

Comments on: Comprehensive Energy Efficiency Program for Existing Buildings (AB 758) Scoping Report (Docket number 12-EBP-1)

Provided by: Earth Advantage Institute

Introduction

We deeply appreciate consideration of alternative software tools for energy assessments in the state of California.

Earth Advantage Institute began researching the field of energy disclosure and asset ratings in 2006. As advocates for energy efficiency and green building we were deeply concerned that energy efficiency industry was not crafting a compelling value proposition appealing to consumers. The positive attributes of an energy efficient home—while clear to the industry—are lost on the homeowner, thus leading to poor adoption rates. The benefits of lower operating costs, increased comfort, enhanced value, lower greenhouse gas (GHG) emissions, and the potential to stimulate the work force has not been synthesized for the consumer to easily engage in the dialog that will begin the retrofit process.

The Scoping Report appropriately identifies the merit of residential asset ratings when it comes to the consideration of energy efficiency or consumption in financial transactions or in terms of the home’s expected performance. Lenders and insurers who offer preferred products to homeowners who receive an energy score have stated their need for an “investment grade” assessment that is asset-based, timeless, immune from operator error and allows credible home-to-home comparison with real-world correlation to the energy performance of the buildings.

About EAI

An extensive Oregon pilot in 2008 with the Energy Trust of Oregon in which a number of software tools were tested against normalized utility use. The research study ¹ was exhaustive. We reviewed six comprehensive studies on home energy labeling, two hundred software tools, examined thirty six tools and methodologies, refined the pilot to five tools, conducted three hundred full scale audits on existing homes, and collected 229,000 data points.

The final five methodologies were chosen based on the following criteria:

1. Ability to measure total home energy use (equivalent to MPG absolute consumption),
2. Accuracy,
3. Ease of use
4. Prevalence

¹ [Pilot Study 2008](#)



5. Scalability.

A key attribute for consideration by the Energy Commission is that absolute energy consumption and associated carbon emissions are calculated following an energy assessment. This ensures that the asset rating is timeless and not anchored to some reference point (IECC or the Building Energy Efficiency Standard, etc.). This is effective when a consumer wishes to compare a home built in 2007 to one built in 2012.

Contractors have positively reviewed our tool stating that it has acted as a sales aid to drive deeper retrofits and more upgrade business to them. We are witnessing assessment-to-retrofit rates of between 45% and 60% in participating program areas. Since our user-friendly platform connects the homeowner to the program, assessor, and contractor, the level of engagement by the homeowners is substantially higher and long-term.

Home Energy Ratings

Earth Advantage Institute:

- Agrees that energy ratings can be a powerful tool to communicate the energy assets of a property and can educate and motivate consumers to take action on an upgrade project.
- Supports the use of energy ratings produced utilizing an asset value, calibrated to utility bills. An asset value label provides an assessment of energy use of a home based on its physical characteristics and a standardized set of operating characteristics.
- Agrees that the lifetime of the energy efficiency upgrades in a home can be very long and occupant behavior across owners and tenants of the home will vary greatly. An operational value can be used to help improve the accuracy of an asset value label via calibration of the underlying physical building simulation.
- Supports the use of energy ratings that require onsite inspection, diagnostic testing, and analysis of the energy efficiency of the existing home.
- Sees value in providing an option for an initial “light” assessment using energy modeling software or deemed savings.
- Sees value in a more robust test-out assessment (which includes building diagnostics) that produces an energy rating and is performed in conjunction with QA visits.
- Supports the use of whole-house ratings before listing, at time of listing, or shortly after real estate transactions are complete.

Alternative Software for Energy Assessments

Earth Advantage Institute:

- Supports the perspective of many stakeholders that a less complex and less expensive modeling process is needed in the state.
- Knows through experience that comprehensive assessments with building diagnostics can be much quicker (~60 minutes) than is currently the norm in the state.
- Agrees that energy assessments play a pivotal role in achieving the state's goals for high percentage savings through whole-house, "house-as-system" upgrades in all of California's homes.
- Agrees that since the opportunity for making energy efficiency improvements is different for each home, conducting effective and efficient energy assessments is critically important to understand and prioritize the potential upgrades that can be made, and gain homeowner buy-in to make upgrades.
- Supports the Energy Commission setting criteria in which to evaluate and authorize energy modeling tools that can be used by market actors.
- Supports a market-based approach to selecting Energy Commission-approved software modeling tools so that energy professional (raters, auditors, and home performance contractors) can select the tool that they deem most effective.
- Supports the use of BPI Building Analyst training credentials.