



Community Home Energy Labeling Toolkit

As more communities pursue residential labeling policies and programs, there are many factors to consider. This toolkit provides examples of current policies, comparisons of common labeling approaches, and answers to some frequently asked questions regarding labeling program design. Please contact Emme Luck, Energy & Climate Associate, at eluck@neep.org with any additional questions.

Example Policies

Montpelier, Vermont

- [Net Zero Montpelier Home Energy Information Ordinance](#)
- [Ch. 21 Home Energy Information](#)

Burlington, Vermont

- [Burlington Electric FAQ](#)
- [Ch. 18 Housing Change re: Energy Efficiency and Weatherization in Rental Housing](#)

Berkeley, California

- [Office of Energy & Sustainable Development Building Emissions Saving Ordinance](#)
- [Ch. 19.81 Building Emissions Saving](#)

Portland, Oregon

- [Bureau of Planning and Sustainability Home Energy Score Program](#)
- [City Code Chapter 17.108 Residential Energy Performance Rating and Disclosure](#)

Austin, Texas

- [Energy Conservation Audit and Disclosure Ordinance](#)
- [Chapter 6-7 Energy Conservation](#)

Minneapolis, Minnesota

- [Title 3 Chapter 47 Section 190 Commercial and Multifamily Residential Building Rating and Disclosure](#)
- [Title 12 Chapter 248 Section 75 Energy Disclosure Report](#)



Home Energy Score, HERS Index, and Automated Energy Models

Metric	Home Energy Score	HERS Index	AEM	AEM+
Parameters	50+	50+	3	25+
Rating System	1-10 (bounded, with 10 being most efficient) Asset-based	0-100 (unbounded, with 0 being a net-zero home and 100 being code compliant) Asset-based	Estimated energy usage and cost as compared to average home of similar size & vintage Asset-based	Estimated energy usage and cost as compared to average home of similar size & vintage Asset-based
Key metrics	Blower door test Detailed efficiency assessment of building shell and energy systems	Blower door test Detailed efficiency assessment of building shell and energy systems	Age and size of building	Type of fuel Age of building shell and energy systems
Process and Applicability	On-site Existing home Certified contractor	On-site New home Certified contractor	Online Existing or new home Public data	Online Existing or new home Homeowner-led
Time	2-5 hours	2-5 hours	Immediate	10-60 minutes
Cost	\$150-\$450	\$300-\$1000	\$15-\$25*	\$15-\$25*
Policy Objective	Energy efficiency residential retrofits	Efficient residential new building stock	Energy data access and awareness	Energy data access and awareness
Primary Use Cases	Contractor engagement	Compliance with IECC	Real estate disclosure	Real estate disclosure

*Estimated cost for [Energy Estimator](#) tool

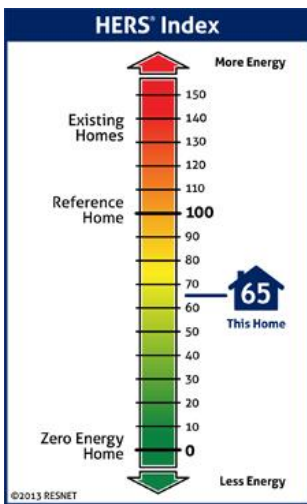


Frequently Asked Questions

What are the differences between U.S. DOE's Home Energy Score and RESENT's Home Energy Rating Score Index?

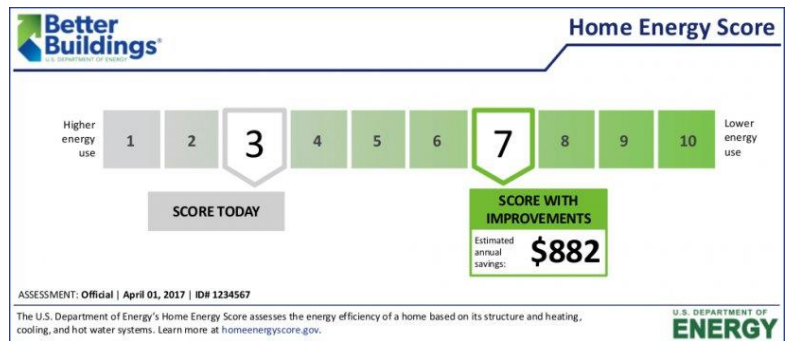
These two most widely used energy rating systems vary in several ways, including main audience, reference home used in the rating process, and geographic locations. RESNET's Home Energy Rating Score (HERS) Index has historically been used and promoted for new construction homes. Home builders tend to be more interested in obtaining HERS ratings because energy codes, particularly the 2015 IECC and later editions, incorporate the Energy Rating Index (ERI), which relies on the HERS Index, as an optional compliance pathway. According to [NASEO's Home Energy Labeling Guide](#), "When left to the private market, the cost for a customer to obtain an asset-based home energy label as a standalone product from an energy assessor can range from \$150-250 for a DOE Home Energy Score (HES) and \$400-1000 for a HERS rating." HERS is more expensive, but it can be advantageous to builders complying with the IECC.

Home Energy Score is typically used for existing homes. Fannie Mae developed a white paper titled [Energy Efficiency: Value Added to Properties and Loan Performance](#) that compares both the HERS Index score and Home Energy Score. On page two (and pasted below), it describes the rating scales and references:



RESNET's HERS Index ranges from negative to positive infinity, mostly concentrated between 1 and 100. The index reflects a relative scale obtained by comparing the rated home to a reference home designed to be of a similar size, shape, and type that is a standard new home built to the International Energy Conservation Code (IECC). A score of 100 refers to the energy use level for the reference home. A score of 80 indicates 20 percent less energy consumption than the reference home. A typical resale home scores 130, indicating 30 percent more energy use than its reference home. Thus, a higher score indicates less energy efficiency. Most RESNET-rated homes in our sample have a HERS Index of less than 85, meeting industry standards (such as ENERGY STAR certification) for being energy efficient.

U.S. DOE's HES uses a 1-to-10 scale, where higher scores indicate higher energy efficiency levels. For example, a score of 1 generally indicates that the home's energy usage is in the top 10 percent, while a score of 10 indicates that the home's energy usage is in the bottom 10 percent. According to U.S. DOE, the 10 levels account for location climate by "mapping the zip code for the house address to the nearest weather station. Each weather station has its own definition of score ranges based on local weather" (HES Scoring Methodology, 2017). Property size is not





considered when assessing the level of energy use. Therefore, all other things being equal, larger homes will receive a lower HES energy efficiency rating simply because larger homes are likely to use more energy.

Another report is the Energy Metrics to Promote Residential Energy Scorecards in States (EMPRESS) [Project Final Report](#). Page 58 starts the discussion on HERS and HES and helps talk through what they are, what policy objectives they can achieve, metrics the rating systems use such as use cases, durability, granularity, readily understood by customers, costs, and finance industry recognition.

- [Sample Home Energy Score report](#)
- [Home Energy Scoring Tool Data Collection Form](#)

Is Energy Estimator set up for both HERS and HES? Does the Energy Estimator require a physical audit?

[Energy Estimator](#) is a tool that uses data from [HELIX](#) (including HERS and HES scores) combined with public data and an automated energy modeling system to create a custom label – this label may include HERS or HES score information (where available) in addition to other information like the cumulative projected annual energy costs of the home, how the home compares to similar homes, suggestions and resources for efficiency improvements, and more. Energy Estimator is different from HERS and HES scores (which require on-site audits by a certified assessor) mainly because it is all based on a virtual/remote process and does not require in-home audits. Although it doesn't capture as many data points as an in-home audit, [studies show](#) the modeled cost estimate is relatively close to the results of a HES. Here is an excerpt from a report on the Energy Estimator's Automated Energy Model (AEM):

“A few easy-to-collect parameters go a long way towards reducing model differences between the AEM and the DOE Home Energy Score results and improving the overall distribution of the results. By adding basement, attic and heating system age characteristics, the AEM's average difference to the Home Energy Score results drop to 14-15 percent and the correlation increases to 80-85 percent. This improves the AEM's ability to capture the key features of the home's energy consumption.”

The virtual approach is typically easier, more accessible, and less costly and time-intensive, making it a helpful tool to offer in addition to traditional audits. Montpelier and the state of Vermont decided on this pathway for those reasons, but NEEP can assist communities with any labeling pathway that best fits the community's needs.

What are key steps in the process of establishing a labeling policy?

1. Establish the primary goal of the program
 - a. Reduce energy burden, drive retrofits, increase utility program participation, reduce emissions
2. Understand assessment and disclosure options
 - a. Bill disclosure, labels, in-home audits, virtual assessments
3. Understand the local housing market
 - a. Labor market metrics



- i. Number of trained HERS/HES assessors (if selected)
 - ii. Number of certified home inspectors
 - iii. Number of real estate firms with green designation
 - b. Housing market metrics
 - i. Residential building types
 - ii. Number of low-to-moderate income residents
 - iii. Sale trends (average homes sold annually) / rental trends
4. Secure buy-in from leadership and key stakeholders
 - a. Mayor or designee
 - b. City Council members
 - c. Municipal staff
 - d. Real estate agents and associations
 - e. NGOs
 - f. Contractors
 - g. Utility program staff
 - h. Health advocates
 - i. Energy service professionals
 - j. Two or more community stakeholders (residents)
5. Build an ordinance team
 - a. This group may include the Mayor, City Council representatives, community staff, volunteers, city staff (lawyer, building and construction, IT support, etc.), local property owners and renters, landlords, real estate professionals, and representatives from other organizations providing technical assistance.
6. Prepare for implementation
 - a. Identify data inputs and output metrics
 - b. Consider policy trigger point: time of listing, time of sale, or outside real estate transaction
 - c. Consider compliance style: voluntary, mandatory, or phased and enforcement mechanism
 - d. Consider covered building types: single, multifamily, commercial, mixed use; tenure status
 - e. Subsidies for low-income residents
 - f. Making information publicly available: Multiple Listing Services (MLS)
7. Build the policy
 - a. Key policy considerations include:
 - i. Covered building types (single-family, duplex, condominium, large multifamily, tenure, etc.)
 - ii. Trigger point (time of listing, time of sale, etc.)
 - iii. Documentation (bill disclosure, certified or custom score, etc.)
 - iv. Compliance style (voluntary, mandatory, phased)
 - b. Standard ordinance provisions include:
 - i. Purpose
 - ii. Requirements
 - iii. Enactment date
 - iv. Exceptions
 - v. Enforcement
 - vi. Penalties and violations” or “right of appeal and stay”
8. Communicate the plan



- a. Disseminate materials
 - b. Train key stakeholders
9. Plan for change
- a. Allow opportunities for feedback and improvement

What are other examples of community home energy labeling policies?

Montpelier, Vermont

[Home Energy Information Ordinance](#)

After several meetings with residents and members of the real estate industry, the city of Montpelier decided to develop a virtual tool for homeowners to generate a custom label, along with recommendations for improvements, displaying their home's energy performance in comparison to similar homes. This decision was made before the COVID-19 crisis due to lack of certified assessors in the area and the significant upfront cost of home energy scores in VT. The passage of Montpelier's ordinance follows a two-year stakeholder engagement and tool development process intended to balance accessibility, accuracy, and affordability while helping the city meet its [Net Zero goal](#). After three city council meetings and some amendments including capping penalties and delaying the enforcement period, the Home Energy Information Ordinance passed unanimously in May 2021. Sellers and residents are encouraged to begin generating profiles to better understand their home's energy performance during the voluntary compliance period. Starting in July 2022, sellers in Montpelier will be required to disclose a Vermont Home Energy Profile custom label at the time of listing.

- [Net Zero Montpelier Home Energy Information Ordinance](#)

Burlington, Vermont

[Chapter 18 Housing – Change re Energy Efficiency and Weatherization in Rental Housing](#)

Burlington's ordinance mandates cost-effective minimum energy efficiency standards to be achieved by the time of sale. The ordinance applies to apartments where tenants are responsible for directly paying heating costs.

- [Burlington Electric Time of Sale Energy Efficiency Ordinance](#)

Austin, Texas

[Energy Conservation Audit and Disclosure \(ECAD\) Ordinance](#)

Austin's ECAD Ordinance requires energy audits for any facility being listed for sale in the city that is at least 10 years old at the time of sale. Multi-family facilities with more than 150 percent average energy use must disclose usage to tenants, and have 18 months to implement efficiency measures to reduce usage by at least 20 percent. Building owners must work with a certified ECAD Energy Professional to conduct an energy audit.

- [Austin Energy ECAD for Residential Customers](#)

Berkeley, California

[Building Emissions Saving Ordinance](#)

Berkeley's Residential Energy Conservation Ordinance (RECO) was adopted to improve the energy and water efficiency of existing housing in the city. RECO is meant to help insulate residents from energy price increases by reducing the amount of energy used for heat, hot water, and lighting. The ordinance states that every home or apartment building sold or transferred in Berkeley or undergoing renovations valued at \$50,000 or more must



meet energy or water efficiency requirements. RECO was replaced in 2020 with the time-of-listing Building Emissions Saving Ordinance (BESO) which covers both residential and commercial facilities.

- [City of Berkeley BESO](#)

Portland, Oregon

[City Code Chapter 17.108](#)

In 2015, Portland, Oregon committed to reducing emissions 80 percent by 2050 community-wide. The municipality is setting an example by committing to transition to 100 percent clean energy by 2040. In 2016, the city adopted an energy benchmarking ordinance and The Bureau of Planning and Sustainability led a policy development process that resulted in the adoption of the Residential Energy Performance Rating and Disclosure chapter of the Portland City Code. After three city council hearings and several amendments, Portland City Council unanimously adopted the Home Energy Score Ordinance in December, 2016.

- [Portland Home Energy Score](#)

Minneapolis, Minnesota

[Section 190 of Title 3, Chapter 47](#) of the Minneapolis Code of Ordinances relating to Air Pollution and Environmental Protection: Energy and Air Pollution mandates residential energy disclosure for multifamily facilities. [Section 75 of Title 12, Chapter 248](#) relating to Housing: Truth in Sale of Housing mandates residential energy disclosure at the time of sale.

What are appropriate penalties for non-compliance? What is an appropriate cap for penalties?

Montpelier's Home Energy Information Ordinance provides that each day of non-compliance incurs a \$25 penalty, to be capped at \$500.

In **Berkeley**, an \$85 administrative late fee will be processed for buildings that do not complete a BESO Compliance Option prior to listing.

In **Burlington**, building owners are required to meet minimum efficiency standards when renting a unit. Improvement costs to meet minimum efficiency standards are not required to exceed \$2,500 per unit.

What types of buildings should be covered?

Based on the composition and needs of a community, the policy may cover only residential buildings, commercial multifamily buildings, and/or mixed use buildings. Some phased approaches may begin with larger single family homes before also including smaller single family homes, duplexes, and rental and multifamily units. When crafting the policy, it is essential to identify covered structures and to define what constitutes a covered structure. For example, if covered buildings include single family residential and multifamily residential buildings, it is important to define both of those building types. Here are examples of building types and definitions from existing policies and ordinances:



Montpelier: “Applicable building” means any residential structure. “Applicable building” does not include single dwelling units used solely for commercial purposes. The primary use of the building shall determine whether the building is considered residential, commercial, or other.

Austin: This chapter applies to a facility that receives electric service from the Austin Electric Utility. “Commercial facility” means a building used for civic, commercial, and/or industrial uses, excluding manufacturing, with a gross floor area of 10,000 square feet or greater. “Condominium” means a site that combines separate ownership of individual units with common ownership of other elements such as common areas. “Multi-family facility” means a site with five or more dwelling units. “Residential facility” means a site with four or fewer dwelling units.

Portland: “Covered building” means any residential structure containing a single dwelling unit or house, regardless of size, on its own lot. “Covered building” also includes attached single dwelling unit, regardless of whether it is located on its own lot, where each unit extends from foundation to roof, such as a row house, attached house, common-wall house, duplex, or townhouse. “Covered building” does not include detached accessory dwelling units or manufactured dwellings. “Covered building” also does not include single dwelling units used solely for commercial purposes.

Burlington: This division shall apply to residential rental properties that on an annual basis use 90,000 British thermal 58 units (BTUs) or more per conditioned square foot for space heating purposes.

Berkeley: The requirements of this chapter shall apply to all buildings that are located in whole or in part within the city. “Large building” means any building with 25,000 square feet or more of gross floor area. “Medium building” means any building with between 15,000 and 24,999 square feet of gross floor area, excluding single family buildings. “Single family building” means any building comprised solely of 1-4 residential units, regardless of size. “Small building” means any building with less than 15,000 square feet of gross floor area, excluding single family buildings.

How do we make the program more affordable for low-income owners?

A primary concern about low-income residents is actual benefit of disclosure of information and available resources. On one hand, providing this info should help steer buyers towards homes that best fit their budget. On the other hand, if a home is low performing but the homeowner can't afford upgrades, disclosure doesn't really help, unless cost-effective resources and opportunities are shared.

There are various approaches to providing equitable solutions. In the case of **Montpelier**, a partnership with the utility, Efficiency Vermont, allowed the Vermont Home Energy Profile to be free for all residents. There are no exceptions to the ordinance.

If the policy requires assessments paid for by the resident, it should provide funding to subsidize the cost for low-income residents.



How do we reduce the burden of the program for low-income owners?

There are many approaches to reducing the burden of a program on low-income owners while ensuring that some home efficiency needs are met. Many policies provide exemptions for households that have recently participated in a program such as weatherization. Several also provide opportunity for financial hardship deferrals approved by program administrators.

Burlington's ordinance (Section 18-130) offers the following exemption:

- B. (4) Rental properties that have previously and successfully participated in any weatherization incentive programs provided by local utility, state, or federal entities, as approved by the program administrator within the last 10 years.

Berkeley's BESO (Section 19.81.090) offers several exemptions for low-income households:

- A. High Performance Exemption. Exemptions from the Energy Report requirements for current reporting periods may be granted for buildings that demonstrate effective and reasonably achievable level of efficiency, electrification of building systems and appliances, and/or emissions reduction, based on the specific building type, use, vintage, and condition, that supports Berkeley's commitment to become a fossil fuel free city and the Berkeley Climate Action Plan (CAP) goal of 33 percent energy-related greenhouse gas reduction from 2000 levels by 2020 and 80 percent reduction by 2050. Qualified exemptions shall include, but are not limited to:
 - 1. Any whole building that has been served by an income-qualified Weatherization Assistance program for low-income households.
- D. Hardship Deferral. The requirement for an ENERGY STAR Performance Report and the requirement for an Energy Report may be deferred for up to one reporting cycle in cases of financial hardship where one of the following is provided by the building owner and approved by the administrator:
 - 1. Proof of participation in an energy assistance income qualified program, administered through the state or the local energy utility.
 - 2. Proof of approved participation in Property Tax Postponement or Property Tax Assistance for Senior Citizens, Blind or Disabled, or equivalent program as determined by administrator.
 - 3. Proof that the property qualifies for sale at public auction or acquisition by a public agency due to arrears for property taxes, within two years prior to the due date of the Energy Report.
 - 4. Proof that a court appointed receiver is in control of the asset due to financial distress.
 - 5. Proof that the senior mortgage is subject to a notice of default.
 - 6. Proof that the responsible party is otherwise not able to meet the obligations of this chapter. Deferrals under this section are granted to the building owner and are not transferable with a building sale, at which time compliance with this chapter shall be required.

Portland, Oregon's policy (Section 17.108.050) provides the following exemption:

- A. The director may exempt a seller from the requirements of this chapter after confirming that compliance would cause undue hardship for the seller under the following circumstances: The responsible party is otherwise unable to meet the obligations of this chapter as determined by the director.

Austin's policy (Section 6-7-13) provides the following exemption:



- B. This article does not apply to a residential facility if one or more of the following apply: (3) the facility participated in the Austin Energy Free Weatherization Program, or an equivalent Austin Electric Utility program, not more than 10 years before the time of sale; (4) the purchaser of the facility qualifies for and has signed an agreement, in a form acceptable to the director, agreeing to participate in the Austin Energy Free Weatherization Program or an equivalent Austin Electric Utility program, not later than six months after the time of sale.

Austin's ECAD (Section 6-7-4) also provides the following variance:

- A. The director shall grant a variance from a requirement of this chapter if the director determines that either (1) due to special circumstances unique to the applicant's facility and not based on a condition caused by actions of the applicant, strict compliance with provisions of this chapter would cause undue hardship or (2) due to exhaustion of reasonable energy efficiency measures, full compliance would require performance of work excluded from the scope of Section 6-7-23(B). A variance granted under this subsection (A) must be limited to the minimum change necessary to avoid the undue hardship or excluded work.