reduce your energy dependence.
- **SOCIAL NORM:** All of your neighbors are making home energy improvements.
- **HEALTH:** Protect your family from mold allergies and asthma.
- **COMMUNITY:** Join your neighbors in supporting local prosperity, reducing energy waste, and protecting the environment for future generations.

Contractors interviewed in our study all noted comfort as being the number one reason homeowners move forward with energy efficiency upgrades. Although incentives helped homeowners make their final decisions, financial themes and energy savings took a back seat to other motivators.

4.2 Marketing Strategies Used by Case Study Participants

Figure 11 shows the most common marketing channels used by the contractors in our case studies.

Figure 11. Marketing Channels Most Commonly Used by Case Study Contractors



Although all contractors reported having websites, only one said that the website was a significant source of leads. This contractor noted that leads were generated from video testimonials of past customers that had been uploaded to the company website. Home shows and trade shows were frequently attended by the contractors and were cited by many as a good way to increase their company's profile within their community. Grassroots marketing strategies, including word-of-mouth, customer referrals and networking were all cited as being the best marketing methods for contractors participating in our case studies. Not all of these approaches would apply to all home performance contractors. For example, not all companies have access to a parent company's existing customer database. Radio ads, word-of-mouth discussions, and advertising on vehicles are opportunities available to all contractors.

Contractors interviewed for the business case all reported variations on marketing strategies depending on location, services provided and company objectives. All contractors use marketing as a way to help educate homeowners about the benefits of home performance. Table 7 lists all types of marketing methods reported by the home performance contractors interviewed for this study.

Table 7. Marketing Strategies Reported by Case Study Contractors

Marketing Strategies Reported by Contractors

- Word-of-Mouth
- Previous Clientele
- Referrals
- Networking
- Website
- Search Engine Optimization
- Social Media
- Blogs
- Video Testimonials
- Local Programs
- Trade Shows
- Home Shows
- Seminars
- Energy Makeover Contest
- Community Involvement
- Branding
- Vehicle Details
- Newspaper
- Newsletters
- Magazines
- Direct Mailing
- Door Hangers
- Billboards
- Radio
- Television

"If we can educate homeowners, then this industry will flourish. Without education, this industry isn't going anywhere. We are selling information, not windows."

Troy Tanner, Home Energy Detective

Figure 12. Most Successful Marketing Channels Reported by Case Study Contractors

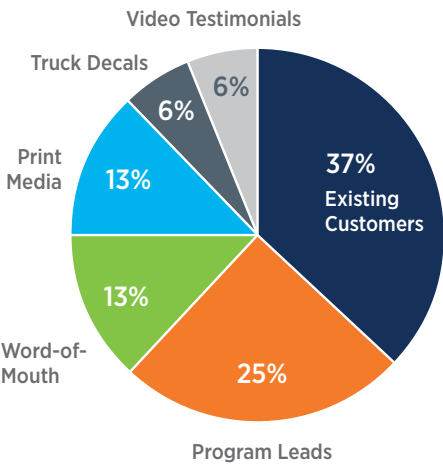


Table 8. Average Closing Rates for Home Performance Upgrades by Contractors in Business Case Studies

Company	Average Closing Rate
Building Doctors	80%
Energy Saving Services	55%
GreenHomes America	40%
GreenStreet Solutions	55–60%
ISAAC Home Energy Performance	30%
Neil Kelly	70%
Renewal System Solutions	45%
The Home Energy Detective	40–50%

It is likely that the home performance industry will grow and that growth will be a marketing advantage to contractors who still have to explain the benefits of home performance upgrades to potential customers as well as establish their own credibility to win the contract. As Troy Tanner of The Home Energy Detective explained, “If we can educate homeowners, then this industry will flourish. Without education, this industry isn’t going anywhere. We are selling information, not windows.” Table 8 shows average closing rates for case study participants.

Figure 12 illustrates the most successful marketing techniques reported by case study respondents. The pie chart combines customer lead data from all eight case study participants. Thus, as shown in the pie chart, existing customers were the biggest source of home performance customers for all of the companies interviewed, as these companies moved into the home performance industry. Participation in programs such as Home Performance with ENERGY STAR and other regional programs provided the second largest source of leads.

Some contractors are able to get marketing assistance from programs that list approved contractors on their websites, provide contractor names to prospective customers, or provide funding to help offset up to 50% of marketing expenses. For example, Building Doctors in Los Angeles has received approximately \$9,000 through Energy Upgrade California to fund its marketing efforts. Neil Kelly, reported getting 70% of its leads from its participation in the local program Clean Energy Works Oregon. Neil Kelly’s home performance division also benefits from access to the large customer database of its parent company, a well-established remodeling company. Building Doctors did not have an established clientele to draw from when it opened its doors in 2009 but saw number of projects jump from 3 the first year to 35 the second year due in part to participation in Home Performance with ENERGY STAR and Energy Upgrade California, which offers customer rebates and subsidizes advertising for participating companies. Other marketing techniques by Building Doctors include billboards, truck decals, website optimization, trade shows, and community involvement. Program involvement by case study participants is shown in Table 9.

Table 9. Contractor Participation in Public and Private Programs

Company	Participates in WAP?	Program Participation	HPwES Qualified Contractor?	Program Incentives for Homeowners	Program Benefits for Contractors
Building Doctors, Inc.	No	<ul style="list-style-type: none"> Energy Upgrade California; HPwES approved contractor 	Yes	Rebates; tax credits	Co-op marketing program subsidizing 50% of advertising costs up to \$50,000
Energy Saving Services	1970s	<ul style="list-style-type: none"> Consumer's Energy Detroit Energy Michigan Saves 	Yes	Rebates	Customer leads from the utilities; ability to offer financing to homeowners through Michigan Saves
GreenHomes America	Yes*	<ul style="list-style-type: none"> Green Jobs-Green New York New York State Energy Research and Development Authority (NYSERDA) 	Yes	Free or low-cost energy checkups; low interest loans up to \$25,000	Customer leads, funding for approved advertising, reimbursement of \$250 per home checkups performed.
GreenStreet Solutions	No	<ul style="list-style-type: none"> HPwES Greater Cincinnati Energy Alliance Utility programs in Cincinnati and Cleveland Dominion East Ohio Gas – administers the HPwES program First Energy – window, insulation and duct sealing rebates Columbia Gas of Ohio – up to 70% on qualifying improvements Duke Energy –equipment rebates 	Yes	Low-cost energy checkups up to 35%-40% of upgrade cost; utility companies offer rebates	Customer leads
ISAAC Home Energy Performance	No	<ul style="list-style-type: none"> Green Jobs-Green New York New York State Energy Research and Development Authority (NYSERDA) 	Yes	Free or low-cost energy checkup; low interest loans up to \$25,000 for upgrades	Customer leads from HPwES
Neil Kelly	1970s-1980s	<ul style="list-style-type: none"> Clean Energy Works Oregon 	Yes	Home energy checkup; no money down on-bill financing	Customer leads. Can also offer the program's financing package to customers it generates privately.
Renewal System Solutions	No	<ul style="list-style-type: none"> Decatur Wise Georgia Power Earthcents City of Atlanta Sustainable Home Initiative in the New Economy (SHINE) Southface 	Yes	Earthcents: offers rebates up to \$2,200 for energy upgrades; SHINE provides rebates for approved upgrades	Decatur Wise: offers contractors rebates for upgrades; Southface: BPI training and free advertising
The Home Energy Detective	No	<ul style="list-style-type: none"> Northern Virginia HPwES George Washington Regional Commission's Home Energy Loss Prevention (GW-HELP) 	Yes	Rebates to homeowners for qualified work	Listing on HPwES and GW-HELP websites
* People's Equal Action and Community Effort (PEACE) program participant; PEACE oversees local WAP					

5.0 Case Study Analysis



5.1 Overview of Business Case Studies

Eight home performance contractors are profiled in the case studies shown in Chapter 6. Table 10 provides background information on the eight firms. Notice that most started in a related line of business and added a home performance presence. One firm, The Home Energy Detective, started directly as a home performance assessor in 2007. Firms were chosen for the diversity they represent geographically as well as across business models.

Table 10. Home Performance Contractors Profiled in the Case Studies

Company	Location	Year Started in Home Performance	Year Firm Originated	Business Model	Number of Home Performance Employees
Building Doctors, Inc.	Los Angeles, CA	2009	early 2000s	Full-service	13
Energy Saving Services	Kalamazoo, MI	2009	1955	HVAC	15
GreenHomes America	Syracuse, NY	2001	1981	HVAC	40
GreenStreet Solutions	Cleveland, OH	2009	1999	Full-service	12
ISAAC Home Energy Performance	Rochester, NY	2009	1945	Full-service	14
Neil Kelly	Portland, OR	2006	1947	Remodeling	28
Renewal System Solutions	Decatur, GA	2009	2009	Remodeling	3
The Home Energy Detective	Manassas, VA	2007	2007	Assessor/ consultant	3

Table 11. Summary of Business Metrics for all Contractors

Metric	Year	Building Doctors	Energy Saving Services	Green Homes America	Green Street Solutions	ISAAC Home Energy Perf.	Neil Kelly	Renewal System Solutions	The Home Energy Detective
Number of Employees	2009	1	10		3	2	4	1.5	5
	2011	13	13	40	12	14	28	3	3
Average Project Size	2009	\$500			\$1,500	\$4,000	\$5,154	\$7,100	\$65,333
	2011	\$17,000	\$10,000	\$8,100	\$3,200	\$6,000	\$14,173	\$9,400	\$6,339
Revenue	2009		\$1,400,000		\$35,000	\$200,000	\$484,500	\$78,000	\$299,638
	2011	\$660,000	\$1,700,000	\$3,500,000	\$600,000	\$2,600,000	\$2,913,222	\$412,000	\$500,801
Number of Projects	2009				18	50	94	12	32
	2011	35		400	135	300	206	44	79
Revenue per Employee	2009		\$140,000		\$11,667	\$100,000	\$121,125	\$52,000	\$59,928
	2011	\$50,769	\$130,769	\$87,500	\$50,000	\$185,714	\$104,044	\$137,333	\$166,934
Revenue per Project	2009				\$1,944	\$4,000	\$5,154	\$6,500	\$9,364
	2011	\$18,857		\$8,750	\$4,444	\$8,667	\$14,142	\$9,364	\$6,339

5.2 Growth

Software

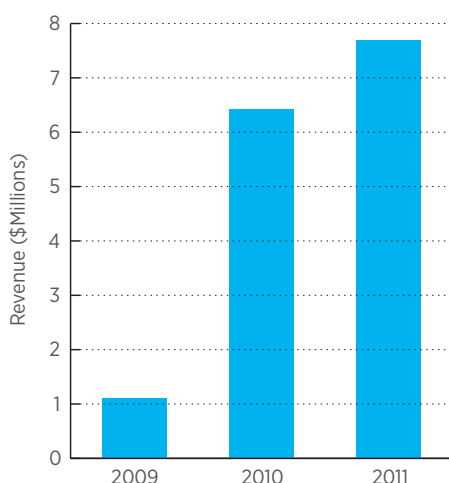
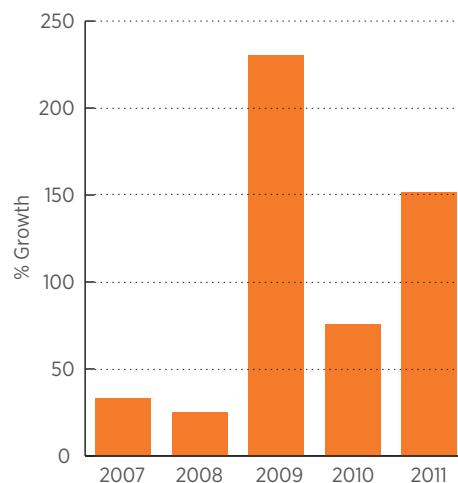
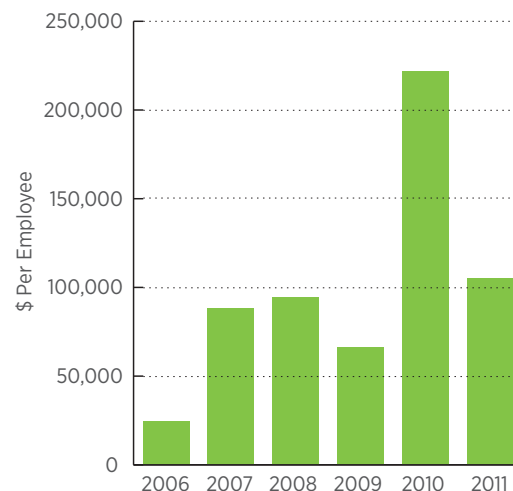
For more information about software programs available to support the home performance industry, including information about energy modeling software, home analysis and retrofits, visit the Building Energy Software Tools Directory at http://apps1.eere.energy.gov/buildings/tools_directory/

Each firm has seen strong growth in its home performance business, even the firms that just entered the market in 2009 during the deep housing recession. Detailed discussion of each company can be found in the following case studies. Table 11 above outlines each company's business metrics between 2009 and 2011. The discussion in the rest of this section provides a synopsis of case study data reported by all contractors that participated in this study.

As Figure 13 shows, revenue grew sharply in 2010 for the five firms reporting annual revenue data. Although data for 2011 are incomplete, there was still a 22% growth over 2010.

As firms added employees in their home performance businesses, revenue per employee grew from \$24,255 in 2006 to \$105,288 in 2011. The growth slowed in 2011 as firms continued to grow but revenue grew at a slower pace. Revenue per employee grew at a compound annual rate of 34% from 2006 through 2011. See Figure 14 for the growth in home performance contractor employees. A large increase in the number of employees during 2011 at two of the firms led to reduced revenue per employee as shown in Figure 15.

The average size of home performance projects also increased from \$1,277 in 2006 to \$9,620 in 2011, a growth rate of 625%, which is also a compound annual growth rate of 50% as shown in Figure 16.

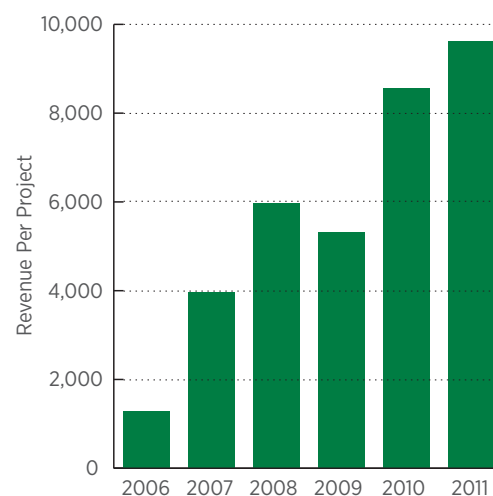
Figure 13. Combined Revenue for Five Home Performance Contractors**Figure 14. Hiring Growth by Home Performance Contractors****Figure 15. Average Revenue per Employee**

5.3 The Home Energy Checkup

All of the contractors indicated that understanding the customer's home comfort issues was a key to success. As seen in the following case studies, the contractors were able to effectively use the home energy checkup process (sometimes referred to as a home energy audit or assessment) to understand the needs of the homeowners.

All eight contractors interviewed said that comfort was far and away the leading motivation for homeowners to engage in home performance upgrades. Other motivators included an interest in reducing utility bills, concern for the environment, and concerns for health and indoor air quality. Contractors stressed that, in order to be successful, they need to listen to the homeowners, understand the causes for the lack of comfort, and, as Brad Bartholomew, owner of Energy Saving Services stated, "Educate homeowners to the point where they can make the best decisions for work that they will be most happy with." Joe Scipione, General Manager of GreenHomes America agreed. Scipione explained, "We listen carefully and find out what homeowners really care about. What drives homeowners are their comfort issues. Energy savings is not the primary reason homeowners move forward with upgrades."

Most home performance contractors encourage the homeowner to be an active participant in the home checkup. It is not uncommon for a two-person team to be sent to a home—a technician to run the diagnostics and a sales person to guide the homeowner through the

Figure 16. Average Revenue per Home Performance Project

The graphs above present information gathered from contractors interviewed in the case studies in the following chapter.

For another set of estimated equipment costs

See the BPI’s list of recommended diagnostic products and price ranges at www.bpi.org/files/pdf/BPI_Energy_Audit_testing_equipment_checklist.pdf

energy checkup and to answer their questions. For example, Neil Kelly uses this team approach with a sales person to help educate the homeowner as the assessor performs the checkup. The salesperson focuses on how upgrades can help the homeowner meet his or her comfort goals. All of Neil Kelly’s sales staff and assessors are BPI certified. Tom Kelly, president of Neil Kelly, noted that the closing rate for the home performance division “is a lot higher than any other service we offer.”

5.4 Start-Up Costs for Home-Performance Contractors

Start-up costs vary for home performance contractors depending on the type of business model followed and whether the business is scaling up an existing business or launching a new one.

Typical start-up expenses include:

- training needed for certification for key employees
- tools and equipment including diagnostic equipment and energy software
- marketing/branding
- licensure
- vehicles
- inventory
- office/retail space

Table 12 contains a list of equipment typically needed and estimated costs (Kaylor 2011).

Table 12. Sample Start-Up Equipment and Costs

Item	Cost
Blower Door	\$2,795
Combustion Analyzer	\$998
Digital Hygrometer	\$110
Infrared Camera	\$4,000-\$6,500
Duct Blaster	\$2,222
Watt Meter	\$50
Tru Flow Air Meter	\$700
Wood Moisture Meter	\$500-650
Data Logger: temperature and humidity	\$20-\$500
Data Logger: CO 30-day monitoring	\$5000+

Table 13 shows start-up costs reported by firms included in this report's case studies. Total start-up costs were estimated to range from a low of \$20,000-\$25,000 to a high of \$450,000 with most firms reporting costs under \$100,000 excluding the cost of vehicles.

Table 13. Reported Start-Up Costs

Company	Equipment	Training/ Certification	Marketing	Vehicles	Other	Total
Building Doctors, Inc.	\$15,000		\$7,500	4 vehicles	\$150,000	\$172,500
Energy Saving Services	\$15,000	> \$15,000				\$30,000+
GreenHomes America						\$40,000-\$100,000
GreenStreet Solutions					\$450,000	\$450,000
ISAAC Home Energy Performance	\$49,000			7 vehicles	\$100,000	\$149,000
Neil Kelly					\$20,000-\$25,000	\$20,000+
Renewal System Solutions	\$12,000	\$5,000				
The Home Energy Detective						\$40,000-\$50,000

All of the eight businesses profiled in the case studies reported that they had employees who were BPI certified. Five of the eight businesses reported that two-thirds or more of their employees involved in home performance had BPI building analyst certifications, some had other BPI certifications as well. Some firms, like ISAAC Home Energy Performance, ensure that both their sales people and their analysts have BPI certifications to enable them to be fully knowledgeable about the home performance process. Table 14 summarizes certifications held by firms interviewed for this report. Notice that most firms have additional certifications (RESNET, NATE, LEED) or industry memberships (Comfort Institute, EGIA). Such memberships help provide opportunities for additional training and networking.

Table 14. Employee Certifications

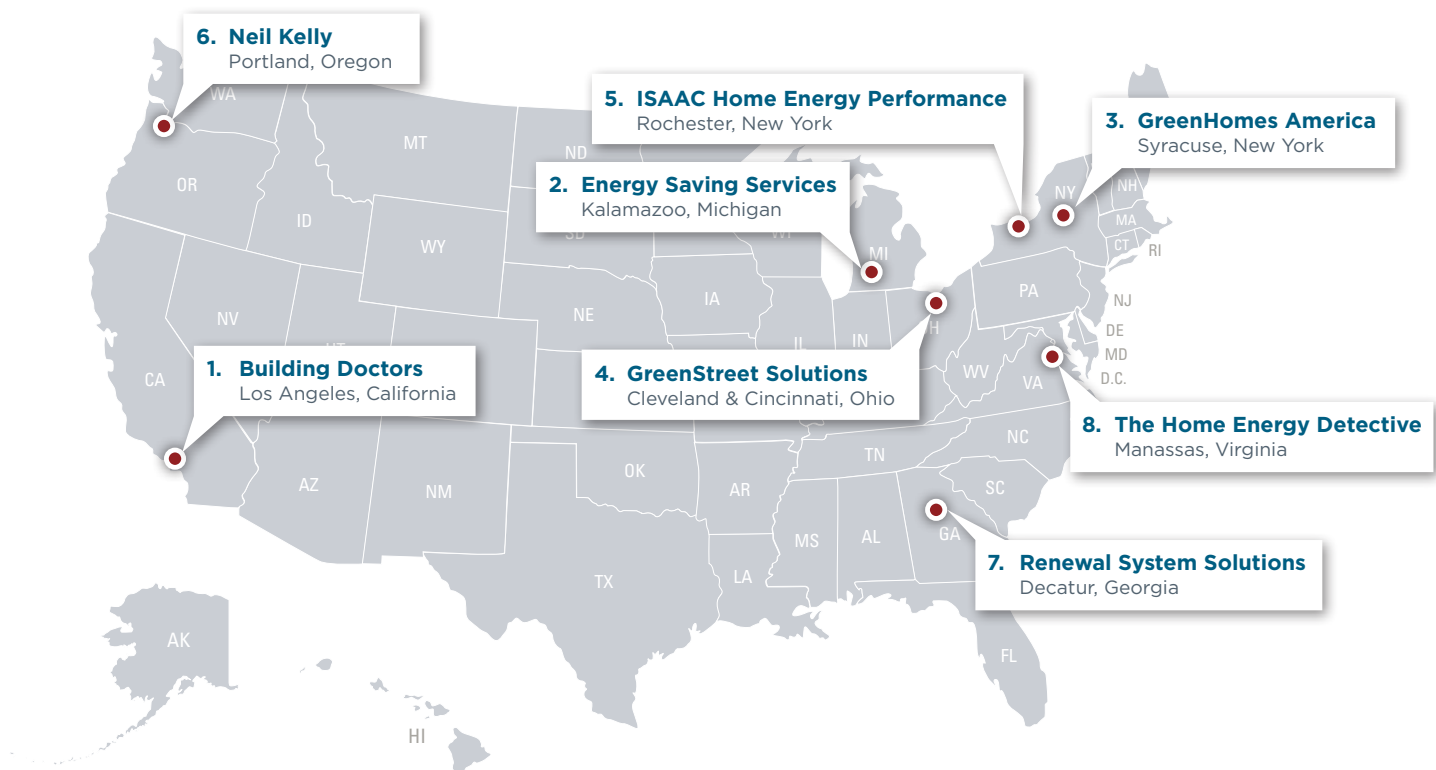
Company	BPI Certified Employees	RESNET Certified Employees	NATE Certified Employees	Other Certifications and Affiliations
Building Doctors, Inc.	4		1	<ul style="list-style-type: none"> • Green Building Professional * 1 HERS Rater * Certified BPI Contractor * Founding Member of Efficiency First
Energy Saving Services	2	1	In progress	<ul style="list-style-type: none"> • National Comfort Institute Air Master
GreenHomes America	25	1		<ul style="list-style-type: none"> • Certified BPI contractor • ACCA member
GreenStreet Solutions	9			<ul style="list-style-type: none"> • Certified BPI Contractor
ISAAC Home Energy Performance	8		8	<ul style="list-style-type: none"> • ISAAC University
Neil Kelly	12			<ul style="list-style-type: none"> • LEED • Master Builder • Passive House Consultant
Renewal System Solutions	3			<ul style="list-style-type: none"> • EarthCraft Renovation accredited
The Home Energy Detective	3	2		<ul style="list-style-type: none"> • Green Certified remodeler • Comfort Institute member • EGIA member

6.0 Case Studies



Following are comprehensive case studies of eight home performance contractors located in various areas of the country representing different public programs, climate considerations, and business models. Each contractor was interviewed by the Building America team in order to get in-depth knowledge about their home performance contracting business model including their company background, business metrics, training, and marketing.

Case Studies Featured in this Business Case Report





Case Study:

Building Doctors Inc.

LOS ANGELES, CALIFORNIA

Building Doctors, Inc. of Los Angeles, plays on the healthy house checkup analogy in its brochures, advertising, and even uniforms.

Los Angeles-based home performance company increases annualized revenues by nearly 8 times in just 2 years

CONTRACTOR PROFILE

Contractor:

Building Doctors
(877) 411-2534
<http://buildingdoctors.com>

Location: Los Angeles, California

Home Performance Division Founded:
2009

Employees: 13

Certifications of HP Staff:

4 BPI certified, certified BPI contractor,
1 HERS rater, founding member
Efficiency First, Green Building
Professional certification

Southern California entrepreneur Dan Thomsen rode the wave as a successful house flipper in the real estate boom of the early 2000s and has landed solidly on his feet as a home performance contractor during the recent housing recession. His Building Doctors company has grown from \$75,000 in revenue in 2010 to \$660,000 in 2011, while the number of upgrade projects has increased from 3 to 35 and the company's staff has grown from 1 employee to 13. The company continues to be booked out 2 to 3 months in advance for energy upgrade work. The company's success is a result of Thomsen's strong environmental ethic, careful branding and networking.

Thomsen is one of the founding members of Efficiency First, a national nonprofit organization that promotes home performance and acts as a contractor advocate. Through this organization Thomsen was active in promoting the Homestar legislation, and is Chair of the Membership Committee and a member of the Marketing Committee. Although Homestar legislation only passed through the House and not the Senate, it did bring a lot of visibility to the home performance industry and Efficiency First remains a force in the development of the industry. Thomsen, who sits on the board of the organization, notes "we need to all have one voice as opposed to being fragmented."

Building Doctors is a "one-stop shop" offering home checkups and upgrade installations. Initially, Thomsen ran Building Doctors as a general contractor, performing energy checkups and subcontracting the



Building Doctors uses website search engine optimization, newsletters, tradeshow, and video testimonials. Signs on the trucks bring in two leads a week.

“Branding is essential—get yourself out there and help homeowners understand you are the best person to improve their home.”

Dan Thomsen, Owner, Building Doctors

Home Performance Services:

- Energy Checkups
- Insulation
- Air Sealing
- Duct Sealing
- Full-Service HVAC
- Equipment Replacement
- Indoor Air Quality
- Health/Safety
- Lighting Retrofits
- Solar Water Heaters
- Photovoltaics

installations to other contractors. This system proved difficult from both a quality control and scheduling perspective. Eventually the contracting work was brought in-house. “Scheduling was the biggest obstacle. Doing the work in-house is more efficient. We take the home from start to finish with only having to set up the house once protecting the floors, covering the furniture, and running lights in the attic. This helps us work more efficiently and lets us get in and out of the home faster,” said Thomsen.

Business Metrics

Startup costs for Building Doctors consisted of approximately \$15,000 in equipment and an additional \$7,500 in branding costs, which included uniforms, decals, signage, and promotional materials. There was also a \$150,000 investment in four work vehicles, training, and general management costs.

Building Doctors has realized good growth since opening in 2009. In just one year, revenues grew by 780%, and the number of energy upgrade projects jumped by over 1000%. The jump in revenues is offset somewhat by the cost of increasing the number of employees at the Building Doctors. Total revenue grew by 60% between 2010 and 2011 (see Table 1). Energy Upgrade California has helped Building Doctors increase revenues; approximately 70% of its customer leads in 2011 came through the program. Additionally, Building Doctors is on target to reach their goal of \$1 million in revenue for 2012.

Public Programs

Energy Upgrade California is the state-run energy-efficiency program available to both commercial and residential customers. As a contractor within the program, Building Doctors can offer rebates associated with the program to its customers and use the program to help pay for advertising costs. Energy Upgrade California offers approved contractors a co-op marketing program that subsidizes 50% of total advertising costs up to \$50,000. To date, Building Doctors has

Table 1. Building Doctors: Company Size and Business Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Revenue per Employee (\$)
2009	1	Checkups only		0	0
2010	2	\$19,000	\$75,000	3	\$37,500
2011	13	\$17,000	\$660,000	35	\$50,769

Data courtesy of Building Doctors, Inc.

collected approximately \$9,000 in marketing costs from the program. Because homeowners can get rebates through the program, Building Doctors uses Energy Upgrade California as a marketing tool as well. Offering program rebates to homeowners is an effective sales tool and helps Building Doctors close many deals.

Building Doctors is also an approved contractor with the Home Performance with ENERGY STAR program. This program offers a tax credit for some energy-efficiency upgrades, but was scaled back in 2011. Building Doctors employees complete all paperwork associated with the Home Performance with ENERGY STAR and Energy Upgrade California programs so that homeowners can get the maximum benefit with little effort on their part. As an approved contractor, Building Doctors is also able to use the ENERGY STAR logo in advertising and promotional materials.

Training

Thomsen has earned two certifications through the Building Performance Institute (building analyst and envelope). He now teaches for the California Building Performance Contractors Association and he also gives educational presentations, both of which increase the company's visibility. "I have planted a lot of seeds that are all starting to take shape as homeowners become better educated," said Thomsen.

Training and quality assurance are essential for the Building Doctors. Each employee receives comprehensive in-house training from Thomsen, who is a BPI proctor. Building Doctors was the first BPI accredited contractor in Los Angeles County and the tenth in the state of California. "Good quality assurance, training, and education have helped establish my business," said Thomsen, who notes that it takes 3 to 6 months to get an employee properly trained. After each upgrade is performed and test-out procedures are finished, Building Doctors asks homeowners for feedback on their experience and results. Customer feedback helps Building Doctors continue to refine management procedures and provides testimonials that can be used as advertising material.

Marketing

Many leads that come into Building Doctors are generated through the company's own marketing efforts. Building Doctors focuses a significant amount of resources on marketing its services. Branding and marketing efforts include search engine optimization, informational door hangers, truck decals, newsletters, and participating in green events. "We come up on the top of the list on all Google searches,"

Figure 1. Building Doctors: Distribution of Home Performance Upgrade Measures in Typical Projects

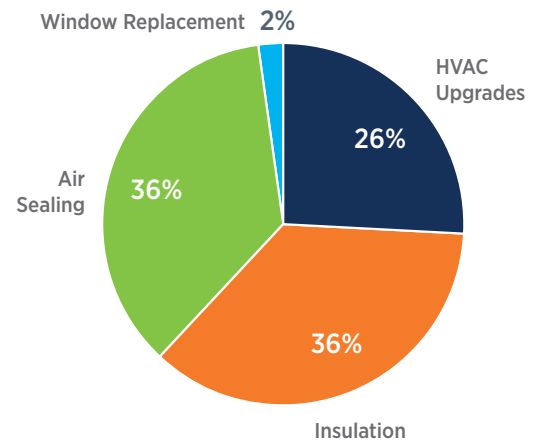


Figure 1 above illustrates the typical breakdown of each home performance project by type of upgrade completed in the home. As shown in the pie chart, insulation and air sealing are included in most projects, followed closely by HVAC upgrades. A smaller number of projects also include window replacement and solar installation.

"We do it all as a one-stop shop."

Dan Thomsen, Owner, Building Doctors



Building Doctors has seen a jump in revenue from \$75,000 in 2010 to \$660,000 in 2011 and the total number of projects has grown from 3 in 2010 to 35 in 2011.



<https://energyupgradeca.org/overview>



www.energystar.gov/homeimprovement

Marketing Strategies:

- Websites
- Search Engine Optimization
- Door Hangers
- Truck Decals/Branding
- Newsletters
- Community Involvement
- Tradeshows
- Video Testimonials
- Word-of-Mouth
- Networking

"I've gotten testimonials from customers saying that their energy bills have dropped 60% since getting home performance upgrades from us."

Dan Thomsen, Owner, Building Doctors

said Thomsen. Video testimonials, which are posted on the company's website, have also brought in many leads. "I've gotten testimonials from customers saying that their energy bills have dropped 60% since getting home performance upgrades from us," notes Thomsen.

Door hangers and discussions with neighbors of current customers help educate and sell additional upgrades. "We perform all upgrades to the highest possible quality—we know this impacts our word-of-mouth advertising," said Thomsen.

For most homeowners, comfort is the primary motivator to go through with energy-efficiency upgrades. Building Doctors notes the work load is seasonal with more calls in the hot summer months or cold winter months. Building Doctors conduct a thorough interview and energy assessment to help homeowners determine the best upgrades to meet their needs. "I am not a hard-core sales person—I don't believe in pushing people. Instead, we educate the homeowner and help them realize their goals and the value of the whole house approach," said Thomsen.

During the checkup process, there is one assessor to handle the equipment and technical aspects of the checkup and one sales person who helps to educate the homeowner as the checkup is taking place. This approach allows sales people to establish a strong rapport with the customer. Once the checkup is complete, a comprehensive report is generated that includes findings and recommendations for addressing any comfort issues. The auditor goes through the report with the homeowner. "If you provide homeowners with knowledge of what's going on in their house, they are likely to go through with the upgrades," said Thomsen.

According to Thomsen, motivators for upgrading include health, the environment, indoor air quality, and high utility bills, but for most people it's comfort issues. "Indoor air quality is an important motivator; show customers what they are breathing—dust, rat poop, formaldehyde..." The checkup reports also focus on the rebate amounts available. Energy Upgrade California rebates can be as high as \$8,000. This is a huge motivator for homeowners to go through with upgrades," noted Thomsen. The result of this approach has been a high closing rate for the Building Doctors; 80% of homeowners choose to implement some or all of the recommended upgrades. If homeowners are participating in Energy Upgrade California, \$299 is charged for the initial assessment. If they are independent of a program, the charge is \$499.



Case Study:

Energy Saving Services

KALAMAZOO, MICHIGAN

Air sealing is the most popular energy efficiency upgrade; one-fourth of Energy Saving Services jobs include air sealing. Here, workers are air sealing the joints of a new HVAC duct system with foil tape. In the background you can see the basement rim joist which was just air sealed with spray foam.

CONTRACTOR PROFILE

Contractor:

Energy Saving Services
(269) 341-4338
www.testthishouse.com

Location: Kalamazoo, Michigan
(Serving SE Michigan)

Home Performance Division Founded:
2009

Employees: 13 full-time, 2 part-time

Certifications of HP Staff:

2 BPI certified, 1 RESNET certified,
1 National Comfort Institute Air Master

Home performance division's average project size reaches \$10,000 in 2011

Since moving into the home performance industry in 2002, Bartholomew Heating & Cooling has successfully continued to build the brand, now known as Energy Saving Services, located in Kalamazoo, Michigan. The home performance division has seen average project size triple to just under \$10,000 since the Energy Optimization-Michigan program began in 2009 and the division's staff has grown from 8 employees to 13. Until recently, Energy Saving Services did not keep financial data separate from its parent company, Bartholomew Heating & Cooling, but Brad Bartholomew, owner of Energy Saving Services notes, "We have continued to grow in size and profitability in spite of a down economy (especially in Michigan) because of home performance."

Energy Saving Services was officially founded in 2009 in response to the proposed HomeStar Legislation passed by the U.S. House of Representatives. Although the bill did not go through the Senate, Brad Bartholomew, owner of Energy Saving Services, decided to keep the company regardless of incentives. Brad Bartholomew is also a third generation owner of Bartholomew Heating & Cooling, a successful HVAC contractor that has been serving Kalamazoo, Michigan, since 1955. Since 2002, Bartholomew Heating & Cooling has offered home performance upgrades as a way to increase the efficiency of the HVAC systems it installs and to provide enhanced services to its clientele. In 2009, the home performance division became an autonomous business. Both businesses are run out of the same office and many employees work for both companies. Neither company participates in national weatherization programs, but Bartholomew Heating & Cooling was a weatherization contractor in the 1970s.



Despite the recession, Energy Saving Services has grown steadily, from 8 employees in 2006 to 13 full-time and two part-time employees in 2011.

“You can’t just add an auditor or train one person. The whole company needs to understand the purpose of home performance. From the person answering the phone to the builders.”

Brad Bartholomew, Owner,
Energy Saving Services

Home Performance Services:

- Energy Checkups
- Insulation
- Air Sealing
- Duct Sealing
- Full-Service HVAC
- Equipment Replacement
- Indoor Air Quality
- Health/Safety
- Water Heaters

In 2002, Bartholomew Heating & Cooling began to offer envelope upgrades along with its HVAC services. Adding energy-efficient upgrades to the existing HVAC business made sense from both a financial and business perspective. Selling home efficiency upgrades is a way to up-sell products and services and also ensures better operation of the HVAC equipment Bartholomew installs. Now, Energy Saving Services is a full-service home performance contracting company offering all upgrades in-house. The company does subcontract with a plumber and builder when necessary.

Business Metrics

Startup costs were relatively low for Energy Saving Services since the company was added to its existing HVAC company, Bartholomew Heating & Cooling, which was well established in the area. Total equipment costs equaled approximately \$15,000, second only to training costs, which were more significant since the entire staff was trained on home performance principles. Brad Bartholomew says “You can’t just add an auditor or train one person. The whole company needs to understand the purpose of home performance, from the person answering the phone to the builders.”

Employee numbers have continued to grow since 2006. Brad Bartholomew notes, “One of the things we are most proud of is the fact that we have kept all of our employees through one of the roughest economic times in Michigan. A big part of this is thanks to our home performance work.”

Although Energy Saving Services is a separate division, the owners of Bartholomew Heating & Cooling do not keep separate financial reporting for each division. The revenue numbers in Table 1 include both Energy Saving Services and Bartholomew Heating & Cooling.

Table 1. Bartholomew Heating & Cooling: Company Size and Business Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Revenue per Employee (\$)
2006	8		\$1,100,000		\$137,500
2007	9		\$1,200,000		\$133,333
2008	9		\$1,200,000		\$133,333
2009	10		\$1,400,000		\$140,000
2010	11		\$1,500,000		\$136,364
2011	13	\$10,000	\$1,700,000		\$130,769

Data Courtesy of Energy Saving Services.

Public Programs

Energy Saving Services participates in all public programs available in its area. In southeast Michigan, the two primary utility companies, Consumer's Energy and Detroit Energy, both offer incentives for home performance upgrades. Consumer's Energy administers the Home Performance with ENERGY STAR program, which offers varying rebates to customers based on the type or number of efficiency measures they install in their homes. Energy Saving Services helps homeowners obtain the highest amount of rebates, completes all paperwork, and streamlines the process as much as possible for its customers. Currently, Energy Saving Services gets approximately 50% of its leads through these programs.

Michigan Saves is a nonprofit organization that provides financing for residential and commercial customers who perform energy-efficiency upgrades. Energy Saving Services is part of the Michigan Saves contractor's network and can provide financing to homeowners through the program.

Training

One way Energy Saving Services is able to effectively sell its services is by providing the best training possible to all of its employees. "There needs to be a culture change within the company—from the person that answers the phone to the subcontractors," notes Brad Bartholomew. Training employees is the most effective way to ensure that homeowners are properly educated about home performance and employees are able to identify, recommend, and implement the best solutions to remedy customer complaints.

Energy Saving Services takes training very seriously; all employees from administrative staff to technicians are trained on the importance of home performance. That ethic has resulted in very little turnover for the company—many employees have been with Energy Saving Services from the day it opened.

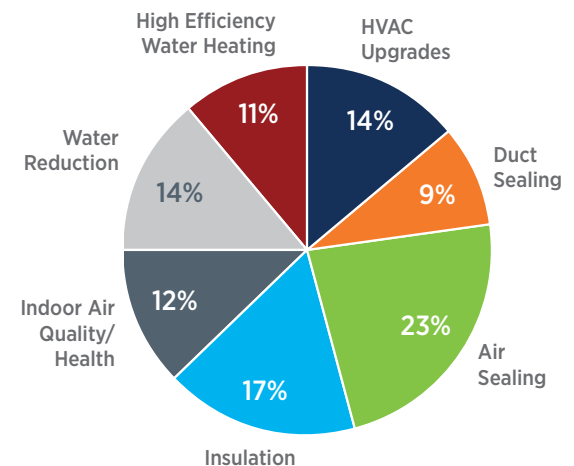
Marketing

Energy Saving Services is in a good position to acquire customers because it is closely aligned with its parent HVAC company. "I believe existing HVAC companies make the most successful home performance companies," notes Bartholomew. This is because HVAC companies already have a solid customer base they can upsell home performance services to or market to directly.



Signage on company cars and trucks is one way Energy Saving Services markets its services. The company also uses radio and newspaper ads, home and trade shows, websites, and direct mailing of newsletters and fliers to new homes and existing HVAC customers. Brad Bartholomew also gives presentations to utilities and at community events.

Figure 1. Energy Saving Services: Distribution of Home Performance Upgrade Measures in Typical Projects



Typical home energy upgrades for Energy Saving Services are relatively balanced and usually include a combination of air sealing, insulation, HVAC upgrades, and water reduction. This includes installing low-flow faucets and showerheads. In Michigan, public programs require contractors to include water-saving methods so upgrade projects that qualify for rebates must include these measures.



www.consumersenergy.com/eeprograms/HPHome.aspx?id=4129&linkidentifier=id&itemid=4129



www.dteenergy.com/residentialCustomers/saveEnergy/homeAudit/resEnergyAudit.html



www.michigansaves.org



www.energystar.gov/homeimprovement

Marketing Strategies:

- Existing HVAC Clientele
- Radio
- Newspaper
- Newsletters
- Direct Mailing
- Websites
- Community Involvement
- Home Shows
- Trade Shows
- Seminars
- Word-of-Mouth
- Networking

“Contractors have to be careful not to make assumptions about the homes. I’ve been in 100-year-old homes that are extremely efficient, and homes built in the ‘90s that have serious problems.”

Brad Bartholomew, Energy Saving Services

Marketing efforts at Energy Saving Services include radio spots, newsletters, newspaper ads, direct mailing, websites, and community involvement. Brad Bartholomew gives presentations to local utility companies and co-ops to enhance awareness of residential energy efficiency. He also participates in home shows, tradeshow, and other local events. Energy Saving Solutions monitors its advertising closely; approximately 50% of all customer leads come from direct marketing programs.

Initial home assessments cost \$495 (with an online coupon worth \$100). This has become a marketing tool for Energy Saving Services along with a way they can help their business stand out against their competitors. “We played around a lot with the price of audits and found that if we don’t value the home checkups, then our customers won’t either,” said Bartholomew. Valuing the initial checkup helps the assessor build rapport with the homeowner and begin to effectively sell their services and educate homeowners. The result has been a 55% closing rate for completed checkups that then book jobs. The assessor and sales person can learn about their clients’ comfort issues and provide the best possible solutions to alleviate those issues.

In general, a roadmap is laid out for the customer based on checkup results, homeowner motivations, and goals of the project. This process allows assessors and sales people the opportunity to get work now, but also to lay out potential future options. Although return on investment, utility bill savings, and simple payback are included in the final checkup report, Energy Saving Services doesn’t focus on these aspects because they don’t end up selling home performance upgrades.

“My job is to educate homeowners to the point where they can make the best decisions for work that they will be most happy with,” says Brad Bartholomew. Thus far, it has been a successful business model for the Kalamazoo, Michigan-based company.

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Energy Efficiency &
Renewable Energy

eere.energy.gov

For information on **Building America** visit www.buildingamerica.gov. The website contains expanded case studies, technical reports, and best practices guides.

PNNL-SA-86616 • October 2012



Case Study:

GreenHomes America

SYRACUSE, NEW YORK

GreenHomes America uses the energy checkup or audit as an opportunity to educate the homeowner about home performance; 40% of homeowners choose to purchase some or all of the recommended upgrades.

CONTRACTOR PROFILE

Contractor:

GreenHomes America

Location: Syracuse, New York. With franchises in California, New Jersey, Utah, New York, South Carolina, Florida, Washington and Virginia

Home Performance Division Founded: 1981

Employees: 38-40 in Syracuse, 160-200 with franchises

Certifications of HP Staff:

25 BPI certified, 1 RESNET, GreenHomes America is a certified BPI contractor, BPI Training Affiliate and ACCA member

Large HVAC company specializing in whole-house energy efficiency upgrades 400 homes per year

GreenHomes America, based in Syracuse, New York, is a full-service home performance company with franchises in nine states around the country. The Syracuse location had 2011 revenues of approximately \$3.5 million. Since 2001, GreenHomes America, Syracuse, has provided home performance upgrades on an average of 400 homes per year.

GreenHomes America of Syracuse, New York began in 1981, as a simple insulation business of existing homes. As attention to building science and energy efficiency in homes increased, this company was the first contractor allowed to work in New York State's Home Performance with ENERGY STAR Program. In 2008 GreenHomes launched a franchise offering with the first awarded to a heating and air conditioning company in Princeton, New Jersey. GreenHomes has since grown to include 35 franchise territories around the country and plans to have 50 by the end of 2012. This case study will focus on the original Syracuse store.

While not an active participant in the Weatherization Assistance Program (WAP), GreenHomes America does some weatherization work through the People's Equal Action and Community Effort (P.E.A.C.E. Inc., www.peace-caa.org) program, which oversees WAP in the Syracuse area. This usually entails overflow jobs when there is too much work for contractors participating in the program.



Many customers who contact GreenHomes America for HVAC installation or servicing end up deciding to have a whole house energy checkup as well.

“A customer may think they need new windows or a furnace when all they need is some attic insulation and air sealing.”

John Scipione, General Manager, GreenHomes America

Home Performance Services:

- Insulation
- Air Sealing
- Duct Sealing
- Full-Service HVAC
- Energy Checkups
- Equipment Replacement
- Windows
- Indoor Air Quality
- Water Heaters

GreenHomes America provides franchise possibilities for existing contracting companies and contractors looking to enter the home performance market. For more information about franchise opportunities see www.greenhomesamerica.com/9-greenhomes-franchises.aspx

GreenHomes America offers both full-service, home performance contracting and HVAC-only services. Often times, homeowners contact GreenHomes to purchase, repair, or get routine maintenance on furnace equipment then add home performance upgrades after discussing their goals with the service technician.

Business Metrics

Moving from offering only HVAC services to comprehensive home performance has allowed GreenHomes to increase its reach and its revenues. Offering home performance services with in-house employees as opposed to subcontracting work has provided further revenue opportunities for the company. All insulation and air sealing services are provided in house. Quality work is critical to the on going success of our home performance work, says” notes John Scipione, General Manager of GreenHomes America. “Using in house, well trained employees allows us to maintain higher levels of quality as opposed to companies who rely on subcontractors” added Scipione.

In 2011, GreenHomes America’s average project size is \$8,100, total revenues are \$3.5 million, and it employs 40 people in the Syracuse location. Its closing rate for home performance jobs is 40% (see Table 1). Although growth data is not available from GreenHomes America, revenue per employee is calculated at over \$100,000.

Public Programs

GreenHomes America recognizes the importance of public programs and is participating in both the Home Performance with ENERGY STAR program offered through the New York State Energy Research and Development Authority (NYSERDA) and the Green Jobs-Green New York, program, which was begun with legislation passed in 2009 offering low-interest financing and free home energy checkups to all homeowners in the state. Public programs in New York provide participating contractors with funding for approved advertising and reimbursement of home energy checkups, also known as energy audits. GreenHomes America takes advantage of the funding and uses the programs to help market its services.

Table 1. GreenHomes America Home Performance Division: Company Size and Business Volume in 2011

Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Closing Rate (%)
38-40	\$8,100	\$3,500,000	400	40

Data Courtesy of GreenHomes America.

Like other public programs around the country, Green Jobs-Green New York allows GreenHomes America to market program participation to its customers. Not only does GreenHomes America promote public programs, it also offers to complete the necessary steps, including paperwork, for its customers. Scipione notes, “When you are a one stop shop; focusing on customer service, by helping customer’s with all the paperwork, they are more likely to go through with upgrades and tell their families and neighbors about your services.” This one-stop-shop approach has allowed GreenHomes to use public programs as a sales tool. GreenHomes provides homeowners with information about the maximum benefit available to them through the program, uses that information during the sales process, fills out all paperwork, and acts as the liaison between the homeowner and the program.

Marketing

Marketing efforts at GreenHomes America are constantly adapting to reach an optimal number of potential customers. “Our most successful marketing tool are our satisfied customers; but in order to grow our business effectively, we focus on multiple media outlets, some being more successful than others,” said Scipione. Thus, GreenHomes America monitors its marketing efforts closely, tracks the most effective methods, and changes its approach accordingly. Marketing efforts at GreenHomes America include a variety of media such as television, websites, vehicle decals, radio, newspaper, yellow pages and social media. The company also markets to previous HVAC clients and relies on word-of-mouth and other referrals.

GreenHomes America also gets financial support for marketing through public programs. In New York, Home Performance with ENERGY STAR pays 50% of qualifying ad campaigns, and Green Jobs-Green New York pays contractors \$250 per home checkup conducted through the program. To date, GreenHomes has received over \$100,000 in advertising funding through Home Performance with ENERGY STAR.

GreenHomes America has found that its HVAC service is a key pathway for obtaining new home performance jobs. All HVAC service technicians are trained so they can identify energy-related issues in homes and recommend a whole-house energy assessment and possible upgrades. Because the technicians are already in homes performing service on HVAC units, this becomes a perfect opportunity for educating homeowners and encouraging them to pursue a comprehensive energy assessment. GreenHomes America



GreenHomes America uses state of the art equipment, including infra-red camera scans along with the blower door, to help identify existing problems in the home.

Figure 1. Breakdown of Home Performance Upgrades at GreenHomes America, Syracuse

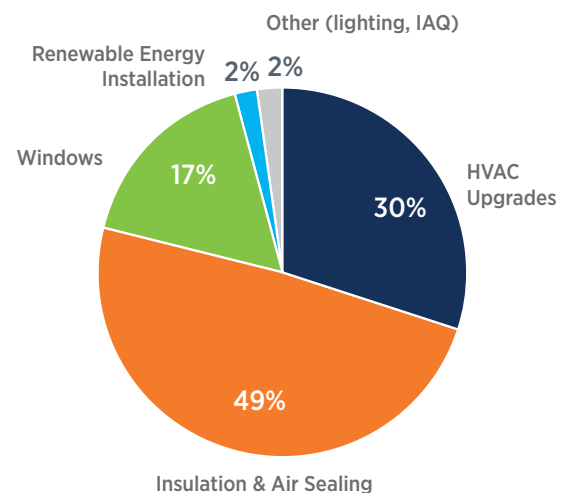


Figure 1 illustrates the typical breakdown of home performance projects performed by GreenHomes America. According to GreenHomes, almost half of all customers get air sealing and insulation upgrades, followed by HVAC upgrades at 30%.

“Insulation and air sealing are done in-house, we don’t subcontract that work. This is an additional revenue opportunity for us. But more importantly, it allows for better quality assurance and better control of the customer experience.”

John Scipione, General Manager,
GreenHomes America



<http://nyserda.ny.gov>

www.nyserda.org/GreenNY



www.energystar.gov/homeimprovement

Marketing Strategies:

- Word-of-Mouth
- Previous HVAC Clientele
- Search Engine Optimization
- Vehicle Details
- Website
- Local Programs
- Newspaper
- Newsletters
- Trade Shows
- Home Shows
- Social Media
- Radio
- Television

“Making wise advertising decisions is only part of being successful—the fact that we are in lots of homes every day as an HVAC contractor will be the key to our future success.”

John Scipione, General Manager,
GreenHomes America

offers their Home Performance services to all their customers, whether they are calling for a clean and tune up of their furnace or just routine maintenance. “We want all our customers to know what we can do to make their home’s more comfortable and efficient” Scipione notes, “helping homeowners resolve their comfort issues and maximize their energy savings is what’s it all about. Our employees really believe in delivering benefit to homeowners, not selling them something they don’t need.

Like many other successful home performance contractors, GreenHomes America focuses its sales process on homeowner comfort, not energy savings. The assessment process helps identify homeowner comfort issues and also allows the advisor to include the homeowners in the assessment and educate them about home performance. This educational approach helps GreenHomes America close deals; in 2011, the average closing rate for home performance is 40%.

In order to promote its assessment findings, GreenHomes America has developed its own reporting process, which focuses specifically on the homeowner concerns and objectives. This customized report presents the benefits of the proposed measures, including utility bill savings and the payback periods, but the primary focus remains homeowner comfort. Scipione notes, “What often drives homeowners are their comfort issues to move forward with upgrades. However, the resulting energy savings from the project is seen as icing on the cake!”

Once homeowners make the decision to move forward with upgrades, GreenHomes America offers multiple low cost financing options including in-house financing, bank loans, program financing, seasonal loans, same as cash offers and financing through multiple lenders. GreenHomes America has also built relationships with a few banks in the Syracuse area, whether by directly facilitating or steering customers to the best financing tool for their needs. Financing is an important consideration for continued industry development. GreenHomes America’s approach of offering many options along with its ability to complete financing and program paperwork makes the entire process smoother for the homeowner. GreenHomes America’s process for providing service to homeowners has allowed it to grow into national a franchising organization, and remain profitable during a recession, while continuing to provide high-quality HVAC and home performance services.

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PNNL-SA-86617 • October 2012



Case Study:

GreenStreet Solutions

CLEVELAND, OHIO

Typically two staff conduct each home energy check-up, one to conduct the diagnostics and one to talk with the customer. Homeowners are encouraged to participate and GreenStreet Solutions has a close rate of 60%, even though only about 5% of homeowners opt for the low-cost financing offered through the Electric & Gas Industries Association.

CONTRACTOR PROFILE

Contractor:

GreenStreet Solutions
(888) 476-2010
www.greenstreethome.us

Location: Cleveland, Ohio
(Offices in Cleveland and Cincinnati)

Home Performance Division Founded:
2009

Employees: 12 plus support staff
from the parent company

Certifications of HP Staff:
Accredited BPI Contractor,
6 BPI Analyst, 3 BPI Envelope

Annual number of home energy upgrade projects jumps from 18 to 135 in 2 years

GreenStreet Solutions' close ties with a utility company make its business model unique compared to many other companies, and helps illustrate the diverse points of entry into the home performance industry. GreenStreet Solutions has grown from \$100,000 in revenue in 2009 to \$900,000 in 2011, staff has increased from 2 to 12 since 2009 and average project size is now \$3,200, compared to \$1,500 when the company initially opened.

GreenStreet Solutions is a wholly owned subsidiary of the Vectren Corporation, an energy holding company headquartered in Evansville, Indiana. Vectren saw the home performance industry as a promising revenue source that aligned with its customers' desires to save energy. GreenStreet has benefitted from its ties to its parent company, especially in terms of startup funding and staff support. GreenStreet's success demonstrates the viability of the "spin-off" business model. GreenStreet Solutions initially opened as a Cleveland, Ohio, based home performance contractor in 2009. Since then, the company has expanded its service area and opened an additional office in Cincinnati to service southwest Ohio.

GreenStreet Solutions has transitioned from an energy assessment company that offered management of subcontractors to a full-service home performance company that performs most energy-efficiency home upgrades with in-house staff. "Our initial model was to have a network of contractors who would do all of the installation work. It took us all of about 3 months to realize that wasn't a good idea because there was



GreenStreet Solutions of Cleveland, Ohio, started out in 2009 as an energy auditing company with a staff of 3 and quickly evolved into a full service home performance company offering numerous home energy upgrades with an in-house staff of 12.

“It is the assessor’s responsibility to forge a relationship with the homeowner. When they do this successfully, they get more referrals. Referrals are one of the best ways we get new leads.”

Sean Smith, General Manager, GreenStreet Solutions

Home Performance Services:

- Energy Checkups
- Insulation
- Air Sealing
- Duct Sealing
- Equipment Replacement
- Indoor Air Quality
- Health/Safety
- Water Heaters

additional margin to capture if you were doing the work yourself. That’s when we began to internalize work we had been subbing out,” said Sean Smith, general manager of GreenStreet Solutions. Now, the only work that is subcontracted is HVAC upgrades. All other services are conducted by in-house technicians.

Business Metrics

Startup costs for GreenStreet Solutions totaled approximately \$450,000 and included equipment, resources, branding, property investment, warehouse space, inventory, marketing, and management. GreenStreet Solutions made a significant investment in branding, which has benefited the company greatly. “Branding efforts have paid off—people have told me that we must have a fleet of 30 vehicles, when the fact of the matter is that we only have 3,” said Smith. Additionally, GreenStreet invested in acquiring a contractor’s network for subcontracting HVAC work.

Since 2009, GreenStreet Solutions has seen revenue growth of over 300% per year and revenue per employee has grown at 107% per year. The total number of projects has grown significantly, from 18 to 135, resulting in a 46% increase in revenue per project per year. Instead of focusing on a closing rate (which is 55%–65%), GreenStreet Solutions uses what it calls a “conversion metric” which measures the number of retrofits divided by the number of assessments. This metric target is 35%. Table 1 below outlines overall business metrics since the company opened in 2009.

Public Programs

GreenStreet Solutions participates in a variety of public rebate programs available to Ohio homeowners. However, the company is focused on growing its business through independent marketing and

Table 1. GreenStreet Solutions: Company Size and Business Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Revenue per Employee (\$)
2009	3	\$1,500	\$35,000	18	\$11,667
2010	6	\$2,500	\$350,000	60	\$58,300
2011	12	\$3,200	\$600,000	135	\$50,000

Data Courtesy of GreenStreet Solutions.

educational efforts. “We are involved in public programs, but we are not reliant on subsidies. That is how we set up our business model,” notes Sean Smith. Less than 3% of revenues come from incentives associated with program participation. GreenStreet Solutions is dedicated to enhancing the home performance industry and employing business practices that will keep it independent of public programs in the home performance market. Programs in Ohio include national, state, and utility initiatives.

HOME PERFORMANCE WITH ENERGY STAR: Rebates for home energy checkups and energy-efficiency upgrades are given to homeowners. GreenStreet Solutions is a preferred contractor and has upgraded about 30 homes through the Home Performance with ENERGY STAR program.

GREATER CINCINNATI ENERGY ALLIANCE: Provides financial benefits to both homeowners and contractors. Partially subsidizes the cost of the checkups, and will pay 35% to 40% of the costs of home performance upgrades depending on type of upgrade and energy savings. This is a new program and GreenStreet Solutions has upgraded six homes in this program to date.

UTILITY PROGRAMS: There are a variety of utilities serving both the Cincinnati and Cleveland areas that offer homeowner rebates for home performance upgrades. GreenStreet Solutions provides all customers with information regarding the programs they qualify for.

Training

The sales process at GreenStreet Solutions is very important to management of the company and is essential for closing as many projects as possible. The company uses the Sandler Training method, which teaches assessors to identify homeowners’ “pain” and suggest the necessary upgrades that will make them more comfortable in their homes. Assessors receive ongoing weekly training sessions in the technique. More information about the Sandler Training method can be found at www.sandler.com

Marketing

GreenStreet Solutions relies on its own marketing campaigns for the majority of its customer acquisitions. In general, 80% of job leads come to the company through its marketing efforts, and the remaining 20% come through one of the programs offered in the areas it serves. Events such as home and garden shows, tradeshow,



For GreenStreet Solutions, 80% of leads come from its own marketing efforts while 20% of leads come from participation in local programs and less than 3% of revenues come from program incentives. A partnership with a local TV station to conduct a home energy makeover generated a lot of consumer interest.

“We invested a lot in branding, which has really paid off. People have told me that we must have a fleet of 30 vehicles. The fact of the matter is that we only have 3.”

Sean Smith, General Manager,
GreenStreet Solutions



GreenStreet Solutions, a subsidiary of an energy holding company from Indiana, has seen revenues soar from \$35,000 in 2009 to \$600,000 in 2011, while the number of projects rose from 18 to 135.



www.greatercea.org



www.energystar.gov/homeimprovement

Marketing Strategies:

- Home & Garden shows
- Tradeshows
- Community Involvement
- Energy Makeover Contest
- Websites
- Search Engine Optimization
- Word-of-Mouth
- Referrals
- Networking

“We make recommendations based on the data gathered at during the checkup, we do not try to steer our customers to any one solution unless it is substantiated.”

Sean Smith, General Manager,
GreenStreet Solutions

and other community activities help GreenStreet Solutions reach out to potential clients. “Our best exposure is when we can get face to face with our customers,” said Smith. Last year, GreenStreet Solutions partnered with a local TV station in Cincinnati to design an energy makeover contest. The prize was \$7,500 in home performance upgrades and the program had 141 entries in just 2 weeks. The results were so positive that GreenStreet will conduct more makeover contests in all service areas.

For GreenStreet Solutions, the assessors are the individuals who interact with and sell services directly to homeowners. Often times, customer referrals go directly to the assessor, not the company. As such, each assessor has the ability to schedule home energy checkups independently. Usually, one assessor and one technician will be onsite to conduct the home assessment and interact with homeowners. “We get higher close rates by including the customer in the checkup—auditors are trained to pick up on comments made by customers regarding their comfort,” notes Sean Smith. No incentives are offered by GreenStreet Solutions, all employees are paid a salary.

For each home checkup, a comprehensive report is generated and supplied to the homeowner. Sean Smith notes, “A full audit includes return on investment, payback, and utility cost savings, but it isn’t a focal point for customers. Customers really care about comfort.” In general, about 80% of customers say comfort is their primary issue, 15% want to lower utility bills, and 5% care most about their environmental impact. Once upgrades are complete, GreenStreet Solutions conducts a comprehensive test-out procedure to measure the impacts of the upgrades.

GreenStreet Solutions offers financing through the Electric & Gas Industries Association (EGIA), but only about 5% of homeowners opt for a financing option. According to Smith, this is because their primary target customer is high-income earners who live in large homes. As the industry develops, however, the company sees opportunities to reach out to households of all income levels; “My hope is that there is enough business out there outside of weatherization and other public programs to sustain the industry,” he said. Ultimately, GreenStreet Solutions aims to help develop the home performance industry, creating a market for many contractors with the goal of increasing residential energy efficiency.

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Case Study:

ISAAC Home Energy Performance

ROCHESTER, NEW YORK

ISAAC Home Energy Performance started in 2009 and has grown to 14 employees providing a full range of home energy services with in-house staff. Revenues jumped from \$200,000 in 2009 to \$4 million in 2010.

CONTRACTOR PROFILE

Contractor:

ISAAC Home Energy Performance
(585) 546-1400
www.isaachomeenergy.com

Location: Rochester, New York

Home Performance Division Founded:
2009

Employees: 14

Certifications of HP Staff:
8 BPI Certified, 8 NATE Certified

Home Performance division revenue per project increases by 47% between 2009-2011

ISAAC Home Energy Performance (IHEP) of Rochester, New York, entered the residential energy efficiency market in 2009 as an affiliate of ISAAC Heating & Air Conditioning, a reputable heating and air conditioning company. By the end of its second year, IHEP saw annual revenues increase from \$200,000 to \$4 million and average project size rise from \$4,000 to \$10,000, compared to its initial year. IHEP attributes this phenomenal growth to encouragement from state programs, a well-trained staff, attractive financing options, and the established customer base of its parent company, ISAAC Heating & Air Conditioning.

ISAAC Heating & Air Conditioning originated as a small, family-owned heating company in 1945. The company expanded into cooling technologies in the 1960s and gradually added insulation and other services as the company grew to more than 200 employees.

In 2009, ISAAC Heating & Air Conditioning opened a new company devoted to energy efficiency called ISAAC Home Energy Performance. ISAAC Home Energy Performance offers full-service home performance contracting services ranging from home energy checkups, heating & cooling equipment, Solar PV, geothermal, insulation, and air sealing to water heating and window replacement. All services except for window replacement are conducted by in-house employees. According to Domenic DeLeo, Manager of IHEP, the company focuses on the “whole-house approach to home improvements.” ISAAC Heating & Air Conditioning & IHEP are closely intertwined; many administrative services, facilities and work crews are shared.



Comfort issues and high utility bills are primary reasons homeowners call home performance contractors. Companies reach out to existing clients of their parent companies, and also connect with potential customers through community involvement, tradeshow, seminars, websites, and networking. (Photo source: ISAAC Home Energy Performance)

Home Performance Services:

- Insulation
- Air Sealing
- Duct Sealing
- Full-Service Heating & Cooling
- Energy Checkups
- Equipment Replacement
- Windows
- Indoor Air Quality
- Health/Safety
- Water Heaters
- Solar Hot Water
- Solar Photovoltaic
- Geothermal

Since starting in 2009, ISAAC Home Energy Performance has grown from 2 employees to 14 and now includes full-time administrative staff, building analysts, and a contracting crew. IHEP also uses crews from ISAAC Heating & Cooling for equipment installation.

Business Metrics

Startup costs have been reduced for IHEP because it shares office space, computer networks, phone services, accounting, human resources and other administrative services with its parent company. Specific startup costs for the company, including equipment, training, management, and marketing, totaled approximately \$100,000. In addition IHEP purchased seven new vehicles and each work vehicle was outfitted with approximately \$7,000 of equipment that included a blower door, thermal imager, combustion analyzer, manometers, lap top computer, ladder, and gas leak detector. Additionally, DeLeo notes there are costs associated with participating in federal, state, and utility energy-efficiency programs that were components of overall startup costs. In New York, these fees primarily include BPI training and certification.

First-year company increases for ISAAC Home Energy are impressive, but it should be noted that the company began doing business in September of 2009. The average project size grew from \$4,000 to \$8,000, representing a 60% increase in just one year. Revenue grew at an annual rate of 261% between 2009 and 2011. IHEP continues to grow. In 2011, ISAAC Home Energy Performance completed 300 jobs, averaging \$6,000 per job, and earned total revenues of \$2.6 million (see Table 1). The data for 2011 is lower than 2010 and reflects changes in equipment rebates provided by state programs—many HVAC units no longer qualify for homeowner rebates. Additionally, the decrease in the number of projects reflects only HPwES programs.

Table 1. ISAAC Home Energy Performance: Company Size and Sales Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Revenue per Employee (\$)
2009	2	\$4,000	\$200,000	50	\$100,000
2010	8	\$8,000	\$4,000,000	384	\$500,000
2011	14	\$6,000	\$2,600,000	300	\$185,714

Data courtesy of ISAAC Home Energy Performance

Public Programs

One of the motivating factors prompting ISAAC to open its Home Energy Performance company was passage of the “Green Jobs-Green New York” bill by the New York State Legislature in October 2009. The legislation funds low-interest loans of up to \$25,000 to homeowners wishing to make energy-efficiency improvements. Free and low-cost energy checkups are also funded through the legislation. The checkups are offered through the Home Performance with ENERGY STAR program, which is conducted by the New York State Energy Research and Development Authority (NYSERDA). ISAAC Home Energy Performance is a participating contractor in the Home Performance with ENERGY STAR program. Although IHEP has not participated in the federal Weatherization Assistance Program in New York, it would consider doing so if there was an opportunity.

ISAAC Home Energy Performance promotes the Green Jobs-Green New York checkup and financing program to its customers and guides their customers through all of the necessary paperwork. Although these programs are continually changing, IHEP invests the administrative time to adequately understand these programs and to fill out the necessary paperwork to ensure that each homeowner gets the largest rebate available to them from all sources. This is a valuable benefit to homeowners and one that IHEP can market to differentiate its offerings from those of other energy performance and HVAC contractors.

Training

ISAAC Home Energy Performance takes pride in its highly qualified analyst. Their parent company has a training program called ISAAC University, which provides over 340 hours, or 4 years, of training to each technician/analyst, including HVAC training, installation, safety, and other topics. Students who pass the program may also receive certification through NATE, the North American Technician Excellence certification program for HVAC technicians sponsored by the Air Conditioning Contractors of America (ACCA). In addition to ISAAC University, home performance analysts go through a six-week field training program and BPI certification if they are not already certified. DeLeo notes “Training is important to us because our industry is constantly growing and changing. We stand behind our work and offer a 1-year warranty on everything we do.”

Marketing

About 5% of ISAAC’s home performance project leads originate from the energy-efficiency programs IHEP participates in such as Home



IHEP uses the checkup, or audit, to educate homeowners on home performance and energy usage. Most customer leads come from its existing HVAC customer base. IHEP also employs TV, newspaper and radio advertising and direct mail such as newsletters.

“We educate our customers through home performance and provide prioritized solutions to our customers.”

Dominic DeLeo, Department Manager,
ISAAC Home Energy Performance



<http://nyserda.ny.gov>

www.nyserda.org/GreenNY



www.energystar.gov/homeimprovement

Marketing Strategies:

- Existing Customers
- Television
- Newspaper
- Radio
- Tradeshows
- Direct Mailing
- Newsletters
- Websites
- Search Engine Optimization

“We get the homeowner involved throughout the entire process, this is the difference between what we do and a straight sales presentation.”

Dominic DeLeo, Department Manager,
ISAAC Home Energy Performance

Performance with ENERGY STAR and Green Jobs-Green New York. Most of IHEP’s home performance work comes from existing ISAAC Heating & Air Conditioning customers and the company’s well-established reputation in the community. Homeowners with comfort problems due to temperature variances, such as cold rooms, will call ISAAC for possible solutions. ISAAC Heating & Air Conditioning is then able to recommend a home performance checkup based on the issues the homeowner is experiencing. “Comfort is the number one reason homeowners decide to get home performance upgrades,” said DeLeo.

Other marketing methods used by IHEP include television ads, radio newspaper ads, direct mailing, exhibits at tradeshows, and newsletters.

Once a customer expresses interest in a home performance upgrade, an interview between the analyst and customer is conducted to determine the customer’s objectives, and then an initial checkup or audit of the home is conducted. The interview may be conducted by a sales person and the audit by an analyst or one staff person may conduct both the interview and the audit. Either way, IHEP seeks to get the homeowner involved throughout the entire process. “This is the difference between what we do and a straight sales presentation. Our goal is to educate the homeowner and prioritize solutions for them,” said DeLeo. IHEP does incentivize by offering its staff a commission for each sale. On average, the closing rate for home performance upgrades is 30%.

ISAAC Home Energy Performance offers a variety of financing options for home performance upgrades. Financing ranges from the \$25,000 low-interest loan program offered through Green Jobs-Green New York or a one-year same-as-cash option, which is a deferred interest financing program offered through IHEP. Consumers pay monthly for one year, as long as the balance is paid off within 12 months, there is no interest charge. If payments move into the 13th month, then interest is charged on a retroactive basis. Financing can also be obtained through a partner of IHEP. Regardless of the financing option chosen by the homeowner, IHEP streamlines the process, making it easier for homeowners. “We are a conduit for customers to get financing,” said DeLeo. In general, approximately 50% of customers opt for financing through one of these options. The rest obtain independent financing or pay out-of-pocket for their upgrades.

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Neil Kelly's certified staff perform combustion safety testing as part of the home performance checkup.

Case Study:

Neil Kelly

PORTLAND, OREGON

Company sees home performance division's annualized revenues increase by 109% per year since 2006

CONTRACTOR PROFILE

Contractor:

Neil Kelly
(866) 691-2719
www.neilkelly.com

Location: Portland, Oregon
(offices in Portland, Eugene,
and Bend, OR, and Seattle, WA)

Home Performance Division Founded:
2006

Employees: 28 in the home performance
division, 145 total

Certifications of HP Staff:

12 BPI certified, 3 LEED certified, 1 Master
Builder, 1 Passive House Consultant

By all accounts Neil Kelly's move into home performance contracting has been a highly successful venture for the well-established Portland, Oregon, remodeling company. The home performance division has grown from \$73,000 in sales in 2006 to \$3 million in sales in 2011, while the average job size has grown from about \$1,300 per home to more than \$14,000 and the division's staff has grown from 3 employees to 28.

Neil Kelly began as a small, family-owned remodeling company in Portland in 1947. It has grown steadily to become one of the city's most well-known full-service remodeling companies, offering comprehensive design, whole-house remodeling, new construction, window replacement, and home improvement services, with sales peaking at \$25.7 million in 2008. In the 1970s, Neil Kelly worked as a weatherization contractor upgrading Portland homes involved in the U.S. Department of Energy-sponsored Weatherization Assistance Program (WAP). Although it stopped participating in WAP in the 1980s, Neil Kelly picked up home performance again in 2006. The company worked with the U.S. Department of Energy's Building America Program to outline the home performance business model and practices that are presented in this case study.

In addition to remodeling, Neil Kelly offers a full range of energy-efficiency home performance contracting services, including home energy checkups, insulation, air sealing, window replacement, HVAC installation, and indoor air quality.



Neil Kelly's Home Performance division has grown from 3 employees in 2006 to 28 in 2011, while the division's revenues have grown from \$73,000 to almost \$3 million.

"We are a recession-challenged company. Adding home performance has helped us recover some of our losses."

Tom Kelly, President, Neil Kelly

Home Performance Services:

- Energy Assessments
- Insulation
- Air Sealing
- Duct Sealing
- Full-Service HVAC
- Equipment Replacement
- Indoor Air Quality
- Health/Safety
- Water Heaters
- Windows
- Solar Hot Water
- Photovoltaic

In 2011, Neil Kelly's home performance division completed over 200 energy-efficiency upgrades in homes around Oregon. Tom Kelly, president of Neil Kelly, points to their experience as a weatherization contractor and the company's strong family and corporate commitment to sustainability as motivators for entering the home performance market in 2006. As just one example of this commitment, Tom Kelly points to the Neil Kelly showroom, which according to Tom, was the first LEED-certified building on the West Coast when it was built in 2001.

Business Metrics

Like most remodelers around the country, the current recession has impacted Neil Kelly significantly; it had seen a drop of almost 40% in total revenues since 2008. But, in 2011 alone, revenues in all divisions grew by 29% over 2010, a feat nearly impossible without the influx of home performance upgrades, which grew by 118% in 2011 over 2010.

Although Neil Kelly's overall business volume has declined since 2007, its home performance division has seen continuous revenue growth. Tom Kelly notes "We are a recession-challenged company. Adding home performance has helped us recover some of our losses." In 2011, 22.5% of Neil Kelly's total business revenues came from its home performance division, up from approximately 8% in 2010.

Because Neil Kelly was already a well-established remodeling company, initial costs to enter the home performance market were relatively modest. Costs for equipment, training, and marketing totaled approximately \$20,000-\$25,000. Since that initial investment in 2006, Neil Kelly's home performance division has continued to grow (see Table 1 below).

Table 1. Neil Kelly Home Performance Division: Company Size and Business Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Revenue per Employee (\$)
2006	3	\$1,277	\$72,764	57	\$24,255
2007	3	\$2,837	\$252,532	89	\$84,177
2008	3	\$4,196	\$276,925	66	\$92,308
2009	4	\$5,154	\$484,500	94	\$121,125
2010	8	\$6,817	\$1,336,078	198	\$167,010
2011*	28**	\$14,173	\$2,913,222***	206	\$104,044

* Data as of Oct. 15, 2011. / ** 31 projected by the end of the calendar year. / *** \$3.2 million projected by the end of the calendar year.

Data Courtesy of Neil Kelly Company.

Public Programs

Neil Kelly has benefitted greatly from its participation in Clean Energy Works Oregon, a nonprofit program started by the City of Portland and expanded with DOE funding in 2010 to communities throughout Oregon. Clean Energy Works has partnered with Home Performance with ENERGY STAR and the Energy Trust of Oregon to offer homeowners energy assessments, no-money-down on-bill financing, information about local and federal rebates, and access to home performance contractors who are trained and qualified to participate in the program. Through its participation, Neil Kelly has received more than 625 leads from Clean Energy Works since early 2010.

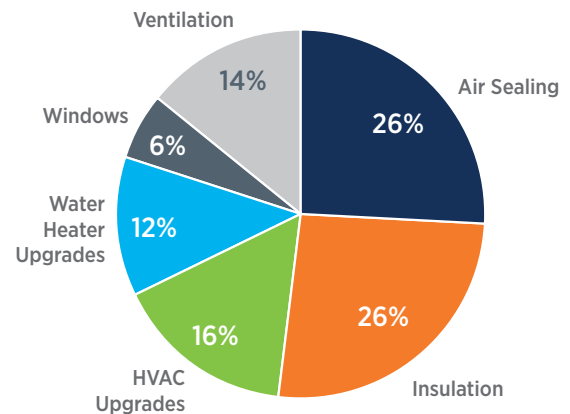
In addition to receiving leads from homeowners who apply through the Clean Energy Works website, Neil Kelly is also allowed to offer the program's financing package to customers it markets to independently. Clean Energy Works has negotiated with Oregon utilities to offer homeowners the option to pay for the home efficiency improvements via their utility bills at low interest rates and with no money down. Because the financing options are so attractive to homeowners, Kelly said "the closing rate in our home performance division is a lot higher than for any other service we offer."

Marketing

Currently, Neil Kelly gets 70% of its home performance leads from the Clean Energy Works program. Neil Kelly markets to its extensive database of prior remodeling customers with emails and newsletters, directing them to the Clean Energy Works Oregon program. Every current remodeling and design customer is offered a free home energy assessment. Radio and newspaper ads, website coupons, and participation in trade and home shows are other avenues for marketing. Neil Kelly monitors the effectiveness of its marketing techniques by asking homeowners to fill out an initial consultation request form, where they are asked how they heard about the company. Information is gathered and used to analyze marketing activities, ensuring that marketing dollars are spent in the most beneficial ways.

Neil Kelly is also active in the local community. Tom Kelly sits on the board for the Habitat for Humanity Capital Campaign Committee and Loaves and Fishes. He is also the co-convenor of the Oregon Solutions Vernonia Schools Project, and is on the advisory board for the University of Oregon Business School's Center for Sustainable Business Practices.

Figure 1. Neil Kelly Home Performance Division: Distribution of Home Performance Upgrade Measures in Typical Projects



The pie chart shows which upgrade measures are the most often performed on a typical project. Air sealing and insulation make up the bulk of Neil Kelly's upgrade projects followed by HVAC, ventilation, and water heater upgrades.



Neil Kelly capitalizes on its brand name recognition and client base as an established remodeling and design company in Portland, Oregon, to attract customers to its home performance division.



www.cleanenergyworksoregon.org



energytrust.org



www.energystar.gov/homeimprovement

Marketing Strategies:

- Word-of-Mouth
- Previous Remodel Clientele
- Search Engine Optimization
- Blogs
- Website
- Local Programs
- Newspaper
- Newsletters
- Trade Shows
- Home Shows
- Community Involvement
- Magazines
- Radio
- Television

“The closing rate in our home performance division is a lot higher than any other service we offer.”

Tom Kelly, President, Neil Kelly

Neil Kelly has found that the primary motivation for its home performance customers is comfort. Other important considerations are indoor air quality, health, noise reduction, moisture issues, and utility bill savings. Environmental issues are a popular topic in eco-conscious Portland and many homeowners have cited “being green” as a motivator for energy-efficiency improvements.

Once the homeowner agrees to a home energy checkup (or audit), Neil Kelly assigns two staff people to the customer – a sales person and the home energy assessor. All of Neil Kelly’s sales staff and assessors have received building analyst certifications with the Building Performance Institute. Several have received other industry certifications as well. The sales person acts as an educator and helps the homeowner understand the assessment process and how upgrades can help meet their goals. The assessor conducts the checkup and prepares a comprehensive report of findings. The report is concise, easy to understand, and does not focus on the energy savings or payback of the proposed work. Instead, it is tailored to address the specific concerns of the homeowner. Tom Kelly notes that having both staff involved in each assessment (one focused on the technical aspects and one focused on the needs of the customer) is “part of the key to why we are so successful.”

Neil Kelly is developing opportunities to reach both upper income and lower income households. The remodeling division’s traditional target market has been higher income homeowners, but now, due to the exceptional financing available for its home performance services, the company can reach out to homeowners with more modest incomes. This allows Neil Kelly to diversify its target market and opens up the possibility of the home performance division becoming a source of referrals for future remodeling work.

Typically, \$395 is charged for home energy checkups (with a \$100 coupon available online), but Neil Kelly also offers free energy checkups to current customers who are using its remodel and design services. According to Tom Kelly, 1 in 3 of these checkups is resulting in additional home performance upgrades. “This can add \$20,000 to an \$80,000 remodeling job, and providing the additional financing through Clean Energy Works Oregon can make the deal sweeter.”

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Case Study:

Renewal System Solutions

DECATUR, GEORGIA

Yard signs are a great way to reach out to neighbors during construction projects. These efforts have helped Renewal System Solutions grow from \$78,000 in revenue in 2009 to \$412,000 in 2011.

Design-build sister company sees number of home performance projects increase by 53% in 2 years

CONTRACTOR PROFILE

Contractor:

Renewal System Solutions
(404) 378-6962
<http://renewalsystemsolutions.com>

Location: Decatur, Georgia
(serving the greater Atlanta area)

Home Performance Division Founded:
2009

Employees: 3

Certifications of HP Staff:
3 BPI certified, EarthCraft
Renovation accredited

Renewal System Solutions entered the home performance industry in 2009 as an extension of a design-build firm in Atlanta, Georgia. Since then, the company has seen annual revenues increase from \$78,000 to over \$400,000, average project size jump from \$7,100 to \$9,400, and total number of annual upgrade projects rise from 12 to 44.

Renewal System Solutions opened in 2009 as an offshoot of an already well-established remodeling firm in Atlanta, Georgia, called Renewal Design Build, a full-service residential remodeler, specializing in major renovations, additions, kitchens, and baths.

Entering the home performance market made sense to Renewal Design Build because of the incentives available to Atlanta area homeowners and because of the company's close relationship with Southface, an Atlanta-based non-profit that focuses on residential and commercial building sustainability. "Our relationship with Southface is important to us," said Joe Thomas, general manager of Renewal System Solutions, who noted that 10% of the company's leads for home performance upgrades come from Southface as a primary source and nearly half as a secondary source. In addition, Renewal System Solutions also participates in the City of Atlanta's Sustainable Home Initiative in the New Economy (SHINE) project, a weatherization program that offers rebates for home performance upgrades.



Renewal System Solutions, a spinoff of an established Atlanta, Georgia, remodeling firm, has grown from one employee in 2009 to 3 employees in 2011. The staff perform home energy checkups and manage subcontractors for the home upgrades, although their goal is to bring these services in house.

“Only a small percentage of homeowners are interested in payback or return on investment calculations—comfort is the primary motivator for home performance upgrades.”

Joe Thomas, General Manager,
Renewal System Solutions

Home Performance Services:

- Energy Checkups
- General Contracting
- Test-out Procedures

Although Renewal System Solutions is a full-service home performance contracting company, currently it performs the assessments with in-house staff and manages subcontractors for all home energy improvements. Since its parent company is well-established in the Atlanta area, Renewal is able to use the same contractor network for many of its upgrade projects. Although this system has been beneficial for the company, Joe Thomas notes “We eventually want to bring some of the work in-house. We will start with the entry-level things like air sealing and duct sealing then move forward from there.”

Business Metrics

Currently, 45% of all leads move forward with scheduling whole-house energy checkups, and 75% of those assessments lead to home energy upgrades.

Startup costs for Renewal System Solutions included equipment, certification, insurance, marketing, brand development, and general overhead. Testing equipment was purchased so that assessors could follow Building Performance Institute (BPI) protocol when conducting checkups and test outs. Total equipment purchases amounted to approximately \$12,000. Training and testing for BPI certifications equaled \$2,500 per employee. Other significant costs are those associated with company branding; for Renewal System Solutions this included logo wear, brochures, job-site signs, and publications.

Total revenues for Renewal System Solutions equal approximately 10% of the revenues of its parent company, Renewal Design Build. Since opening in 2009, Renewal System Solutions has continued to grow, increasing revenues, average project size, and total number of home performance projects completed.

Renewal System Solutions tends to sell its home performance upgrades in packages. The distribution of projects by type of upgrade is illustrated in the pie chart; notice that the majority of homeowners opt for air sealing, duct sealing, and insulation upgrades.

Table 1. Renewal System Solutions: Company Size and Business Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Projects	Revenue per Employee (\$)
2009	1.5	\$7,100	\$78,000	12	\$52,000
2010	2	\$8,068	\$234,000	29	\$117,000
2011	3	\$9,400	\$412,000	44	\$137,333
Data Courtesy of Renewal System Solutions					

Public Programs

There are many public programs available to Atlanta-area residents, including federal, state, local, and utility-sponsored initiatives. In general, these public programs are an important source of leads for Renewal System Solutions. Approximately 50% of all customer acquisition comes from participation in these programs. Some programs are run through utilities; some offer rebates directly to homeowners; and others compensate contractors directly.

DECATUR WISE: This American Recovery and Reinvestment Act (ARRA)-funded program offers contractors direct rebates for home energy improvements such as air sealing, duct sealing, and insulation. The program is partnered with the Georgia Power Earthcents program and offers up to \$1,000 for qualifying upgrades. Renewal System Solutions has received \$16,000 in rebates through this program.

GEORGIA POWER EARTHCENTS: This utility-operated program offers homeowners rebates for energy improvements of up to \$2,200 depending on the upgrades and energy savings. Earthcents rebate amounts vary and are based on whether homeowners choose a whole-house approach or individual upgrades such as air sealing or insulation.

CITY OF ATLANTA SHINE: Associated with the Georgia Power Earthcents program, SHINE promotes energy efficiency by providing rebates for approved upgrades to homeowners. The program is available to homeowners within the city of Atlanta only.

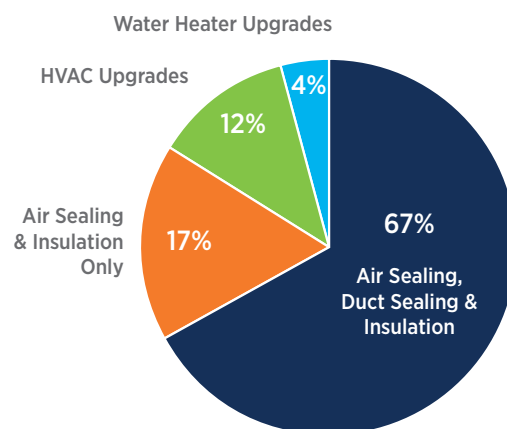
SOUTHFACE: This program oversees the Home Performance with ENERGY STAR initiative in the Atlanta area. There are no rebates associated with this program, but BPI training is available along with free advertising. “There’s brand recognition with the Home Performance with ENERGY STAR program. As a certified contractor we can use that as a marketing tool,” said Thomas.

Marketing

As noted above, Renewal System Solutions gets approximately 50% of its customer leads through participation in one of the Atlanta-area public programs. About 25% are generated through its parent company and about 25% come from its own independent marketing efforts.

Marketing efforts for Renewal System Solutions are primarily focused on ads in local publications and community participation. “We are very active in our local community,” said Thomas who

Figure 1. Renewal System Solutions: Distribution of Home Performance Upgrade Measures in Typical Projects



www.uecaturga.com/index.aspx?page=616



www.georgiapower.com/earthcents/residential/home-improvement-program/home.asp



www.atlantaga.gov/index.aspx?page=150



www.southface.org



Comfort issues and high utility bills are primary reasons homeowners call Renewal System Solutions. The company reaches out to existing clients of its parent company, and also connects with potential customers through community involvement, tradeshow, seminars, websites, and networking.

“We offer free energy efficiency seminars to the public; those have been very successful.”

Joe Thomas, General Manager,
Renewal System Solutions

Marketing Strategies:

- Community Involvement
- Tradeshow/fairs
- Seminars
- Newspaper
- Existing Remodel Clientele
- Websites
- Search Engine Optimization
- Tradeshow
- Word-of-Mouth
- Networking

“We act as consultants, not sales people.”

Joe Thomas, General Manager,
Renewal System Solutions

noted that among other things, the company sponsors energy-efficiency awareness events in community centers for local residents. The city of Decatur has an annual Old House Fair that Renewal System Solutions participates in. Other events include tradeshow, neighborhood association meetings, seminars in local libraries, and other city-sponsored events. Renewal System Solutions believes its community participation helps both with marketing efforts and residential energy-efficiency education.

Georgia has experienced abnormally hot summers and cold winters for the past few years. Thomas noted that comfort issues with homes that are too hot or too cold are primary motivations for homeowners to get home performance upgrades. “Comfort issues and high utility bills are the primary reasons homeowners call us,” Thomas said. Renewal System Solutions conducts an in-depth interview with each homeowner prior to their energy assessment in order to determine comfort issues. Typically, two people go to the home for the energy assessment. This allows one person to act as an educator and interact with the homeowner during the process. This system is important for closing deals. Joe Thomas notes, “We act as consultants, not sales people.” This helps keep the close rate on assessments high.

Each home energy checkup takes 3 to 5 hours. During that time, assessors have the opportunity to develop an action plan that will address all homeowner issues. Renewal System Solutions follows up with homeowners after one week, and, together with the homeowner, designs the path forward for upgrades. For most public programs in Atlanta, test-in and test-out documentation is required. This allows homeowners to see the before and after energy savings of their upgrades. “One of the attractions of our type of home performance business model is there are measurable improvements between test-in and test-out,” notes Thomas.

Renewal System Solutions is investigating financing options for homeowners. To date most clients have paid with credit cards and personal checks, in part because most of the company’s customers come from mid to higher end income brackets. Thomas notes financing might enable more potential clients to make energy improvements to their homes. Even though it does not offer financing, Renewal System Solutions achieved a profit at the end of its first year in business and has aggressive growth forecasts for 2012.



Case Study:

The Home Energy Detective

MANASSAS, VIRGINIA

The Home Energy Detective assessors include the homeowner in each step of the home checkup. The assessor brings a printer with him so he can hand the homeowners a detailed report at the end of the checkup that includes findings, recommendations, and costs.

CONTRACTOR PROFILE

Contractor:

The Home Energy Detective
(703)-999-2590
www.homeenergydetective.com

Location:

Manassas, VA.
Serving Fredericksburg, Stafford,
Culpepper and other communities in
the Virginia, Maryland, and DC area

Company Founded:

2007

Employees:

3

Certifications of Staff:

3 BPI, 2 RESNET, 1 Green Certified
Remodeler, Comfort Institute member,
EGIA member

Company sees annualized revenue grow by 50% per year since 2007

The Home Energy Detective entered the home performance market in 2007 as a new business focusing on energy consulting. The company has succeeded in growing its business with little assistance from local programs and no reliance on a well-established company or brand name. Since 2007, the The Home Energy Detective has seen revenues grow from \$100,000 to \$500,800 and total number of projects per year rise from 13 to 79.

The Home Energy Detective is a small company that operates out of Manassas, Virginia, and services surrounding regions in northern Virginia. In-house services provided by The Home Energy Detective include the initial energy checkups of the home, test-out procedures, and general contracting. Over 90% of the upgrades it recommends are subcontracted out to its contractor network. This allows The Home Energy Detective to focus on analysis of the home and providing consulting services to meet the needs of the customer. Educating homeowners on the importance of energy efficiency is a primary focus of The Home Energy Detective; "If we can educate homeowners properly, then this industry will flourish. Without education, this industry isn't going to go anywhere—we are selling information, not windows," said Troy Tanner, owner of The Home Energy Detective.

As a general contractor, The Home Energy Detective uses its industry contacts to subcontract out individual home energy upgrade projects. Tanner researches every contractor he hires and inspects each completed



The Home Energy Detective’s vans serve as mobile billboards for the company. Other advertising strategies include newspaper and radio ads, ads on buses, door hangers, trade shows, and website optimization.

“Video testimonials are the most powerful marketing tool for me right now.”

Troy Tanner, Owner,
The Home Energy Detective

Home Performance Services:

- Energy Checkup
- Test-out
- General Contracting

job for quality. The strict quality assurance policy is stipulated in the contracts The Home Energy Detective sets up with subcontractors, and payments are held until The Home Energy Detective ensures its quality standards are met.

Business Metrics

For most houses, \$395 is charged for the initial home energy checkup. For homes over 4,000 ft², the price increases based on the total square footage of the house. Tanner believes in the importance of accurately valuing home energy checkups. He asks, “What are you really going to get out of a \$50 audit?” Employee compensation for conducting assessments is either \$150 or 38% of each checkup, whichever is the higher amount. Additionally, assessors who close deals for upgrades receive 10% of the gross sales total. Closing rates are typically 40% to 50%.

Tanner is “seriously considering expanding services to include in-house contracting work like insulation, HVAC, and air sealing.” Although overhead would increase, adding these extra services in-house would provide additional revenue opportunities, improve profit margins, and add growth opportunities.

The Home Energy Detective has continued to grow despite the current recession. Since 2007, the company has realized a 50% increase in revenues per year from its consulting services. Between 2009 and 2010 alone, revenues jumped 45%, while the number of projects performed that year increased by 144% and revenue per employee jumped by 145% (see Table 1 below).

Table 1. Home Energy Detectives: Company Size and Business Volume by Year

Year	Employees	Average Project Size (\$)	Revenue (\$)	Total Number of Jobs	Revenue per Employee (\$)
2007	1		\$99,950		\$99,950
2008	2	\$13,492	\$194,055	13	\$97,028
2009	5	\$6,533	\$299,638	32	\$59,928
2010	3	\$4,895	\$434,595	78	\$144,865
2011*	3	\$6,339	\$500,801	79	\$166,934

* Data as of December, 2011.
Data Courtesy of Home Energy Detectives.

Public Programs

In Northern Virginia, there are few public programs available to homeowners for energy-efficient home upgrades. The Home Energy Detective was one of the first contractors to participate in the Northern Virginia Home Performance with ENERGY STAR program (HPwES) and the George Washington Regional Commission's Home Energy Loss Prevention (GW-HELP) program. The Home Energy Detective gets about 7% of its project leads from these two programs. Program fees equal about 2% of the job totals, according to Tanner. To date, the Northern Virginia HPwES program has generated approximately 40 leads, resulting in 32 projects. The GW-HELP program has provided only one lead thus far, but the program is still in its infancy.

Neither the HPwES nor the GW-HELP program compensates contractors in Northern Virginia for energy-efficiency upgrades. Instead, the programs offer rebates to homeowners for qualified work that they have performed on their homes by qualified contractors. Both HPwES and GW-HELP advertise their programs and participating contractors on their websites.

Marketing

Leads are primarily generated through independent marketing efforts on the part of The Home Energy Detective. To date, The Home Energy Detective has conducted over 600 home energy checkups with a 40% to 50% closing rate for projects over \$1,500. The Home Energy Detective has purchased advertising on buses, newspaper ads, websites, and radio spots. Tanner notes, "Radio spots have been the most successful in bringing in new work."

In 2009, The Home Energy Detective participated in the Electric and Gas Industries Association's (EGIA) Home Energy Makeover Contest and was chosen as the winner for a home upgraded in Rockville, Maryland. The project was a collaboration between The Home Energy Detective and a variety of local contractors. Energy upgrades included HVAC, insulation, air sealing, duct sealing, and installation of a tankless water heater. Once the project was concluded, EGIA conducted a case study on the project, which was then published online. To see the full story, visit EGIA's website at: www.egia.org/DesktopDefault.aspx?TabID=924

Marketing efforts at The Home Energy Detective are continuously changing. For example, a \$1,500 full-page ad in a regional remodeling magazine initially brought in 20 to 30 calls per month. When interest began to decline, marketing efforts were re-focused on methods that would continue to build brand recognition and generate leads.



The Home Energy Detective started as a sole proprietor in 2007 focused on home energy checkups and test-outs with all upgrade measures contracted out. While the company has grown to three auditors the owner still meets with each customer personally.

Figure 1. Home Energy Detectives: Distribution of Home Performance Upgrade Measures in Typical Projects

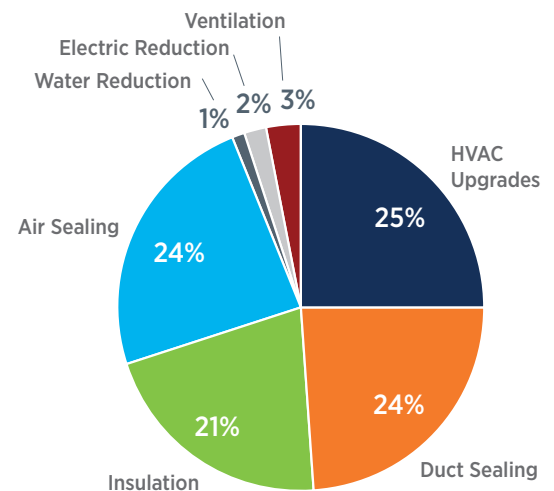


Figure 1 above illustrates the typical breakdown of home performance projects by type of upgrade completed in the home. As shown in the pie chart, HVAC upgrades, air sealing, duct sealing, and insulation make up the bulk of the upgrades The Home Energy Detective performs.



The Home Energy Detective participates in the Northern Virginia Home Performance with ENERGY STAR program (HPwES) and the George Washington Regional Commission's Home Energy Loss Prevention (GW-HELP) Program, which is another regional Home Performance with ENERGY STAR program in Virginia.

Marketing Strategies:

- Bus Billboards
- Newspaper
- Radio
- Energy Makeover Contest
- Video Testimonials
- Websites
- Search Engine Optimization
- Tradeshows
- Word-of-Mouth
- Networking
- Door Hangers

"If we can educate homeowners properly than this industry will flourish. Without education, this industry isn't going to go anywhere—we are selling information, not windows."

Troy Tanner, Owner,
the Home Energy Detective

Tanner notes "Video testimonials are the most powerful thing for us right now," referring to the company's online advertising. Tanner produces all of his own video testimonials and posts them on the company website and on You Tube. Other efforts currently include search engine optimization, which The Home Energy Detective pays a company to do, tradeshow attendance, and grassroots methods like word-of-mouth, door hangers, and networking.

Selling home performance services begins with the first phone call a homeowner makes to The Home Energy Detective. Since the company is small, the owner has the opportunity to speak to each individual about the process of home energy checkups. This is followed by an interview at the house to determine the motivations, goals, and objectives the homeowner has for home energy upgrades. The homeowner is included in each stage of the home assessment and is encouraged to participate in the diagnosis of their home. "Including the customer in the entire process builds strong connections between us and the homeowner," notes Tanner. One way The Home Energy Detective builds rapport with its customers is to offer them recommendations of things they can do on their own to save money and energy.

Once the initial checkup is complete, assessors develop an action plan, which includes a detailed report that is printed at the house at the conclusion of the checkup. The report addresses all of the findings of the checkup, financial considerations, and specific upgrades that can be performed to address the concerns of the homeowner. The Home Energy Detective has a portable printer to quickly generate assessment reports. "We close a lot of deals because the report is printed and itemized right in the home," notes Tanner. This zero lag time between the assessment and the proposal delivery helps to account for the company's high (40%-50%) closing rates.

The majority of homeowners who call The Home Energy Detective are experiencing comfort issues in their homes. Rooms that are too cold or hot, floors that are cold, dust and allergies, and other general discomfort issues are primary concerns. Tanner combines these customer concerns with the findings of the initial energy checkup to find the optimal path forward for upgrades. "It's about communicating effectively with the homeowner regarding their comfort issues and finding ways to fix them," said Tanner, who notes that comfort issues, not energy savings, payback, or return on investment, drive the homeowner's energy-performance upgrade decisions.

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