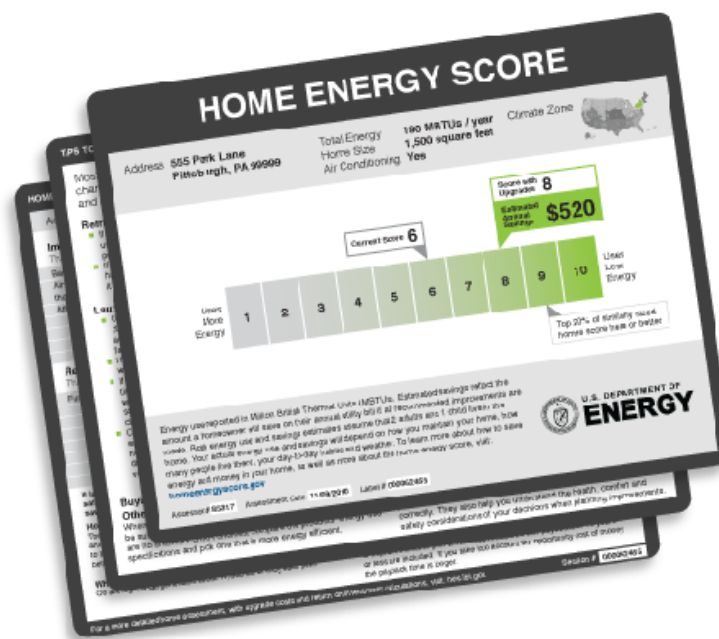


# Home Energy Scoring Tool: Assessor Training



Home Energy Scoring Tool

[Contact Us](#) | [About Us](#) | [Login](#)



## The Department of Energy's Home Energy Scoring Tool allows qualified assessors to:

- Generate clear, credible home energy assessments at a reasonable cost;
- Recommend customized upgrades and other cost saving tips; and,
- Help consumers compare the energy use of different homes.

The Home Energy Scoring Tool is quick and easy to use. Qualified assessors can gather the information needed to assess a home in one short site visit. This low-cost, high value assessment can be provided as a stand-alone service or as an add-on to a home inspection or comprehensive energy audit.

For more information on how to become a qualified assessor or receive a home energy score, visit [www.homeenergyscore.gov](http://www.homeenergyscore.gov).



## Video: What is Home Energy Score?

Watch this 3 minute video to learn about the DOE's new Home Energy Score Program. Home Energy Score offers householders and home buyers an easy and economical way to get a credible, home energy audit, with customized advice on how to save energy in your home and money on your utility bills.



Lawrence Berkeley  
National Laboratory



U.S. DEPARTMENT OF  
**ENERGY**

The Home Energy Scoring Tool was developed by Lawrence Berkeley National Laboratory in collaboration with the U.S. Department of Energy. The modeling engine can be licensed as a web service API.  
[Privacy Policy](#) | [About Us](#) | [Contact Us](#)

U.S. DEPARTMENT OF  
**ENERGY**

Energy Efficiency &  
Renewable Energy

[eere.energy.gov](http://eere.energy.gov)

# Program Background

- Homeowners and buyers need credible and actionable information before they can undertake energy improvements.
- Toward that end, the Department of Energy (DOE) has developed the Home Energy Score – a low cost, high value assessment that can be provided as a stand-alone service or as an add-on to energy audits and home inspections.
- To generate a Home Energy Score, qualified assessors must use the Home Energy Scoring Tool – an easy to use software tool developed by DOE through the Lawrence Berkeley National Laboratory.

# How to Become a Qualified Assessor

- You must
  - 1) Be certified by the Building Performance Institute (BPI) or by a Residential Energy Services Network (RESNET) Provider
  - 2) Provide certification documentation to DOE
  - 3) Complete this online training, and
  - 4) Receive a passing grade on the test that follows.

You will need a password to access the test.

This was/will be provided by DOE after receiving certification documentation

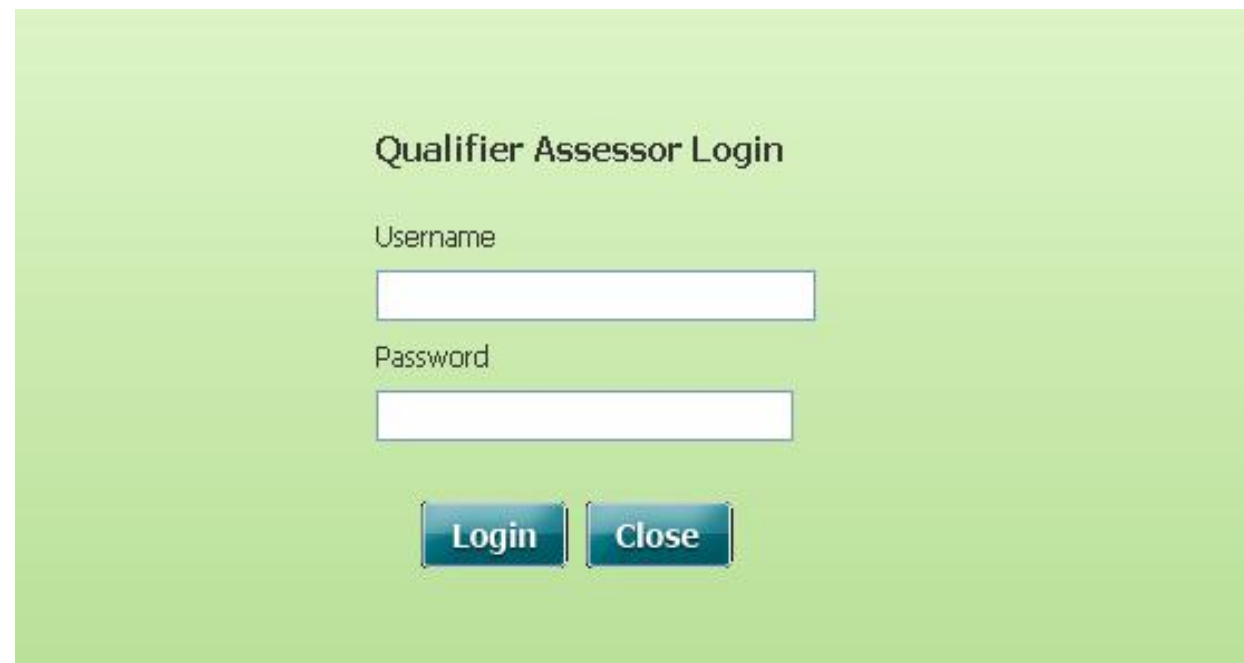
# Where to Submit Proof of Certification

- Send proof of current certification -- document produced by BPI or RESNET Provider indicating the start and end dates of your certification – to DOE via email or fax.
- If you choose to fax the document(s), send a brief email as well with the subject “Faxed Certification”.
  - Email: [homeenergyscore@sra.com](mailto:homeenergyscore@sra.com)
  - Fax: 240-223-5501
- Provide full contact information and service territory information with the documents
- Updated documents will need to be sent at the time of certification renewal.

# Accessing the Home Energy Scoring Tool

- After completing the test,
  - Press “Finish” button following the last question to receive notification of pass/fail
  - If you score 80 or greater, you pass
  - and will receive a username and password by email to access the Home Energy Scoring Tool
- During the pilot stage of the program
  - Only those directly involved with the pilots will be certified
  - QA’s may not provide scores outside the pilot area
  - Usernames will be 6 digits
  - Passwords will be randomly generated
  - Neither the username nor password can be changed
  - If you misplace your username or password, contact Home Energy Score via email at [homeenergyscore@sra.com](mailto:homeenergyscore@sra.com)

# Accessing the Home Energy Scoring Tool



Qualifier Assessor Login


Username

Password

Login Close

- Go to [homeenergyscore.lbl.gov](http://homeenergyscore.lbl.gov) and click on Login in the upper right part of the screen.
- Enter your DOE provided user name and password
- Click on Login to go to the Home Energy Score Dashboard
- If you have trouble logging in contact the DOE administrator at [homeenergyscore@sra.com](mailto:homeenergyscore@sra.com).

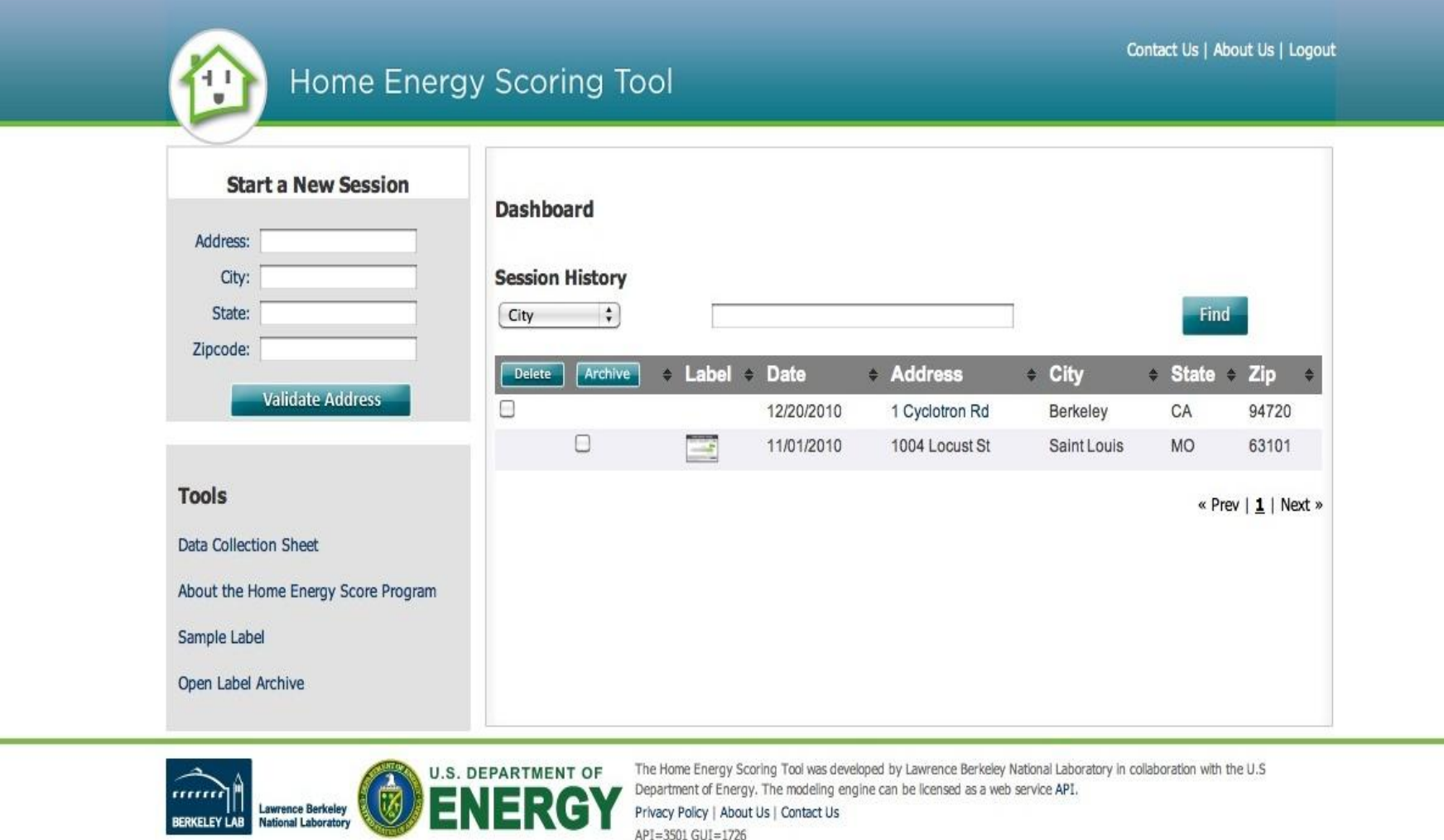
# Troubleshooting

- If you have questions about the appropriate values to use during data entry, click on the  next to that entry. This will provide further information.
- If you have questions that cannot be addressed as indicated above, click on Help (upper right of screen), then “Let us Know” at the bottom of the pop-up page.
- Complete the form that appears and the help desk will respond by email.
- The form will request the session id. This can be found by putting the mouse pointer over the address of the troublesome record on the dashboard screen and reading the last 7 digits of the web address displayed in the lowest left corner of the screen.



# Scoring Tool Dashboard

- At the Dashboard, you can --
  - Start a new session
  - Access all sessions previously entered
  - Archive previous sessions
  - Delete sessions still in process (prior to generating a score)
  - Sort existing records by various criteria
  - Download worksheets
  - Review program information
  - See a sample label



The screenshot shows the Home Energy Scoring Tool dashboard. At the top, there's a header with a house icon and the text "Home Energy Scoring Tool", along with links for "Contact Us", "About Us", and "Logout".

On the left side, there's a "Start a New Session" section with input fields for "Address:", "City:", "State:", and "Zipcode:", followed by a "Validate Address" button. Below this is a "Tools" section with links for "Data Collection Sheet", "About the Home Energy Score Program", "Sample Label", and "Open Label Archive".

The main area is titled "Dashboard" and contains a "Session History" section. It features a search bar with a "Find" button. Below the search bar is a table with columns: "Delete", "Archive", "Label", "Date", "Address", "City", "State", and "Zip". The table contains two rows of session data.

Delete	Archive	Label	Date	Address	City	State	Zip
<input type="checkbox"/>	<input type="checkbox"/>		12/20/2010	1 Cyclotron Rd	Berkeley	CA	94720
<input type="checkbox"/>	<input type="checkbox"/>		11/01/2010	1004 Locust St	Saint Louis	MO	63101

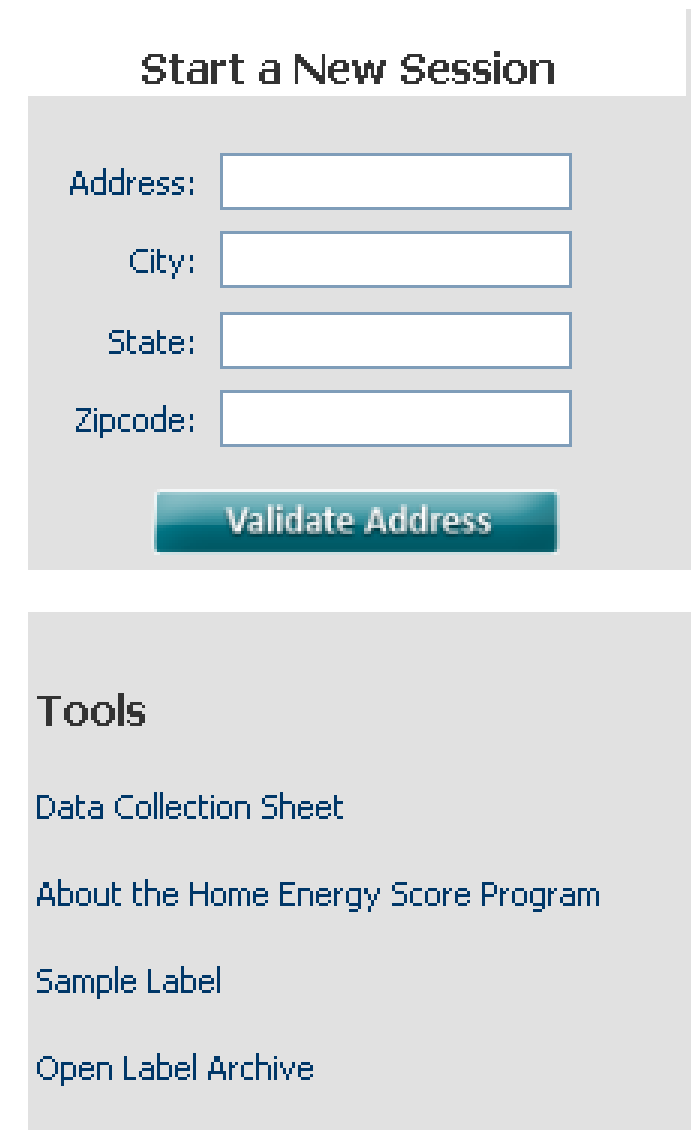
At the bottom right of the table, there are navigation links: "« Prev | 1 | Next »".

The footer contains logos for "BERKELEY LAB" (Lawrence Berkeley National Laboratory) and "U.S. DEPARTMENT OF ENERGY". It also includes a disclaimer: "The Home Energy Scoring Tool was developed by Lawrence Berkeley National Laboratory in collaboration with the U.S. Department of Energy. The modeling engine can be licensed as a web service API." and links for "Privacy Policy", "About Us", and "Contact Us". The footer also displays "API=3501 GUI=1726".



# Starting a New Session

- To start a new session
  - Input the address information for the house on the left side of the screen
  - Click “Validate Address”
    - The address will be standardized
    - If the address will not validate, this is likely due to zip code mismatch
      - Go to [usps.com](https://usps.com) and click on Find a Zip Code to find the correct address format



The screenshot shows a web interface for starting a new session. At the top, there is a tab labeled "Start a New Session". Below the tab is a form with four input fields: "Address:", "City:", "State:", and "Zipcode:". Each field has a corresponding text input box. Below these fields is a green button labeled "Validate Address". To the right of the form is a sidebar titled "Tools" which contains four links: "Data Collection Sheet", "About the Home Energy Score Program", "Sample Label", and "Open Label Archive".

# Navigation

- Use the navigation links on the left or buttons along the bottom of the screen (Next; Save and Exit; Previous) to move through the data entry process.
- The data must be entered in order. Starting with About this Home and finishing with Systems.
- After completing a section and moving to the next, a green check will appear in the navigation box on the left if all necessary fields have been entered.
- You may save the data at any point by clicking on Save and Exit. This will save any entered data and take you to the dashboard.

The screenshot displays a web form for a home energy assessment. On the left, a vertical navigation pane is highlighted with a red box. It contains a list of sections, each preceded by a green checkmark: 'About this Home', 'Roof, Attic & Foundation', 'Walls', 'Windows & Skylights', and 'Systems'. Below this list are two buttons: 'View Summary' and 'Back to Dashboard'. At the bottom of the navigation pane, the address '1 Cyclotron Rd, Berkeley, CA 94720' is displayed. The main form area on the right contains several sections: 'Date' with an 'Assessment date' field set to '12/20/2010'; 'Home details' with fields for 'Year built' (1961), 'Number of bedrooms' (3), 'Stories above ground level' (2), 'Interior floor-to-ceiling height' (8 feet), 'Conditioned floor area (all stories combined)?' (1900 square feet), and 'Direction faced by front of house' (West); and 'Airtightness' with an 'Air leakage rate' field and a question about weatherstripping. At the bottom right, a red box highlights the 'Save & Exit' button and the 'Next' button.

# About This House

- Enter:

- Inspection Date
- Year Built
- Number of bedrooms (room with a closable door or door frame and a closet)
- Number of stories above ground level
- Average Floor to Ceiling Height – this is the average for the conditioned floor area.
- Conditioned Floor Area (total square feet for all conditioned space)
- Compass direction that the front door faces

## Date

**Assessment date** ?

Enter date the on-site energy assessment was conducted.

12/20/2010

## Home details

**Year built** ?

1700 - present year (YYYY)

1961

**Number of bedrooms** ?

A bedroom is defined as a room with a closable door (or door frame) and a closet.

3

**Stories above ground level** ?

2

**Interior floor-to-ceiling height** ?

8 feet

**Conditioned floor area (all stories combined)?** ?

square feet

1900

**Direction faced by front of house** ?

West

# Audit Details

- The scoring tool will calculate house dimensions based on the conditioned square footage, number of floors above grade, foundation type and assumes a wall ratio of 5:3 (front to side).
- If a basement is unfinished but conditioned, it should be included in the conditioned floor area value.
- The tool can model houses that use electricity, natural gas, propane and/or fuel oil. It can not model wood, solar or other “non-conventional” fuels.

# House Airtightness

- Under House Airtightness: Choose one method  
(A) Input blower door leakage number in cfm50  
**OR**  
(B) Choose Yes or No to the question “Does the house have weatherstripping and/or caulking to prevent air leakage. (In other words has the house been air sealed?)
- If a blower door leakage number is input, it will override the answer to the weatherstripping question.

## Airtightness

Air leakage rate ?

Does the house have weatherstripping and/or caulking to prevent air leakage? ?

- OR - ☐ Yes ☒ No/Don't Know

# Roof and Attic Intro

- The Tool can only use non-zero insulation information for either the attic or the roof, not both
- For the attic or roof that is not being modeled, enter the insulation level as “R-0, no insulation”.
- If there are multiple types, use your best judgment to best define the way the house works.
- Use a UA calculation to determine valid R-values (example calculation provided below).



# Roof

- Use the drop down boxes to describe the roof characteristics
  - Choose the roof type that covers more than 50% of the house footprint and use a calculated average (UA) insulation value.
- Enter the roof absorptance as a decimal number between 0 and 1.
  - For new roofs, the homeowners may have this number.
  - For older roofs, estimate based on the color, where black is 0.90 and white is 0.50.
- If the attic floor is the insulated surface, enter R-0 for the roof insulation

**Roof**

**Roof construction** ?  
Select batt insulation rating for roof [not attic floor] (choose only one radio button for construction/insulation combination)

Construction

Exterior Finish

Insulation Level

**Absorptance of exterior surface of the roof** ?   
Acceptable range for the text box is 0-1.

# Roof Characteristics

- Roof Construction
  - Standard Roof
  - Standard Roof with Radiant Barrier
  - Standard Roof with Expanded Polystyrene Sheathing
- Exterior Finish
  - Composition Shingles
  - Wood Shakes
  - Clay Tiles
  - Concrete Tiles
  - Tar and Gravel


# Example Absorptance

## Roof Absorptance Help

If you have the manufacturer's measured reflectivity (or albedo), enter the value of (1 - reflectivity). Otherwise, estimate the value using the following (use the manufacturer's measured reflectance if the roof uses "cool-color" materials).

0.35	White	Smooth building material surfaces covered with a fresh or clean, stark white paint or coating.
0.55	Light	Masonry, textured, rough wood, or gravel surfaces covered with a white paint or coating.
0.70	Medium	Off-white, cream, buff, or other light-colored brick, concrete block, or painted surfaces and white-chip marble-colored roofs.
0.8	Medium dark	Brown, red, or other dark colored-brick, concrete block, roofs with gravel, red tile, stone, or tan to brown shingles.
0.9	Dark	Dark brown, dark green, or other very dark-colored painted, coated, or shingled surfaces.

Close

This shows some example absorptance values and is also an example of the help screens that are found by clicking on the  on the data entry screens.

# Attic

## Attic

**Attic or ceiling type** ?

If the house has an attic,  
answer the next question.

-Select-



**Insulation level of the  
attic floor** ?

Select batt insulation rating

-Select-





- Attic
  - Choose the ceiling type that covers more than 50% of the house footprint:
    - The Attic or ceiling types are: unconditioned, conditioned, or cathedral
  - Then choose the insulation level of the attic floor: Pick from the drop down values between None and R-60



# Roof and Attic Reminder



- You must enter information for roof and attic but:
  - Remember the scoring tool will provide an incorrect answer if both the roof and attic have non-zero insulation values.
  - Remember, if there are multiple ceiling or roof types, give an estimation that most closely reflects how the house works.
    - For example, if there are two attic spaces -- one with R11 insulation and one with R-30 -- perform a UA calculation to determine the proper insulation level to use as the average R-value for the total ceiling area (see example calculation below).

# Foundation

## Foundation

Foundation type   

Insulation level of the floor above the basement or crawlspace   
Select batt insulation rating  

Foundation insulation level   

- Foundation
  - Choose the Foundation Type that underlays more than 50% of the house footprint:
    - Basement - conditioned or unconditioned
    - Crawlspace – vented or unvented
    - Slab-on-grade
  - Use the Insulation Level fields to describe the amount of insulation – you may need to use both fields to properly describe existing conditions e.g. conditioned crawlspace with insulation against the crawlspace ceiling would need entries in both fields.
    - For a crawlspace or basement:
      - » Use the drop downs next to the entry “Insulation level of the floor above the basement or crawlspace” to indicate the insulation installed in the joist spaces above the unconditioned space
    - For a basement, crawlspace or slab-on-grade
      - » Use the drop downs next to the entry “Foundation insulation level” to indicate the R-value of any insulation along the slab edge or foundation walls.



# Foundation Information

- The scoring tool will accept only one foundation type. If there are multiple foundation types, use your best judgment and a UA calculation to best characterize the energy use of the house with one set of values.
- If the basement has heating equipment and/or an uninsulated distribution system (ducts or pipes), the basement should be considered conditioned.

# Example UA calculation

- A house has two attic spaces. The first is 600 sq. ft. and is insulated to R-11 using fiberglass batts. The second is 350 sq. ft. and is insulated to R-38 using blown cellulose. Remember  $R = 1/U$  and  $U = 1/R$
- What is the calculated R-value for the combined area?
  - $R-11 = U-0.091$  and  $R-38 = U-0.026$
  - $UA = 0.091 * 600 \text{ sq. ft.} + 0.026 * 350 \text{ sq. ft.}$
  - $UA = 54.6 + 9.1 = 63.7$
  - $U = 63.7 / (600 \text{ sq. ft.} + 350 \text{ sq. ft.}) = 0.067$
  - $R = 1/U = 1/0.067 = 14.9$

OR

- $UA = A/R = 600 \text{ sq. ft.}/11 + 350 \text{ sq. ft.}/38 =$
- $UA = 54.5 + 9.2 = 63.7$
- $U = 63.7 / (600+350) = 0.067$
- $R = 1/U = 1/0.067 = 14.9$

# Walls

- Wall Information –
  - Indicate whether the walls are the same on all sides using the Yes/No buttons at the top
    - If they are the same, complete one set of inputs.
    - If at least one is different, complete 4 sets of inputs
  - Use the drop down boxes to describe the wall characteristics
  - Right and left are determined by facing the front of the house from the street

## Walls

**Is the wall construction the same on all sides?** ?

Selecting "Yes" sets all the walls to the type chosen above. If you select "No" we will ask about the other walls on the next page.

☒ Yes ☐ No

**Wall construction: front (or all sides same)** ?

Select batt insulation rating (choose only one radio button for construction/insulation combination)

Construction

Exterior Finish

Insulation Level

# Wall Characteristics

- Construction types
  - Wood Frame
  - Wood Frame with Insulated Headers
  - Wood Frame with Expanded Polystyrene Sheathing (EPS)
  - Wood Frame with Insulated Headers and EPS
  - Wood Frame with EPS and Optimum Value Engineering (OVE)
  - Wood Frame with Optimum Value Engineering (OVE)
  - Structural Brick
  - Concrete Block
  - Straw Bale
- Exterior Finish Types
  - Wood Siding
  - Stucco
  - Vinyl Siding
  - Aluminum Siding
  - Brick Veneer
  - None

# Wall Information

- The tool allows only one wall type per side. If a side has multiple types, use your best judgment and a UA calculation to determine the appropriate values to be entered to properly characterize the wall with one set of values.
- Wall areas are automatically calculated by the software based on the house square footage, the foundation type, the number of floors above grade, the average ceiling height and the 5:3 aspect ratio (i.e. length along the front of the house compared to length along the side)

# Skylights

- Skylights
  - If the house has skylights click on the “Yes” radio button and use the drop down boxes to describe the skylight characteristics
  - If it does not, click “No”
- Skylights Characteristics
  - Panes
    - Single, Double, Triple
  - Frame Material
    - Aluminum, Aluminum with Thermal Break, Wood or Vinyl
  - Glazing Type
    - Clear, Tinted, Solar Control Low E, Solar Control Low E Argon Gas Fill, Insulating Low E, Insulating Low E Argon Gas Fill

## Skylights

Does the house have skylights? ?

☒ Yes ☐ No

Skylight types ?

Panes Double-pane

Frame Material Aluminum

Glazing Type Tinted

Skylight size ?

Enter a value between 0 and 300 square feet. Multiply the length of each skylight by its width, such as 3.50 feet X 2.00 feet, and add these individual areas to obtain the total skylight size. Include skylight frames in your calculation.

32



# Windows

- Windows
  - Enter total window area for each side of the house
  - Determine Right and Left by facing the house from the street
  - Indicate if all windows are the same type on all sides
    - If yes, use the drop down boxes to choose the number of panes, the frame and glazing type for all windows
    - If no, complete 4 sets of drop down boxes to characterize the windows on each side of the house.
    - If there is more than one type of window on a house side, characterize all of them based on the type with the largest combined size
- OR
- Input U-factor and SHGC (solar heat gain coefficient) in the boxes at the bottom of the screen, if that information is available

## Windows

Window area: front ?

72.00

Window area: right ?

36.00

Window area: back ?

72.00

Window area: left ?

36.00

Are the window types the same on all sides? ?

Selecting "yes" sets all windows to the type chosen below.  
If you select "No" we will ask about the other windows data by clicking on the side of house radio button.

☒ Yes ☐ No

Window type: front (or all sides same) ?

Choose only one radio button for glazing/frame combination.

Panes Double-pane

Frame Material Wood or Vinyl

Glazing Type Clear

U-Factor: front (0.01:5.00) ?

Enter specifications into the field at right. For new windows, these numbers can be found on the NFRC label.

Solar heat gain coefficient: front (0.00:1.00) ?

Enter specifications into the field at right. For new windows, these


# Windows and Skylights


- Remember, if there are multiple window or skylight types, enter information about the one that makes up more than 50% of the total area.
- Include glass door area in the window size
- Note: There is no entry for a single paned window with a storm window. To characterize these indicate 2 panes of glass.

# Heating & Cooling


- Heating & Cooling Equipment
  - Type of Heating/Cooling System: choose the fuel and distribution type
  - Enter either the equipment efficiency or the install date
  - Heating efficiency is AFUE or HSPF, air conditioning is SEER or EER
    - AFUE should be entered as a number between 1 and 100
  - If you enter date and efficiency, the date will override efficiency with a statistical default value


**Heating**

Type of heating system 


Central gas furnace 

**Heating System Efficiency**

Year installed   
NOTE: Selecting a year installed will overwrite the efficiency value entered below with a representative value for systems sold in that year.


1998 


- OR -

Efficiency value   
Efficiency units are the AFUE (%) for most furnaces or Heating Seasonal Performance Factor (HSPF - typical range: 7.0 - 9.0) for a heat pump.


82.60


**Cooling**

Type of cooling system 


None 

**Cooling System Efficiency**

Year installed   
NOTE: Selecting a year installed will overwrite the efficiency value entered below with a representative value for systems sold in that year.

N/A (Use efficiency field) 

- OR -

Efficiency value   
Efficiency units are SEER for central air conditioners and electric heat pumps and EER for room air conditioners.

0.99

# Duct Condition

Answer these questions only if there is forced air HVAC (heating OR cooling).

## Ducts

### Duct location

NOTE: Answer the next three questions ONLY if the house has forced-air heating or cooling ducts.

-Select-

Are the ducts insulated?

☐ Yes ☐ No/Don't Know

Are the ducts sealed?

☐ Yes ☐ No/Don't Know

- Duct Location – choose the location where more than 50% of ducts are installed
- Are the ducts insulated? – Choose Yes or No
- Are the ducts sealed? – If they have not been sealed with mastic, UL181 tape, or the aerosol sealing method the answer should be “No”.

# Domestic Hot Water (DHW)

## Hot Water

Water heater fuel ?

-Select- ▼

## Water Heater Efficiency

Year installed ?

NOTE: Selecting a year installed will overwrite the efficiency value entered below with a representative value for systems sold in that year.

N/A (Use efficiency field) ▼

- OR -

Energy Factor ?

## Boiler

Does the boiler also provide the domestic hot water?



NOTE: Answer only if home has a boiler

-Select- ▼

- Hot Water System
  - Choose the appropriate fuel – fuel oil, natural gas, electricity or propane
  - Enter Year Purchased or Energy Factor
    - Year purchased overrides Energy Factor
    - Enter Energy Factor as a decimal number less than 1 (e.g. 0.55)
  - Does the boiler also provide domestic hot water?
    - Answer only if there is a boiler (< 4% of existing buildings have this system)
    - Choose No, Tankless Coil or Indirect Tank from the drop down choices

# Multiple Systems

- The tool will accept only one heating, cooling and hot water system.
- If there are multiple systems, use a system size weighted average to determine the efficiency to enter.
- For example, if there is a 100,000 btu furnace at 80% and a 60,000 btu furnace at 90%, the “combined” efficiency would be:
  - $(100,000 * 0.8 + 60,000 * 0.9) / (100,000 + 60,000)$
  - $(80,000 + 54,000) / 160,000$
  - $134,000 / 160,000$
  - 83.75%
  - Round up to 84
- If there are multiple systems using different fuels, characterize the largest one.



# Asset Summary

- After entering all data, click on “View Summary” at the bottom or left side of the screen
- This will display a summary of the information that was entered.
- Entry errors are indicated with **red font messages**. Click on “Edit” in the associated section header to go directly to the area that needs correction.
- Once all required values are correct, click “Generate Label” at the bottom of the screen.

Asset Summary

About this Home

Edit

Assessment Date12/31/1969

Address100 Main Street

CityLong Beach

StateCalifornia

Zipcode90004

Year builtMissing Required Value

Number of bedroomsMissing Required Value

Home details

Stories above ground levelMissing Required Value

Conditioned floor area (all stories combined) ?Missing Required Value

Direction faced by front of houseMissing Required Value

Airtightness

Air leakage rateMissing Required Value

Does the house have weatherstripping and/or caulking to prevent air leakage?Missing Required Value

Roof, Attic & Foundation

Edit

Roof

Roof constructionMissing Required Value

Absorptance of exterior surface of the roofMissing Required Value

Attic

Attic or ceiling typeMissing Required Value

Insulation level of the attic floorMissing Required Value

Foundation

Foundation typeMissing Required Value

Insulation level of the floor above the basement or crawlspaceMissing Required Value

Foundation insulation levelMissing Required Value

Walls

Edit

# Before Submission

**Warning:** This is your last chance to change the data entered for this home. Once a Home Energy Score label is created, the data from this session will be locked. If this home is evaluated again, a qualified assessor must begin a new home energy score session and submit all required data once again.

By clicking "Ok", I confirm that I have conducted an in-person assessment of this home and that the information I provided is accurate.

Are you sure you want to continue?

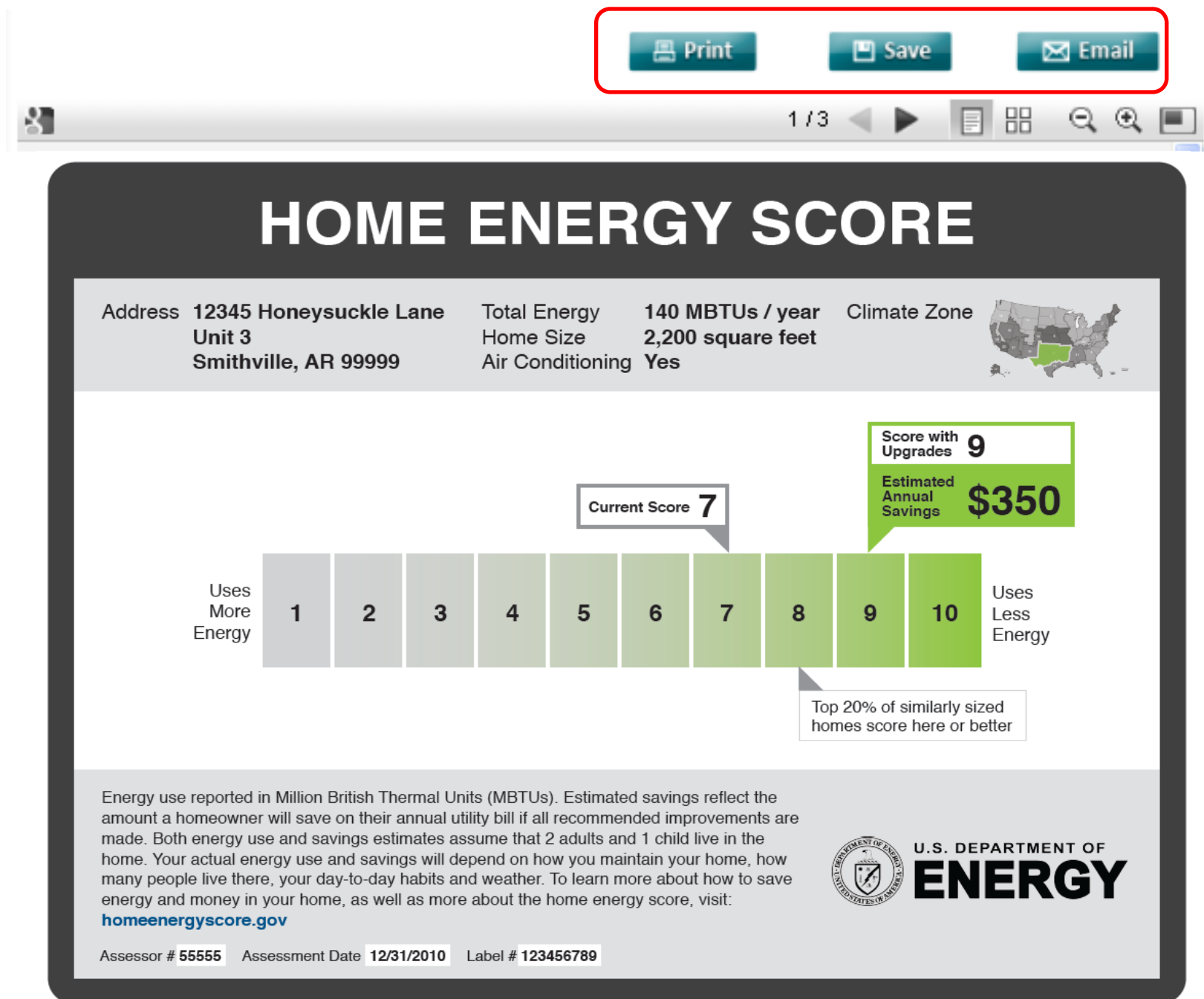
- The alert message above will pop up when you click Generate Label
  - By clicking “OK”, you attest that the inputs are, to the best of your knowledge, accurate and correct.
  - Once it is submitted, data for this session can not be modified.
- If you want to go back and change values, click “Cancel”.
- Once you click “OK” the Score cannot be changed for this run.
- If multiple Scores have been provided for the same address (e.g. after improvements), the one with the most recent date is the Score for that house.

# Home Energy Score Report

- The tool produces four separate documents:
  - (1) Home Energy Score
  - (2) Useful Tips
  - (3) Customized Recommendations
  - (4) Summary Page of Inputs
- You must provide all four of these documents to the customer, unless...
  - you are performing this assessment as part of a more comprehensive home energy audit AND
  - you are providing a different set of energy upgrade recommendations generated from a different software tool.
- If you meet these criteria and choose to provide your own list of recommendations, you must still provide the score, tips, and summary page to the customer.

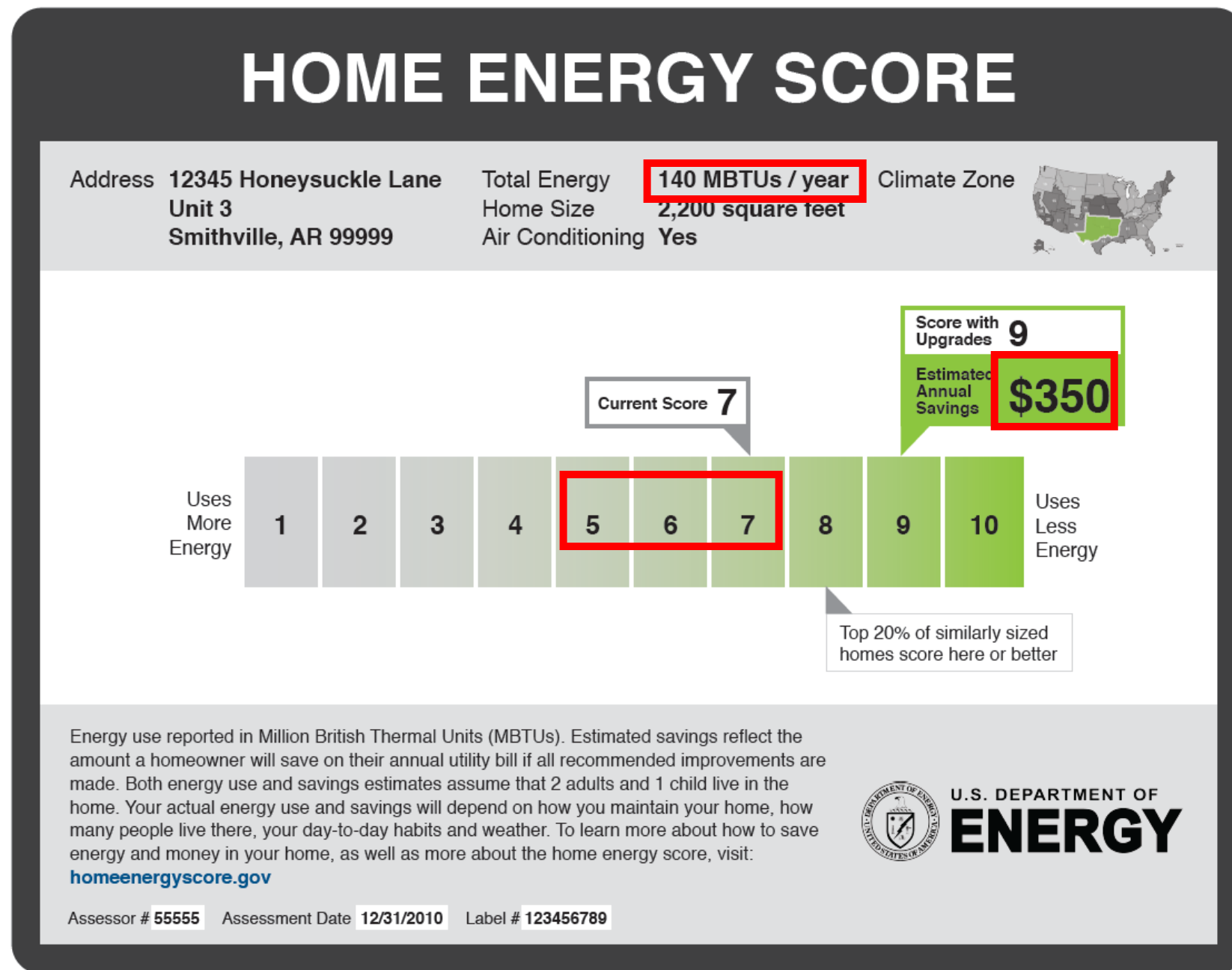
# Home Energy Score Report

- After generating the score documents, they can then be saved, printed or emailed by selecting among the icons on the page.



# Home Energy Score: Score Calculations

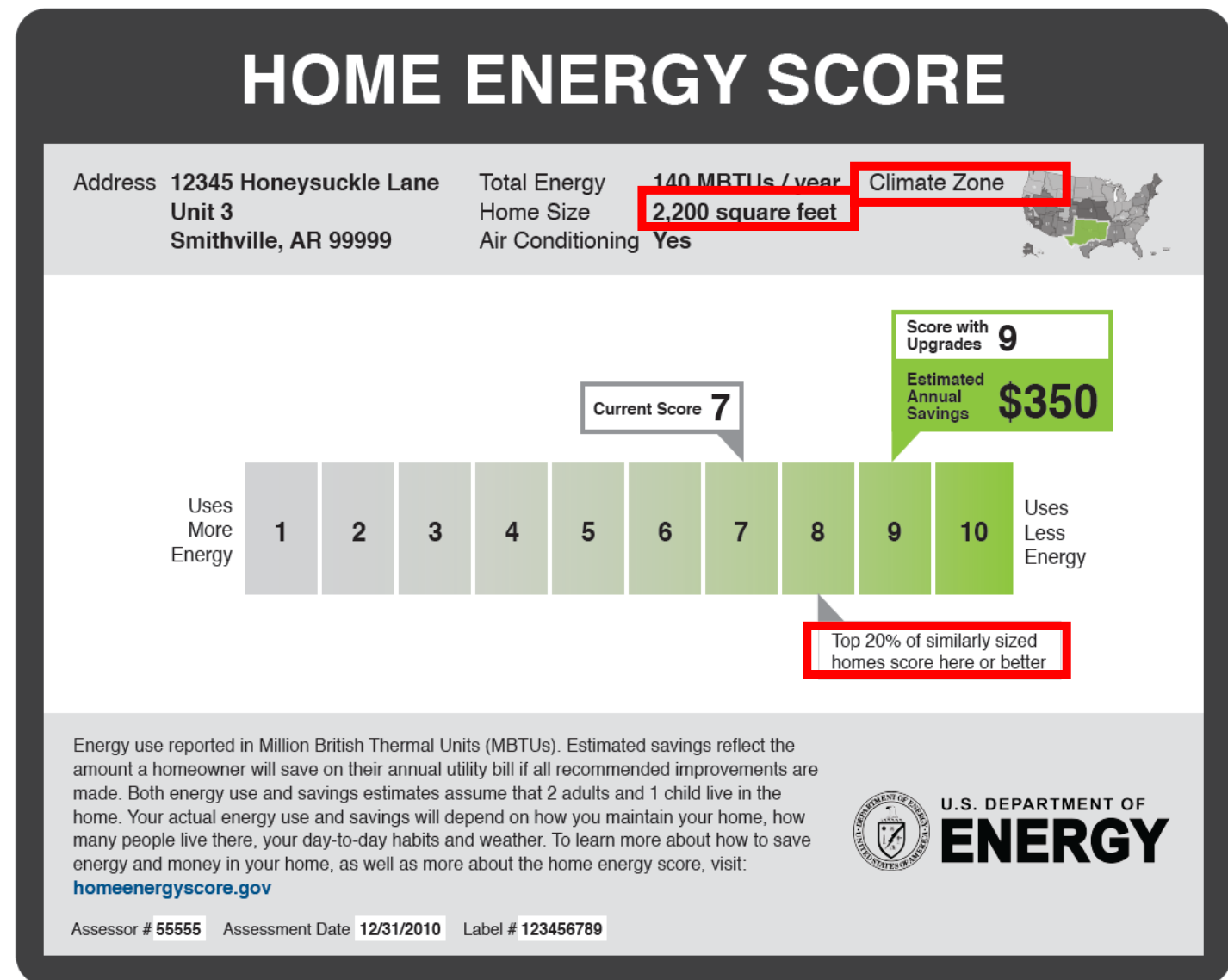
- Based on your inputs, the tool estimates total energy (**source energy** MBTUs) for the home, assuming certain standard conditions, such as 3 occupants.
- The tool then translates the total source energy into a score ranging from 1 to 10 where 10 is the best.
- The score is considered an “**asset**” score since it does NOT account for the behavior of the specific individuals currently living in the home.
- The dollar savings estimate represents that amount of money a typical homeowner in this home would save on their annual utility bills by making all of the upgrades recommended by the tool. Actual savings may be lower or higher depending upon a number of factors including occupant behavior.



Source energy is the amount of energy needed at the house plus any additional energy needed to deliver and/or produce it. Electricity has a much higher source factor than natural gas or oil.

# House Size & Climate

- The tool does not factor house size into the score.
- However, the scale notes where the top 20% of similarly sized homes rank as a reference point.
- If the home is less than 2200 square feet, it is considered smaller; if it is more than 2200 square feet, it is considered larger.
- Typically, the top 20% of smaller homes score 9 or better; and the top 20% of larger homes score 8 or better.
- The score does take into account the climate.
  - For example, a home that scores an 8 in Minneapolis uses more energy than a home that scores an 8 in San Diego, given the climatic differences of those locations.





# Recommendations

- The customized recommendations are divided into two types:
  - Those to be done now.
  - Those to be done when it is time to replace.
- The recommendations are prioritized by payback in years.
- For the replacement recommendations, the payback is based on how long it would take to recover the incremental cost of buying an efficient model rather than an inefficient model.
- Utility bill savings are calculated using average state utility rates.

HOME UPGRADE RECOMMENDATIONS			
Home Energy Score   HES Session # XXXXXXXX   Page 3			
Address 12345 Honeysuckle Lane, Unit 3   Smithville, AR 99999			
Improvements recommended now These upgrades can help you save energy right away.	Estimated Utility Bill Savings (\$/year)	Simple Payback Period (years)	Greenhouse Gas Reductions (lbs CO <sub>2</sub> /year)
Lorem ipsum dolor sit amet, consetetur sadipscing elitr.			
Duis autem vel eum iriure dolor in hendrerit in vulputate.			
Nam liber tempor cum soluta nobis eleifend option congue.			
Consetetur sadipscing elitr, sed diam nonumy eirmod tempor.			
Lorem ipsum dolor sit amet, consetetur sadipscing elitr.			
Duis autem vel eum iriure dolor in hendrerit in vulputate.			
Nam liber tempor cum soluta nobis eleifend option congue.			
Consetetur sadipscing elitr, sed diam nonumy eirmod tempor.			
<b>Recommendations for when you need to replace equipment</b> These recommendations will help you save energy when it's time to replace or upgrade.			
Lorem ipsum dolor sit amet, consetetur sadipscing elitr.			
Duis autem vel eum iriure dolor in hendrerit in vulputate.			
Nam liber tempor cum soluta nobis eleifend option congue.			
Consetetur sadipscing elitr, sed diam nonumy eirmod tempor.			
Lorem ipsum dolor sit amet, consetetur sadipscing elitr.			
Duis autem vel eum iriure dolor in hendrerit in vulputate.			
Nam liber tempor cum soluta nobis eleifend option congue.			
Consetetur sadipscing elitr, sed diam nonumy eirmod tempor.			
<b>It is important to consult a certified energy professional to ensure improvements are made properly and take into account health, comfort, and safety. Proper installation, including details such as complete coverage e rigid insulation and taping the seams, is critical to achieving energy savings. As with any major purchase, you should seek more than one cost estimate before making a buying decision.</b>			
<b>How are savings calculated?</b> These estimates are based on standard energy use patterns of 2 adults and 1 child. Actual energy bills and projected savings will vary according to the number and type of appliances, the number of occupants and their behavior, and weather.		<b>What does payback period mean?</b> For improvements recommended now, simple payback reflects the number of years it will take to cover your upfront costs. For recommendations concerning future equipment replacement, payback time is the number of years it will take for your savings to add up to your upfront cost if you buy an Energy Star, or high-efficiency unit, instead of a lower-efficiency one. Payback periods will vary depending upon local energy costs and the costs of improvements in your area. Only measures with paybacks of 10 years or less are included. If you take into account the opportunity cost of money, the payback time is longer.	
<b>What do lbs of CO<sub>2</sub> mean in my everyday life?</b> On average, a car generates about 11,000 lbs of CO <sub>2</sub> each year.			



# Tips

## TIPS TO SAVE ENERGY AT HOME

Home Energy Score | HES Session # XXXXXXXX | Page 2

Most home owners can reduce their energy bills and increase the comfort and safety of their home by changing some basic habits and doing more routine maintenance. Here are some easy ways to save energy and money. Savings from these measures are not included in the Home Energy Score.

### Refrigerator/Freezer

- If your extra refrigerator is only used once in a while, unplug it and prop the door open when it's empty.
- If your extra refrigerator doesn't have much in it, consider replacing it with a smaller Energy Star model.

### Laundry

- Use cold water to wash your clothes. Most detergents clean just as effectively and clothes don't fade as fast.
- Hang your clothes on a line to dry, when appropriate.
- If you use a clothes dryer, set the timer to Autodry so the dryer stops when your clothes are dry. This saves energy and is better for your clothes.
- Clean the dryer lint trap before each use. Clean the dryer vent hose every 6 months, more if you dry a lot of clothes. Be sure your vent hose is free of kinks.

### Buying and Replacing Appliances, Windows and Other Equipment

When you buy or replace appliances, windows or other equipment, be sure to pick ones that have an ENERGY STAR label. If there are no ENERGY STAR choices, compare the products' energy use specifications and pick one that is more energy efficient.

### Heating and Cooling

- Install a programmable thermostat.
- During the winter, lower the thermostat setting at night and when the house is empty.
- During the summer, raise the thermostat setting at night and when the house is empty.
- Avoid the desire to turn the thermostat temperature way up or way down to make the house warmer or colder. It doesn't heat or cool the house any faster but it uses more energy.
- Use ceiling fans alone or with air conditioning. Remember to turn them off when you leave.
- Change your furnace filter every two months (during summer too, if you have central air conditioning). Do it more frequently if you have pets or see that the filters are more than a little dirty.
- Bleed the air out of the radiators within a month of turning the boiler on each winter. Don't block vents and radiators with furniture.
- Install reflectors behind the radiators on outside walls.
- Keep about 2 feet of space cleared around your outside air conditioner/heat pump compressor.

### Curtains and Blinds

- On summer days, close window shades and curtains on the south and west side of the house. On winter days, open them.
- On winter nights, close all window shades and curtains.

### Lights

- When you leave a room, turn lights off.
- Replace incandescent bulbs with compact florescent lights (CFLs).

### Computers and Other Electronics

- Use the energy saver settings on computers and other electronics so they go to sleep when you are not using them.
- Plug groups of electronics together into one power strip. Turn off the whole powerstrip off when they are not in use.

### Water

- Fix leaky faucets and running toilets right away.
- Install low-flow showerheads and faucet aerators.

**Whole House upgrades save energy and money and can make your home more healthy, comfortable and safe to live in.**

For even bigger savings, ask a certified energy professional about "whole house" energy upgrades. Qualified professionals can help you pick the right kind and size of equipment and make sure it is installed correctly. They also help you understand the health, comfort and safety considerations of your decisions when planning improvements.

- The tool also provides one page of general tips for reducing home energy use.

# Summary Page

- The tool provides a summary page of the inputs so that the homeowner can have a record of the values the assessor used to generate the score.
- The Score is valid for three years if no energy upgrades (that relate to the data fields required by the tool) are made to the house.
- If you have trouble while using the Tool, click on Help, then “Let us Know” at the bottom of the page.
  - Complete the form, the help desk will respond by email.

# New or More Information

- If any energy-related characteristics of the house change (e.g. after retrofit) or you realize that an entry was incorrect, you will need to start over and re-enter the full set of data to get an updated or corrected Score.
  - The most recent dated score documents are regarded as the governing score for that property address
- The Home Energy Scoring Tool is linked to two other software tools created by Lawrence Berkeley National Laboratory: Home Energy Saver and Homer Energy Saver Pro (HES and HES Pro).
- If the homeowner would like additional recommendations that reflect their particular behavior, the HES or HES Pro websites allow the assessor or homeowner to model additional details about the home and homeowner operation. The inputs from the scoring tool assessment will automatically be uploaded into HES or HES Pro by entering the scoring session i.d. number. That number is located in the header of the Scoring Recommendations page.