

# What's the Score? Lessons Learned from the U.S. Department of Energy's Home Energy Score

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## ABSTRACT

Despite growing efforts to reduce residential energy consumption, many efficiency programs are not realizing their energy savings potential due to lack of demand, high audit costs, and other factors. A number of utilities, states, and efficiency organizations have turned to the U.S. Department of Energy's (DOE's) Home Energy Score as a simple and low-cost means to motivate homeowners and homebuyers to invest in energy efficiency. During the Home Energy Score's first year of implementation, nearly 7,000 homes were scored and DOE learned a number of lessons that are leading to significant improvements in the program's offerings. This paper provides an overview of those lessons learned, including trends identified from analysis of the first year's score data; emerging implementation models; the Home Energy Score's added value as a data collection mechanism for utilities and state and local governments; and the need to expand the pool of Qualified Assessors, among others. This paper also discusses program improvements that resulted from those lessons learned, including significant updates to the Home Energy Scoring Tool; research efforts underway to better understand the tool's effectiveness in motivating homeowner investments in energy efficiency; a new 3D simulation training and test for assessors; the addition of national Partners; integration of the Home Energy Score into state rating efforts; integration with Home Performance with ENERGY STAR; and outreach to the real estate community concerning use of the Score in the real estate transaction process.

## Introduction

Homes in the United States consume more than 20% of our nation's energy and more than half of the energy used in the buildings sector. While there's plenty of opportunity to improve the efficiency of most homes, consumers have historically underinvested in energy efficiency upgrades and many efficiency programs are not realizing their energy savings potential due to lack of demand, high audit costs, and other factors. To address this challenge, a number of utilities, state and local governments, home inspection organizations, and others with residential energy efficiency programs are turning to the U.S. Department of Energy's (DOE's) Home Energy Score as a simple and low-cost way to improve consumer awareness and spur investment in home energy efficiency. DOE developed the Home Energy Score to give homeowners and homebuyers easy access to credible information about how to save money and energy in their homes, and to credit them for investments made in energy efficiency.

Much like a miles-per-gallon rating for vehicles, the Home Energy Score provides a standardized method for quickly assessing the energy performance of a home's major energy systems and envelope. Homes are scored on a scale of 1 to 10 – with a 10 being the most efficient – based on estimated source energy use. The assessment can be completed in less than an hour, and the Home Energy Scoring Tool (Scoring Tool) – available free of charge to Home Energy Score Partners and their Qualified Assessors – generates a Score Report that includes a

home's current Score, recommendations for efficiency improvements, savings estimates, as well as the home's potential Score if recommended improvements are made. Figure 1 shows the "Score" page of the Home Energy Score Report.

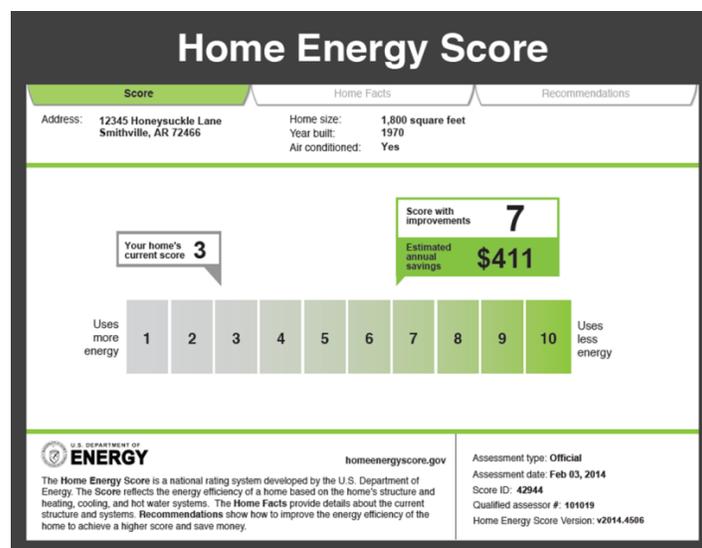


Figure 1. The Home Energy Score

## Background

The Home Energy Score is a key product of Vice President Biden's Recovery through Retrofit initiative, developed to address the need for a nationally standardized "miles-per-gallon" rating for homes. DOE's objectives in creating the Home Energy Score were to provide an affordable and credible means for homeowners to understand their home's energy performance, how their home compares to others in their area, and how to improve its efficiency; build on and complement existing home energy improvement efforts; and help trained workers to enter the private sector energy improvement market as weatherization work funded by the Recovery Act ramped down.

As a first step in developing the Home Energy Score, DOE conducted twelve focus groups across the United States to determine what information is most likely to motivate homebuyers and homeowners to invest in energy improvements. The focus groups also assessed how DOE should convey and display this information. Key findings from the focus groups and additional social science research indicated the following:

- Homeowners appreciate straightforward, simple information, such as clear, simple, colorful graphics that make sense at a glance.
- Homeowners want customized, not generic, recommendations.
- People are influenced by their peers and neighbors and want to know how their energy use compares to their neighbors'.
- Consumers care about the bottom line; however, many are misinformed about which investments will pay off most quickly and save the most energy. Many don't realize that home energy improvements can also improve the comfort of their homes as well as health and safety.

- Consumers value the government seal on information provided and co-branding with a local provider can also be effective.

DOE worked with Lawrence Berkeley National Laboratory (LBNL) to develop the Scoring Tool and pilot tested it in 2011 with organizations across the United States to evaluate its ability to provide consumers with credible and easy to understand information about a home's energy performance at an affordable cost. DOE also worked with the National Renewable Energy Laboratory (NREL) to conduct a variety of analyses using data generated from the pilots as well as energy usage and home characteristic data collected from other sources.<sup>1</sup> As a result of the pilot findings and analyses, DOE incorporated a number of changes into the Scoring Tool prior to launching in 2012, including the following:

- New values for typical operating conditions
- Plug loads based on home size rather than being fixed for all homes
- Occupancy assumptions based on a formula related to number of bedrooms rather than assumed to be 2 adults and 1 child for every home
- Improved recommendations and savings calculations that more fully take into account the home's current conditions
- Updated choices for certain data fields that more accurately reflect conditions of U.S. homes.

## **Progress to Date**

The Home Energy Score has experienced significant growth in its brief history. Since launching in summer 2012, more than 30 Partners, including utilities, states and local governments, non-profit energy efficiency organizations, and home inspection organizations in 22 states, have signed on to offer the Home Energy Score. More than 11,000 homes have been scored<sup>2</sup>, with 200 assessors qualified to score homes.<sup>3</sup>

The Home Energy Score is a flexible tool that can be integrated into a variety of different programs and efforts, both for existing homeowners and interested homebuyers. While a small number of Home Energy Score Partners<sup>4</sup> offer the Home Energy Score as a stand-alone service, most have integrated the Score into existing residential energy efficiency programs. As such, a number of implementation models have emerged, including offering the Home Energy Score (1) as part of home performance or other existing energy efficiency auditing programs, (2) as an add-on service to rebate programs, (3) along with direct install programs, and (4) at point of sale.

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<sup>1</sup> NREL conducted much of the analysis using data contained in its Field Data Repository. More information about the Repository can be found at <http://www.nrel.gov/docs/fy12osti/54026.pdf>.

<sup>2</sup> As of May 18, 2014.

<sup>3</sup> At this time, Home Energy Score Qualified Assessors must be certified as BPI Building Analysts (or higher BPI certification) or RESNET Raters, and must pass a two-part, on-line exam on building science and the Home Energy Score. DOE is in the process of updating these requirements as discussed later in this paper. DOE does not charge to take the exam; however some Partners may charge a fee to proctor the exam or provide other administrative services.

<sup>4</sup> Partners must fulfill a few basic requirements, including rescoring five percent of all scored homes using a separate Qualified Assessor for quality assurance purposes.

Additionally, several states have shown significant interest in adopting the Score as part of statewide home energy scoring or labeling initiatives, with some – including Connecticut and Vermont – making commitments to do so in the near future. Others, including Oregon, are seriously considering the Home Energy Score, which is included as one of three approved scoring systems in the state’s proposed rules on residential energy performance scores. Missouri is also strongly considering including the Home Energy Score as part of its home energy certification program. A number of other states are also considering adopting the Home Energy Score statewide, though still early in the decision-making process.

DOE, through its work with leading real estate experts, has also made progress in laying the groundwork for recognizing the Home Energy Score in real estate transactions. The Home Energy Score was added to the Real Estate Transaction Standard (RETS) and its Data Dictionary version 1.2, which provides common definitions for real estate data and is used by many multiple listing service (MLS) data exchange service providers. The Home Energy Score was also included in the National Association of Realtors’ *Green MLS Implementation Guide*. Additionally, the Home Energy Score was added to the Appraisal Institute’s *Residential Green and Energy Efficient Addendum*, enabling appraisers to consider the Home Energy Score when assessing the value of a home.

## **Lessons Learned and Program Response**

DOE has learned a tremendous amount from its Partners, other stakeholders, and extensive data analysis since launching the Home Energy Score in 2012. Based on lessons learned during the first year of implementation, DOE made – or is in the process of making – a number of program changes, including (1) modifying the scoring methodology to allow greater mobility along the 10-point scale; (2) improving data usability and access for Partners; (3) expanding the assessor pool; (4) working with interested states to allow greater customization of information; and, (5) further investigating how the Home Energy Score can better motivate homeowners to invest in energy efficiency improvements. This section discusses each of these improvements in greater detail.

### **(1) Improved Scoring Methodology**

Data trends from the first year indicated some issues with the 1 through 10 scales being used, with large homes getting “stuck” and unable to easily move up the scale, and noticeable “clumping” of homes scoring a 5, 6, 7 or 8. DOE soon realized that including a home’s base load in the Score calculation stymied upward mobility given that the only efficiency improvements recognized by the Scoring Tool are those made to the “asset” related loads (i.e., heating, cooling, hot water) not those that affect base load (e.g., lighting, plug load). Another reason for the difficulty in moving along the scale was that the MBTU<sup>5</sup> range covered by the original scales was too large – that is, too many homes had been pushed to the middle of the scale given the large increments set between each point on the scale.

Prior to releasing a new version of the Scoring Tool in December 2013, DOE analyzed existing score data, new simulation data, as well as characteristic and utility bill data from another 1,000 homes. Given that analysis, DOE changed the underlying scoring method to (1)

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<sup>5</sup> The Home Energy Score program uses MBTU to refer to million British thermal units (BTU), sometimes referred to by others in the industry as MMBTU or MMBtu

reflect changes to the simulation tool, including a switch from 250+ TMY2 weather stations to 1,000+ TMY3<sup>6</sup> weather stations; (2) eliminate base load from consideration in the scoring of the home; and (3) reduce the MBTU range covered by the 10-point scale. While base load calculations are still included in the underlying Home Energy Scoring Tool energy simulations, this portion of the home’s energy load is excluded for the purposes of producing an “asset” score on the 10-point scale.

Figures 2, 3 and 4 below show how more than 8,000 actual homes scored with the original tool and scales (v2012) compared to how they score with the new tool and scales (v2014). Figure 2 illustrates how the original version of the tool and scales resulted in a significant number of homes scoring between 5 and 8. Given the new version, starting scores for homes are much more distributed across the 10-point scale. Figure 3 indicates that a much greater number of homes can attain a 9 or 10 using v2014, even though homes, in general, initially scored lower with this version.

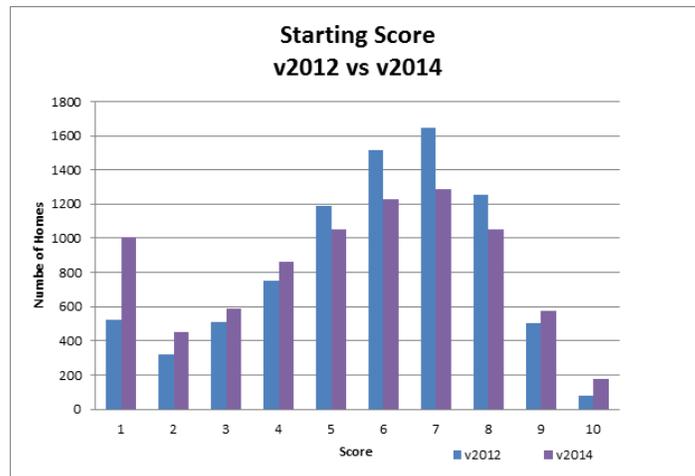


Figure 2. Starting Score of 8,000+ homes using v2012 vs v2014

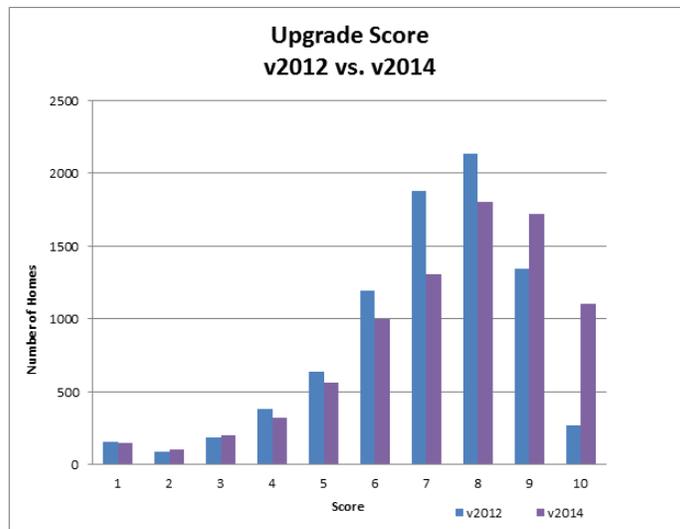


Figure 3. Upgrade Score of 8,000+ homes using v2012 vs. v2014

<sup>6</sup> Typical meteorological year (TMY) data sets derived from 1961-1990 (TMY2) and 1991-2005 (TMY3)

Figure 4 shows how much individual homes can improve under the two systems. Under v2012, the majority of homes cannot move at all or have the potential to improve by only 1 point; only 11 percent of the homes could jump 3 or more points. The new version allows greater mobility for a much larger number of homes – with a third having the potential to increase their scores by 3 points or more, and some even being able to move up 7 to 9 points from their initial scores.

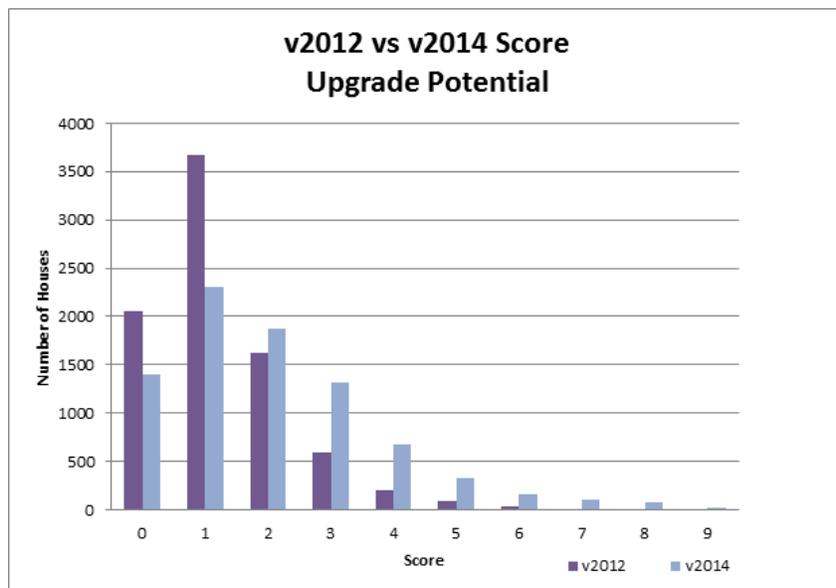


Figure 4. Upgrade potential of 8,000+ homes using v2012 vs. v2014

## (2) Improved Data Transfer

DOE also learned, through feedback from its Partners, that the Home Energy Score can add value to utilities, states, and local governments as an administrative, or data collection tool. Because Partners receive all of the data collected on each of the homes scored by their Qualified Assessors, they can use that data to better understand the energy performance and conditions of the housing stock, and thereby inform where to focus resources. For example, if a utility finds that aging HVAC equipment is the leading contributor to homes’ high energy use, they could focus incentive programs on providing rebates to homeowners that upgrade their equipment.

Given this interest in using the Score data – both the data entered by assessors and the calculations made by the Scoring Tool – DOE is taking steps to improve the transfer of this data by adopting the HPXML<sup>7</sup> standard later in 2014. In addition, DOE has established a “Partner Portal” by which Home Energy Score Partners will soon be able to automatically download data for homes scored by their assessors. Finally, DOE and LBNL have made available various APIs (application programming interfaces) to facilitate interoperability between other software tools and the Home Energy Score.

<sup>7</sup> BPI-2100-S-2013: Standard for Home Performance-Related Data Transfer (HPXML). This standard, informally known in the industry as “HPXML” or “Home Performance XML” is intended to facilitate consistent data transfer methods for the home performance industry.

### **(3) Expanded Assessor Pool**

Since the program's inception in 2011, DOE has required all Home Energy Score Qualified Assessors to be certified Building Performance Institute (BPI) Building Analysts or Residential Energy Services Network (RESNET) Raters. During initial pilot testing of the Home Energy Score, it became clear that assessors needed additional instruction concerning the requirements and purpose of the Home Energy Score. Thus, to supplement the professional certification requirements, DOE developed free online training and requires assessor candidates to pass its Home Energy Score online test before approving them as Qualified Assessors.

Given experience to date, it now appears that the current certification requirements may not fully align with the skills needed to score a home effectively. The amount of data collected during a Home Energy Score assessment is less than that collected for a more comprehensive home energy assessment. Furthermore, the Home Energy Score does not require any diagnostic testing.

If the Home Energy Score is to play a significant role in the real estate process, whereby homebuyers are using a home's Score to inform their home purchase decisions, other professionals need to be involved in scoring homes. In particular, a large number of home inspectors are likely very qualified to produce the Score and are well poised to offer it as part of the home sale's process; yet, the vast majority does not hold BPI or RESNET certifications.

In April 2013, recognizing the need to expand the pool of potential assessors and at the same time improve the current on-line assessor training and testing, DOE began to develop a 3-D immersive simulation training and testing software program for prospective Home Energy Score assessors. The software uses computer-based simulations (much like a video game) to recreate a range of jobsite scenarios, enabling individuals to learn how to collect data required to generate a Home Energy Score in a wide variety of virtual homes with varying equipment and characteristics.

After developing the software tool, DOE conducted a comprehensive, psychometrically-supported validation study to determine whether the simulation tool can deliver effective training and whether the accompanying simulation testing can provide an accurate assessment of an individual's competency to deliver the Home Energy Score. As part of this effort, more than 200 individuals from housing-related professions (e.g., home inspectors, engineers, architects, contractors, and real estate agents) with varying levels of experience, education, and certifications took the simulation training and test. Some met the current certification requirements for assessors and others did not; none had prior experience with the Home Energy Score. After analyzing results of this study (which included an in-home scoring component in Colorado, Pennsylvania, Texas, and Virginia), DOE will establish new qualification requirements that better reflect the skills and abilities needed to effectively score homes; and, a broader pool of candidates will likely be able to offer the Home Energy Score.

### **(4) Greater Customization and Integration with State Efforts**

Through numerous discussions with states, DOE has learned that many are looking for flexible, easy rating methods for homes. While many states recognize the value of aligning with a national score, they also want to tailor the type of information provided in a home score or label based on their specific market interests or needs. Given these interests, DOE is working closely with a number of states to establish customized information while ensuring that the Score and other data provided to consumers is consistently derived, clear, and accurate.

The State of Vermont decided to use MMBtu/year as the primary metric and the Home Energy Score as a secondary metric in its Vermont Home Energy Score label, which the state plans to begin implementing by the end of 2014 or early 2015. Vermont will use the Home Energy Scoring Tool as the scoring engine to generate both the MMBtu/year metric and the 1 through 10 Score. One entity in Vermont will act as the lead Home Energy Score Partner with DOE, serving as the central coordinating body within the state to ensure that data collected from multiple state programs is run through the Home Energy Scoring Tool API and therefore translated into a consistent Vermont Home Energy Score label.

Given that the Home Energy Scoring Tool calculates a number of different values, including estimated annual energy use, associated greenhouse gas emissions, and estimated annual utility costs, states and others can work with DOE to display these other metrics along with the Home Energy Score should they want to emphasize additional information to homeowners and homebuyers. DOE continues to assess how different pieces of information can be provided effectively to encourage greater energy efficiency while not confusing consumers.

## **(5) Tapping into Consumer Motivation**

Better understanding the role that the Home Energy Score can play in informing homeowner decision-making around energy efficiency is critical. The Score is intended to educate and motivate homeowners to invest in energy improvements, but without empirical evidence, it is difficult to discern the motivational role of the Score in and of itself versus other energy information being provided to the homeowner by the assessor. In light of this lack of data, DOE is working with national behavioral, social science, and evaluation experts on both qualitative and quantitative studies aimed at better understanding homeowners' reactions to the Home Energy Score and identifying ways to improve its value in the market. These are discussed in more detail below.

**Focus groups.** In a recent effort to gain qualitative feedback on the Score, DOE contracted with Shelton Group to conduct two focus groups in Atlanta, GA, to evaluate homeowners' perceptions and attitudes toward the Home Energy Score. The focus groups, held in October 2013, were intended to clarify how well homeowners understand the Score and identify opportunities to refine the information provided. While it is difficult to draw extensive conclusions from focus groups, these discussions were instructive in helping the program consider new ways of messaging. For example, based on most participants' view that few homeowners remain in their homes for 10 years, the Home Energy Score Report has been modified to display annual, rather than 10-year, savings. Other findings highlighted the important role that the assessor plays in not only providing the score but also being able to address a homeowner's outstanding questions and concerns, particularly if their home scores poorly. To that end, DOE is developing additional guidance for assessors to convey information effectively to homeowners and buyers.

**Retrofit investment study.** With the goal of collecting more quantitative, data-based information on homeowner reactions to the Score, DOE and EnergySavvy are conducting a study to evaluate the impact of the Home Energy Score on homeowners' willingness to invest in energy efficiency improvements. Specifically, the study is intended to determine how the Score affects (1) homeowner willingness to invest in improvements; (2) homeowner reaction time (e.g., how long it takes for them to invest in improvements); and (3) the level of homeowner

investment. The study includes two Home Energy Score Partners – New Jersey Natural Gas (NJNG) and Energy Fit Nevada (EFN). Both organizations are carrying out randomized, controlled studies; however, implementation methods used by NJNG and EFN differ given the nature of their efficiency programs.

NJNG offers the Home Energy Score to homeowners who have already taken advantage of utility incentives to replace gas water heaters or furnaces. In order to qualify for the equipment rebate, these homeowners are required to have a utility-provided in-house audit. The purpose of this energy audit is to encourage the homeowners to take the next step and participate in a “whole-house” retrofit program. Historically, after receiving the in-home audit, only a small percentage of these customers have invested in whole home efficiency. It’s a particularly hard sell since these homeowners have already invested a couple thousand dollars in replacing their gas equipment. The question of interest to NJNG is whether the Home Energy Score encourages greater levels of investment among this group of customers. For the purposes of the study, NJNG will randomly assign each homeowner to a test or a control group, with the control group receiving the current program materials and the test group receiving these materials as well as the Home Energy Score.

EnergyFit Nevada (EFN), a Home Performance with ENERGY STAR program sponsor, is providing the Home Energy Score as part of an in-home energy audit. As with the NJNG study, customers will be randomly assigned to control and test groups. Again, the study will quantify whether those homeowners who receive the Home Energy Score act differently than those who only receive a standard audit report. Unlike the NJNG study, homeowners in the control group will also be offered the Home Energy Score, but only if they choose to complete a home performance project. The modification in the study design is in response to EFN’s desire to promote the Home Energy Score program to all their program participants.

Data collection for these studies began in spring 2014 and is expected to continue for a minimum of 12 months. In addition to overall conversion rates and levels of investment in retrofits, information on types of improvement measures will be tracked for each home over the course of the study period.

**Score plus recognition studies.** After learning of a recent study<sup>8</sup> that assessed the effects of making positive energy efficient behavior observable, the Home Energy Score program teamed with David Rand, Assistant Professor of Psychology and director of Yale University’s Human Cooperation Laboratory, to test the impact of adding a recognition component to existing Home Energy Score programs in New Jersey and Connecticut. While the two programs are applying recognition differently, both will include randomized, controlled tests and both will assess whether public display or recognition (of homeowners who have their homes scored) stimulates greater participation.

In New Jersey, NJNG will add the recognition component to their Conserve to Preserve Community Rewards Program. NJNG will reward participating schools up to \$5,000 – \$5 for each NJNG customer who completes a free online energy audit and \$25 for those who complete a whole-house in-home audit that includes a Home Energy Score performed by a NJNG auditor.

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<sup>8</sup> Using the enrollment of thousands of people in a California blackout prevention program as an experimental test bed, the study concluded that although financial incentives boosted participation slightly, making participation in the program observable – through the use of sign-up sheets posted in apartment buildings – produced a threefold increase. <http://www.pnas.org/content/early/2013/06/04/1301210110.full.pdf+html>

In the test group, all parents that voluntarily participate in the online or the in-home energy audit will be publicly recognized as an Energy Champion on posters and in other school communications materials. Figure 5 shows a sample poster that is being used in the test group. The hypothesis of this study is that public recognition will create a sense of positive peer pressure that will encourage parents to complete online and in-home audits. The demographics of schools will be analyzed to ensure an unbiased allocation of schools in both groups. Seven schools participated in the first phase of the study which started March 1, 2014, and will conclude May 31, 2014. The second phase of the study is planned for fall of 2014.

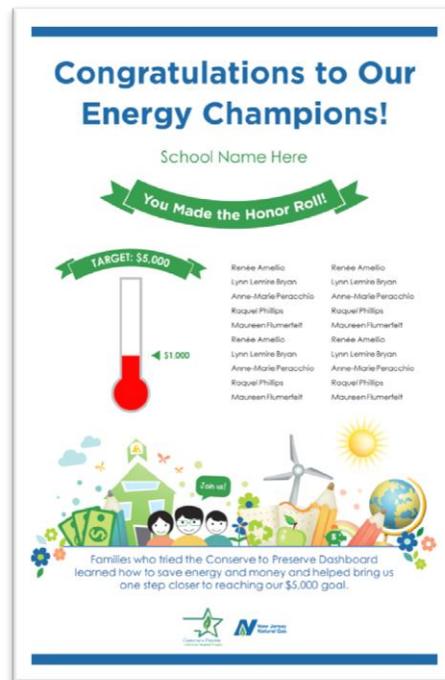


Figure 5. Energy Champions poster displayed in the test group

In Connecticut, the state’s Department of Energy and Environmental Protection, along with the state’s primary utilities, is evaluating whether public recognition and observability affect demand for Connecticut’s in-home energy audits offered through its “Home Energy Solutions” program. In this controlled study, all participating homeowners will receive a Home Energy Score, however, only those in the test group will be offered the opportunity to make their Scores visible on a public website. This online map featuring participating homes’ scores will be marketed in those neighborhoods to see if neighboring homeowners are encouraged to get their own homes scored and invest in energy efficiency improvements. The study, which will begin in summer 2014, may also consider how public display of different types of information (e.g., scores vs. MBTU values) affects the behavior of neighboring homeowners.

## Bringing the Program to Scale and Future Outlook

While the Home Energy Score program has made a great deal of progress in the past couple of years, the program must achieve scale nationwide, or at least regionally, in order to tap into the power behind the score – that is, the human desire to excel or at least be better than average. It needs to be something that homebuyers look for, just as most car buyers at least check out miles-

per-gallon ratings or CARFAX®. The Home Energy Score will need to be readily available on MLSs and on consumer-facing real estate platforms like Zillow, RedFin and Trulia. It's doable as evidenced by the emergence of new metrics like Walk Score®, now featured on sites like Zillow. But, to get to that point, a number of prerequisites must be met. For one, the mechanics of data transfer between a multitude of databases and other systems needs to be worked out. HPXML and the Home Energy Score APIs will certainly make it easier to transfer Score data in a standardized format to the MLSs, appraisal documents, and other real estate systems across the country.

Reaching the scale of ubiquity in real estate transactions will also require a vastly larger pool of individuals eligible to score homes. Opening up the field to home inspectors and others who do not hold the currently required third-party professional energy auditing certifications would certainly change the market.

With a greater number of assessors spread across the country, quality assurance becomes even more important yet harder to deliver. Meeting DOE's quality assurance requirements can be accomplished in two ways: (1) allow individual assessors to score homes while reporting to a regional or national quality assurance entity, and/or (2) continue to allow assessors to work under a local Home Energy Score Partner that is responsible for conducting quality assurance, as has been the implementation model up to this point. In February 2014, BPI—a national standards development and credentialing organization for residential energy efficiency retrofit work—signed on as a Home Energy Score Partner. This new partnership will enable the program to greatly expand its coverage utilizing BPI's national network of assessors and quality assurance providers. National Partners like BPI will be able to offer the Home Energy Score in areas underserved by local Partners. Looking ahead, DOE is interested in working with additional national Partners that can oversee assessors, provide quality assurance, and further expand the availability of the Score.

In addition to partnering with organizations that have national networks of potential assessors, other avenues can also enable the Home Energy Score to scale up in the near term. Statewide initiatives can foster more rapid uptake of the Score. As more states sign on to offer the Home Energy Score as part of their own home rating or labeling efforts or other initiatives aimed at reducing energy consumption, the number of homeowners (and homebuyers) with access to the Score will increase.

Another way to quickly increase market penetration is to encourage large software providers that already service the residential energy efficiency market to take advantage of the program's APIs. A handful of auditing tools dominate the home energy performance market, and enabling those tools to seamlessly link with the Home Energy Scoring Tool can be a game changer in opening up the Home Energy Score to a vast array of residential energy efficiency programs that rely on these auditing tools. Like Energy Savvy and Optimizer who are already using the API, software providers and program implementers like CSG, ICF, PSD, and others can offer the Home Energy Score with practically the push of a button in the markets they serve.

Finally, another way for the Home Energy Score to increase its presence in the market is to fully integrate with the national Home Performance with Energy Star (HPwES) program. The Home Energy Score program is working with this sister program at DOE to assess how to best offer the Home Energy Score in HPwES programs offered in local markets. While DOE has already partnered with several HPwES Sponsors that are offering the Home Energy Score, expanding to the entire roster of HPwES Sponsors (which completed energy efficiency upgrades on more than 80,000 homes in 2013) would not only enable expansion of the Home Energy

Score into new markets, but could also help HPwES programs to increase homeowner demand for energy efficiency by playing to the desire to improve one's Score.

Looking ahead, DOE will focus on continuous refinements to the Scoring Tool, bringing the program to scale, and using findings from studies currently underway to enhance messaging to homeowners and encourage greater uptake of home energy improvements. And it will continue to work with organizations interested in offering the Home Energy Score at point of sale to champion integration of the Score on the MLS. Most Americans hadn't heard of a Walk Score just a few years ago, and today, many urban dwellers are demanding it. Perhaps somewhere in the not-too-distant future, the Home Energy Score will become vernacular, with homebuyers equally interested in how much energy a home is expected to consume as the type of countertops in the kitchen.

## References

Appraisal Institute. *Residential Green and Energy Efficient Addendum*. January 2013.

<http://www.appraisalinstitute.org/assets/1/7/ai-residential-green-energy-effecient-addendum.pdf>.

Energize Connecticut. Home Energy Solutions.

<http://www.energizect.com/residents/programs/home-energy-solutions-core-services>

Energy Savvy. "New Jersey Natural Gas and EnergyFit Nevada Deploy EnergySavvy Optix, Join Study to Evaluate U.S. Department of Energy's Home Energy Score". January 28, 2014. <http://www.energysavvy.com/blog/2014/01/28/new-jersey-natural-gas-and-energyfit-nevada-deploy-energysavvy-optix-and-study-us-doe-home-energy-score/>.

National Association of Realtors. *Green MLS Implementation Guide*. May 2014.

<http://greenresourcecouncil.org/sites/default/files/2014%20NAR%20Green%20MLS%20Implementation%20Guide.pdf>

New Jersey Natural Gas. Conserve to Preserve (CTP) Community Rewards.

<http://www.njng.com/save-energy-money/ctp/communityrewards.asp>

Real Estate Standards Organization. *RETS Data Dictionary version 1.2*.

<http://www.reso.org/data-dictionary-1-2>.

Oregon Department of Energy. *HB2801 Proposed Rules on Voluntary Building Energy*

*Performance Score Systems*. May1, 2014. <http://www.oregon.gov/energy/pages/rulemaking-eps.aspx>.

Shelton Group. *Homeowner Reactions to Home Energy Score Reports*. December 6, 2013.

U.S. Department of Energy. Home Energy Score. [www.homeenergyscore.gov](http://www.homeenergyscore.gov).

Vermont Public Service Department. Building Energy Labeling.

[http://publicservice.vermont.gov/topics/energy\\_efficiency/buildingenergy\\_labeling](http://publicservice.vermont.gov/topics/energy_efficiency/buildingenergy_labeling).