

SC Home Energy Labeling Working Group Meeting

August 20, 2024

Meeting Format

- 1 Hour WG Meeting
- Each WG Meeting to Focus on Particular Topic or Question
- WG Input to be Collected with Feedback at Future Meetings
- Jam Board Available for Comments/Ideas

Today's Agenda:

- SC Home Energy Labeling Program Overview
- Stakeholder Introductions
- How Does HES Modeling Work
- Next Steps and Timeline
- Request for Interested Pilot Projects
- Questions
- Close of Meeting

Energy Efficiency Roadmap

- The Energy Office launched the South Carolina Energy Efficiency Roadmap Initiative in October of 2019 to seize energy efficiency opportunities in the state.
- The South Carolina Energy Efficiency Roadmap reviews remaining energy efficiency recommendations from the 2016 State Energy Plan, reassess according to current priorities, identify new opportunities, and develop next steps.



SC Labeling Approach

- Stakeholder Working Group providing input and guidance to program development
- Statewide voluntary labeling infrastructure being created
- Earth Advantage to assist SCEO with program development and management
- Energy Office to provide support for local labeling partners within SC

Energy Label Project Phases: 2022 – 2025

✓ Energy Label Design

- Identify Key Information For The SC Label
- How Is Information Presented On The Label

✓ Administration

- Who Creates The Label
- Who Trains & Manages The Assessor/rater

• Training & Education Needs

- Who Needs Training & Education
- What Is Critical To Use or Understand The Label

• Program Design & Technical Systems

- Customize SC Label
- Customize Inputs & Outputs
- Customize Web Portal
- Identify Possible Locations / Participants

• Pilot Programs

- Select Pilot Project Partners
- Local Education & Training
- Launch Local Labeling Programs

• IRA Incentives Integration



Stakeholder Introductions

- Name?
- Organization?
- What Is Your Interest In Home Energy Labeling?
- Do You Represent A Potential Pilot Project?

Home Energy Score Modeling

Figure 3. Home Energy Use Pyramid

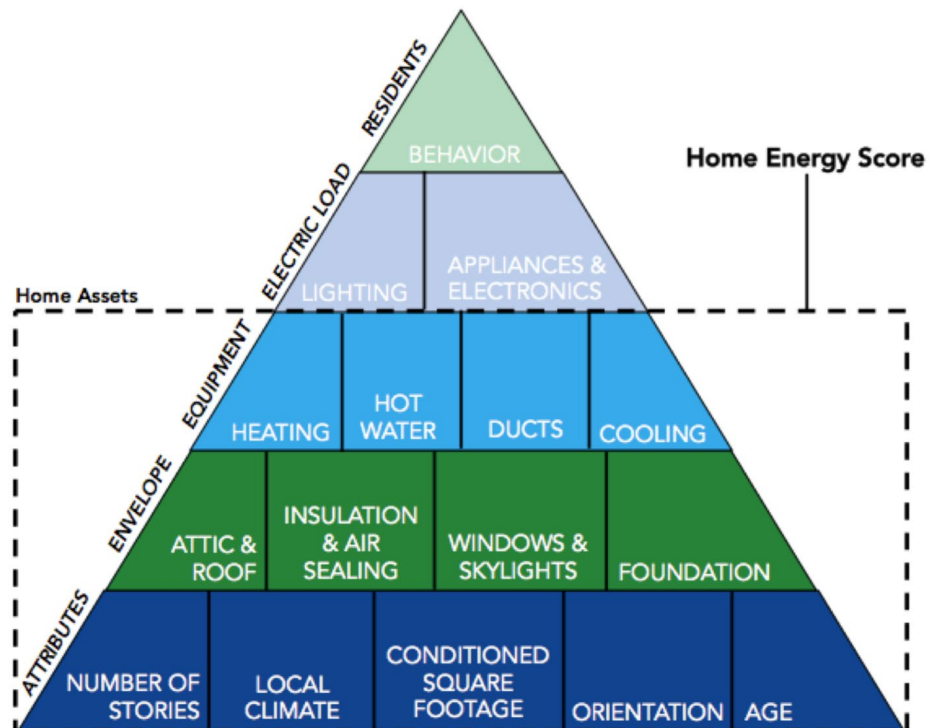
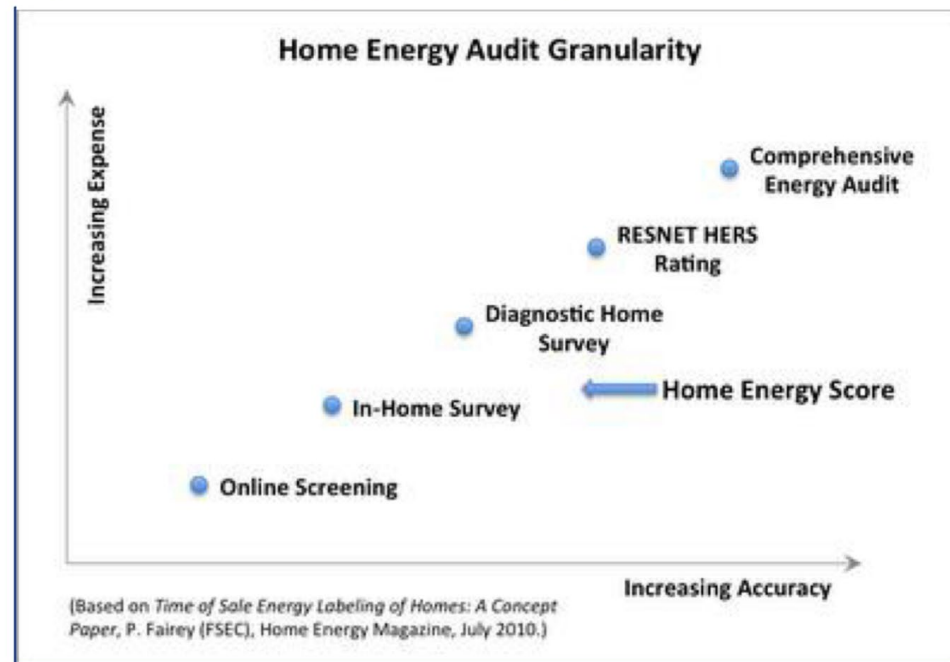


Figure 2. Home Energy Audit Granularity



Home Energy Score Methodology

Building Simulation Model

2.3 What models are used in the Home Energy Scoring Tool?

- 2.3.1 Heating and Cooling** – EnergyPlus™ is a free, open-source, cross-platform, whole building energy simulation program that engineers, architects, and researchers use to model energy consumption for heating, cooling, ventilation, lighting and plug and process loads, and water use in buildings. EnergyPlus™ uses a description of the building layout, constructions, operating schedules, conditioning systems (lighting, HVAC, etc.) with weather data, to perform an hourly simulation of the building and to estimate utility use. The EnergyPlus™ documentation is [here](#).
- 2.3.2 Water Heater Model** – Total hot water used is the sum of clothes washer, dishwasher and fixture related usage. These are determined based on the estimated number or occupants in the house. e+ calculates the domestic hot water use using the [ANSI/RESNET/ICC 301-2019](#) standard
- 2.3.3 Infiltration Model** – EnergyPlus™ uses the AIM-2 “ASHRAE Enhanced” model to calculate the effects of infiltration on energy use. (See page 436, 8.3.4 in the EnergyPlus™ [Engineering Reference](#)).
- 2.3.4 Weather** – Home Energy Score uses [TMY3](#) data to account for the local weather. The house zip code is mapped to the closest TMY3 weather station to calculate energy use.
- 2.3.5 Model Defaults** – Home Energy Score is an asset rating; therefore, the influence of the occupants must be standardized so houses can be compared on an apples-to-apples basis. To do this, Home Energy Score assumes the following default characteristics for each house.

Interested in being a labeling pilot project?

- Local Jurisdictions
- Universities/Colleges
- Efficiency Organizations/Programs
- Other?

Utility Energy Efficiency/Audit Programs - Yes

Next Steps

- ✓ Earth Advantage Joins Project Team
- Program & Systems Design
- Identify Local Partners for Pilot Projects
- Conduct Outreach
- Train Initial Assessors
- Launch Pilot Projects
- IRA Incentives Integration

Questions



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- Project Information Page:

<https://energy.sc.gov/focus-area/energy-efficiency/building-ee-homes/building-codes-and-labeling-recommendations>

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