AN MPG STICKER FOR HOUSES: HOME ENERGY LABELING

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1:00 PM MT/12:00 NOON PT
Presenters

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Residential Labeling:

What Is It & Why Should Your State Be Interested?

Joan Glickman
April 6, 2017
Presentation Overview

- Why Does Residential Labeling Matter?
- Home Energy Information Accelerator
- Home Energy Score
- What States Can Do
Energy Labels Make the Invisible, Visible.

Capture the Value of EE

Home Sellers want to get credit for their investments in energy efficient equipment and other features

Home Buyers want to know what they’re buying and be able to predict monthly expenses (e.g., utility costs)

Reduce Uncertainty
Studies Nationwide Show Energy Efficient Homes Sell for More, Faster

Certified homes sell for 9.6% more⁶

Certified homes sell for 4.2% more & 18 days faster⁶

Certified homes sell for 2.1 to 5.3% more⁹

PACE homes delivered $199 to $8,882 above cost of improvements⁷

Homes that disclose energy costs sold 20 days faster⁵

Homes that use “green” fields consistently perform better on market indicators⁸

ENERGY STAR homes sold at $5,566 premium at $2.99 per ft² more, & 89 days faster¹⁰

New certified homes sold for 12.9% more, $13.82 per ft² more, & 42 days faster¹

Homes designated relatively energy efficient sold for an average $3,416 premium⁴

Houses with one or more green element sell for 5.9% more²

The Research Says: Homebuyers Value Energy Efficiency

Studies Show a Sales Premium of:

- **2% to 12.9%** for designated energy efficient homes 1, 2, 3, 7, 12
- **$2.99 to $13.82 per square foot** for every dollar saved on annual electricity bills from efficiency investments 1, 5, 10, 15
- **$3,416 to $8,882** for designated energy efficient homes 4, 8, 9, 12, 13, 14, 15

Home Energy Information Accelerator

Vision
Widespread use of reliable home energy information at all relevant points in the real estate transaction, enabling fair value at sale for energy efficient / high performing homes

1. Expand Pipeline
2. Develop Tools & Systems
3. Demonstrate Use
4. Recognize Champions

Success Metric
Significantly expand availability and use of reliable home energy information in five or more pilot markets to demonstrate replicable models of automated, linked systems influencing home sales
Home Energy Information Accelerator Partners

**National Partners**
- Appraisal Institute
- CoreLogic
- Council of Multiple Listing Services
- Green Button Alliance
- Homes.com
- Home Innovation Research Labs
- Home Performance Coalition
- National Association of Realtors®' Center for Realtor® Technology
- National Association of State Energy Officials
- PicketFence.com
- Real Estate Standards Organization
- Realtors Property Resource LLC
- U.S. Green Building Council

**Local Pilot Partners**
- **California**
  - Build it Green
  - CRMLS
- **Colorado**
  - Colorado Energy Office
  - Information and Real Estate Services, LLC
- **Illinois**
  - Elevate Energy
  - Illinois Department of Commerce & Economic Opportunity
  - Midwest Real Estate Data
- **Northeast & Vermont**
  - Northeast Energy Efficiency Partnerships
  - Vermont Energy Investment Corporation
- **Oregon**
  - Earth Advantage
  - Enhabit
  - Oregon Department of Energy
  - Regional Multiple Listing Service
DOE’s Home Energy Score: What Is It?

- A “miles-per-gallon” rating for single family homes
  - Standardized U.S. Department of Energy (DOE) rating
  - Provides estimated energy use for the home, given standard conditions.

- Reliable and easy to understand
  - Tells consumer how much energy the home is expected to use
  - Provides an “actionable” list of cost-effective recommendations to improve a home’s energy performance and comfort

- Generated using a DOE energy modeling tool with input provided through an in-home assessment
  - Must be done by a qualified Assessor
  - Free online training and test
The (Customizable) Home Energy Score Report Part 1: The Score

- Takes an hour or less to complete
- Free, on-line tool can be used directly or linked to other software tools via API
- Can be generated by contractors, home inspectors, utilities, others
- No reporting requirements; all automated
Part 2: Home Facts

This section of the Report provides all of the data inputs collected by the Assessor as well as the estimates generated by the Home Energy Scoring Tool.

Added Bonus: Utilities, states, and cities appreciate having data on their housing stock.
Part 3: Recommendations

**Recommended Improvements**

**REPAIR NOW.** These improvements will save you money, conserve energy, and improve your comfort.

- Air Tightness: Have a professional seal all the gaps and cracks that leak air to save **$110 / year**
- Ducts 1: Add insulation around ducts in unconditioned spaces to at least R-6 to save **$43 / year**
- Attic 2: Increase attic floor insulation to at least R-19 to save **$57 / year**
- Ducts 2: Add insulation around ducts in unconditioned spaces to at least R-6 to save **$23 / year**
- Ducts 2: Have a professional seal all the gaps and cracks that leak air to save **$74 / year**

**REPLACE LATER.** These improvements will help you save energy when it's time to replace or upgrade.

- Windows: Choose ones with an ENERGY STAR label to save **$61 / year**
- Water Heater: Choose an ENERGY STAR appliance to save **$159 / year**
- Electric Heat Pump: Choose an ENERGY STAR appliance to save **$32 / year**

**Comments**

Current local incentives may make this house a good candidate for a new water heater.

- Recommendations categorized as “Repair now” and “Replace later”; based on cost-effectiveness using state average utility rates
- Some Partners and Assessors provide their own custom recommendations
- Tool can generate “Upgrade Score” based on custom recommendations
Implementation Highlights: Making It Easy, Making It Matter

✓ 60,000+ homes scored since 2012
✓ 450 Assessors
✓ State and local adoption
  ▪ Varied approaches
  ▪ AL, AR, CO, CT, MO, NH, OR, VT; others considering (e.g. MA, NY, RI, WI)
  ▪ Berkeley, CA and Portland, OR require Score at time of sale or listing
✓ Free streamlined 3D simulation training and testing for Assessors
  ▪ Update released January 2017
✓ 8 commercial software platforms link to DOE’s latest Tool via an application programming interface (API)
  ▪ No need for double entry of data
Financing Products Linked to the Score

- FHA Policy (January 2016)
  - Allows lenders to provide a **2% stretch on debt-to-income ratios** for borrowers purchasing or refinancing a home
  - Home must score **6 or higher** or reach a 6 or higher with financed improvements

- Fannie Mae’s HomeStyle® Energy Mortgage Loan
  - **Finance up to 15%** of “as completed” home value for energy improvements with purchase or refinance; requires Score or comparable report
  - **$500 incentive** to lender on each loan

Others in the works

- **PACE** (property assessed clean energy financing) and other financing tools (e.g., CT Green Bank) can require or offer the Score for **consumer protection**
  - **Score highlights opportunities** for broader energy efficiency improvements and **gives credit** to homeowner (e.g., put in insulation when installing solar or replacing equipment)
- Freddie Mac also recognizes Home Energy Score; plans to undertake analysis to support more systematic consideration of energy efficiency in loans
- Homeowner insurance companies interested in potentially using Score to set rates; provides insight into risk
Why States are Leading the Way…

- **A unified statewide approach** sets the stage and thereby…
  - Reduces confusion in the market
  - Provides a consistent approach and/or infrastructure
  - Provides a platform for local governments in the state to take additional action

- **States care about homeowners**
  - Homeownership can be difficult, particularly for first-time buyers
  - Buyers want to know what they’re getting into before purchase

- **States care about maintaining and investing in housing stock**
  - The Score can motivate investments that make homes more durable and up to date

- **The Score can support and be integrated into other statewide initiatives**
  - State green banks, PACE, other financing
  - Weatherization programs, utility programs
  - Existing training and certification centers
  - Job and environment goals

- **Opportunity to lead and set yourself apart**
American Council for an Energy Efficient Economy Scorecards: Top 10 States and Cities

- California* (tie for 1)
- Massachusetts (tie for 1)
- Vermont* (3)
- Rhode Island (4)
- Connecticut* (tie for 5)
- New York (tie for 5)
- Oregon* (7)
- Washington (8)
- Maryland (9)
- Minnesota (10)

- Boston (1)
- New York City (2)
- Washington DC (3)
- San Francisco (4)
- Seattle (5)
- Chicago (6)
- Minneapolis (7)
- Portland* (8)
- Austin (9)
- Denver* (10)

See more at:
http://database.aceee.org/state-scorecard-rank#sthash.wpsvkdoO.dpuf

http://database.aceee.org/city-scorecard-rank#sthash.6NWiStUw.dpuf
Thank You!

Please contact us if you have questions or want more information:

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OR

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www.HomeEnergyScore.gov

www.betterbuildingssolutioncenter.energy.gov/summit
Energy Futures Group Consulting

Areas of Expertise

- Energy Efficiency & Renewable Energy
- Policy Development
- Program Design
- Building Codes
- Evaluation
- Cost-Effectiveness

Range of Clients

- Government Agencies
- Advocates
- Regulators
- Utilities

Clients in 30 states/provinces plus regional, national and international organizations.
Overview

1. Why label homes?
2. Background
3. Current energy transparency initiatives
4. Lessons learned
Why Label Homes?

Helping markets work by making energy performance visible

Background

- Home Energy Rating System (HERS) since mid-1980s
  - Primarily for new homes
    - ENERGY STAR Homes
    - Tax credits
    - Energy code compliance
  - ~2 million HERS ratings issued

- Disclosure policies in about two dozen states/cities
  - Benchmarking for multifamily & commercial buildings
  - Some energy bill disclosure or checklists for residential
  - Austin, TX, Berkeley, CA and Portland, OR require an audit at time of sale

- Energy Performance Score (EPS) in OR and pilots 2007
- Home Energy Score since 2012 (piloted in 2010)
  - ~60,000 issued
HERS and Home Energy Score
Information is Asset-Based

**Asset**
- Modeled energy performance
- Standardized for occupancy & weather
- Fixed over time

**Operational**
- Actual energy usage
- Dependent on occupancy & weather
- Changes over time
Vermont’s Disclosure and Labeling History

1987
Energy Rated Homes of VT (HERS)

2011
Building Energy Disclosure Working Group

2012
Thermal Efficiency Taskforce

2015-2016
Residential Energy Labeling Pilot Program

2017
S.118 Disclosure & Benchmarking Legislation

2011
Comprehensive Energy Plan

2013-2014
Act 89 – Residential & Commercial Working Groups

2016
Act 89 – Progress Report to Legislature
## U.S. Residential Energy Transparency Policies

### Comparison of U.S. Residential Energy Transparency Policies

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Labels – VT, MA, OR
Some Current Initiatives

- **DOE Home Energy Information Accelerator**
  - Develop and demonstrate approaches that make energy related information easily available to home buyers and sellers through multiple listing service (MLS)...

- **HELIX (Home Energy Labeling Information Exchange)**
  - Auto-populate MLS with Home Energy Score information

- **Multiple DOE Pilots**
  - REVEAL (NH & VT)
  - AL
  - AR

- **EMPRESS (RI & NASEO)**
  - HERS & Home Energy Score harmonization

- **MLS integration and coordination**

- **Realtor, appraiser, lender, and home inspector partnerships**
Recent Labeling Legislation

- **Massachusetts**
  - Mandatory time of sale rating failed last year

- **Vermont**
  - Mandatory time of sale legislation failed in 2013
  - S.118 in 2017: Realtors support mandatory energy information disclosure at time of sale

- **Oregon**
  - 2016: Final state rules on home energy performance scores
  - 2016: Portland mandatory time-of-listing rating requires Home Energy Score
Lessons Learned

- Don’t reinvent the wheel:
  - HERS for new construction
  - Home Energy Score for existing homes

- Establish a standard “label” or “metric”
  - Require one underlying calculator for official state home energy labels or ratings

- Provide information at time of listing or sale
  - “Good to know” – inform customers that they can get a Score
  - Require specific Score or label

- Include all stakeholders in the conversation

- Realtors play a key role and hold a lot of power

- MLS is key, but 700+ of them make it challenging

- Partner with utilities

- CASE study

- Voluntary approach engages most players, but may not provide the greatest impact to influence markets
Q&A

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<th>Planning &amp; Policy Options</th>
<th>Emerging Technologies</th>
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**Home Energy Performance Scoring**

Leading the integration of energy use information for homes
Portland Oregon – Mandatory Energy Scoring - effective 1/1/2018

Why a home energy score policy?
Scores, labels and ratings are a regular part of how we communicate information. We consult miles-per-gallon ratings on cars, nutrition labels on food, and Energy Guide labels on appliances to make informed consumer decisions. However, consumer labeling for homes is inconsistent and unavailable in most real estate markets.

Of Portland’s 160,000 single-family homes, less than two percent have an energy score.
Archived Webinar

Slides and a recording of today's event will be made available within 5 business days at http://www.ncsl.org/default.aspx?tabid=29955.

Register for additional webinars at the address above.

Questions?
Contact Gretchen.DuBois@ncsl.org