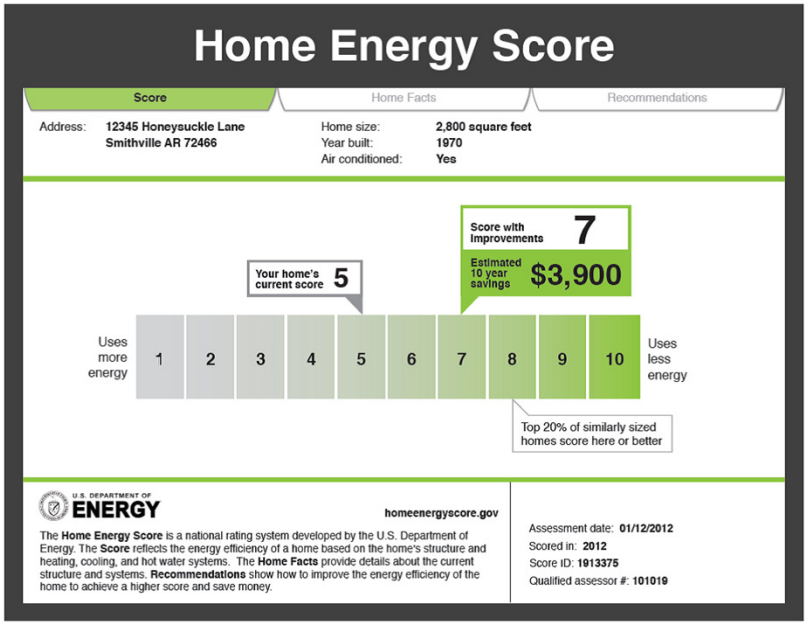
Home Energy Score

Getting Started Packet:

Important information for Partners and interested Assessor Candidates

Version: September 12, 2012



Getting Started

This presentation will review the following items:

- Overview for Partners and Assessor Candidates
- Details for interested Assessor Candidates
- Information on the Home Energy Score

Overview for Partners and Assessor Candidates

Getting Started Packet: Overview

The Getting Started Packet for Partners and interested Assessor Candidates contains:

- 1.0 - Getting Started: Important information for Partners and interested Assessor Candidates *(For Partners and Candidates)*
- 1.1 - Collecting Candidate Info and Scheduling Tests *(For Partners)*
- 1.2 - Assessor Info Template *(For Partners)*
- Assessor Candidate Folder: *(For Partners and Candidates)*
  - A1 – Accessing the Training Portal
  - A2 – Creating an OpenID
  - A3 – Providing Info to your Partner
  - A4 – Test Procedures
  - A5 – Home Energy Score Data Collection Form

Home Energy Score: The Basics

- What is the Home Energy Score?
  - A tool that provides a standardized method for quickly assessing a home's envelope and major energy systems
  - Allows comparison between homes regardless of location in the U.S.
- Who provides it?
  - Home Energy Score Partners: Local and state governments, utilities, non-profits, and other home performance industry organizations
    - Qualified Assessors working under Partners conduct home assessments and produce the Home Energy Score
- What does a homeowner get?
  - Asset Score
  - Home Facts: List of data collected and energy use calculations
  - Improvement Recommendations
- What is the cost associated with providing or getting a score?
  - The Assessor or Partner determines the price for providing the score
    - There is no set fee for providing a Score
  - There is no cost associated with using the Scoring Tool

Home Energy Score Partners

- The Home Energy Score Program is administered by a local or national Partner: local and state governments, utilities, non-profits, and other home performance industry organizations

- Partners will:
  - Incorporate Home Energy Score into the local program or offerings
    - Partner describes how the Score will be integrated into other efforts in their Implementation Plan submitted to DOE for review
  - Provide on-site quality assurance
    - Re-score five percent of homes
  - Provide oversight and support to Qualified Assessors
    - Proctored Assessor testing site, create marketing materials, etc.

Home Energy Score Assessors

Qualified Assessors must be certified by --

- Building Performance Institute (BPI) as a Building Analyst; OR
- Residential Energy Services Network (RESNET) Provider as a Rater; OR
- another entity pre-approved by DOE for inclusion by specific Partners.

Note: If you do not hold one of the 2 standard certifications (BPI or RESNET), check with your Partner organization to see if DOE has pre-approved other designations for use by your Partner.

Individual Assessors are currently not eligible for Partnership with Home Energy Score. To participate, individual Assessors must work thru Partner organizations.

Training and Testing Flowchart: Partner Steps

Partners need to complete a few key steps in the training/testing process:

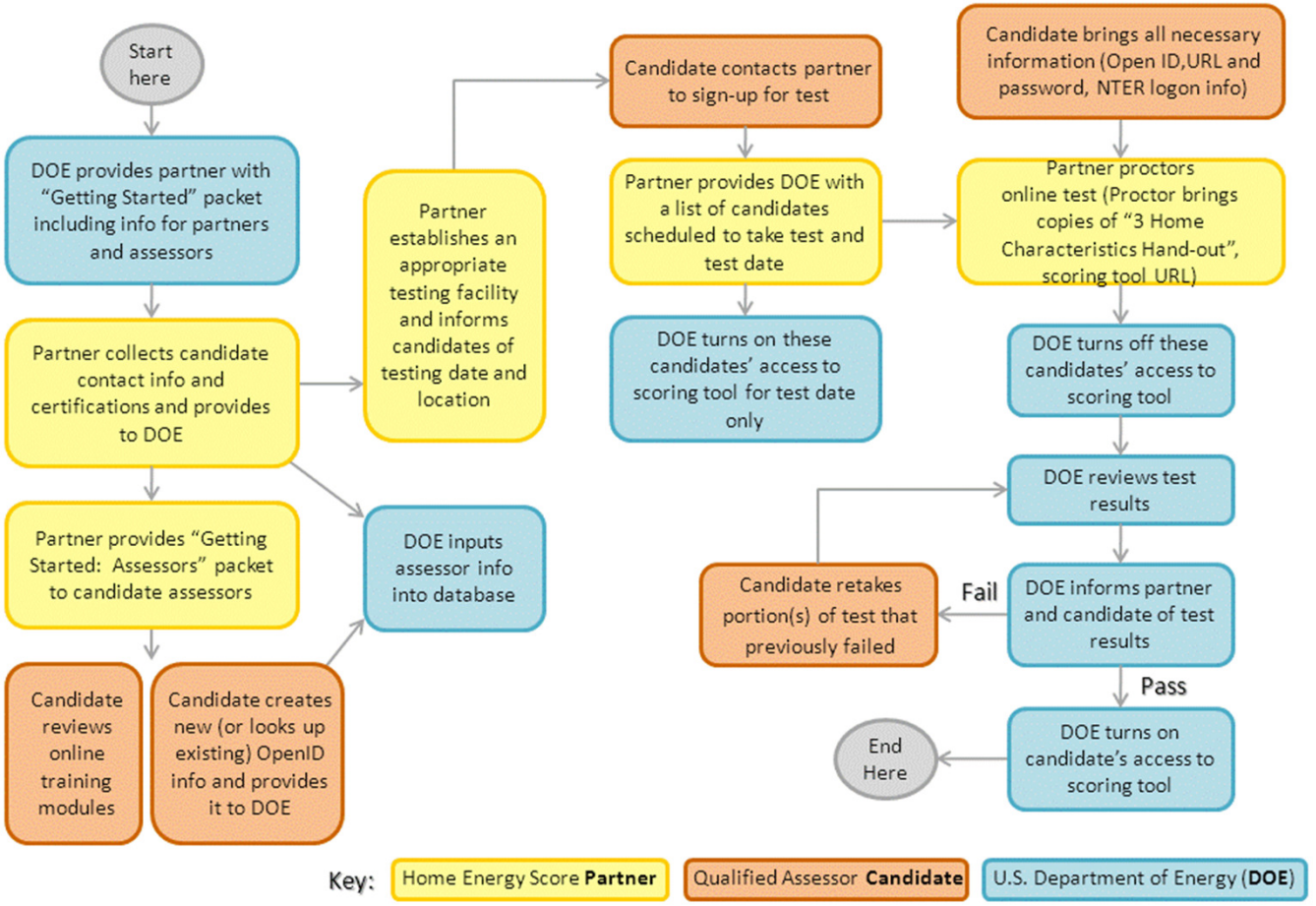
(1) Collect certification information from Assessors and provide to DOE

(2) Provide info packet on training and testing to Assessors

(3) Notify DOE of test dates and provide lists of candidates scheduled to take the test

(4) Establish a location for tests with computers and internet access

(5) Proctor the exam



Training/Testing Flowchart: Assessor Candidate Steps

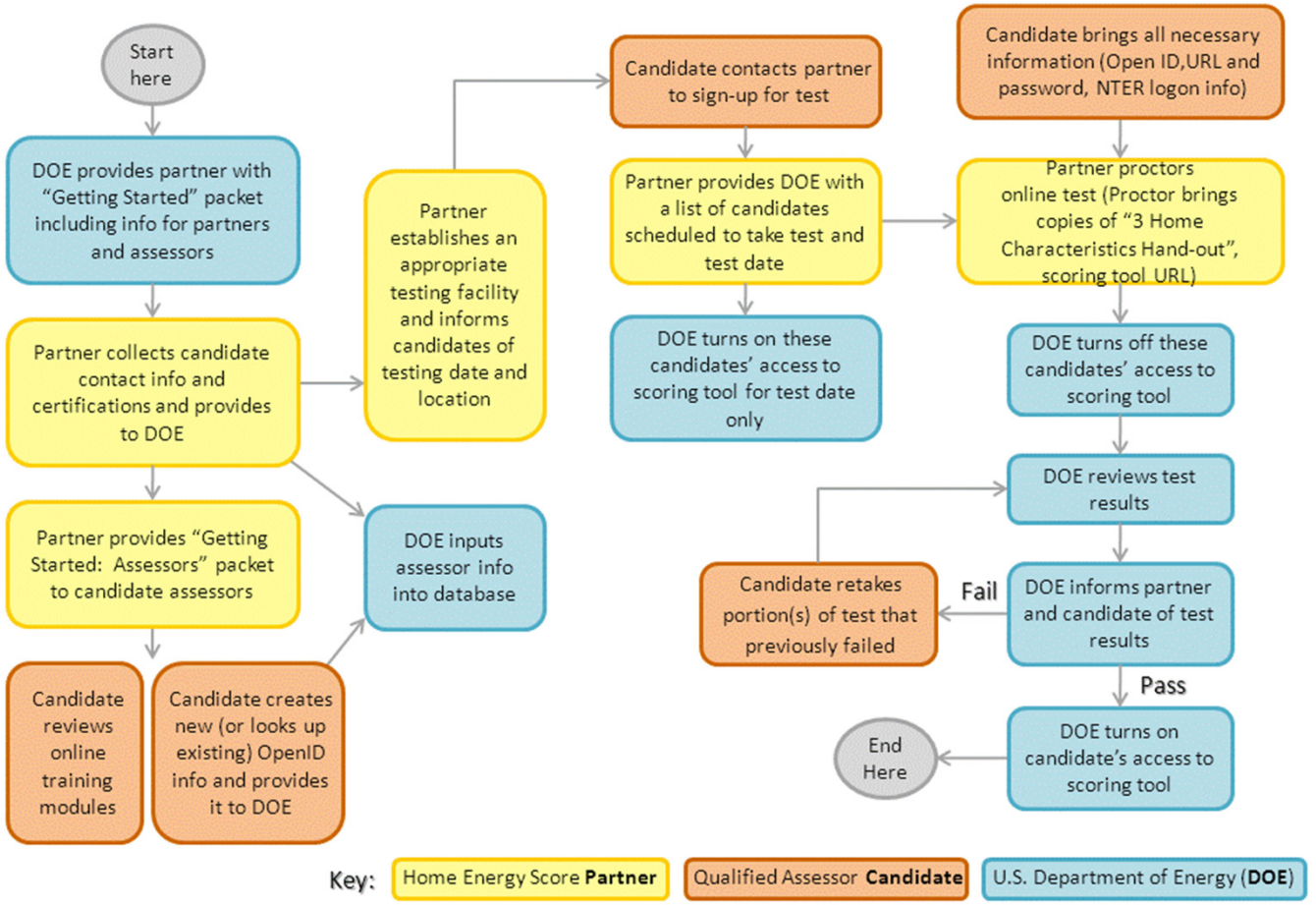
Interested assessors need to complete a few key steps in the training/testing process:

(1) Provide personal information, proof of certification, and OpenID to the Partner organization

(2) Study training materials

(3) Arrange with their Partner to take the exam

(4) Pass the two-part exam – no more than three attempts are allowed on each part



Support for Partners and Qualified Assessors

- DOE will support the local Partners and qualified Assessors through:
  - Technical support
  - Online training and testing
  - Data review
  - Website support
  - Supporting materials
  - Ongoing maintenance of the Home Energy Scoring Tool
  - Periodic webinars, conference calls, and other methods for interactive discussion among Partners and/or qualified Assessors

Details for Assessor Candidates

To become a Qualified Assessor…

1) **Provide your contact info, proof of BPI Building Analyst or RESNET Rater certification, and OpenID URL** to your Home Energy Score Partner
   - Your Partner organization will provide you with instructions on how to create an OpenID

2) **Complete the online training**
   - All candidates are strongly encouraged to study all five Home Energy Score modules on the National Training and Education (NTER) Training Portal: https://trainingportal.ee.doe.gov/nwtp/

3) **Pass the two-part Assessor Exam** by passing the multiple choice test (Part I) and the practical test (Part II). Candidates are allowed no more than three attempts at each test.

Individual Assessors are currently not eligible for Partnership with Home Energy Score. To participate, individual Assessors must work thru Partner organizations.

Take Advantage of Free Online Training

- There are five online training modules available on the NTER Training Portal for those interested in becoming Qualified Assessors and participating in the Home Energy Score program.
  - The first three modules, "Energy Movement", "Calculating Envelope Heat Transfer" and "House as a System," provide important information on basic building science.
  - The fourth module, "Home Energy Score – Understanding the Tool and the Score," provides an overview of the Home Energy Score Program and Scoring Tool.
  - The fifth module, "Home Energy Score - Data Entry Video," is a video demonstration of how to use the scoring tool, including tips for interpreting data fields.

Assessor candidates are strongly encouraged to complete all five training modules.

Testing Information

- Your Partner organization will provide a test site, testing date(s) and a Proctor to oversee the exam.
  - Work with your Partner organization to determine which test session fits your schedule.

- Bring your Training Portal username and password and your OpenID information with you to the exam.
  - You will need the same training account login information you created to access the Training Portal.
  - You will need your OpenID URL and password to access the second portion of the test.

Two-Part Online Exam

1) Part I: The Training Portal Test (multiple choice)
   - 50 questions concerning building science and Home Energy Score program protocols
   - To log-in to the portal you will use the same training account username and password you created to review the training material
   - The proctor will provide you with a password to access the actual test

2) Part II: Home Energy Scoring Test (practical)
   - You will be given temporary access to the scoring tool
     - The proctor will provide you with the web address for the scoring tool
     - In order to access the tool you will need to use your OpenID URL and OpenID password.
   - You will be required to enter data on three fictitious sample houses which will be provided by the proctor at the time of the exam
     - You will need to do some calculations in order to convert the information provided into the data required by the Scoring Tool.
     - You are **STRONGLY** encouraged to watch the data entry video module on the NTER Training Portal. This video will allow you to see all of the fields required by the Scoring Tool prior to the test.

Passing the Tests

1) Part I:
   - You will have 90 minutes to complete this test
   - This test will be graded electronically and you will receive your score upon completion of the exam.
   - Passing grade: 80%
2) Part II:
   - You will have 2 hours to complete this test
   - The results of this test will be manually reviewed by the Home Energy Score Technical team.
   - You must come within 10% or one score point (whichever is smaller) of the correct energy use calculation
   - You and your Partner organization will be informed of the results by email within a week of your test results.

The candidate must pass both tests in order to become a Qualified Assessor. Each candidate is allowed three attempts per test. Any candidate that is unable to pass either test after three attempts will no longer be eligible to become a Qualified Assessor.

Information on the Home Energy Score

Home Energy Score Report

The Home Energy Scoring Tool produces three separate documents:

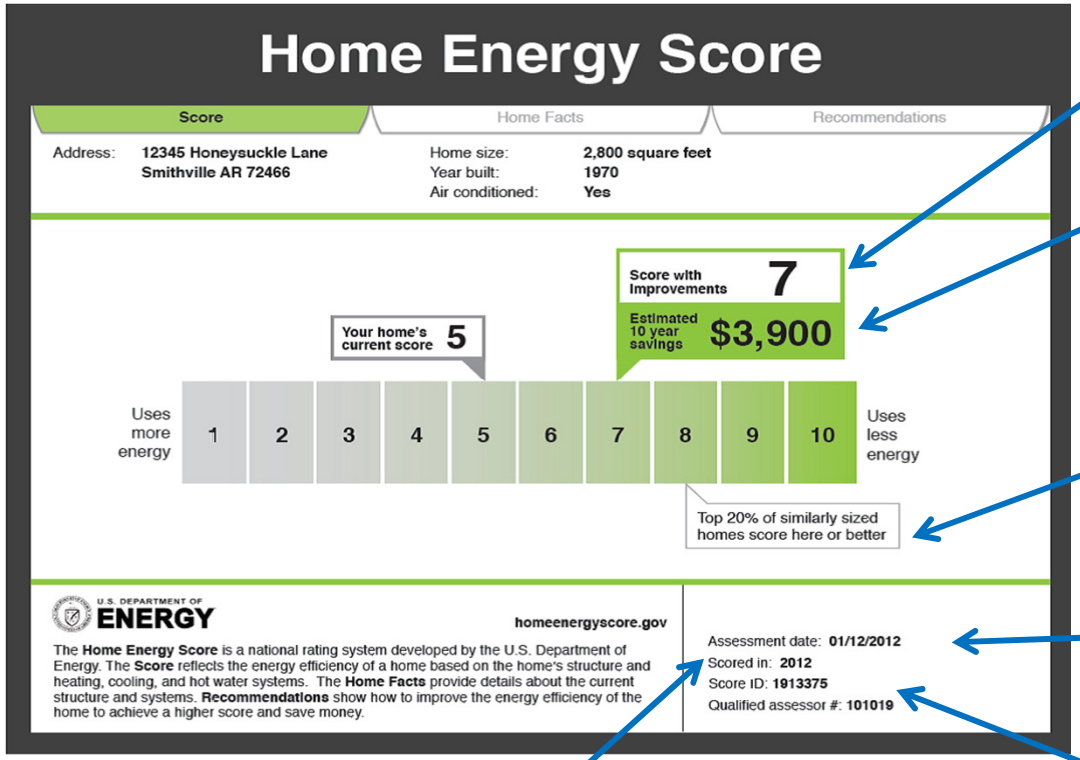
(1) Score – the numerical score for the house on a scale of 1 to 10

(2) Home Facts – the data entry values entered by the Assessor

(3) Recommendations – customized recommendations based on the data entry for the house

These documents are listed as tabs at the top of each page of the comprehensive Home Energy Score report.

Document #1: The Score



The Score with Improvements assumes all recommendations will be implemented

The 10 year savings estimate reflects the gross savings associated with the improvements (i.e., a reduction in utility bills)

The Top 20% indicator allows the homeowner to see how the top energy-performing large or small homes in their area score.

"Assessment date" is the date that the in home assessment was performed.

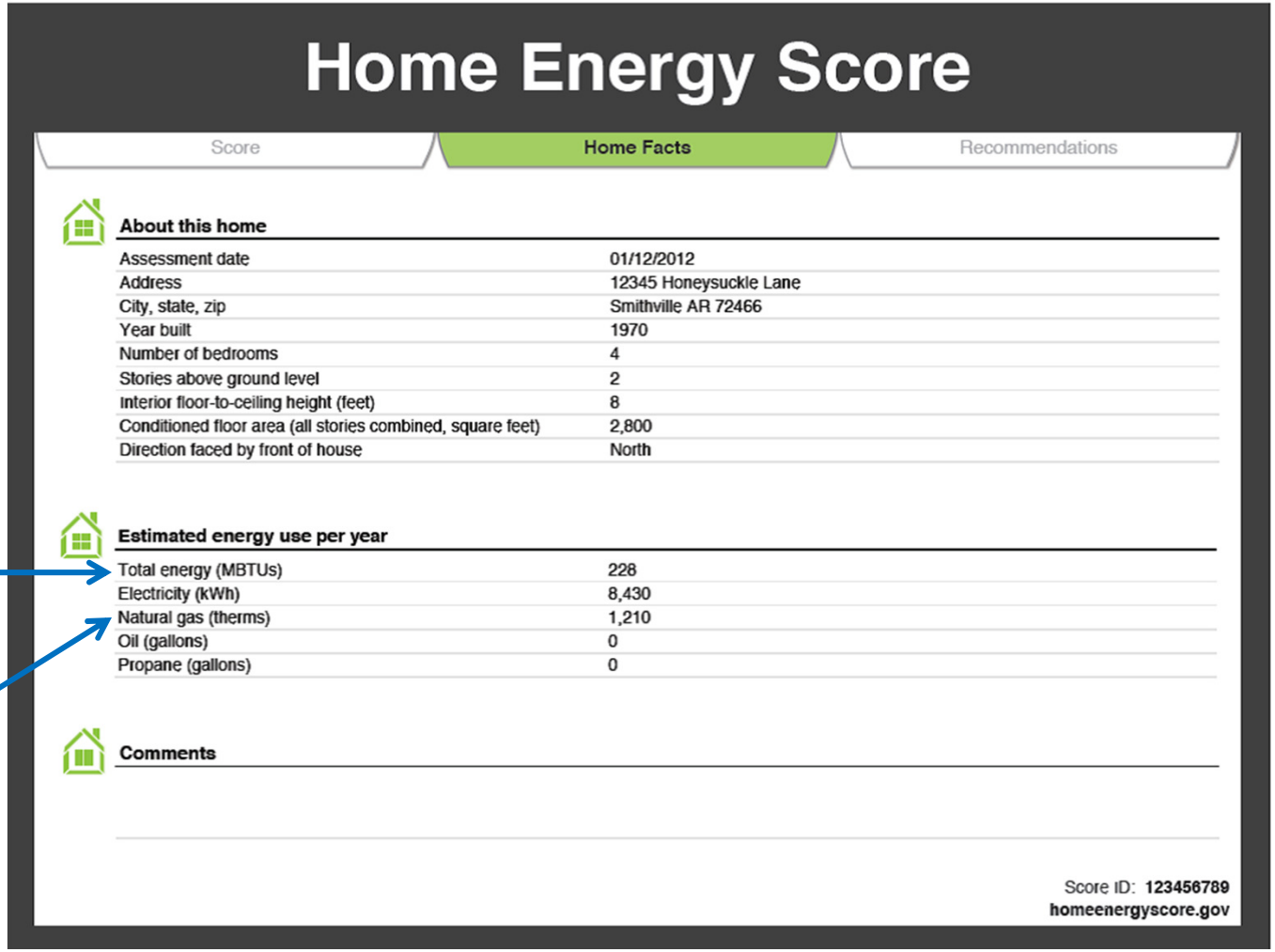
"Score ID" is the number assigned to this particular Score of this particular home.

"Scored in" reflects the year in which the home was actually scored by the scoring tool. This feature allows the homeowner to get an updated version of their score each year based on the most recent version of the scoring tool.

Document #2: Home Facts (page 1 of 3)

"Total energy" is the amount of source energy that the home is expected to use over the course of one year, given certain standard operating conditions. This number is provided in terms of million BTUs (MBTUs).

The total energy use number is also broken out into energy estimates for specific fuels used in the home.



Home Energy Score

Score | Home Facts | Recommendations

About this home

Assessment date	01/12/2012
Address	12345 Honeysuckle Lane
City, state, zip	Smithville AR 72466
Year built	1970
Number of bedrooms	4
Stories above ground level	2
Interior floor-to-ceiling height (feet)	8
Conditioned floor area (all stories combined, square feet)	2,800
Direction faced by front of house	North

Estimated energy use per year

Total energy (MBTUs)	228
Electricity (kWh)	8,430
Natural gas (therms)	1,210
Oil (gallons)	0
Propane (gallons)	0

Comments

Score ID: **123456789**
homeenergyscore.gov

Document #2: Home Facts (page 2 of 3)

Home Energy Score

Score | **Home Facts** | Recommendations

Air-tightness

Air leakage rate	3,800 CFM50

Roof, attic & foundation

Roof

Roof construction	Roof (standard roof) composition shingles or metal, R-0
Roof absorptance	0.8

Attic

Attic or ceiling type	Unconditioned attic
Attic floor insulation	R-19

Foundation

Foundation type	Vented crawlspace
Floor insulation above basement or crawl space	R-13
Foundation walls insulation level	R-0

Wall construction

Front (or all sides same)	Wood frame vinyl siding, R-11

Windows & skylights

Skylights

Does the house have skylights?	No

Windows

Window area front (square feet)	95
Window area right (square feet)	50
Window area back (square feet)	125
Window area left (square feet)	40
Are the window types the same on all sides?	Yes
Window type front (or all sides same)	Double-pane aluminum with thermal break clear

Score ID: **123456789**
homeenergyscore.gov

Document #2: Home Facts (page 3 of 3)

Home Energy Score

Score | **Home Facts** | Recommendations

Systems

Heating system	
Type	Central gas furnace
Efficiency value	80.0 AFUE
Cooling system	
Type	Central air conditioner
Efficiency value	12.0 SEER
Ducts	
Duct location	Vented crawlspace
Are the ducts insulated?	Yes
Are the ducts sealed?	No/don't know
Hot water system	
Fuel	Piped natural gas
Efficiency value	0.59 EF

For more information on calculation methods, technical terms and units of measure, please visit **homeenergyscore.gov**

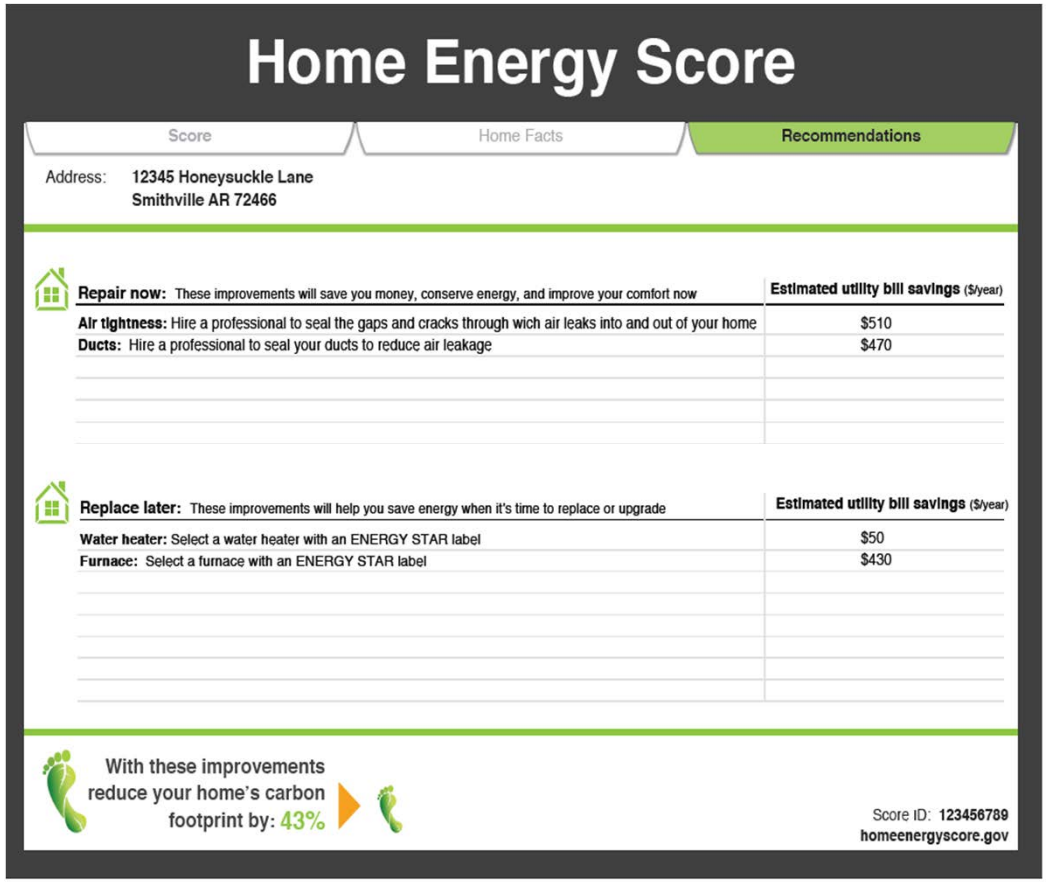
Score ID: **123456789**
homeenergyscore.gov

Document #3: Recommendations

- The customized recommendations are divided into two types:
  - Improvements to be made now (Repair now).
  - Improvements to be done when it is time to replace certain equipment (Repair later).

- The recommendations are ordered according to how quickly they will pay back. Recommendations with the shortest payback are listed first.
  - Payback is not displayed
  - The payback is calculated based on a national database of estimated installation costs and state average utility rates.

- Carbon reduction is based on a database of estimated average carbon release from power plants in the home's region.



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)
Air tightness: Hire a professional to seal the gaps and cracks through wich air leaks into and out of your home	$510
Ducts: Hire a professional to seal your ducts to reduce air leakage	$470

Replace later: These improvements will help you save energy when it's time to replace or upgrade	Estimated utility bill savings ($/year)
Water heater: Select a water heater with an ENERGY STAR label	$50
Furnace: Select a furnace with an ENERGY STAR label	$430

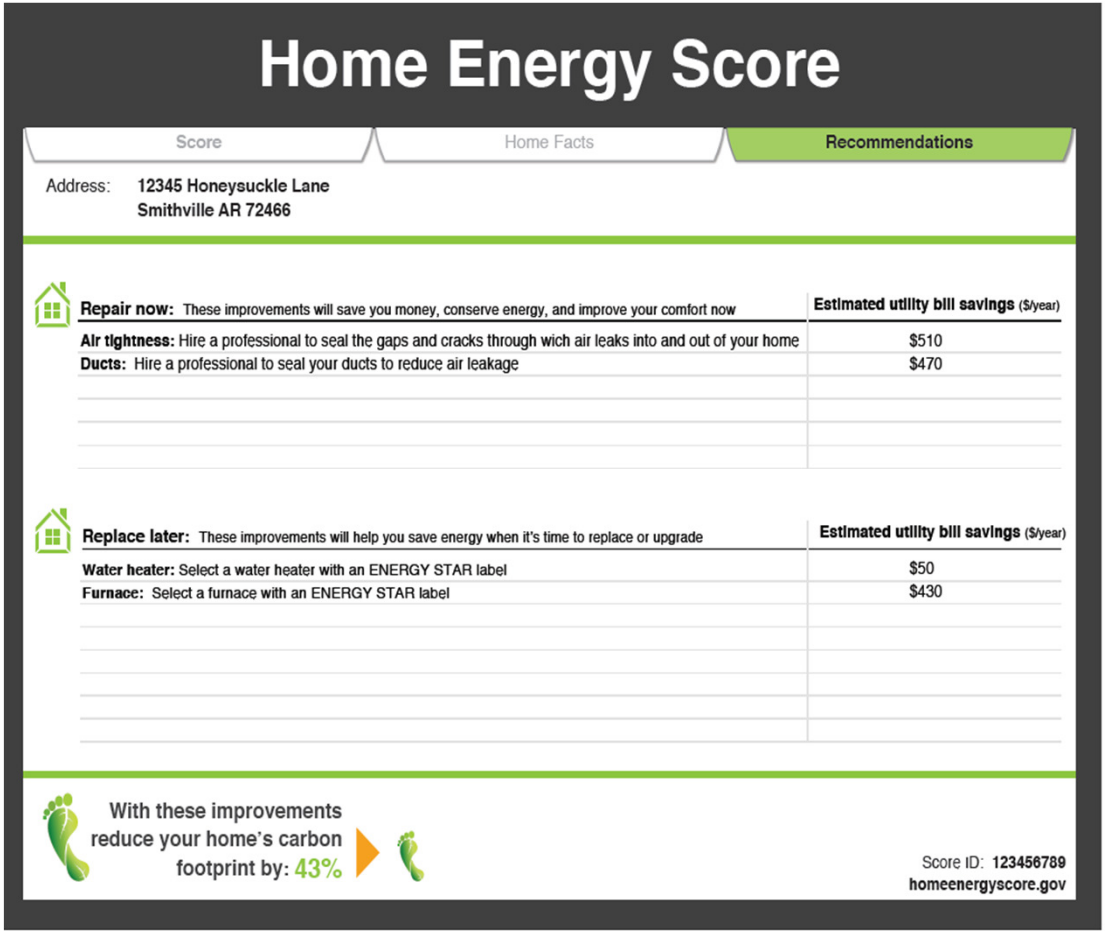
With these improvements reduce your home's carbon footprint by: 43%

Score ID: 123456789
homeenergyscore.gov

Document #3: Recommendations

- Assessors can provide their own set of recommendations **IF…**
  - they are performing the assessment as part of a more comprehensive home energy audit

    AND
  - are provide a different set of energy upgrade recommendations generated from a different software tool.
- If Assessors provide their own recommendations, they must also --
  - Provide a blank version of the Home Energy Score "Recommendations" page.
  - The blank version will not list any improvements and will direct the customer to the recommendations that you are providing.



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With these improvements reduce your home's carbon footprint by: 43%

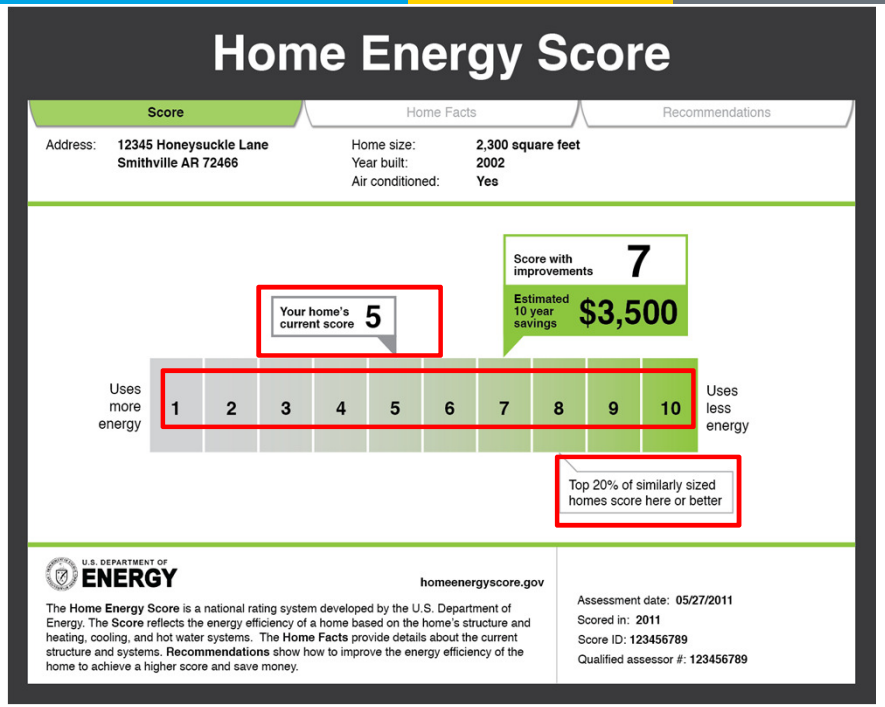
Score ID: 123456789
homeenergyscore.gov

We require inclusion of all three documents so that the customer recognizes they are receiving a complete packet.

Explaining the Home Energy Score and Answering Questions

How is the **score calculated**?

- The tool estimates total energy use for the home, assuming certain standard conditions, such as thermostat settings, number of people, etc.
- The tool then translates the total energy into a score ranging from 1 to 10 where 10 is the best.



Does the scale adjust depending on **house size**?

- **No.** The 10 point scale is not adjusted for size. So, if all things are the same, a large house will score worse than a small one.

Does the score take into account **weather**?

- **Yes.** The 10 point scale corresponds to different energy values, depending on the local climate.
- A house in San Diego, CA that scores a 5 will not use the same amount of energy as a house in Bangor, ME that also scores a 5.

What does the **top 20% indicator** mean?

- The graphic provides a reference point to show how the top-performing homes score.
- Typically, the top 20% of smaller homes score 9 or better; and the top 20% of larger homes score 8 or better.
- If the home being scored is less than **2200 square feet**, the graphic will display where the top 20% of small homes score. If the home being scored is more than 2200 square feet, the graphic will display where the top 20% of large homes score.

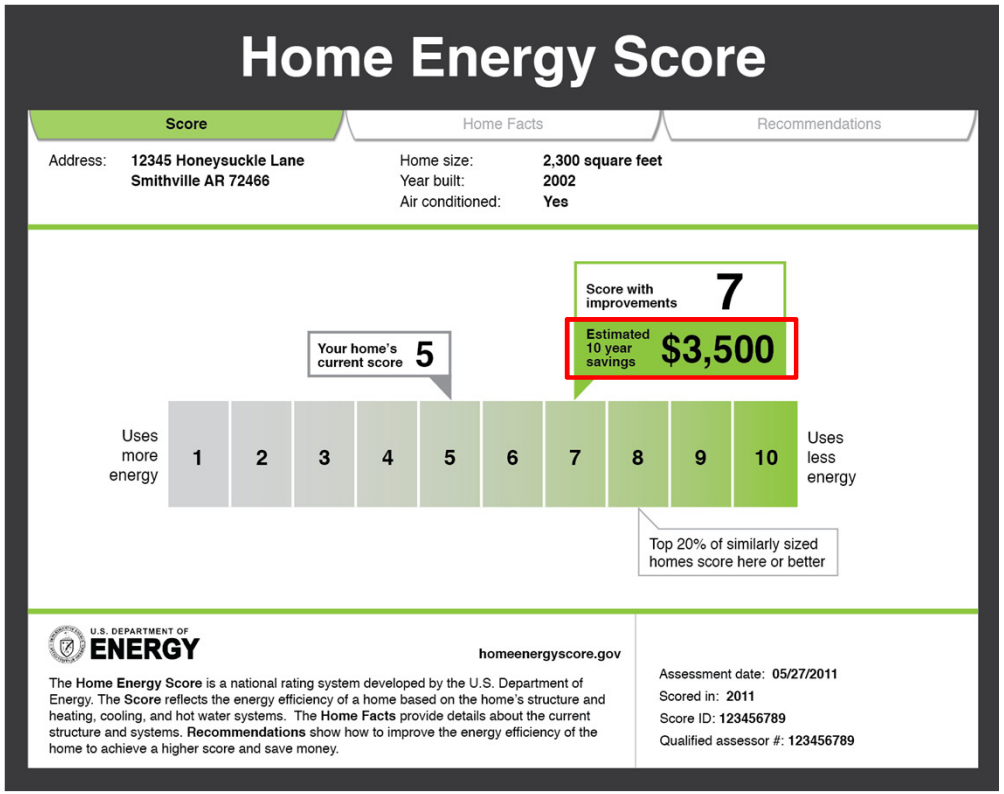
Explaining Savings Estimates

Does the score take into account how much energy the current homeowner uses, or recent utility bills?

- No. It does not account for the behavior of the home's current occupants.
- The score is an "**asset**" score. It only takes into account the house structure and attached energy equipment (heating systems, cooling systems, water heating)

How are the dollar savings estimated?

- The tool calculates what a typical homeowner living in this house will save on their utility bills for the next 10 years if all the recommendations are implemented.
- The cost savings are based on state average utility rates.
- Actual savings will vary depending upon actual utility rates, occupant behavior, number of people in the house, etc.



Adding Home Energy Score to your services and the API

- Most Assessors who provide the Home Energy Score incorporate the information into other reports and services (e.g., home inspection reports, energy audits).
- Please note the following opportunities, and limitations, regarding modification or alternative methods for generating the Home Energy Score.

Opportunities

The Home Energy Scoring Tool can be incorporated into other software tools by licensing an application programming interface (API) from the Lawrence Berkeley National Laboratory.

- This is free of charge.
- Software that makes use of the API to provide a Home Energy Score MUST be pre-approved by DOE. Once tested, DOE will unlock access to the Home Energy Score via the approved software tool.
- Use of the API eliminates the need for double entry of data and may allow the Assessor to seamlessly incorporate the score into other reports generated by their software.

Limitations

Any modifications to the 3 part Home Energy Score package must be pre-approved by DOE. DOE's policies regarding modifications to the Score materials are outlined in the Addendum to the Partner Agreement.

API: For more information, and to register to receive information on the API, visit **https://developers.buildingsapi.lbl.gov**

In the center column "Scoring Tool", click "Sign up" to register

Questions or comments?

Contact Joan Glickman or the Home Energy Score team at

HomeEnergyScore@ee.doe.gov

or contact your Account Manager directly.

For questions about Assessor training and testing, or for technical questions concerning the Home Energy Score Tool,

contact: **assessor@sra.com**

homeenergyscore.gov

Thank you.