

Energy Efficiency & Home Energy Score: Giving Homebuyers Reliable and Meaningful Information

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Agenda

We'll go over –

- ✓ The value of energy efficiency to homeowners and buyers
- ✓ The basics of Home Energy Score
- ✓ How to get a Home Energy Score
- ✓ Resources and next steps

The Value of Energy Efficiency



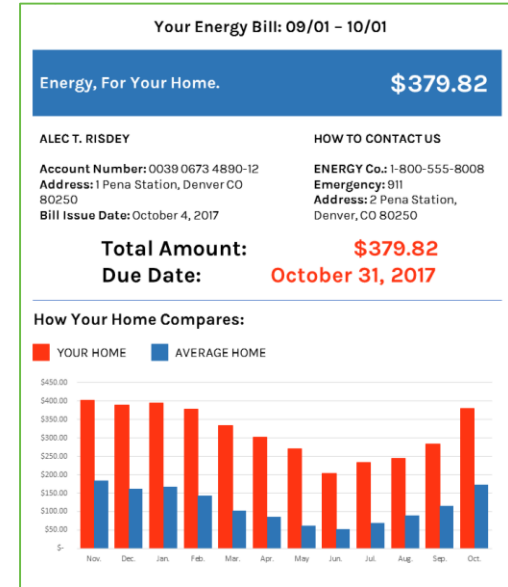
The Value of Energy Efficiency

Helps Reduce Costs:

- ✓ On average, energy costs are higher than either property tax or insurance ([U.S. Census](#))
- ✓ Efficiency investments can help stabilize your bills in the hottest and coolest months, and lower your energy bills overall

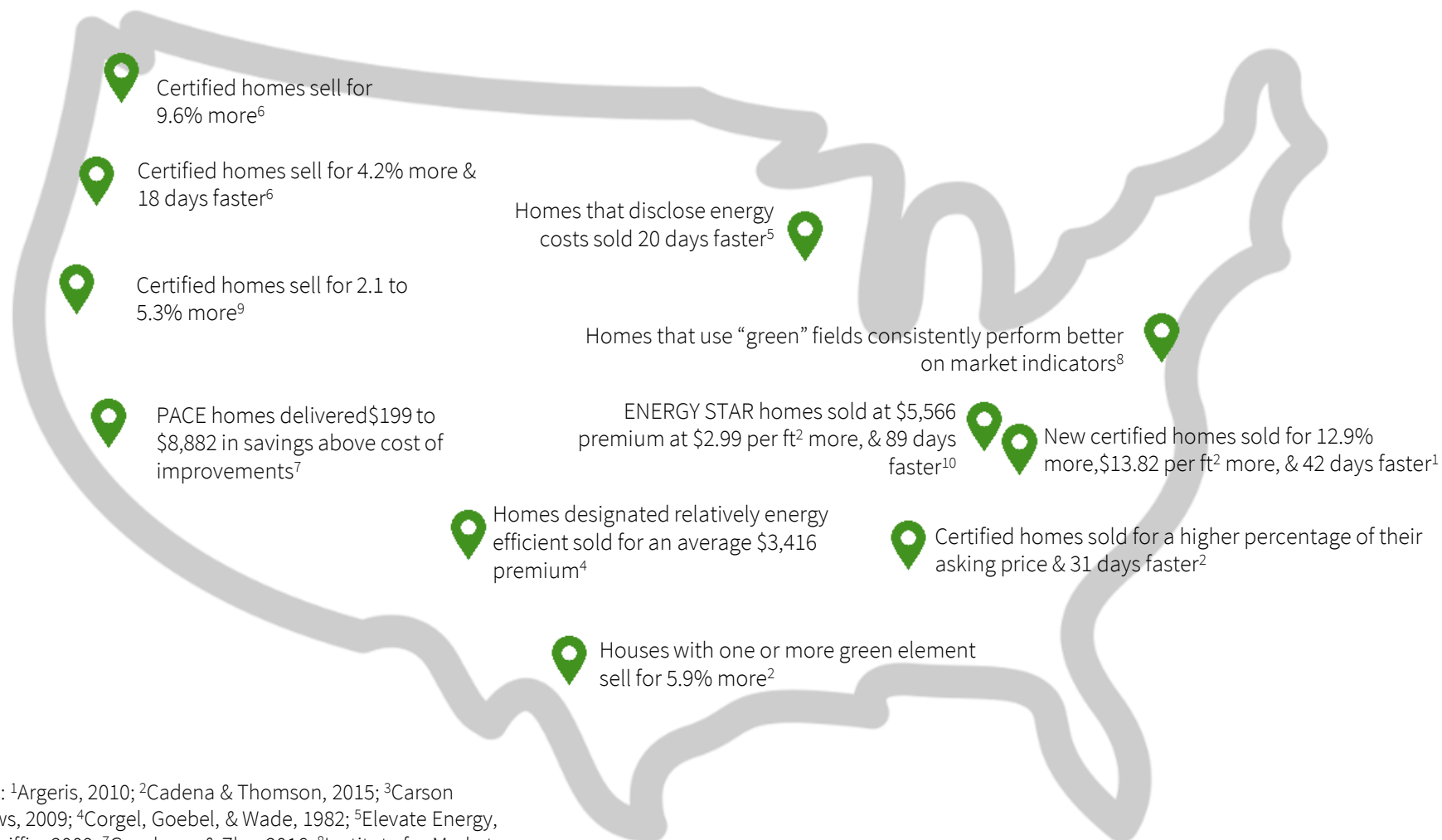
Smart Investment:

- ✓ Attic insulation achieves highest return on investment of all home improvement projects studied at 116.9% ([Remodeling Report](#))
- ✓ Attic Insulation averaged the cheapest upgrade at \$1,268 ([Remodeling Report](#))



The Value of Energy Efficiency

Return on Investment: Energy Efficient Homes Sell for More, Faster



Sources: ¹Argeris, 2010; ²Cadena & Thomson, 2015; ³Carson Matthews, 2009; ⁴Corgel, Goebel, & Wade, 1982; ⁵Elevate Energy, 2015; ⁶Griffin, 2009; ⁷Goodman & Zhu, 2016; ⁸Institute for Market Transformation, 2015; ⁹Kahn & Kok, 2013; ¹⁰Pfleger et al., 2011.

Sales Premium for Energy Efficient Homes

Studies Show a Sales Premium of:



2% to 6% for designated energy efficient homes ^{1, 2, 3, 7, 12}



\$2.99 to \$13.82 per square foot for every dollar saved on annual electricity bills from efficiency investments ^{1, 5, 10, 15}



\$3,416 to \$8,882 for designated energy efficient homes ^{14, 15}

**SOLD 18 TO 89
DAYS FASTER**

^{1, 3, 6, 7, 11, 15}

VS.



Designated energy efficient

Comparable home

Sources: ¹Argeris, 2010; ²Brown & Watkins, 2016; ³Cadena & Thomson, 2015; ⁴Carson Matthews, 2009; ⁵Dinan & Miranowski, 1989; ⁶Elevate Energy, 2015; ⁷Griffin, 2009; ⁸Goodman & Zhu, 2016; ⁹Halvorsen & Pollakowski 1981; ¹⁰Horowitz & Haeri, 1990; ¹¹Institute for Market Transformation, 2015; ¹²Kahn & Kok, 2013; ¹³Laquatra, 1986; ¹⁴Longstreth, 1986; ¹⁵Pfleger et al., 2011.

*Not all studies shown have been peer reviewed.

The Value of Energy Efficiency

Improves Quality of Life:

- ✓ Energy improvements are good investments that bring financial relief and “joy”
- ✓ After an insulation upgrade, 61% say greater desire to be home, 95% same or increased sense of enjoyment, and 66% major sense of accomplishment ([NARI Report](#))
- ✓ Energy efficient homes can improve occupant health outcomes related to asthma, hypertension, and allergies ([Home Rx Report](#))



The Value of Energy Efficiency

Because Home Is a Place Where People Should...

- Feel comfortable throughout the year
- Breathe easy with good indoor air quality
- Be in control of how your home uses resources
- Feel good about your impact on your community and the environment
- Enjoy peace of mind about your energy bills



Efficiency can help you achieve all of these things, and more.

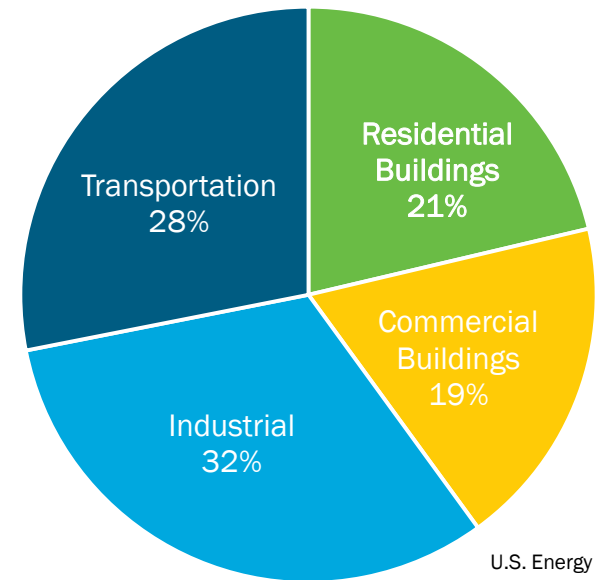
The Value of Energy Efficiency

Bonus! Efficiency Saves Natural Resources

Being an energy-savvy homeowner means YOU can make a difference

- ✓ Increasing efficiency means accomplishing the same or more output with fewer inputs
 - Fewer energy resources consumed
 - Lower rates of air pollution
- ✓ Can increase electricity grid stability
 - Minimize strain on grid at high-consumption times
 - Reduce overall energy costs

Energy Use by U.S. Sector, 2017



U.S. Energy Information
Administration, 2017

Home Energy Score



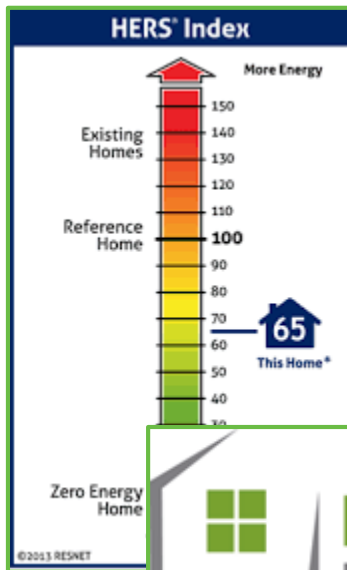
Energy Information Can Be Confusing...



U.S. DEPARTMENT OF ENERGY
Home Energy Score



**Low-E
Windows**



**SEER-16
Heat Pump**



Home Performance with ENERGY STAR®
Certificate of Energy Improvements

Home Address: _____

Work Performed By: _____

Work Verified By: _____

Work Completed On: _____

Representative: _____

Home Performance Improvements: _____

Additional Information: _____

**ENERGY
STAR
Dishwasher**



**R-20
Insulation**



MLSs are Improving Consistency & Clarity

Three Major Categories of Green Verifications

1. Green Certifications

- ✓ The home achieves standards of energy and/or green features
- ✓ Popular programs can vary by market



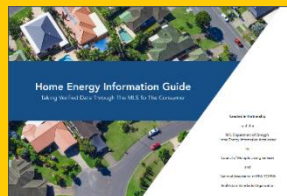
2. Energy Labels

- ✓ Applicable to any home
- ✓ Compares home to an accepted standard

Nutrition Facts	
Serving Size 1/2 cup (115g)	
Servings Per Container About 4	
Amount Per Serving	Calories from Fat 130
Calories 250	% Daily Value*
Total Fat 14g	22%
Saturated Fat 8g	45%
Cholesterol 55mg	18%
Sodium 75mg	3%
Total Carbohydrate 26g	9%
Dietary Fiber 0g	0%
Sugars 26g	
Protein 4g	
Vitamin A 10%	Vitamin C 0%
Calcium 10%	Iron 0%
* Percent Daily Values are based on a diet of other people's secrets.	

3. Verified Energy Improvements

- ✓ Proof of investment in upgrades
- ✓ Clarifies differences with “comparable” homes



**More Information available in the
Home Energy Information Guide**
(CMLS, NAR, RESO, DOE)

What is Home Energy Score?



Home Energy Score

<https://www.youtube.com/watch?v=IQ8yw1Tpyjg&t=4s>

What is Home Energy Score?

A miles-per-gallon rating for homes*

- ✓ Gives potential homebuyers **information** about a home's energy features and estimates home energy costs
- ✓ Provides new homeowners **guidance** on energy improvements that can make the home more comfortable and less expensive



The Home Energy Score is –

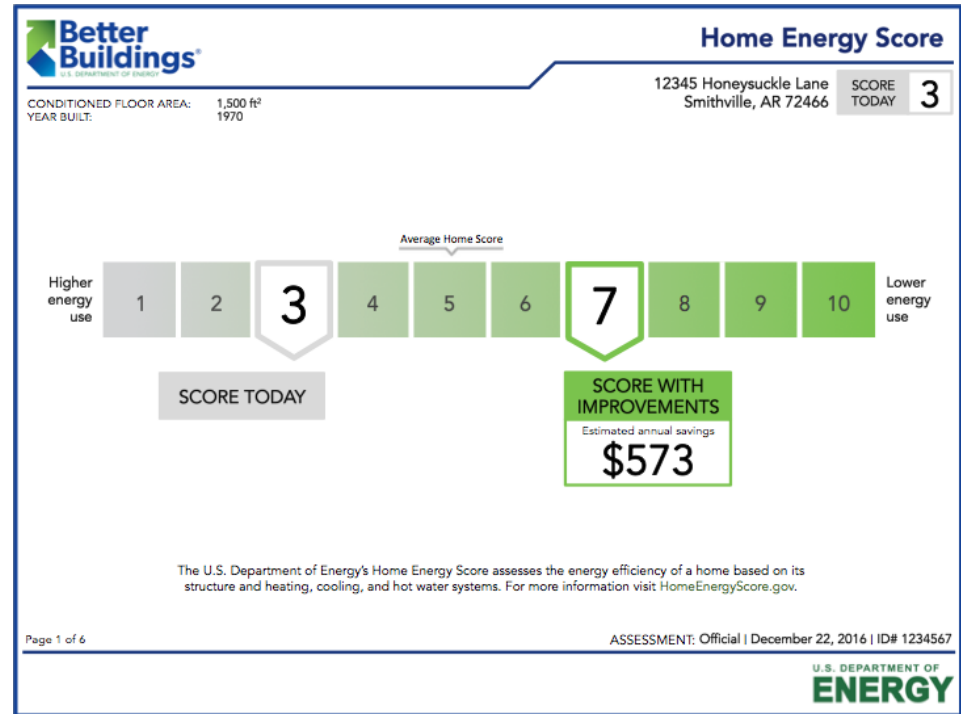
- ✓ **Fast.** Takes less than one hour in most homes.
- ✓ **Affordable.** Free for Assessors to keep costs low.
- ✓ **Simple.** Easy to understand 1 to 10 scale.
- ✓ **Credible.** Created through robust testing and analysis.
- ✓ **Flexible.** Available through various programs and software.

*Applicable for single-family homes and townhomes only.

What Does the Score Tell You?

Important information in an easy-to-understand way

- ✓ Score Today: where your home falls on the 1-to-10 scale
- ✓ Score with Improvements: where your home will be if recommendations are made.
- ✓ Five page report: home facts and cost-effective recommendations for energy efficient improvements



What does a Score Mean?

The less energy a home is expected to use, the higher the Score

- ✓ **Score of 1 – Inefficient Home**

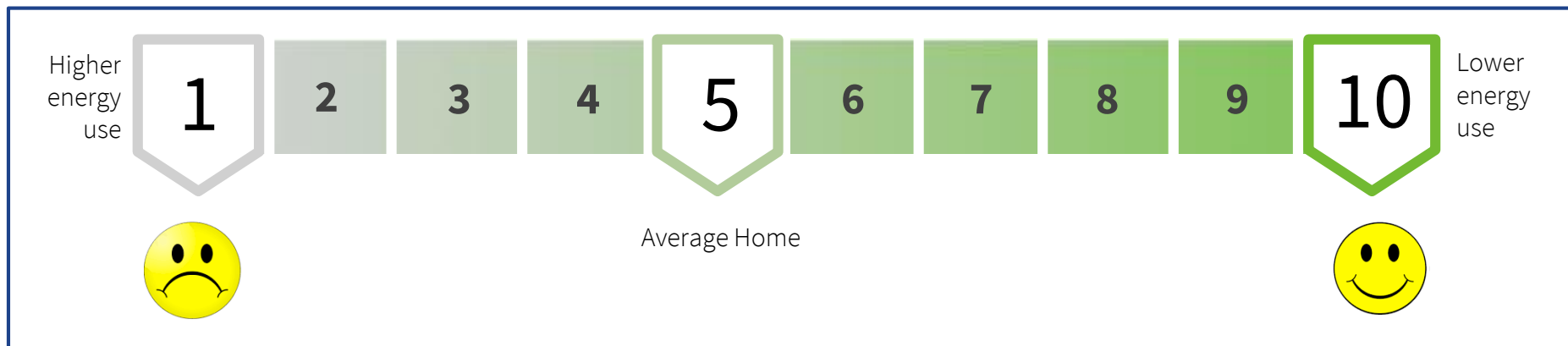
Home is expected to use **more energy than 85%** of U.S. homes

- ✓ **Score of 5 – Average**

Home uses an **average** amount of energy compared to U.S. homes

- ✓ **Score of 10 – Very Efficient Home**

Home is expected to use **less energy than 90%** of U.S. homes

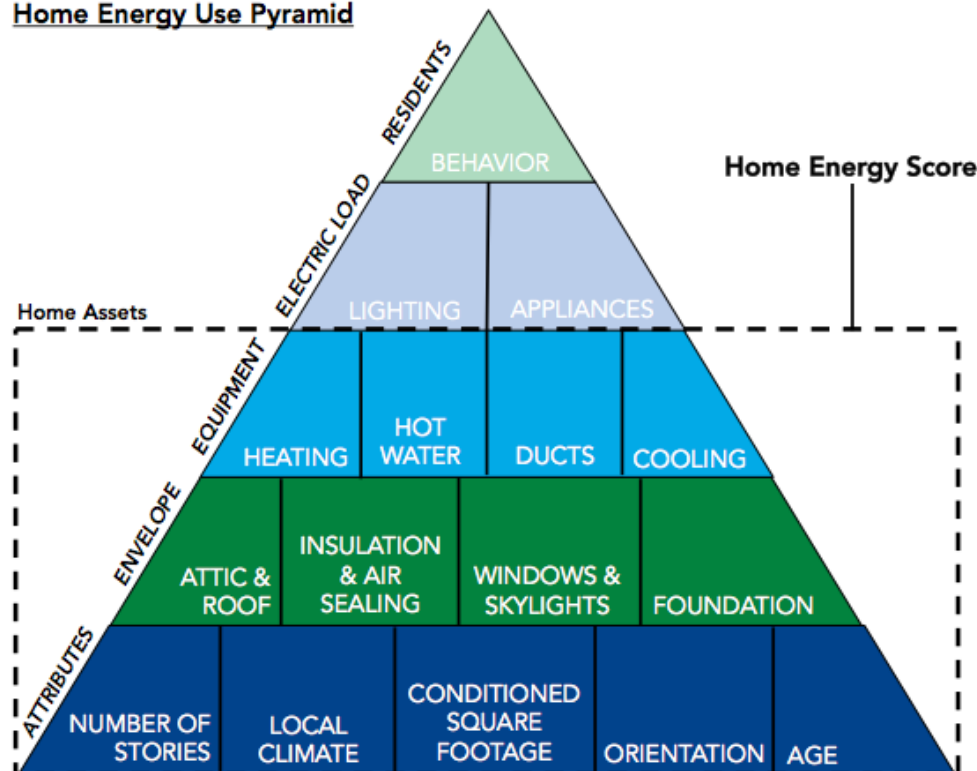


How Is the Score Calculated?

The Score is based on a home's energy-related assets

- ✓ Excludes resident-dependent behaviors and electronics from analysis
- ✓ “Apples to apples” comparison between homes
- ✓ Better at predicting costs than bills of prior occupants

Home Energy Use Pyramid



House - Specific Recommendations

Reliable, objective information homeowners can act on

Recommended Improvements

REPAIR NOW. These improvements will save you money, conserve energy, and improve your comfort.

- ▶ **Air Tightness:** Have a professional seal all the gaps and cracks that leak air to save **\$110** / year
- ▶ **Ducts 1:** Add insulation around ducts in unconditioned spaces to at least R-6 to save **\$43** / year
- ▶ **Attic 2:** Increase attic floor insulation to at least R-19 to save **\$57** / year
- ▶ **Ducts 2:** Add insulation around ducts in unconditioned spaces to at least R-6 to save **\$23** / year
- ▶ **Ducts 2:** Have a professional seal all the gaps and cracks that leak air to save **\$74** / year

REPLACE LATER. These improvements will help you save energy when it's time to replace or upgrade.

- ▶ **Windows:** Choose ones with an ENERGY STAR label to save **\$61** / year
- ▶ **Water Heater:** Choose an ENERGY STAR appliance to save **\$159** / year
- ▶ **Electric Heat Pump:** Choose an ENERGY STAR appliance to save **\$32** / year

Comments

Current local incentives may make this house a good candidate for a new water heater.

- ✓ Recommendations categorized as “Repair now” and “Replace later”; based on cost-effectiveness using state average utility rates
- ✓ Some Partners and Assessors provide their own **custom recommendations**
- ✓ Tool can generate “Upgrade Score” based on custom recommendations

How to get a Home Energy Score



When Should You Get A Home Energy Score?

When buying... to get as much information as possible

- ✓ Many home inspectors can offer the Score as part of the home inspection

After moving in... to inform energy improvements

- ✓ Get cost-effective investments that improve the Score, increase comfort, and lower bills

When listing... to showcase energy improvements

- ✓ Show the Score in the MLS listing to attract buyers
- ✓ Use MLS Green Fields to make the listing searchable by Score



Financing Products Linked to the Score

FHA Policy (January 2016)

- ✓ Allows lenders to provide a **2% stretch on debt-to-income ratios** for borrowers purchasing or refinancing a home
- ✓ Home must score **6 or higher** or reach a 6 or higher with financed improvements

Fannie Mae's HomeStyle® Energy Mortgage Loan

- ✓ **Finance up to 15%** of “as completed” home value for energy improvements with purchase or refinance
- ✓ Requires Score or comparable report
- ✓ **\$500 incentive** to lender on each loan

State & Local Loan Financing Options may apply as well

- ✓ Check out www.dsireusa.org to see what might be available in your area

Mortgage Financing Integration

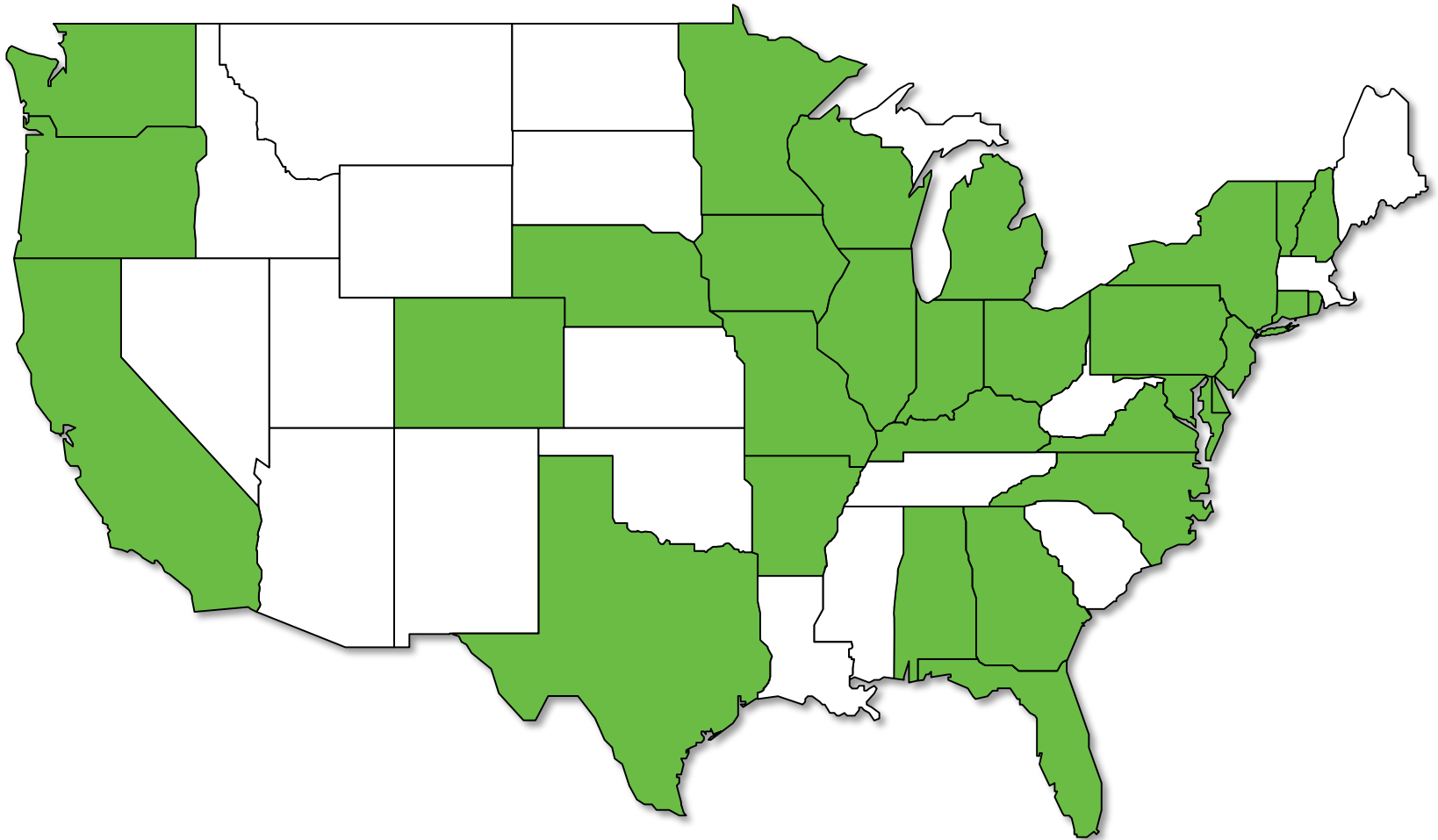
Fannie Mae and Freddie Mac undertaking analysis and pilots to support more systematic consideration of energy efficiency in loans (“Duty to Serve” regulation)

✓ Pilots planned for 2018-2020



How Can You Get A Home Energy Score?

Over 500 Assessors nationwide representing over 30 Partner organizations!



How Can You Get A Home Energy Score?

Northeast

Conservation Consultants, Inc.
Efficiency Vermont
Energize Connecticut
GDS Associates
New Jersey Natural Gas
PSEG Long Island

Rockies / West Coast

Build It Green
City of Portland, Oregon
Colorado Energy Office
Enhabit
Eugene Water & Electric Board
Oregon Department of Energy
Stopwaste

Mid-Atlantic

Allied Energy Efficiency Experts
Western North Carolina Green Building Council

Southeast

Alabama Department of Economic and Community
Affairs – Energy Division
Arkansas Economic Development Commission – Energy
Office
Southface Energy Institute

Midwest

Columbia Water & Light
Focus on Energy
Greater Cincinnati Energy Alliance
Green Home Institute
Solutions for Energy Efficient Logistics
Walker-Miller Energy Services

Nationwide

American Society of Home Inspector
Building Performance Institute
CLEAResult
Inspection Depot
International Association of Certified Home Inspectors

How Can You Get A Home Energy Score?

Visit www.homeenergyscore.gov/findanassessor to find a professional Home Energy Score Assessor near you!

Can't find one near you? See our Partner Map to find which Partners could onboard a new Home Energy Score Assessor in your area. Visit www.homeenergyscore.gov for more resources and information.

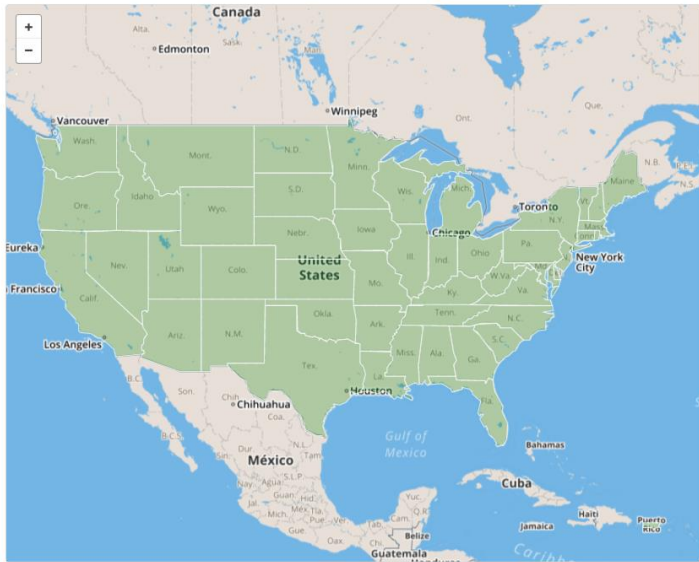
Get a Home Energy Score

Enter your location:

[Find an Assessor](#)

[Home Energy Score](#) [About](#) [Offer the Score](#) [Get a Score](#) [Leverage the Score](#) [News & Blog](#)

[Home](#) » [Get a Score](#) » Home Energy Score Partner Map



Home Energy Score Partner Information

District Of Columbia
4 partners found. Results listed in alphabetical order.

[American Society of Home Inspectors](#)
Markets Served: National
Get a Score: Through [ASHI's "Find an Inspector" page](#), click on "More Search Options" and select Home Energy Score Assessor from the "Specialty" menu.

[Building Performance Institute](#)
Markets Served: National
Get a Score: Contact an Assessor using BPI's [look-up tool](#).

[Inspection Depot](#)
Markets Served: National
Get a Score: Visit their [website](#).

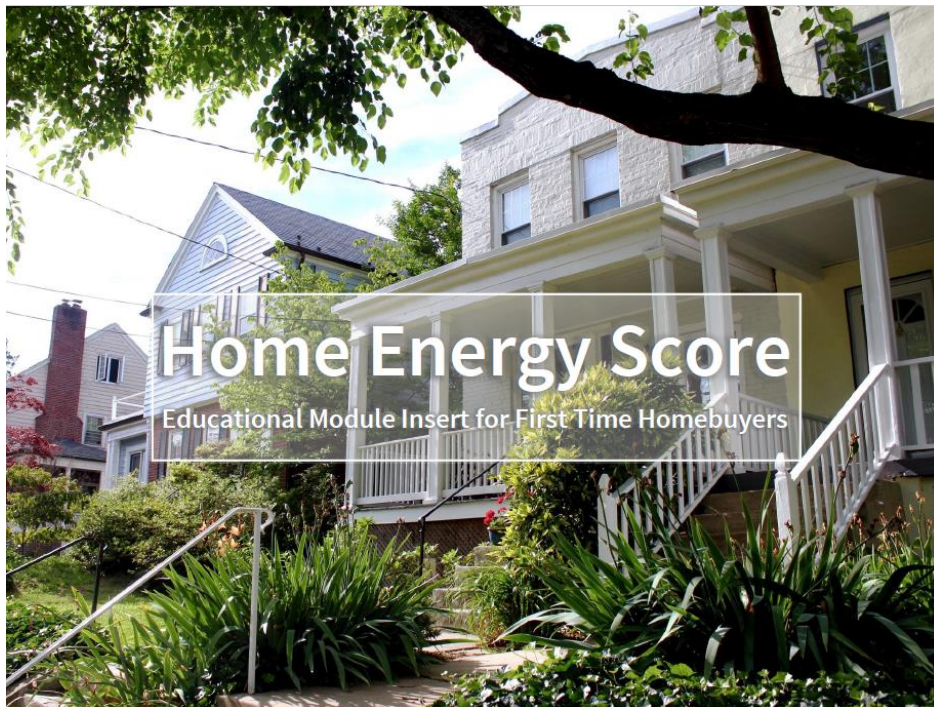
[International Association of Certified Home Inspectors \(InterNACHI\)](#)
Markets Served: National
Get a Score: Contact Ben Gromicko at ben@internachi.org or 303-502-6214 or visit InterNACHI's [website](#).

Resources and Next Steps



How You Can Help Homebuyers

Share your knowledge of Home Energy Score



Home Energy Score training for First-Time Homebuyers is available!

- ✓ Ten slides detailing Home Energy Score
- ✓ Can be included within any existing homebuyer workshops and classes
- ✓ Available from DOE for free

<https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/Home%20Energy%20Score%20First%20Time%20Homebuyer%20Education%20Module.pdf>

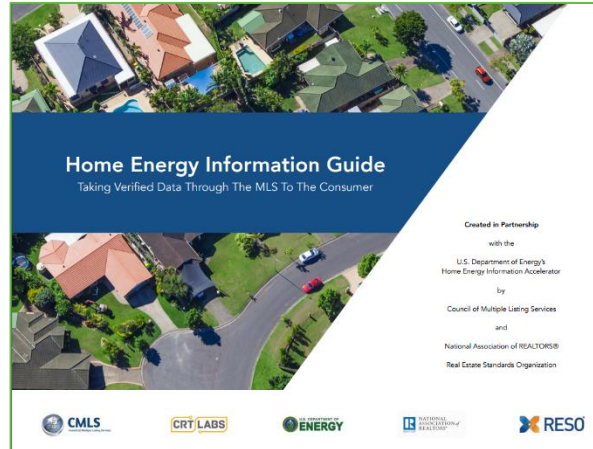
How You Can Help Homebuyers

Share resources with stakeholders in your community

For REALTOR® Associations:



For Real Estate & MLS Leaders:



For Home Appraisers:

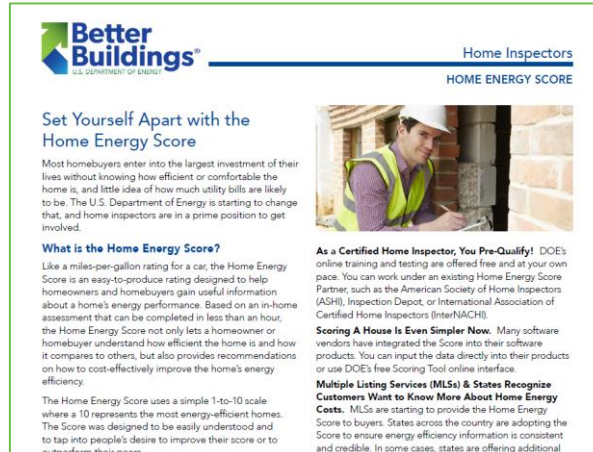
Client File #:		Appraisal File #:		
Residential Green and Energy Efficient Addendum				
Client:				
Subject Property:				
City:		State:	Zip:	
Additional resources to aid in the valuation of green properties and the completion of this form can be found at http://www.appraisers.org/education/energy_efficient_addendum.asp				
The appraiser hereby certifies that the information provided within this addendum:				
<ul style="list-style-type: none">has been considered in the appraiser's development of the appraisal of the subject property only for the client and intended user(s) identified in the appraisal report and only for the intended use stated in the report.is not provided by the appraiser for any other purpose and should not be relied upon by parties other than those identified by the appraiser as the client or intended user(s) in the report.is the result of the appraiser's routine inspection of and inquiries about the subject property's green and energy efficient features. Extraordinary assumptions: Data provided herein is assumed to be accurate and if found to be in error could alter the appraiser's opinion or conclusions.is not made as a representation or as a warranty as to the efficiency, quality, function, operability, reliability or cost savings of the reported items or of the subject property in general, and this addendum should not be relied upon for such assessments.				
Green Building: The practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's lifecycle from siting to design, construction, operation, maintenance, renovation, and deconstruction. This practice expands and complements the classic building design concerns of economy, utility, durability, and comfort (US EPA). High Performance building and green building are often used interchangeably.				
Six Elements of Green Building: A green building has attributes that fall into the six elements of green building known as (1) site, (2) water, (3) energy, (4) materials, (5) indoor environmental quality, and (6) maintenance and operation. The energy and water elements are the most measurable elements of green or high performance housing. Appraisers need savings amounts to develop an income approach to support energy efficient contributory value.				
THIRD-PARTY VERIFICATIONS (See types defined in glossary).				
The following verified items are considered within the appraisal analysis of the subject property:				
Green Certification	Environmental Protection Agency (EPA):	Indoor airPLUS	WaterSense	ENERGY STAR
Energy Department (DOE):	Zero Energy Ready Home (ZERH)			
Home Innovation Research Labs (HIRL) Green Home:	Bronze	Silver	Gold	Emerald
Living Building Challenge (LBC):	Living Building Certified			Petal Certification
Passive House Standard:	PH Zero Energy	EnergyStar	Passive House	
Passive House Institute US:	PH100	PH100	PH100	
USGBC LEED:	Certified	Silver	Gold	Platinum
Other:	Green Certification Version:			
Date Verified:	Organization URL:			ABOVE VALID ONLY IF CHECKED:
				Verification reviewed on site
				Verification attached to this report
Energy Label	RESNET's HERS	Estimated energy savings for this home: \$_____ /year	CHW rate dated: _____	
Labels disclose the state of the home's energy assets.	Rating (10 to 150):	Energy Savings includes electricity, heating & Cooling.		
<input type="checkbox"/> Sampling Rating	<input type="checkbox"/> Projected Rating	Score below 100 indicates energy costs are expected to be lower than average code-built home. HERS Index Report occupancy estimates energy cost based on number of bedrooms plus one. Only a "confirmed rating" is diagnostically tested.		
DOE's Home Energy Score	Score (1 to 10):	Estimated energy savings for this home: \$_____ /year	CHW rate dated: _____	
<input type="checkbox"/> Official Score	<input type="checkbox"/> Unofficial Score	Energy Savings includes electricity, heating & Cooling.		
Other Energy Score:	Range (1 to 10):	Score above five indicates energy costs are expected to be lower than average local home. Home Energy Score estimates energy cost based on state average energy rates and the home's energy features.		
Date Verified:	Organization URL:	Estimated energy savings: \$_____ /year	CHW rate dated: _____	
		Describe energy label system:		
		Score on Rating Version:		
		Organization URL: www.resnet.org		
		www.homeenergyscore.gov		
		Other:		
Verified Energy Improvements	Explain energy-related improvements:	Cost of improvements: \$_____		
Only include improvements with verified documentation.	Date Verified:	Certificate of Efficiency Improvements Version:		
		Organization URL: www.energystar.gov/homeperformance		
		Other:		
		ABOVE VALID ONLY IF CHECKED:		
		Verification reviewed on site		
		Verification attached to this report		
Completed by:	Title:	Date:		

*NOTES: The Appraisal Institute publishes this form for use by appraisers where the appraiser deems use of the form appropriate. Depending on the assignment, the appraiser may need to provide additional data, analysis and work product not called for in this form. The Appraisal Institute makes no representations, warranties or guarantees as to, and assumes no responsibility for, the data, analysis or work product, or third party certifications, verifications, data specifications, scores, ratings, or valuation tools, used or provided by the individual appraiser(s) or others in the specific contents of the Appraisal. Appraisal Institute Form 605-RESidential Green and Energy Efficient Addendum Appraisal Institute 2013, All Rights Reserved May 2017

For Green Designation Trainers:



For Home Inspectors:



How You Can Help Homebuyers

Share other resources from the Department of Energy

Office / Program	URL
Asset Score	energy.gov/eere/buildings/building-energy-asset-score
Energy Saver Guide	energy.gov/energysaver
Home Energy Score	homeenergyscore.gov
Home Performance with ENERGY STAR	energystar.gov/homeperformance
Zero Energy Ready Homes	energy.gov/eere/buildings/zero-energy-ready-home
Energy Rebates & Incentives	dsireusa.org
Weatherization Assistance Program	energy.gov/eere/wipo/weatherization-assistance-program

Tips from DOE's Energy Saver Guide



Where to Air Seal in a Home



- 1 Plumbing and utility access
- 2 All ducts
- 3 Sill plates
- 4 Outlets and switches
- 5 Water and furnace flues
- 6 Recessed lights
- 7 Attic entrance
- 8 Chimney flashing
- 9 Dropped ceilings
- 10 Door frames
- 11 Window frames



Visit [EnergySaver.gov](https://energy.saver.gov) to download this guide as a PDF or ebook and to order limited numbers of hardcopies. Bulk quantities are also available for purchase.

Zone	Add Insulation to Attic		Floor
	Uninsulated Attic	Existing 3-4 Inches of Insulation	
1	R30 to R49	R25 to R30	R13
2	R30 to R60	R25 to R38	R13 to R19
3	R30 to R60	R25 to R38	R19 to R25
4	R38 to R60	R38	R25 to R30
5 to 8	R49 to R60	R38 to R49	R25 to R30

https://energy.gov/sites/prod/files/2017/10/f37/Energy_Saver_Guide-2017-en.pdf

Tips from DOE's Energy Saver Guide

Energy fixes almost any home* can implement

1. Put air sealant in cracks and gaps in building envelope where you feel drafts
2. Clean and replace HVAC equipment air filters regularly
3. Caulk and insulate air ducts
4. Replace old lightbulbs with LEDs
5. Replace old appliances and electronics with new ones with ENERGY STAR label
6. Weatherize your home with window coverings and thermal blinds
7. Program your thermostat to lower power settings, especially when you are away from home

*but get an energy assessment to be sure!

Next Steps

What can you do?

- Offer the training
- Connect with Home Energy Score Partners
- Spread the word about Home Energy Score to your stakeholders
- Tell us what you need to spread the word



Thank You!



HomeEnergyScore@ee.doe.gov
www.HomeEnergyScore.gov