



Home Energy Score

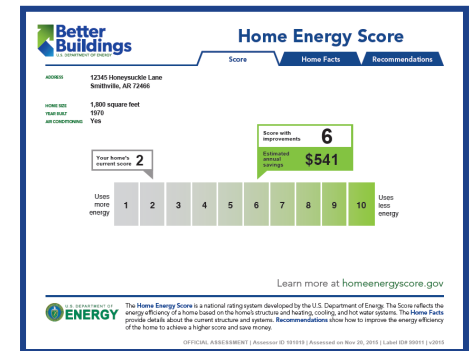
August 2016

Home Energy Score – An “MPG” for Homes

U.S. Department of Energy created **nationally standardized** “miles-per-gallon” home score

What’s the Value?

- ✓ Offers homeowners **affordable, reliable, easy** way to understand homes’ energy performance
- ✓ Available at **no-cost to program providers**
- ✓ Intended to **motivate homeowners** to invest in residential energy efficiency
 - Simple and action-oriented
 - Ability to document investment in energy efficiency using the post-improvement score
 - Exposes “**hidden**” value (e.g. insulation)



Part 1: The Score



Home Energy Score

Score

Home Facts

Recommendations

ADDRESS 12345 Honeysuckle Lane
Smithville, AR 72466

HOME SIZE 1,800 square feet
YEAR BUILT 1970
AIR CONDITIONING Yes

Your home's
current score **2**

Score with
improvements

6

Estimated
annual
savings

\$541

Uses
more
energy

1

2

3

4

5

6

7

8

9

10

Uses
less
energy

Learn more at homeenergyscore.gov



The **Home Energy Score** is a national rating system developed by the U.S. Department of Energy. The Score reflects the energy efficiency of a home based on the home's structure and heating, cooling, and hot water systems. The **Home Facts** provide details about the current structure and systems. **Recommendations** show how to improve the energy efficiency of the home to achieve a higher score and save money.

OFFICIAL ASSESSMENT | Assessor ID 101019 | Assessed on Nov 20, 2015 | Label ID# 99011 | v2015

- Takes an hour or less to complete
- Can be generated by utilities, contractors, home inspectors, others
- On-line tool can be used directly or linked to other software tools
- No reporting requirements, all automated
- Free to user

Part 2: Home Facts

“Home Facts” provides the inputs the assessor used and the Home Energy Scoring Tool’s estimated energy use for the home, given standard conditions.

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U.S. DEPARTMENT OF ENERGY

Home Energy Score

Score Home Facts Recommendations

About this home

Assessment date
Address
City, state, zip
Year built
Number of bedrooms
Stories above ground level
Interior floor-to-ceiling height (feet)
Conditioned floor area (all stories combined, square feet)
Direction faced by front of house
Has the house been air sealed?
Air leakage rate

Estimated energy use per year

Total (MBTUs)
Score basis (MBTUs)
Electricity (kWh)
Natural gas (therms)

Comments

For more information on calculation methods, technical terms and units of please visit the Home Energy Score web site.

OFFICIAL ASSE

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Home Energy Score

Score Home Facts Recommendations

Roof, attic & foundation

Roof / Attic 1
Attic floor area (square feet)
Roof construction
Roof color
Attic or ceiling type
Attic floor insulation

Foundation / Floor 1
Floor area (square feet)
Foundation type
Floor insulation above basement or
Foundation walls insulation level

For more information on calculation methods, please visit the Home Energy Score web site.

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Home Energy Score

Score Home Facts Recommendations

Walls
All sides

Windows & skylights

Skylights
Does the house have skylights?

Windows
Window area front
Window area back
Window area right
Window area left

Window Construction
All sides

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Home Energy Score

Score Home Facts Recommendations

Systems

HVAC System 1
Percent of conditioned floor area served by system 100

Heating		Cooling	
Type	Central gas furnace	Type	Central air con
Efficiency value	80% AFUE	Efficiency value	12 SEER
Duct location	Unconditioned attic	Are the ducts sealed?	Percent in th
Unconditioned attic	No	No	75%
Conditioned space	No	No	25%

Hot water

Type	Natural gas storage
Efficiency value	0.55 EF

Part 3: Recommendations



Home Energy Score

Score

Home Facts

Recommendations

Address: 12345 Honeysuckle Lane
Smithville, AR 72466



Repair now: These improvements will save you money, conserve energy, and improve your comfort now

Estimated utility bill savings (\$/year)

Attic 1 / Increase attic floor insulation to at least R-49

187

Ducts 1 / Add insulation around ducts in unconditioned spaces to at least R-8

71

Ducts 1 / Have your ducts professionally sealed to reduce leakage

171



Replace later: These improvements will help you save energy when it's time to replace or upgrade

Estimated utility bill savings (\$/year)

Furnace 1 / Pick one with an ENERGY STAR label

108

Central Air 1 / Pick one with an ENERGY STAR label

80

Water heater / Pick one with an ENERGY STAR label

34



With these Improvements
reduce your home's carbon
footprint by: **27%**



The Home Energy Score recommendations for efficiency improvements are based on selected data from the home's assets, not information from a complete energy audit. When making energy related upgrades, homeowners should consult with a certified energy professional or other technically qualified contractor to ensure proper sizing, installation, safety, and adherence to code.

homeenergyscore.gov

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- Recommendations categorized as “Repair now” and “Replace later”
- Some Partners and Assessors provide their own recommendations
- Tool can generate “Upgrade Score” based on custom recommendations

Semi-Customizable Label



Implementation Options

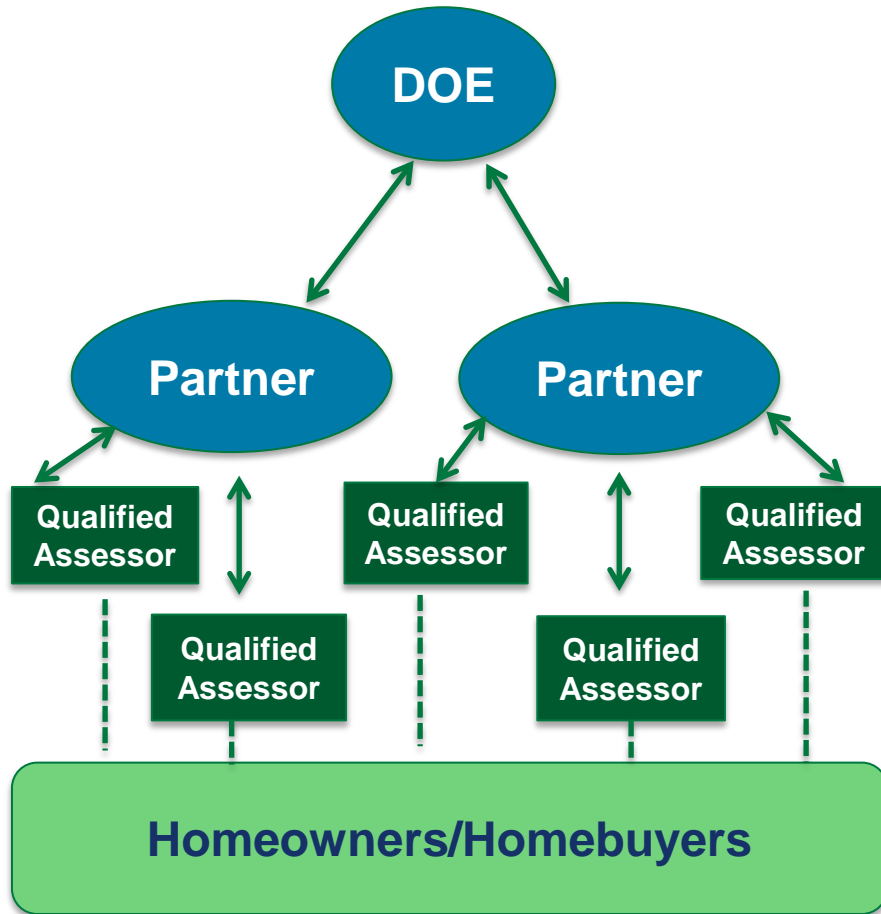
✓ Home Energy Score is a flexible offering that can be integrated into a variety of different programs and efforts.

✓ Some examples in use:

- Home Performance with ENERGY STAR
- Direct Install programs
- Utility rebate programs
- Real estate transactions
- And more.....



Implementation Method



- Partners (states, utilities, large volume contractors, associations) determine how Score will be offered
- Assessors working under the Partners provide the Score to homeowners and homebuyers
- Score can be provided through many avenues
 - ✓ Utilities (e.g., Home Performance with ENERGY STAR, direct install, rebate programs)
 - ✓ Home inspectors/point of sale
 - ✓ Weatherization agencies
 - ✓ Home repair/contractors
 - ✓ Solar companies
 - ✓ And more...

Implementation Highlights

- ✓ 45,000+ homes scored since 2012
- ✓ 370 Active Assessors
- ✓ Score easily integrated into other services
 - Simple data collection mechanism
 - API eliminates need for double entry
- ✓ Homeowners understand the simple 1-10 scale
- ✓ Statewide adoption
 - AL, AR, CO, CT, MO, NH, OR, VT with others exploring adoption (e.g. MA, NY, RI)
- ✓ Local governments using the Score in disclosure policies (City of Berkeley)
- ✓ Score featured on a growing number of multiple listing services
 - Linking realtors & home inspectors & efficiency programs through DOE's Home Energy Information Accelerator



Partner Highlights

- ✓ **Colorado Energy Office** – statewide program focused on real estate integration. Homes scored through home inspectors and utilities. Realtor outreach/education. Mortgage incentive (up to \$3,000) for improving Score
- ✓ **Missouri Statewide Home Energy Certificate** – Gold certificate for Score of 8 or higher. Silver certificate for homes that make majority of recommended improvements
- ✓ **New Jersey Natural Gas** – homes scored after install of high-efficiency furnace/boiler/water heater to drive additional EE measures ~14,500 Scores
- ✓ **United Illuminating and Eversource (CT)** – integrated into statewide HPwES program ~13,000 Scores
- ✓ **Columbia Water & Light (MO)** – integrated into HPwES program, homes scored before & after improvements ~6,700 Scores
- ✓ **Focus on Energy (WI)** – initially planned with a direct install program and now plans to integrate into HPwES ~900 Scores
- ✓ **CLEAResult (MI)** – capitalizing on the Score's user-friendly report ~800 Scores

New FHA Policy Incentivizes Use of the Score

Tying the Score to Financing

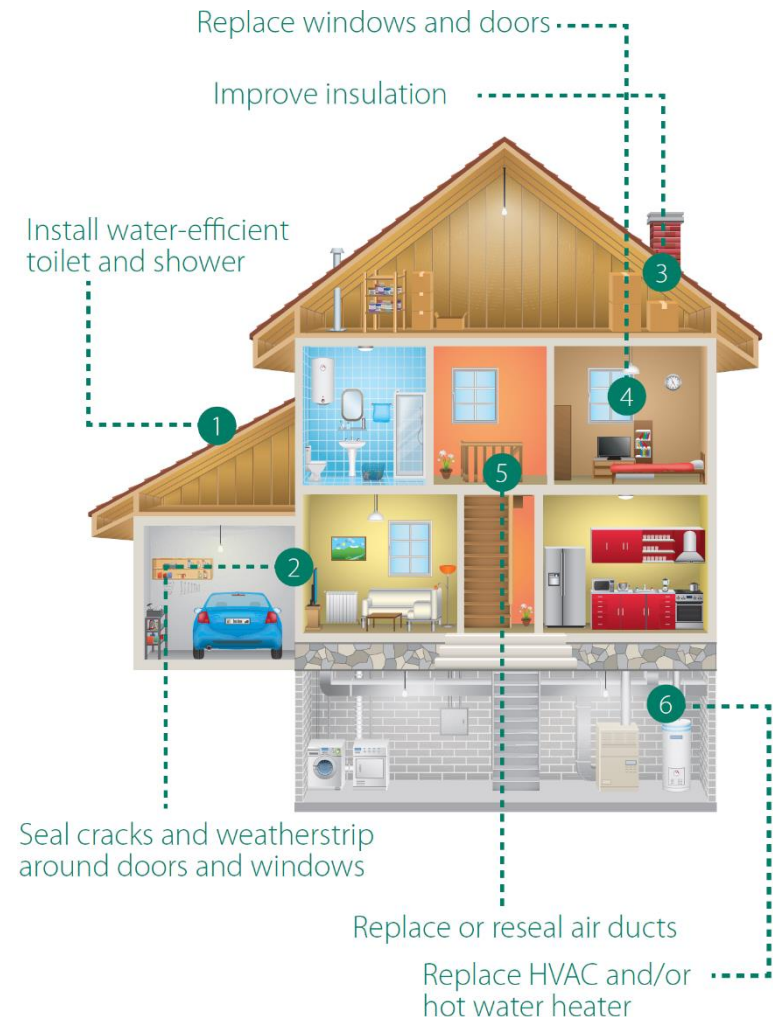
- ✓ New FHA Mortgagee Letter (September 2015) allows lenders to provide a 2% stretch on debt-to-income ratios for borrowers purchasing or refinancing a home
 - ✓ Home must score 6 or higher
- OR
- ✓ Borrower must demonstrate that they are taking action to improve home's score to 6 or higher

2%



Fannie Mae's HomeStyle® Energy Mortgage Loan – Announced March 29, 2016

- ✓ Finance up to 15% of “as completed” home value for energy improvements
- ✓ \$500 incentive to lender on each loan
- ✓ Pay off existing energy improvement debt (including PACE)
- ✓ Requires a Home Energy Score, HERS report, or comparable locally supported report
- ✓ With home purchase or refinance
- ✓ With insulation upgrades recommended 50% of the time, the Score presents a great opportunity for insulation manufacturers and contractors.



Application Programming Interface (API)

- ✓ Third-party software companies can license the Home Energy Score API to build applications that exchange data with the tool
 - Use API and avoid double data entry
- ✓ Software companies/organizations that completed API integration:
 - Cake Systems, EnergySavvy, EnergySoft, Home Inspector Pro, Optimizer, PSD/TREAT, United Illuminating, Spirit, Snugg Pro
- ✓ Others evaluating or about to complete API integration
 - CLEAResult



Images courtesy Richard Szydlowski, Minnesota Center for Energy and Environment

2015 Training and Testing Opened the Market to More Assessors (e.g. Home Inspectors)

- ✓ This 3-D Tool developed with significant input from outside experts & practitioners.
 - Uses computer-based simulations to recreate a range of job-site scenarios.
- ✓ DOE conducted in-classroom/in-the-field validation study
 - Confirmed effectiveness of simulation tool in determining a candidate's competency to deliver the Home Energy Score.
- ✓ DOE now recognizes certifications from many different building-related organizations.
- ✓ As a result...Many more building professionals are now be able to offer the Score.



Assessor Requirements

	Qualification Requirements
Credentialing Pre-Requisites	Current credentials recognized by leading building-related industry organizations (e.g., ASHI, BPI, InterNACHI, RESNET)
Practical Test	Candidate uses the Home Energy Score 3D Simulation Tool to retrieve home characteristic data and to score <ul style="list-style-type: none">– Three “Practice/Challenge” Homes (80 or better)– Two Test Homes (90 or better)
Written Exam	Score of 80 or better on multiple choice test comprised of 20 questions covering the Home Energy Score program only
Quality Assurance	5% of homes must be rescored under a DOE approved quality assurance plan
Mentoring	First home scored with a mentor; counts toward quality assurance requirement. (Mentoring can be performed by either a QA appointee OR another Assessor with experience generating Home Energy Scores for at least 25 homes.)

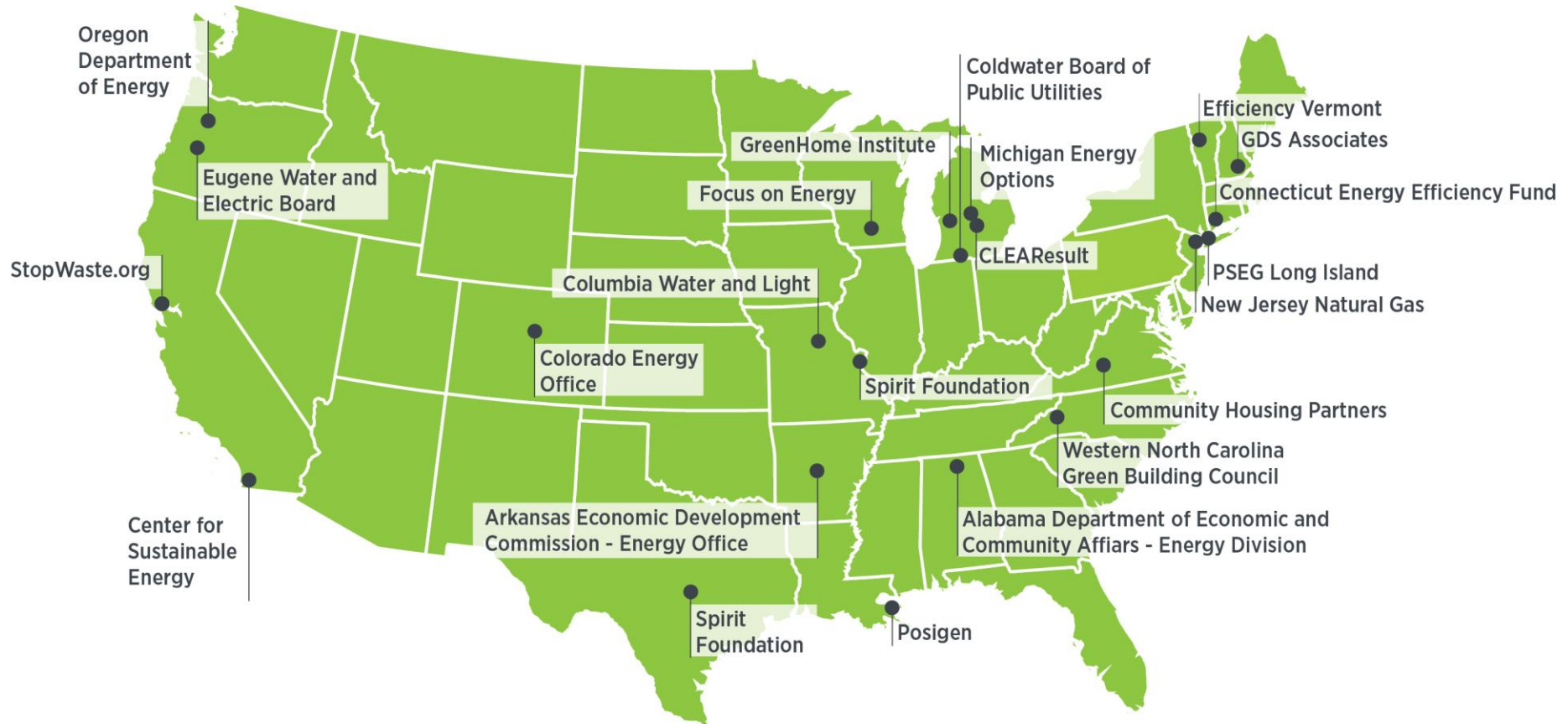
Minimum Accepted Credentials

Organization	Minimum Accepted Credential
American Society of Home Inspectors (ASHI)	AHSI Inspector or Certified Inspector
Building Performance Institute (BPI)	Building Science Principles Certificate
Build It Green	Certified Green Building Professional (CGBP); Green Point Rater
CALCerts	HERS Rater
Build It Green	Certified Green Building Professional or Green Point Rater
California Real Estate Inspection Association (CREIA)	Certified Home Inspector
International Association of Certified Home Inspectors (InterNACHI)	Home Energy Inspector
National Association of Home Inspectors (NAHI)	Certified Real Estate Inspector
National Association of the Remodeling Industry (NARI)	Green Certified Professional, Certified Remodeler, or Master Certified Remodeler
North American Technician Excellence (NATE)	Air Conditioning/Heat Pumps, Gas/Oil Heating, or Gas/Oil Hydronics

Evaluation Studies Underway

- ✓ DOE working with behavioral science experts from Yale, Harvard and evaluation experts from GSA
- ✓ Working with Home Energy Score Partners to assess impact of the Score on homeowner action
 - Controlled studies: half homeowners receive Home Energy Score, half standard audit report
 - Conversion rates, depth of retrofits, time to retrofit
 - Studies with Colorado Energy Office, Focus on Energy (WI), New Jersey Natural Gas, others pending
- ✓ Using observability/recognition to drive EE investments through “peer pressure”
 - Making homeowners’ actions “observable” can encourage “good” behavior

Join the Partner Network!



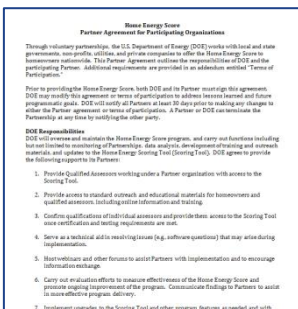
National Coverage Partners: ASHI, BPI, InterNACHI

Partner Requirements

Partners oversee Assessors to implement Home Energy Score

Upon Joining

- ✓ Sign a partnership agreement
- ✓ Develop an implementation plan



Annual Commitment

- ✓ Complete 500+ Scores per year
- ✓ Rescore 5% of homes (Quality Assurance)



On-going

- ✓ Participate in Partner webinars
- ✓ Receive data for all homes scored in your area



Home Energy Score

Motivate Homeowners

Data Collection Mechanism

Transparent
Calculation
Methodology

Integration with existing programs

Free

Easy and quick



HomeEnergyScore@ee.doe.gov

www.HomeEnergyScore.gov