



## Leveraging the Real Estate Industry to Increase Energy Efficiency Upgrades

Joan Glickman  
U.S. Department of Energy

- **Elizabeth Stuart**, Lawrence Berkeley National Laboratory
- **Denee Evans**, Council of Multiple Listing Services
- **Laura Stukel**, Elevate Energy
- **Emily Levin**, Vermont Energy Investment Corporation

## The U.S. Department of Energy created the Home Energy Score to serve as a nationally standardized “miles-per-gallon” rating for homes

- Offers homeowners **affordable, reliable, easy way** to understand homes’ energy performance
- Available at **no-cost** to program providers
- Intended to **motivate homeowners** to invest in residential energy efficiency
  - Simple and action-oriented
  - Ability to document investment in energy efficiency using the post-improvement score



Home Energy Score website: [www.homeenergyscore.gov](http://www.homeenergyscore.gov)

## Home Energy Score

### Score

Address: **12345 Honeysuckle Lane  
Smithville AR 72466**

### Home Facts

Home size: **1,800 square feet**  
Year built: **1970**  
Air conditioned: **Yes**

### Recommendations

Your home's  
current score **3**

Score with  
improvements **7**

Estimated  
annual  
savings **\$411**

Uses  
more  
energy

1

2

3

4

5

6

7

8

9

10

Uses  
less  
energy



U.S. DEPARTMENT OF  
**ENERGY**

[homeenergyscore.gov](http://homeenergyscore.gov)

The **Home Energy Score** is a national rating system developed by the U.S. Department of Energy. The **Score** reflects the energy efficiency of a home based on the home's structure and heating, cooling, and hot water systems. The **Home Facts** provide details about the current structure and systems. **Recommendations** show how to improve the energy efficiency of the home to achieve a higher score and save money.

Assessment type: **Official Score**

Assessment date: **Feb 03, 2014**

Score ID: **42944**

Qualified assessor #: **101019**

Home Energy Score Version: **v2014.4506**

- Takes an hour or less to complete
- Can be generated by home inspectors, contractors, utilities, others
- Can be used directly on-line or linked to other software tools
- Builds on social norming principles: "5" represents a home with expected average energy use
- Generates values of interest beyond the 1-10 score (e.g., expected energy use)

✓ **Score is a flexible offering that can be customized and delivered through many avenues**

- Home Performance with ENERGY STAR, direct install programs, as part of real estate transactions

✓ **Earlier this year, DOE launched new 3-D training & testing tool for Assessors**

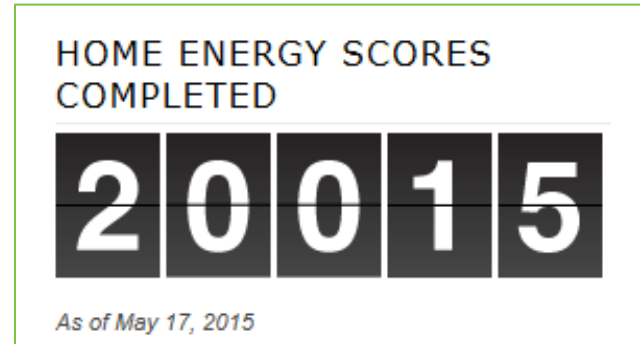
- Allows greater number and type of building professionals (e.g., home inspectors, HVAC contractors) to offer the Score

✓ **Software companies licensing Home Energy Score Application Programming Interface (API)**

- Allows seamless data transfer
- Now accepts data in HPXML
- Now offering Score thru API: EnergySavvy, Optimiser, CakeSystems, EnergySoft, Spirit Foundation, CEEF, PSD

✓ **State and local adoption**

- CO, CT, MO, OR, VT
- Others likely to adopt include AL, AR, NY
- City of Berkeley passed ordinance – will use Score to fulfill disclosure requirement



But information alone is  
not enough...



we need to make that information  
easily **ACCESSIBLE** and **USED**  
in real estate transactions.

## Called for in the President's Climate Action Plan

**Better Buildings Accelerators** are designed to demonstrate specific innovative approaches in energy data, performance contracting, utility strategic energy management, and other areas within three years, which upon successful demonstration will accelerate investment in energy efficiency.

- ✓ **Home Energy Information Accelerator** – facilitate widespread use of reliable home energy information at all relevant points in the real estate transaction
- ✓ **Home Upgrade Program Accelerator** – bring home energy upgrade services to more homes by reducing the costs associated with managing and operating energy upgrade programs and improving overall program effectiveness

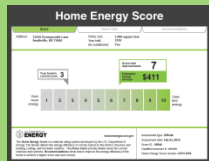
## Vision

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

- Of homes with verified energy information (e.g., Home Energy Score, Zero Energy Ready Homes, ENERGY STAR)



2

### Develop Tools & Systems

- That facilitate the standardized and automated flow of home energy information from credible sources to relevant users



3

### Demonstrate Use

- Of home energy information in MLS listings, appraisal forms, and other relevant applications



4

### Recognize Champions

- In relevant fields, highlight their successes, and encourage adoption of best practices



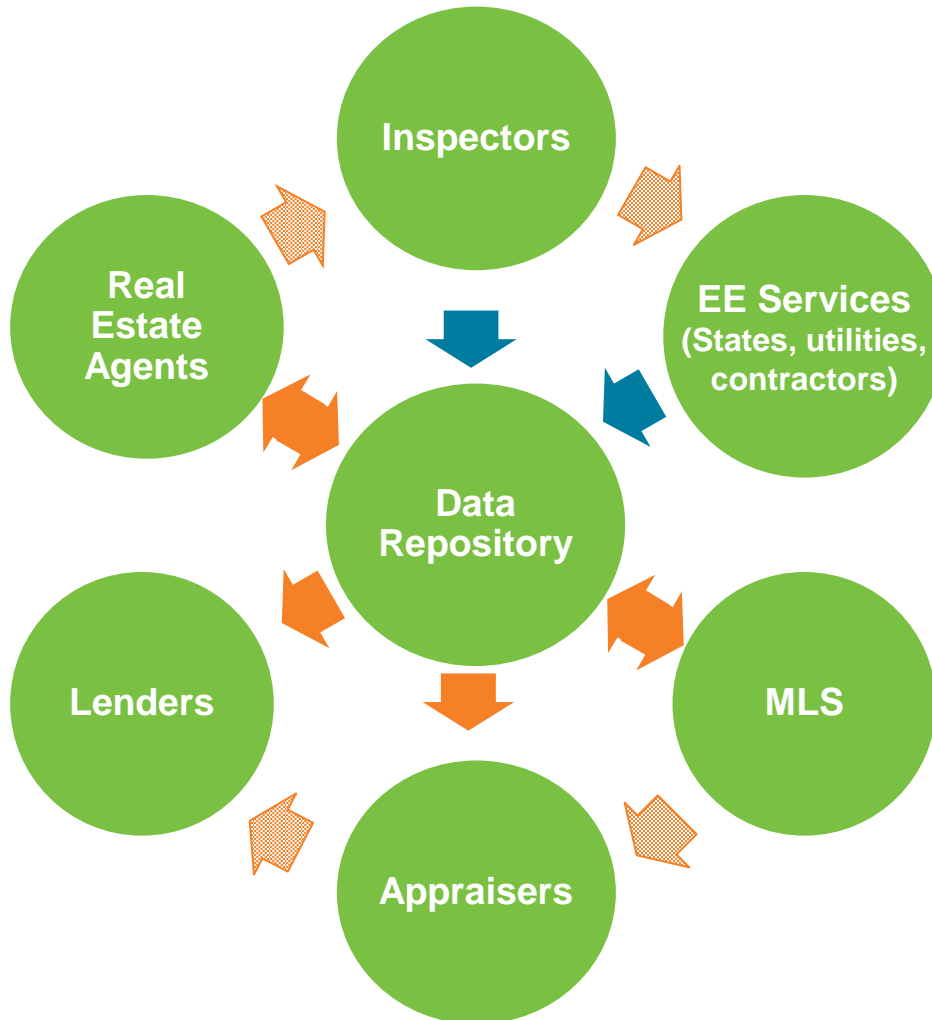
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### Success Metric

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



# Closing the Loop to Capture the Value of EE in Homes



- ❖ **Maintain energy information in a central repository (or make it part of public record)**
- ❖ **Automate information flow to MLS**
- ❖ **Make energy information non-threatening and useful to homebuyers**
  - ✓ Buyers generally want to know what their monthly costs are going to be as a homeowner (e.g., utility costs)
  - ✓ Ideally, brokers will encourage buyers to have a home energy assessment as part of a home inspection
  - ✓ Inspectors can point out opportunities for greater efficiency as well as incentives, retailer or utility offers (e.g., lead generation)
- ❖ **Design policies that encourage lenders and appraisers to seek out the information**
  - ✓ Greater training and outreach to lenders & appraisers
  - ✓ Need clear policies on how this information can be used to inform lending decisions and valuation

# Engaging Key Players

## Key Players

## Motivation

## Key Challenges

## National Progress

### Agents/ Brokers

- Differentiation
- Customer service

- **Awareness/training**
- Fear of negative information



Gaining traction

### Inspectors

- Differentiation
- Additional revenue

- **Awareness**



Gaining traction

### Appraisers

- Required to analyze all characteristics of the house

- **Awareness/Training**
- Additional effort
- Lack of comps



Slow progress

### Lenders

- Minimize risk

- Quantifiable impact on foreclosures
- Favor “comp” appraisals



Slow progress

### MLS Boards

- Keeping up with market
- Delivering information of interest

- Data transfer protocols
- Privacy



Gaining traction

### EE & RE Services

- Increased program participation
- Capture value of investments

- **Awareness**
- Consistent metrics & information



On board & growing

**THANK YOU!**

**[joan.glickman@ee.doe.gov](mailto:joan.glickman@ee.doe.gov)**

**[homeenergyscore@ee.doe.gov](mailto:homeenergyscore@ee.doe.gov)**

**[www.homeenergyscore.gov](http://www.homeenergyscore.gov)**

- Know your state's (or community's) strengths. Know its challenges.
  - Individuals
  - Organizations
  - Laws on the books, relevant requirements
  - Funds
  - Related interests
- What information do you currently have on home energy efficiency in the housing stock?
  - What are your best bets for growing a sustainable pipeline of reliable home energy information?
- What information do different players in the real estate industry want? Can you generate different pieces of information for different users without creating market confusion?
- Can you figure out messaging or delivery methods that use scores to drive demand for energy efficiency absent changes to lending and appraisal practices?

## ✓ Tying the Score to Financing

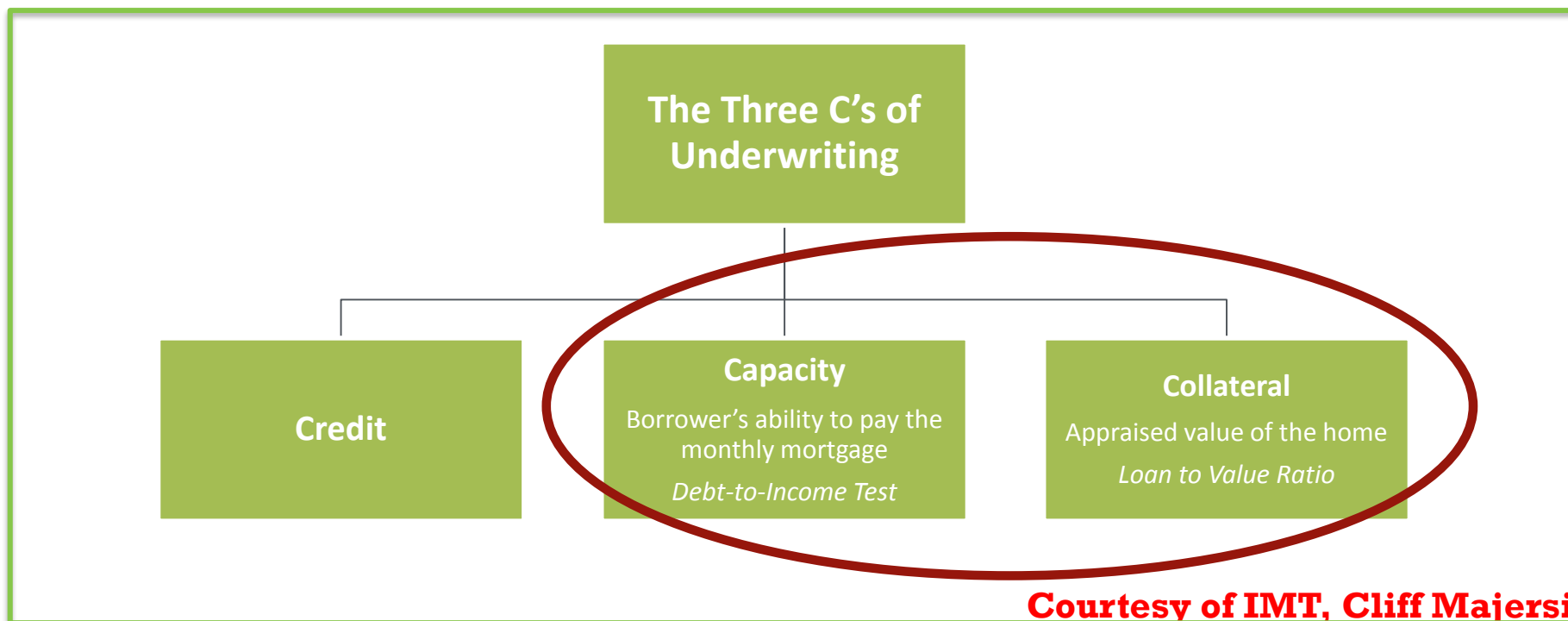
- **Provide a two percent stretch on the qualifying debt-to-income ratio provided to borrowers**
  - If home is a 6 or better
  - If improvements are being made to get the home to achieve a 6 or better
- **Good News: 203(k) and 203(b) are standard, high volume products**
- **Bad News: Will only be possible through “manual” underwriting initially**
- **Changes to automated underwriting:**
  - Much more difficult to achieve
  - Requires data to inform modifications to

current algorithms



# Incorporating Energy Efficiency into Mortgage Underwriting

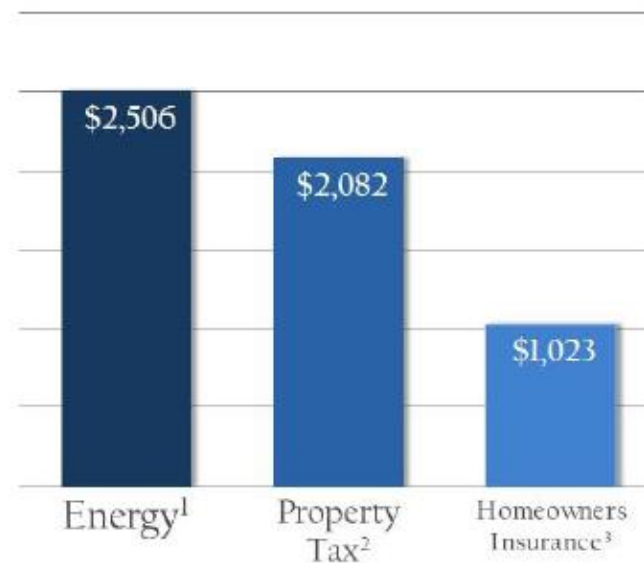
- ✓ Adjust capacity to account for expected energy costs –
  - Can't use previous owner's utility bills given variability associated with occupant behavior, weather, etc.
  - Asset rating/score that predicts energy costs is an excellent alternative – we just need the policies in place to require this adjustment.
- ✓ Adjust valuation of the home reflects the energy cost savings.



**Courtesy of IMT, Cliff Majersik**

- Would provide guidance to HUD to issue updated underwriting and appraisal guidelines for borrowers who submit a qualified home energy report.
- **Debt-to-Income Adjustment:** Instructs lenders to account for expected energy cost savings as an offset to other expenses in the debt-to-income qualifying ratio.
  - ✓ “PITI+E”
- **Loan-to-Value Adjustment:** Instructs lenders to add the present value of expected energy savings when calculating the loan-to-value ratio, where not already accounted for in the home’s appraisal report.
- Opportunity to inform buyer -- what to expect in terms of likely monthly bills

Average U.S. Homeowner Costs:  
2012



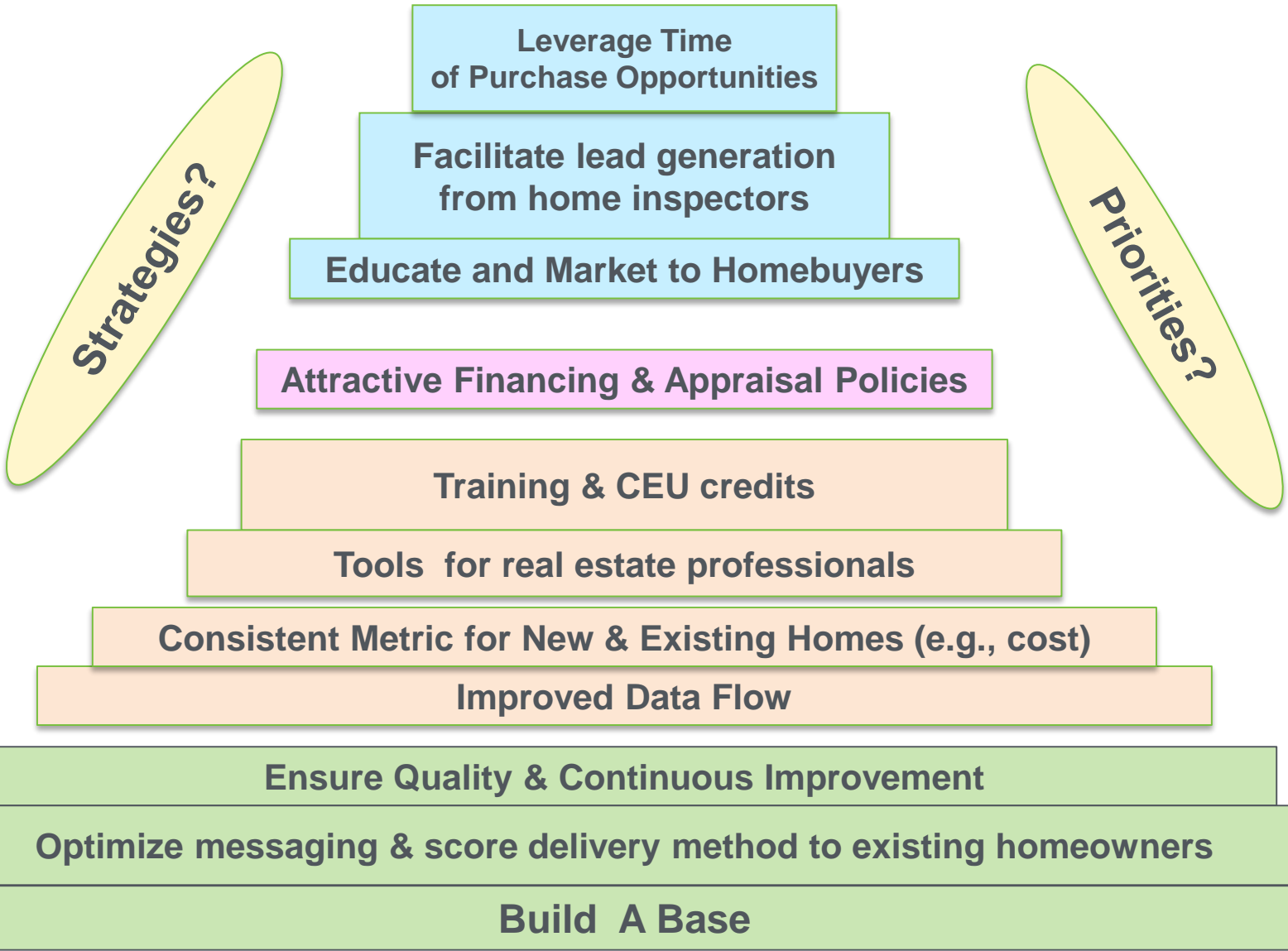
Sources: EIA Annual Energy Outlook 2014; 2012 American Community Survey; National Association of Insurance Commissioners; 2012 Annual Homeowners Insurance Report

**Courtesy of IMT, Cliff Majersil**

# Using Score to Drive Demand for EE

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# Program Accomplishments of Last 12 Months

Key Activities	Accomplishments
----- <b>Last 12 Months</b> -----	
<b>Existing Partners</b>	<ul style="list-style-type: none"> <li>Reaching scale and trying new approaches – congratulations &amp; thank you!</li> </ul>
<b>New Partners</b>	<ul style="list-style-type: none"> <li>Focus on Energy, Arkansas Economic Development Commission-Energy Office, OR Department of Energy, VEIC (VT), SEEL, Posigen</li> </ul>
<b>State &amp; Local Policies</b>	<ul style="list-style-type: none"> <li>VT, NH, AL, AR, MO, CO, OR, CT</li> <li>Berkeley ordinance</li> </ul>
<b>Scoring Tool, API, &amp; Gateway</b>	<ul style="list-style-type: none"> <li>5 = average home</li> <li>HPXML now available</li> <li>Growing number of software tools with API access to Score</li> <li>Partner Portal</li> </ul>
<b>Assessor Training &amp; Testing</b>	<ul style="list-style-type: none"> <li>Scoring Tool v.2015</li> <li>3-D simulation training &amp; testing platform</li> <li>New Assessor requirements</li> </ul>
<b>Evaluation</b>	<ul style="list-style-type: none"> <li>Launched 2 additional studies with NYSERDA &amp; Colorado Energy Office</li> </ul>
----- <b>Coming Soon</b> -----	
<b>Quality Assurance</b>	<ul style="list-style-type: none"> <li>More automated capabilities for QA and review of scores</li> </ul>
<b>IT Gateway</b>	<ul style="list-style-type: none"> <li>Development underway</li> <li>Gateway expected September 2015</li> </ul>
<b>HUD/FHA</b>	<ul style="list-style-type: none"> <li>Announcement for 2% stretch expected in Spring/Summer 2015</li> </ul>

**VISION:** Home Energy Score is widely used and motivates homeowners and buyers to make efficiency improvements

- What are indicators of success? What needs to be true in the marketplace to be confident that the program -- as well as its intended outcomes -- are sustainable?

## ✓ Increased supply

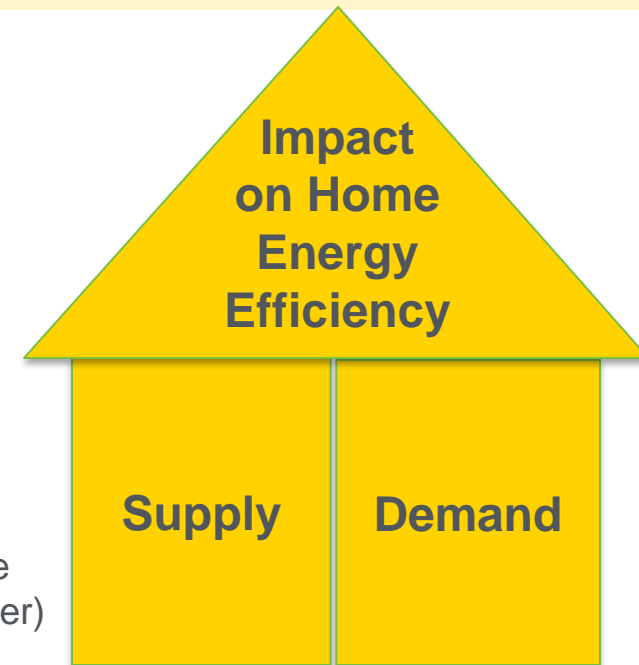
- X number of homes scored/year
- X percent of all home inspections include the score
- Different players benefit from using it (e.g., sustainable, profitable)
- Large retailers and/or manufacturers use the Score as part of their business strategies

## ✓ Increased Demand

- Consumers demand the score, want to improve homes that score below 6
- Easy to get key metrics (score, estimated cost) and easy to use the info to affect decision-making (lenders, appraisers, homeowner/buyer)

## ✓ Increased Impact

- X percent of homes scored make EE improvements
- House plays a role at time of sale (e.g., buyers desire a higher score)
- Score factors into X percent of home sales
- Policies in place (states, HUD, GSEs) rely on the score or incentivize action related to the score



- Connecticut: Integrating Score with utilities' *Home Energy Solutions* program
  - Plan on scoring 11,000 homes annually
  - Using the Score to help track progress toward the state's 80% weatherization goal for 2030
- Colorado: Linking the Score to incentives at point of sale or refinance
  - \$750 per score jump, up to \$3,000
  - Capitalize on homebuyers' willingness to invest in efficiency at point of sale
  - Launching in July (thru utilities & home inspectors)
- Vermont: Adopting Home Energy Score as a key component of the state's voluntary labeling program
  - Using multiple metrics from the Home Energy Scoring Tool to generate a customized state label
- Missouri: *Home Energy Certification* Program
  - Recognizes high scores as well as specific improvements in ratings using Home Energy Score & HERS

- Recent developments
- Vision moving forward (utilities and now trying to push home inspectors)
- Value of HEScore and how it's gaining traction (still need to sell some folks on it)
- Issues that Partners/states are having
- Accelerator
- New homes and existing homes and how we can work toward consistent calculations

**What opportunities & challenges does DOE see?**

**Can it work for New Homes? What issues are they hearing states / programs are struggling with.**

How can we streamline data collection?

5. How can we unite differing state methods (e.g. custom labels) and metrics (e.g. HES vs. MMBTU) to provide the market with **clear collective messaging?**

6. What will it take to ensure that the Score remains viable over the long-term and is fully integrated into your communities?

**What is the latest update to Home Energy Score?**

**What opportunities & challenges does DOE see? Can it work for New Homes? What issues are they hearing states / programs are struggling with.**



**Overcoming Barriers to Valuing Energy  
Efficiency in Residential Real Estate  
Transactions:  
Steps EE Programs Can Take Now**

Elizabeth Stuart  
Lawrence Berkeley National Laboratory

# Why engage the real estate community?

- Homebuyers value efficiency
- EE not properly valued in home sale process
- Opportunity: > 5 million homes sold annually
- EE programs have information to drive EE valuation
- Create a future in which homeowners eagerly pay for efficiency upgrades



# Some key barriers to accurately valuing EE

- EE often invisible to buyers, agents, inspectors
- Lack of standard documentation and dissemination
- Lack of 3<sup>rd</sup> party verification certification
- Time gap between upgrades and home resale
- Failure to assign qualified appraisers



# National Efforts Underway

- Unlocking the Value of an EE Home (Blueprint)
- DOE: BEDES; BPI 2101 Standard
- Green the MLS (NAR)
- Appraisal Institute Residential Green and Energy Efficient Addendum
- Appraisal Foundation forthcoming documents
- Aligning building efficiency and real estate information (e.g., RETS)



# EE program influence touchpoints

Real Estate or Program Actor	EE Program Activity Ideas
Home performance contractors	Document upgrades in standardized formats; put sticker on home's breaker box
EE program participants	Issue EE upgrade or home rating certificate; engage homeowners to share the information when reselling the home
Local Board of REALTORS®	Support real estate agent education; give “brown bag” talks; work to establish green fields in MLS
Mortgage lenders, appraisers, home inspectors	Support green real estate education; post lists of green-qualified professionals

# Activity Areas

- Activity areas
  1. Collect and communicate EE data in standardized formats
  2. Retain information and communicate at home resale
  3. Support training resources for real estate professionals



# EE Program Activities: Where to Start?

- Potential activities involve range of effort level
  - Basic level of effort, e.g.
    - Offer certificates for home energy upgrades
    - Put sticker with EE info on home's circuit box
  - Long-term effort, e.g.
    - Establish green MLS data fields
    - Use established data standards


# EE Program Activities: Where to Start?

- First step: assess local situation
  - What is the inventory of high performance homes?
  - Does program offer certification or rating?
  - What is the real estate community's level of interest/experience with efficient homes
  - What 'green' fields does the MLS accept (if any)?
  - What resources do I have available?

# Activity Area 1: Standardized Data Formats

- Basic approach – leverage existing resources:
  - National terminology standards (BEDES, RETS)
  - Rating systems (e.g., HES, EPS, HERS)
  - 3<sup>rd</sup>-party verified certificates (e.g., HPwES)
  - Appraisal Institute Residential Green and Efficient Addendum

## Residential Green & Energy Efficient Addendum

 AI Reports <sup>®</sup> Form 820.03 <sup>™</sup>	Client File #:	Appraisal File #:	
	<b>Residential Green and Energy Efficient Addendum</b>		
	Client:		
	Subject Property:		
	City:	State:	Zip:

Additional resources to aid in the selection of green practices and the completion of this form can be found at

# Activity Area 1: Standardized Data Formats



www.IllinoisHomePerformance.org

## Silver Certificate of Completion

**Home address:**  
1234 Sample Street  
Sample, IL 60000

**Contractor:**  
Name of Contractor

**Program Provider:**  
Name of Program Provider

**Work Completed On\*:**  
Date Completed

\*Certificate issued 12/31/2014 by the Midwest Energy Efficiency Alliance (MEEA) on behalf of the Illinois Energy Office based solely on the reporting by or estimates of contractor. A minimum of 15% is required to receive a Certificate of Completion. See reverse.

**This home has achieved an estimated total energy reduction of at least 15%\* after the following home energy upgrades:**

- Air sealing performed reducing total air leakage rate by 34%
- Attic insulation improved to R-49
- Existing bath fan vented to exterior



**Agnes Mrozowski**  
Assistant Deputy Director, Illinois Energy Office



Home Performance with ENERGY STAR offers a comprehensive, whole-house approach to home improvement that results in better energy efficiency, greater comfort, and lower energy bills.

ENERGY STAR is a voluntary partnership sponsored by the U.S. EPA and the U.S. DOE to protect the environment through superior energy efficiency.



**Illinois Department of Commerce & Economic Opportunity**  
Pat Quinn, Governor

# Activity Area 1: Standardized Data Formats

- Longer-term effort: Green the MLS
  - Establish or expand green MLS fields
  - Partner with local brokerages/agents
  - Use Green MLS Implementation Guide
  - Can start with checkbox for ENERGY STAR home, upgrade certificate or home energy rating



## Program Example: State of Colorado

- Needed data to support EE financing programs
- Undertook broad statewide effort

# Activity Area 1: Standardized Data Formats

- Longer-term effort: interoperable national standards
  - BPI-2101 defines data requirements for 2 certificates:
    - Cert. of performance (e.g. HES, HERS rating, EPS)
    - Cert. of energy improvement (e.g., HPwES)
  - BPI-2103 (HPXML) is the data transfer protocol
  - HPXML Implementation Guide: steps and use cases

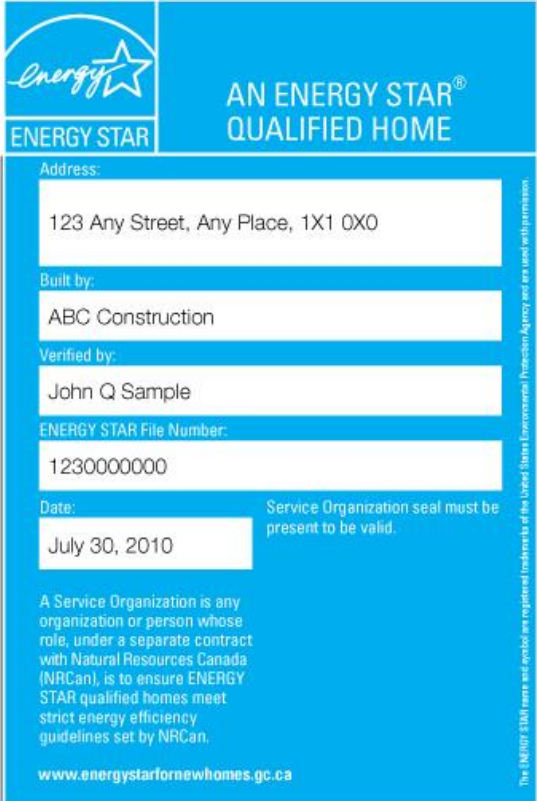
## Program Example: NYSERDA

- Goal: open market to multiple software vendors
- (Re)evaluated every data field
- Additional benefit: improved workflow



# Activity Area 2: Retain and Communicate

- Basic effort: Keep EE information with the home
  - Create sticker with home's EE information
  - Require contractors to place sticker on home's breaker box
  - Follow lead of ENERGY STAR qualified new homes, manufactured homes and energy code compliance programs



The image shows a blue ENERGY STAR qualified home sticker. At the top left is the ENERGY STAR logo. To its right, it says "AN ENERGY STAR® QUALIFIED HOME". Below this, there are several fields for information: "Address:" with the value "123 Any Street, Any Place, 1X1 0X0"; "Built by:" with "ABC Construction"; "Verified by:" with "John Q Sample"; "ENERGY STAR File Number:" with "1230000000"; and "Date:" with "July 30, 2010". To the right of the date field, it says "Service Organization seal must be present to be valid." At the bottom, there is a paragraph explaining that a Service Organization is an organization or person whose role, under a separate contract with Natural Resources Canada (NRCAN), is to ensure ENERGY STAR qualified homes meet strict energy efficiency guidelines set by NRCAN. The website "www.energystarfornewhomes.gc.ca" is listed at the bottom. On the right edge, there is a vertical note: "The ENERGY STAR name and symbol are registered trademarks of the United States Environmental Protection Agency and are used with permission."

ENERGY STAR		AN ENERGY STAR® QUALIFIED HOME	
Address:			
123 Any Street, Any Place, 1X1 0X0			
Built by:			
ABC Construction			
Verified by:			
John Q Sample			
ENERGY STAR File Number:			
1230000000			
Date:		Service Organization seal must be present to be valid.	
July 30, 2010			
A Service Organization is any organization or person whose role, under a separate contract with Natural Resources Canada (NRCAN), is to ensure ENERGY STAR qualified homes meet strict energy efficiency guidelines set by NRCAN.			
www.energystarfornewhomes.gc.ca			

# Activity Area 2: Retain and Communicate

- Basic effort: engage program participants beyond the upgrade
  - Educate homeowners to retain EE/rating information and share it with agent when they sell home
  - Periodically engage and remind participants

## Program Example: Illinois Home Performance

- Website reminder
- Postcard mailings

# Activity Area 2: Retain and Communicate

- Moderate effort: Ensure EE information is included in appraisals
  - Document upgrades in Appraisal Institute Green and Energy Efficient Addendum
  - Educate homeowners to retain the Addendum
  - Educate lenders, real estate professionals and appraisers about the Addendum
  - Educate agents to tell home buyers to request green-qualified appraiser
  - Link to lists of local/national green-qualified appraisers

# Activity Area 2: Retain and Communicate

- Longer-term effort: Automate data transfer to MLS
  - First step: ask program participants for permission to share EE data

## Program Example: Energy Trust of Oregon

- Exploring automated transfer from ETO database to MLS aggregators
- 1<sup>st</sup> step: transmit Energy Performance Score

# Activity Area 3: Education and Training

- Basic approach: Outreach and presentations to real estate community
  - E.g., “brown bag” talks, green home tours
  - Develop relationships, network

## Program Example: Energy Trust of Oregon

- Created real estate ally designation
- Promotes allies on website, networking

# Activity Area 3: Education and Training

- Leverage existing resources to support training
  - Courses that provide CEUs for license renewal
  - Voluntary professional development
  - Multi-day advanced designation training, e.g.:
    - NAR Green Designation
    - Eco-broker
    - Earth Advantage Broker
    - Appraisal Institute Valuation of Sustainable Buildings Professional Development program

# Activity Area 3: Education and Training

- Leverage existing resources to support training

## Program Example: MEEA

- Partnered with NAR Green Designation and local board of Realtors®
- Success factors:
    - Partner to get courses CEU-certified
    - Messaging: expand expertise
    - Subsidize cost: agents have many options for free CEUs

# Getting Started: Assess Your Situation

- Has the regional MLS established any green fields?
- Is there interest among local real estate professionals?
- Is there a growing inventory of high-performance homes?
- Are local green real estate trainings available?
- Does my program have relationships with members of the real estate community?
- Has my program established any energy efficiency certification and rating programs?
- Does my program have the resources necessary to develop databases and work with software vendors ?



# Thank you!

Elizabeth Stuart  
Lawrence Berkeley National Laboratory  
Estuart@lbl.gov



# Multiple Listing Service

Leveraging the Real Estate Industry to Increase  
Energy Efficiency Upgrades



**CMLS**  
Council of Multiple Listing Services

- Founded in 1957
- National Association supporting MLSs
- 150 members that service 85% of the market
- Provide resources, networking and advocacy

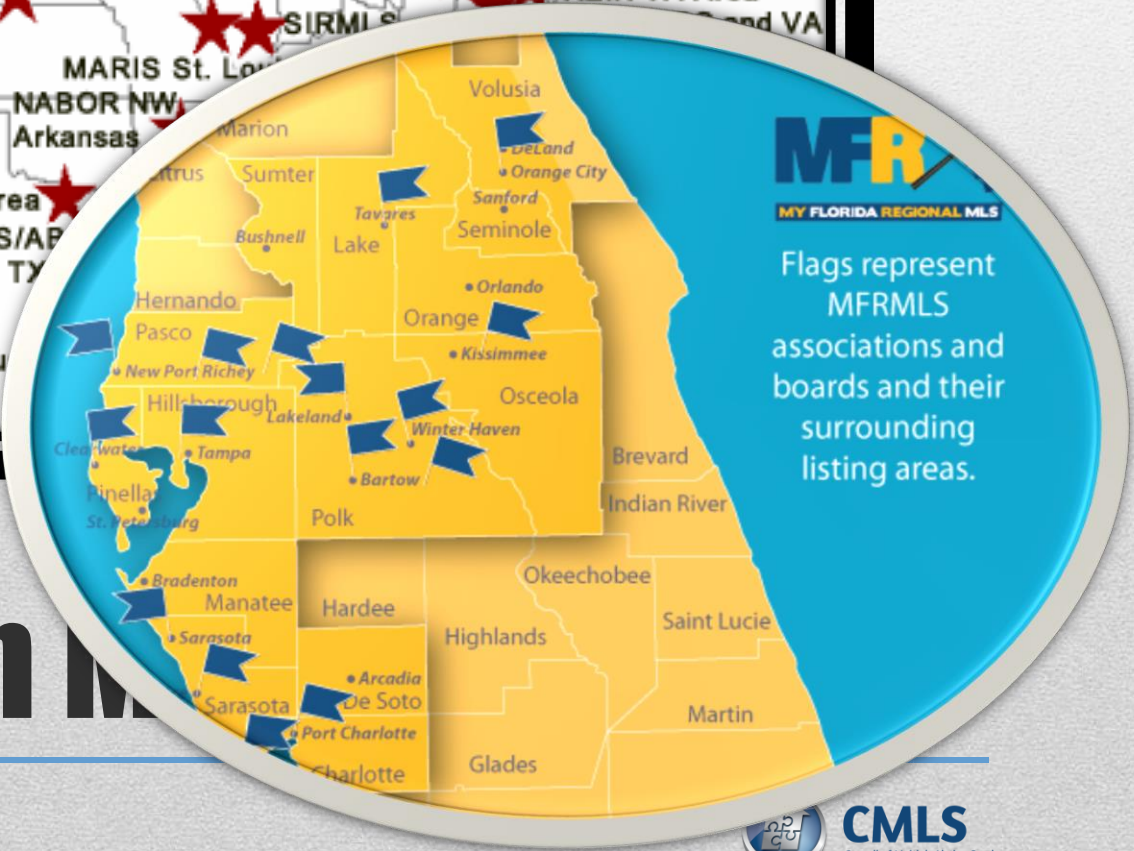
# What is CMLS?

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- Denee Evans, CEO
- Degree in Finance – Real Estate
- ED of EnergyFit Nevada, HPwES program
- Senior Loan Officer at BofA and Wells Fargo
- Homeowner

# Who am I?



# What is an MFRMLS



<b>850+ Nationally</b>	<b>1600+ Nationally</b>	<b>1.2 Million Members</b>
Independently operated	Independently operated	National organization
Governance: Exec Board, Reps from local board of REALTORS	Governance: Exec Board	Governance: Exec Board
MLS Services: MLS data hosting, training, compliance	MLS-Related Services: Code of Ethics, training, grievance process	MLS Services: Legal guidance to MLS staff

# Can't we just standardize MLS?

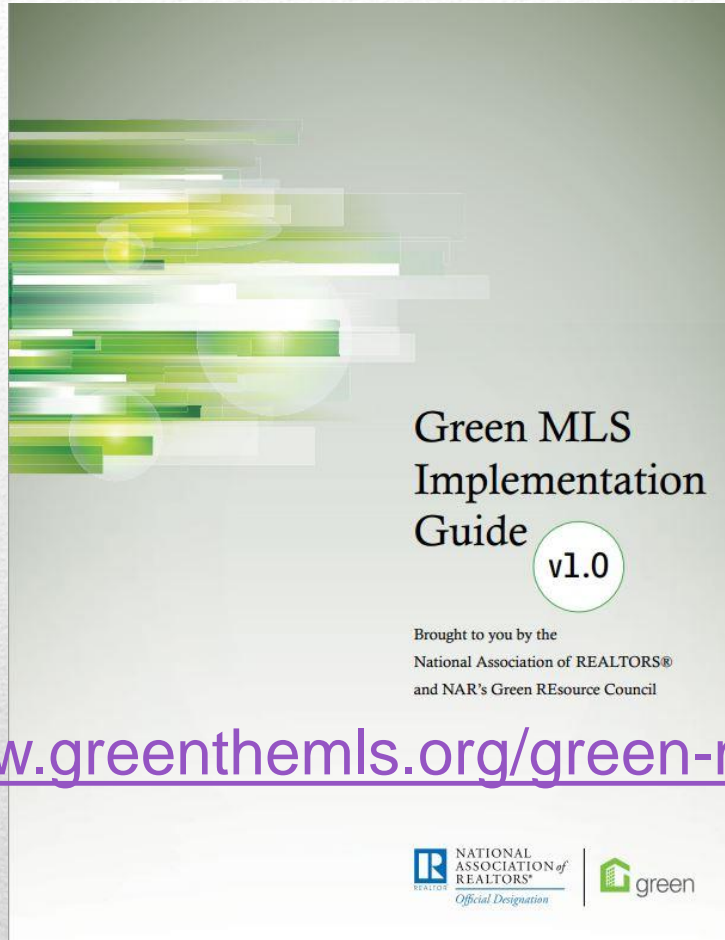
# Key partners leading the way



**CMLS**  
Council of Multiple Listing Services



# Where do we start?



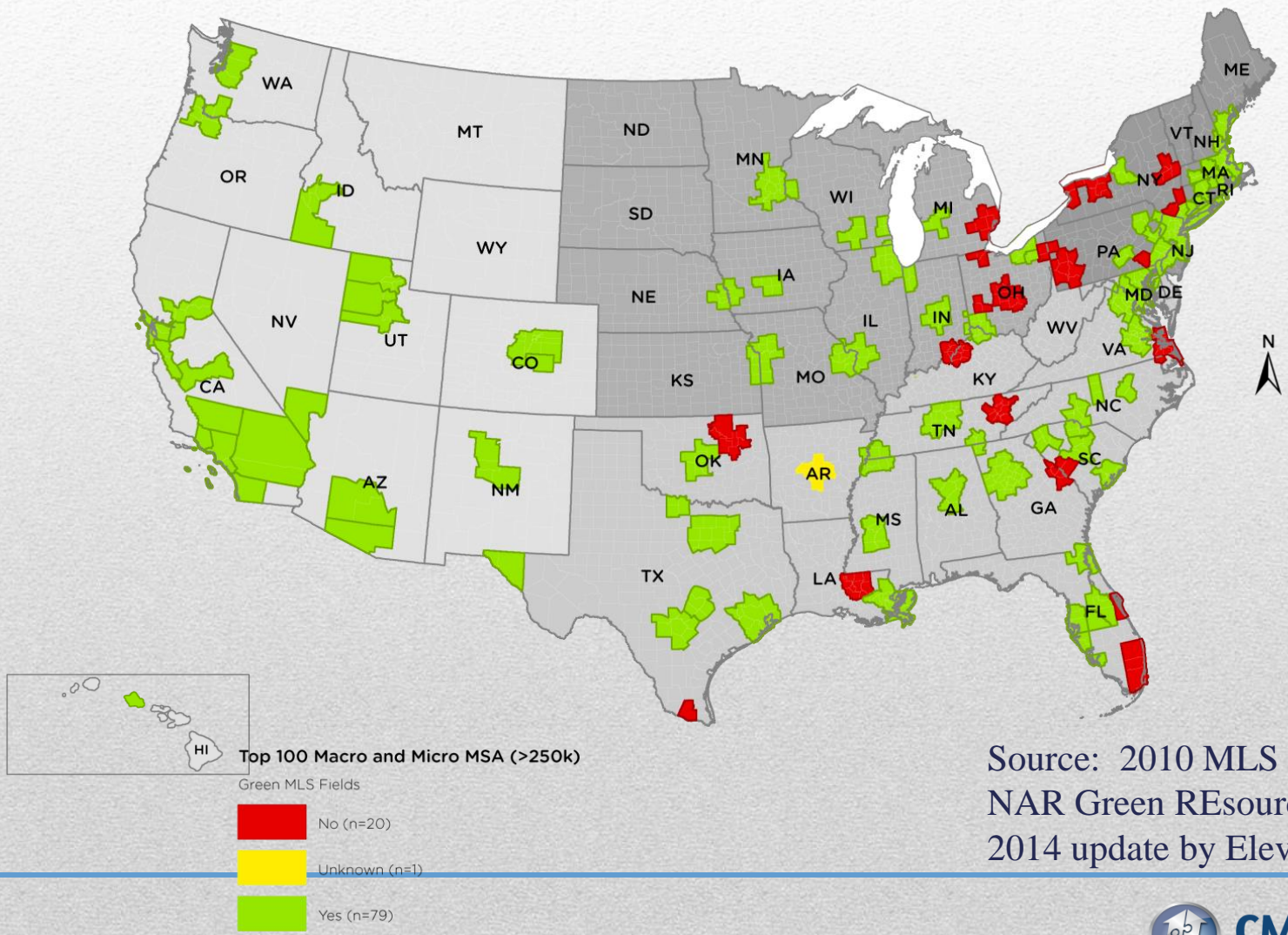
[www.greenthemls.org/green-mls-implementation-guide](http://www.greenthemls.org/green-mls-implementation-guide)

# How to green the MLS?



# Strong MLS Adoption

## 79 out of Top 100 population markets



Source: 2010 MLS survey by NAR Green REsource Council. 2014 update by Elevate Energy.



[www.reso.org/data-dictionary](http://www.reso.org/data-dictionary)

### **Third-Party Verified Fields**

Program/Body

- Rating
- Year
- URL

Performance Metrics

- Score
- Year
- URL

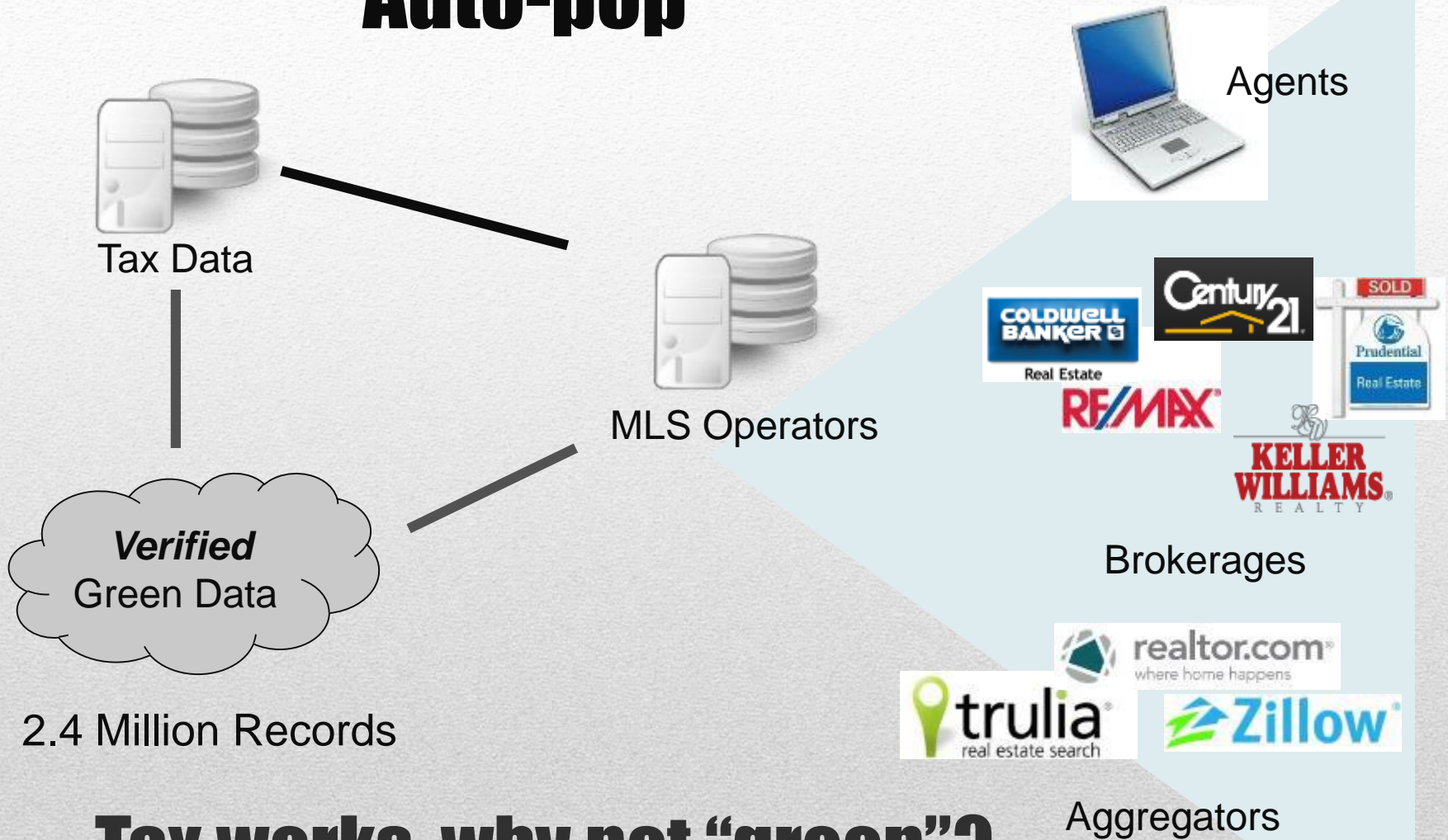
### **Specific/Technical Fields**

(Sample List)

- Heating
- Cooling
- Interior Features
- Exterior Features
- Window Features
- Construction Materials
- Foundation Details
- Appliances

# How do MLSs define “HPH”?

# Auto-pop



## Tax works, why not “green”?

- Share perspective from different sides
  - MLS, EE Program, Lender, Homeowner
- Connect the dots between stakeholders
- Highlight what my members are doing
- Hear what others need to be successful
- Help build your EE army

# Why?

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## Contact Info:

Denee Evans, CEO

[Denee.evans@councilofmls.org](mailto:Denee.evans@councilofmls.org)

[www.CouncilofMLS.org](http://www.CouncilofMLS.org)

919.459.2167 office

919.674.4185 direct



SO ... DO YOU HAVE ANY  
QUESTIONS FOR ME?

# Questions.....

# Overcoming Barriers to Valuing Energy Efficiency in Residential Real Estate Transactions: Steps EE Programs Can Take Now

Laura Reedy Stukel

May 28, 2015



**ELEVATE** ENERGY  
Smarter energy use for all



## Our Mission

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We promote smarter energy use for all.



We give people the resources they need to make informed energy choices.



We design and implement efficiency programs that lower costs, and protect the environment.



We ensure the benefits of energy efficiency reach those who need them most.



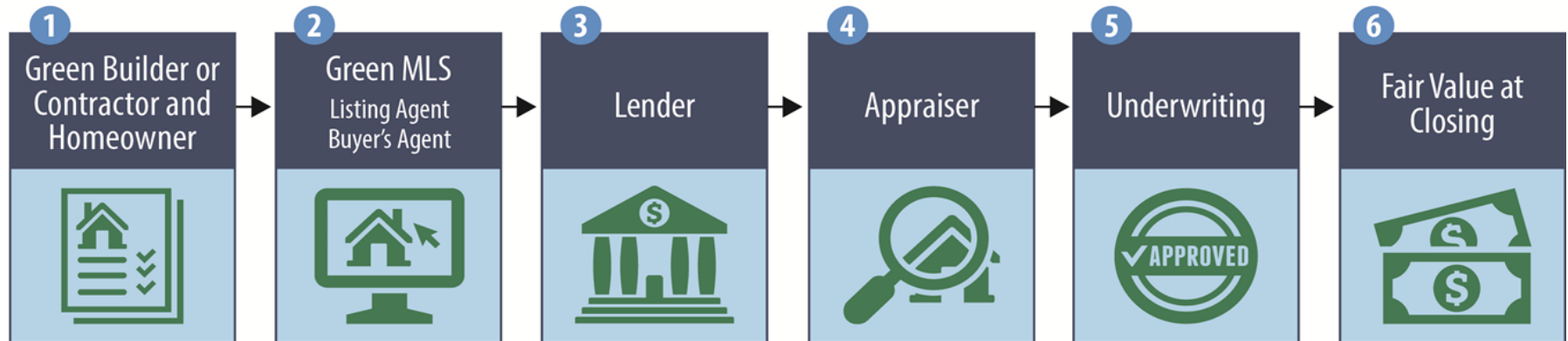
# Community Level Programs

## Green MLS Transformation: The Broad Scope

- **Why don't real estate markets consistently value high performance homes?**

*Blueprint for collaboration was missing.*

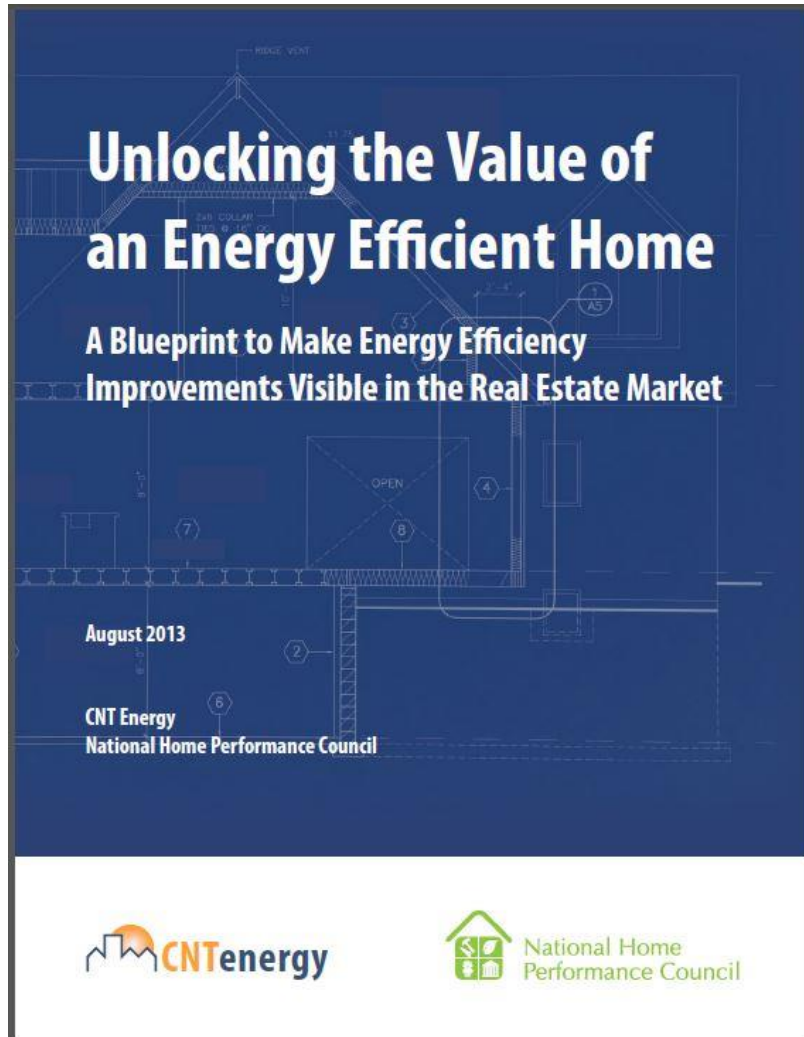
### Value for Green Homes







# A Blueprint for Collaboration



1. Document Upgrades
2. Disclose Inventories
3. Continuing Education
4. Green MLS Usage
5. Appraiser Designed Valuation Studies
6. Cross-Industry IT Solutions
7. Work with Lending Institutions



# 1. Document Upgrades –

## *Use MLS Definition of “High Performance Home”*

### **Third-Party Verified Fields**

Green Building Program/Sponsor

Year Verified

Rating Achieved

Score Achieved (i.e., HERS Index Score)

### **Specific/Technical Fields (Partial List)**

Construction Materials (insulation, etc.)

Cooling

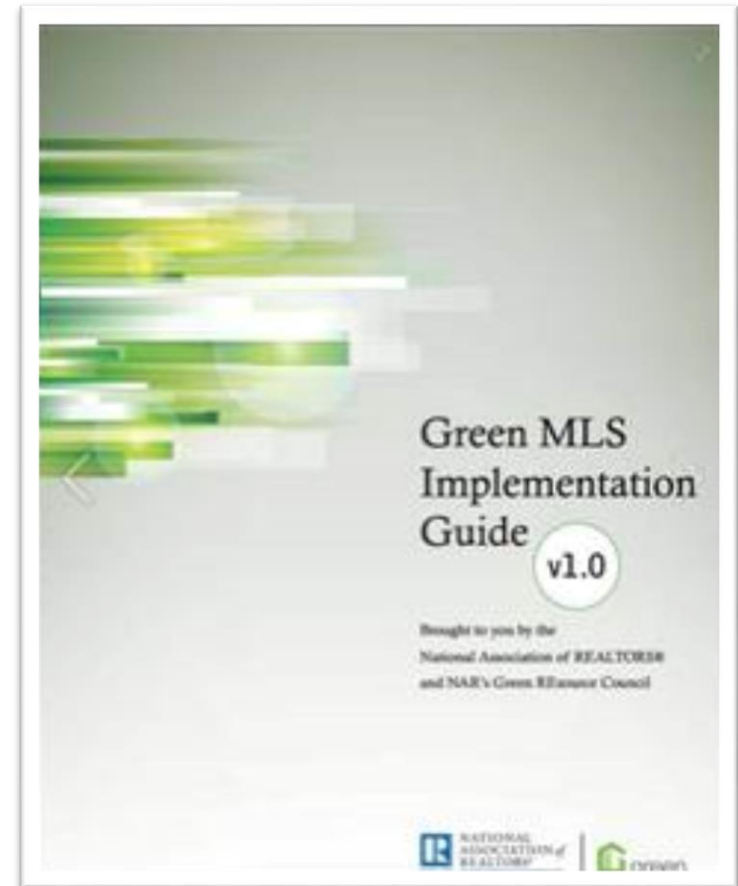
Heating

Interior Features (countertops, etc.)

Roof

Foundation Details

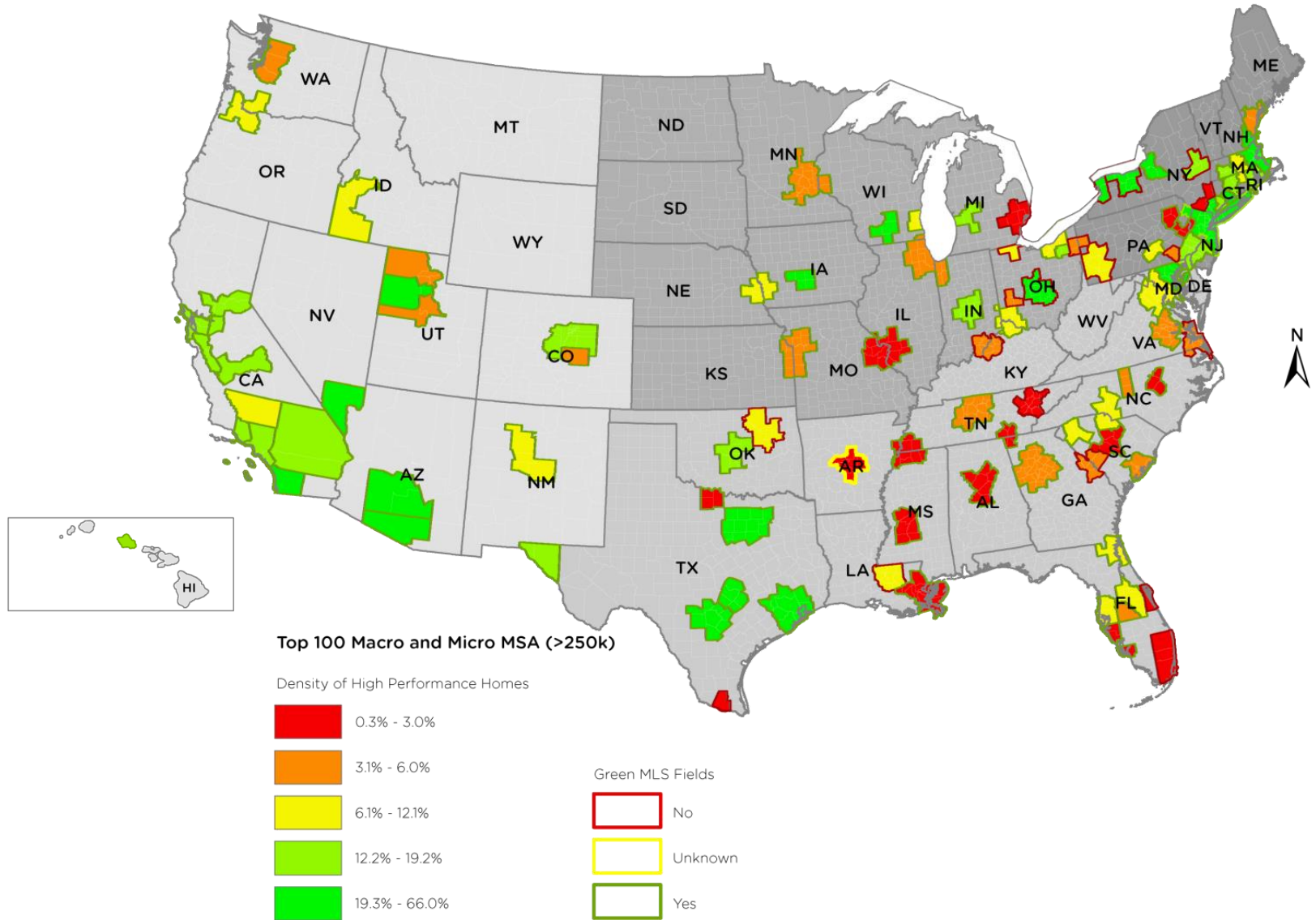
### **Utility Data Fields**





# 2. Disclose Inventories

## Top 100 US Population Areas; Third-Party Verified Upgrades



# Greening the MLS

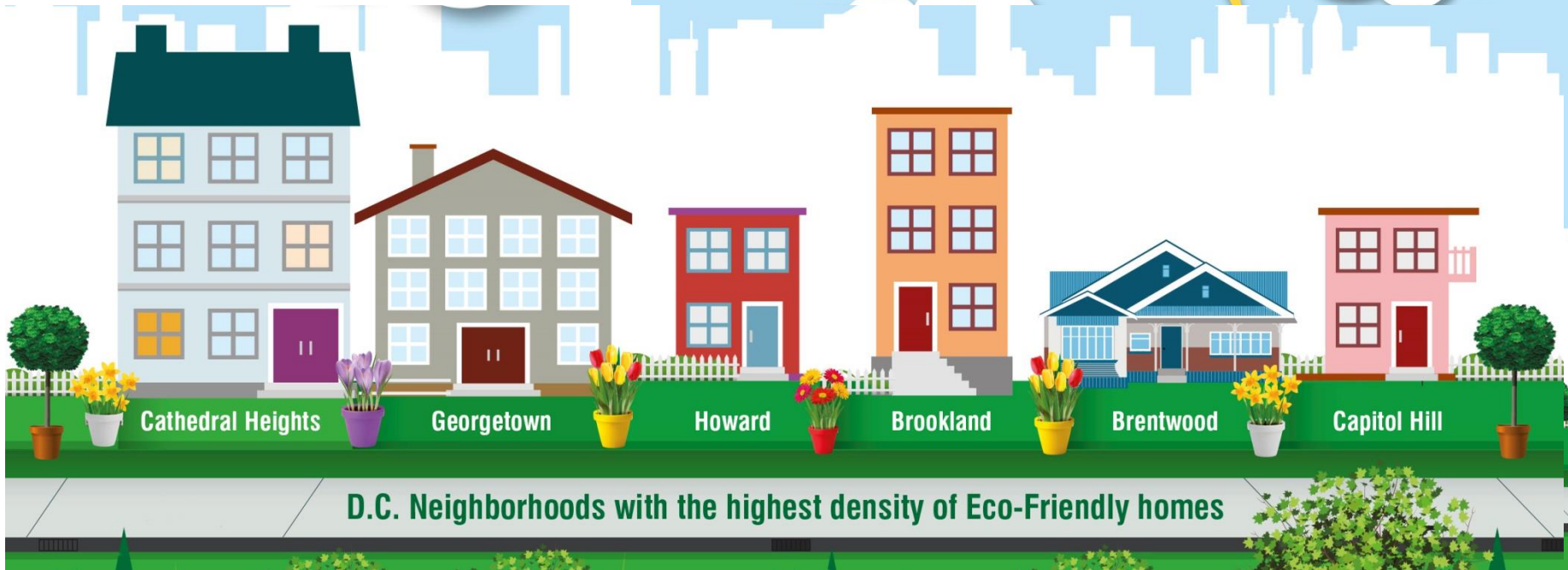
Bringing Eco-Friendly Homes to Light

## 4. Green MLS Usage DC Example

Eco-Friendly homes  
**18.9%**  
of total listings



Highest:  
Friendship Heights  
(ZIP Code 20015)  
**29.1%**





# Standards are Driving Solutions

## Energy Cost Disclosure in Chicago's MLS



Welcome **Becky R Realtor** for Team Becky

Contact Us

My MLS

Search

Listings

Reports

Forms

Setup

### Search Results - Attached Single

← List View

← Refine Criteria



Full - Agent

Show



Quick



Advanced



En



showing 1 of 1 listings



#### Detached Single

Status: **NEW**  
Area: **8021**

List Date: **06/26/2013**  
List Dt Rec: **06/26/2013**

List Price: **\$399,900**  
Orig List Price: **\$399,900**  
Sold Price:

Directions: **Diversey West to Rockwell, North to Property**

Sold by:

Closed:

Off Market:

Year Built: **1920**

Dimensions: **37.5X125**

Ownership: **Fee Simple**

Corp Limits: **Chicago**

Coordinates: **N:2900**  
**W:2600**

Rooms: **7**

Bedrooms: **4**

Basement: **Full**

Contract:

Financing:

Blt Before 78: **Yes**

Subdivision:

Township: **North Chicago**

Bathrooms **1 / 1**  
(full/half):

Master Bath: **None**

Bsmnt. Bath: **No**

Lst. Mkt. Time: **1**

Points:

Contingency:

Curr. Leased: **No**

Model:

County: **Cook**

# Fireplaces:

Parking: **Garage**

# Spaces: **Gar:2**

Parking Incl. **Yes**

In Price:

Utility Costs: Elec. - **\$770.60/yr,\$64.22/mo**; Gas - **\$1198.00/yr,\$99.83/mo**

Remarks: **CHARMING 4 BED+DEN, 1.1 BATH SINGLE FAMILY HOME ON LOT & A HALF IN DESIRABLE LOGAN SQAURE/AVONDALE LOCATION. REMODELED APPROX 10 YEARS AGO W/ NEWER HVAC, ELECTRIC, PLUMBING, H2O HEATER & ROOF. DIAG HDWD FLRS; LARGE EAT IN KITCHN W/ SS APPLS; HIGH CEILINGS; FULL BASEMENT; HUGE FENCED YARD W/ BLUE STONE PATIO; SECURITY SYS OVERSIZED 2 CAR GARAGE. CLOSE TO 90/94 & ALL LOGAN SQAURE/BUCKTOWN SHOPPING & RESTAURANTS!**



# Energy Cost Disclosure in Chicago

*Impact – 18 month program review; Correlation, not yet causation*

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- **Higher percentage of the asking price**
  - Sample – Chicago Condos
    - Disclosure homes - original list price to closed price (97.2%)
    - Non-disclosure counterparts - original list price to closed price (95.9%)
      - ***Extra \$4,576 for the average seller who disclosed energy costs***
      - Average condo closed price in Chicago - \$352,000
- **Less time on the market**
  - Sample – Chicago condos
    - Disclosure homes - 69 days
    - Non-disclosure counterparts - 93 days
      - ***About one less mortgage cycle for the average seller***
- **No negative consequence**
  - Data shows connection between homes that closed AND disclosed
    - ***Disclosure at the time of listing benefits both seller and buyer***



# Questions? -- Stay in Touch

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**Laura Stukel**

Value for High Performance Homes Campaign

[www.elevateenergy.org/value-high-performance-homes-campaign](http://www.elevateenergy.org/value-high-performance-homes-campaign)

[Laura.Stukel@ElevateEnergy.org](mailto:Laura.Stukel@ElevateEnergy.org)



 @elevate\_energy

 Facebook/elevateenergy

 LinkedIn



Vermont  
**Energy Investment**  
Corporation



# Real Estate Industry Engagement in Vermont

Emily Levin  
May 28, 2015

# About VEIC



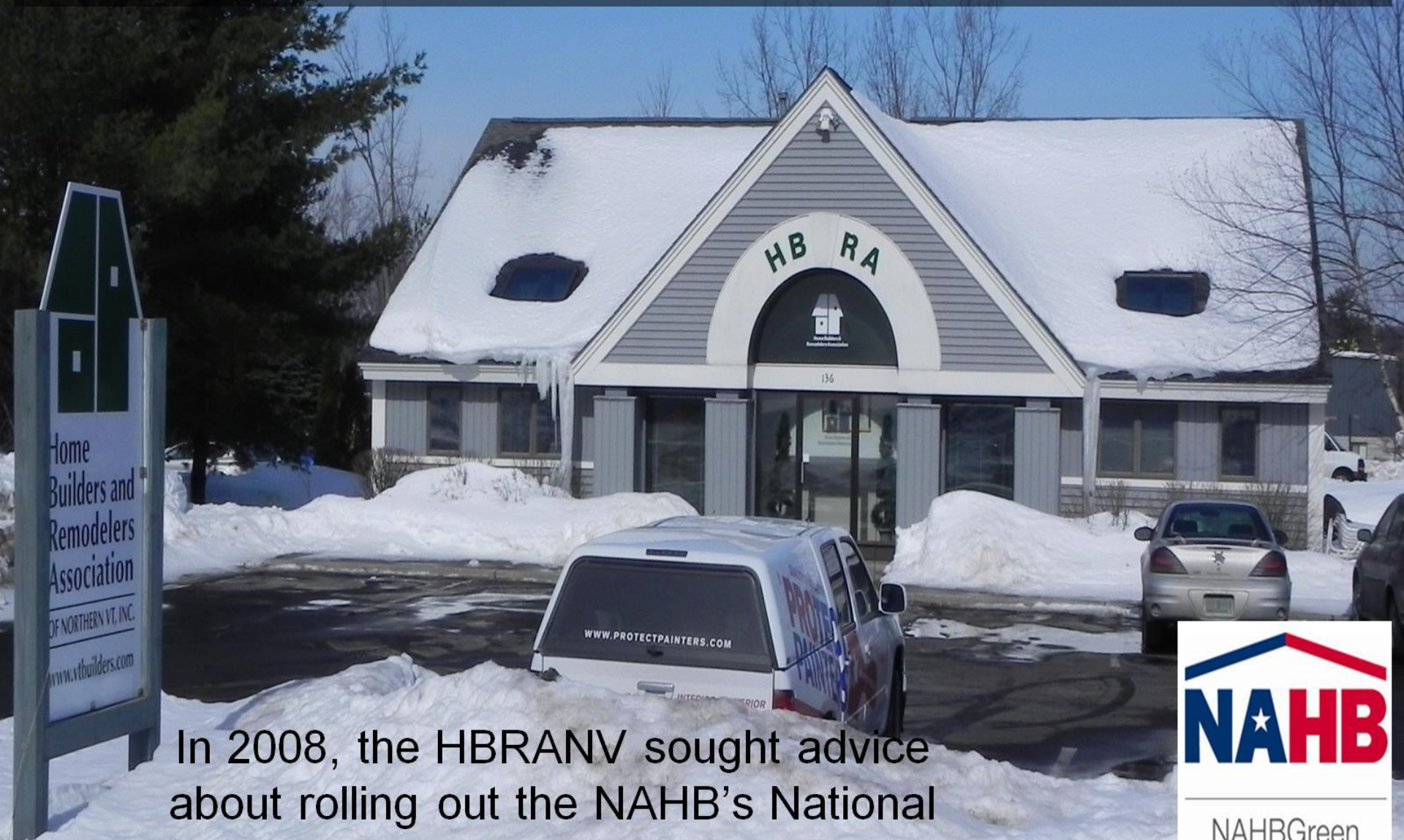
- Nonprofit founded in 1986
- Designs, delivers, and evaluates energy efficiency programs nationwide
- 300+ employees
- Locations: VT, DC, OH, NJ

[www.veic.org](http://www.veic.org)



# Vermont Green Homes Alliance History

# The Home Builders & Remodelers Association of Northern Vermont (HBRANV)



In 2008, the HBRANV sought advice about rolling out the NAHB's National Green Building Standard™ in Vermont



# An Alliance Was Formed



**Building for  
Social  
Responsibility**



**Local LEED  
for Homes  
Provider**



**Local  
USGBC  
Chapter**



**Local  
NAHB  
Chapter**

**Vermont  
Housing  
Finance**



# Engaging the Real Estate Industry

VGHA met with Vermont Realtors®, VT Chapter of the Appraisal Institute, & VT Mortgage Bankers Assn. to discuss what they might do to support energy efficient & sustainable building



# VGHA Has Grown to Include

Association of Vermont Credit Unions

Building for Social Responsibility

Efficiency Vermont

Energy Futures Group

Home Builders & Remodelers Association of Northern Vermont

Northern New England Real Estate Network

Passive House Alliance – Vermont Chapter

Vermont Association of Professional Home Inspectors

Vermont Chapter of the Appraisal Institute

Vermont Energy Investment Corporation

Vermont Green Building Network

Vermont Housing Finance Agency

Vermont Realtors®

VSECU – *a credit union serving all Vermonters*

Sterling Construction, Inc.

Turtle Creek Builders, Ltd

# VGHA Mission

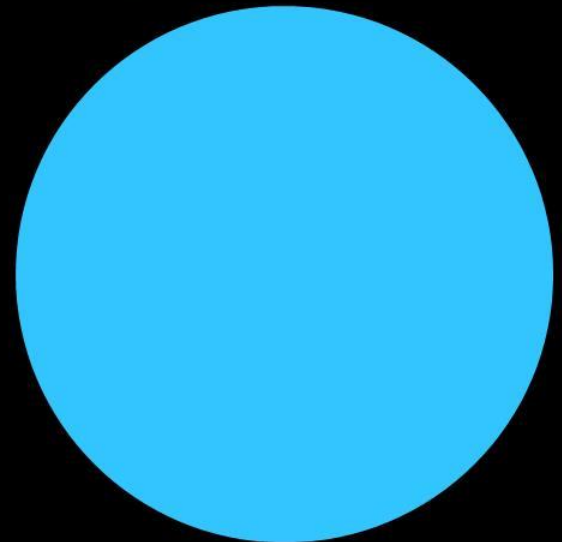
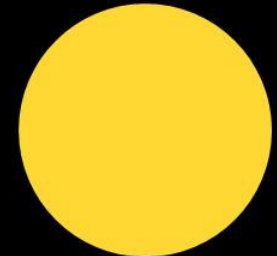
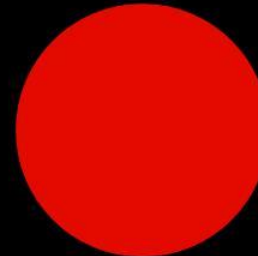
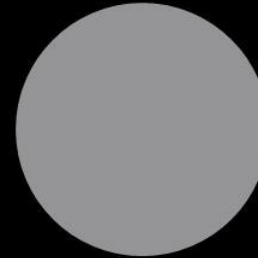
- Transformation of the real estate market so that buyers & sellers can identify & accurately value energy efficiency benefits
- Operates on consensus basis
- Part-time coordinator funded by Efficiency Vermont







**Green Homes Alliance  
Activities**



# Collaboration with our MLS



We now have:

- A data field to record the HERS Index score
- All pertinent Vermont 3<sup>rd</sup> party verified building certifications for new homes
- A HERS database for appraisers & real estate agents to use to find comparable homes
- A tutorial about HERS ratings

# NNEREN - MLS Public View




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[Detailed Search](#) [Open House Search](#) [Sold Properties Search](#) [Back To Results](#)

## Condominium

**20 Thorn Bush Rd Hinesburg, Vermont 05461 \$259,900**



**MLS #:** 3063781  
**Price:** \$259,900  
**Total Rooms:** 5  
**BedRooms:** 2  
**Total Baths:** 2  
**Acres:** 0.00  
**Square Feet:** 1348  
**Sq Ft Above GRD:** 1348  
**Sq Ft Below GRD:** 0  
**Taxes:** \$0  
**Tax Year:** 2009  
**Year Built:** 2010  
**Condo Fees:** \$175  
**Community:**

**Listing Agent**  
 Melissa Allen  
 Lang McLaughry Spera  
 RE/ S. Burlington  
 550 Hinesburg Rd  
 South  
 Burlington, VT 05403  
 8028640541  
[Contact Agent](#)

[Printer Friendly](#)  
[ShareThis](#) [Map it](#)

**Remarks:**  
 Great Hinesburg "Smart Growth" neighborhood to be built by Sterling Construction in Thistle Hill. Home is Energy Star and National Green Building Standards rated. Garden homes with maintenance-free living in a village setting; lawn mowing, snow removal, trash, and landscaping handled by association. Home near 14 acres of wooded common land with walking trails. This home features 9 foot ceilings, GE appliances, and first floor master bedroom and laundry. Ground-level is awaiting your custom design touch! Other plans available.

**Features:**

<p> <b>Style:</b> Townhouse  <b>Color:</b> Sand  <b>Amenities:</b> Garden Space, Snow Removal, Trash, Other  <b>Full Baths:</b> 2  <b>3 / 4 Baths:</b> 0  <b>1 / 2 Baths:</b> 0  <b>Roads:</b> Association, Private  <b>Water Heater:</b> Gas-Natural  <b>Basement:</b> Unfinished, Walk Out, Other  <b>Construction:</b> Wood Frame  <b>Driveway:</b> Paved  <b>Electric:</b> 100 Amp, Circuit Breaker(s)  <b>Exterior:</b> Vinyl  <b>Foundation:</b> Concrete  <b>Garage / Parking:</b> Attached, Auto Open, Off Premises  <b>Heating / Cooling:</b> Baseboard, Multi Zone  <b>Heat Fuel:</b> Gas-Natural  <b>Lot Description:</b> Common Acreage, Subdivision, Trail/Near Trail, Village  <b>Roof:</b> Shingle-Architectural                 </p>	<p> <b>Interior Features:</b> Cable, Eat-in Kitchen, Living Room, Living/Dining, Master BR with BA, Smoke Det-Hdwired w/Batt, Vaulted Ceiling, Walk-in Closet  <b>Water:</b> Public  <b>Sewer:</b> Public  <b>School District:</b>  <b>Elementary:</b> Hinesburg Elementary School  <b>Junior High:</b> Hinesburg Elementary School  <b>High School:</b> Champlain Valley UHSD #15  <b>Foot Print:</b>  <b>Seasonal:</b> No  <b>Surveyed:</b> Yes  <b>Zoning:</b> Res  <b>Flood Zone:</b> No  <b>Book:</b> 197  <b>Page:</b> 128  <b>Map:</b> 167B&amp;C                 </p>	<p> <b>Room Dimensions:</b>  <b>Master Bedroom:</b> 12x14  <b>Bedroom 2:</b> 12x13  <b>Kitchen:</b> 9x10  <b>Living Room:</b> 16x14  <b>Dining Room:</b> 9x10                 </p>
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**HERS Index: 58**

## BUILDING CERTIFICATIONS (max 99)

- Energy Star Cert. Home
- HERS Rated
- LEED for Homes-Platinum
- LEED for Homes-Gold
- LEED for Homes-Silver
- LEED for Homes-Certified
- Ntl Grn Bldg Stnd-Emerald
- Ntl Grn Bldg Stand-Gold
- Ntl Grn Bldg Stand-Silver
- Ntl Grn Bldg Stand-Bronze
- Passive House
- VT Blds Greener Certified
- Other

Home Energy Rated Index Score

# NNEREN – MLS Subscriber View Database for Appraisers



www.nnenmls.com/nne/main.php

Dropbox Joe Google Maps Amazon Weather NNEREN.com C5 InnoVia Allwox Admin Allwox Stats All Conf C5 SafeMLS Admin JMazeEmail Scottrade Other bookmarks

InnoVia Welcome Joseph Ryan

NNEREN MLS: 800.849.4039  
InnoVia Support: 800.334.0831

Search Hotsheet Maintenance Reports Admin Misc Financials NNEREN Log Out Home

Residential  
Land  
Commercial/Industrial  
Multi-Family  
Rental  
Boat-Facility  
By MLS Number  
Cross-Property Search  
VT Grand List  
HERS Database  
Open House 2.0  
Data Co-Op  
Data Co-Op Admin  
Get Saved CMA  
Comprehensive CMA  
Display Preferences  
Custom Displays  
Custom Search Forms  
MY EXPIRING LISTINGS IN 30 DAYS  
FIRM EXPIRING IN 30 DAYS

14 DAYS

3 4 5

PE KO CL  
PE KO CL  
PE KO CL  
mobile  
mobile

PE KO CL  
mobile

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### NNEREN NEWS

Supra Maintenance Notice  
Posted on 10/16/2012

Previsite Virtual Tour Single Sign-On  
Posted on 10/12/2012

Upload a Custom Header to Prospect Carts  
Posted on 10/09/2012

InnoVia and iOS6 Update  
Posted on 09/28/2012

Attention Brokers - Q4 12 Invoices Due by October 1st  
Posted on 09/28/2012

### QUICK LOOKUP

on MLS Number

on List Price

Go

★ My Favorite Searches

### ACTIVE LISTINGS

18304	Residential
3670	Condo
903	Mfg/Mobile
7940	Land
2993	Commercial/Industrial
1197	Multi-Family
1014	Rental
59	Boat Facility

### LINKS OF INTEREST

Data Co-Op Admin Link  
NNEREN Rules Summary July, 2012  
Previsite.net - Agent Login  
Previsite.com - Info & Training  
Remove or submit new/transferring agent  
Login to NNEREN.COM/Training Calendar  
My Listing Cart  
My RES Saved Searches  
Listings Not Printing on One Page?  
TrueForms Login  
Required InnoVia Settings  
Association Feedback Form  
NNEREN  
NNEREN Contact and Support Email

This MLS subscriber view shows the VT Grand List (listing home values per town property tax assessors)

# NNEREN – MLS Subscriber View Database for Appraisers




State	County	City	Postal Code	Development Name	StreetNr	Address1	Address2	HERS Index Score	ENERGY STAR Home	LEED for Homes	NAHB - Nat Green Bldg Std	Passive House	Vermont Builds Greener	Claimed Complete Date
VT	Addison	Addison	05491					55						05/31/12
VT	Addison	Ferrisburg	05456					63	TRUE					01/11/12
VT	Addison	Ferrisburg	05456					1	TRUE					9/6/2012
VT	Addison	Lincoln	05443					57	TRUE					01/20/12
VT	Addison	Lincoln	05443					53	TRUE					06/12/12
VT	Addison	Lincoln	05443					16	TRUE					8/6/2012
VT	Addison	Lincoln	05443					52	TRUE					9/6/2012
VT	Addison	Middlebury	05753					58						12/6/2012
VT	Addison	Middlebury	05753					55						12/11/2012
VT	Addison	Middlebury	05753					54						12/14/2012
VT	Addison	Middlebury	05753					55	TRUE					11/04/11
VT	Addison	Middlebury	05753					55	TRUE					11/04/11
VT	Addison	Middlebury	05753					56	TRUE					11/04/11
VT	Addison	Middlebury	05753					58	TRUE					11/08/11
VT	Addison	Middlebury	05753					53	TRUE					11/08/11
VT	Addison	Middlebury	05753					57	TRUE					11/08/11
VT	Addison	Middlebury	05753					56	TRUE					11/08/11
VT	Addison	Middlebury	05753					54	TRUE					11/11/11
VT	Addison	Middlebury	05753					56	TRUE					11/11/11
VT	Addison	Middlebury	05753					54	TRUE					11/11/11
VT	Addison	Middlebury	05753					54	TRUE					11/16/11
VT	Addison	Middlebury	05753					53	TRUE					01/06/12
VT	Addison	Middlebury	05753					50	TRUE					01/09/12
VT	Addison	Middlebury	05753					55	TRUE					01/09/12
VT	Addison	Middlebury	05753					55	TRUE					01/10/12
VT	Addison	Middlebury	05753					55	TRUE					01/10/12
VT	Addison	Middlebury	05753					51	TRUE					01/11/12
VT	Addison	Middlebury	05753	Eastview At Middlebury	115	Deer Meadow Dr		52	TRUE					01/11/12

As of 12/31/14,  
there were  
1,204 homes  
listed in the  
database

# Existing Homes in the Real Estate System

We are working on:

- Implementing a statewide energy label for existing homes
- Creating a VT certification for existing homes
- Adding the DOE Home Energy Score and certificate to the MLS, in conformance with the *Green MLS Implementation Guide* & the *BPI Standard Requirements for a Certificate of Completion for Residential Energy Upgrades (BPI-2101)*



**VERMONT HOME ENERGY SCORE**

The Vermont Home Energy Score ranks a home's total energy use based on typical occupancy and weather in Vermont. The lower the score, the more energy-efficient the home.

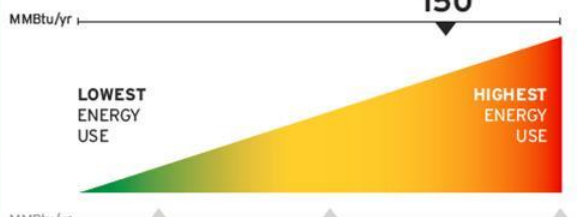
**THIS HOME'S SCORE**

150

The lower, The better.

This reflects the estimated total energy use over the course of a year, placed on a scale of 0 to 200+, from most efficient to least efficient.

This home's score: **150**



LOWEST ENERGY USE      HIGHEST ENERGY USE

MMBtu/yr      0      40 High Performance home      111 Average VT home built to energy code      200+

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**REPORT INFORMATION**

SCORE ISSUE DATE: 6/23/13

ASSESSOR: John Doe

ORGANIZATION: Common Sense Energy

PHONE: 802-555-1111



**COMPARISONS**

MMBtu = 1,000,000 British thermal units (BTU) of energy.


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**ESTIMATED ANNUAL ENERGY COST\***

\$4,000

Based on fuels used in this home.

Oil/Propane	\$2,550
Electric	\$1,100
Wood	\$350



\$4,000


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\*Energy use and costs are estimates only. Actual usage and costs may vary and are based on many factors such as weather and occupant behavior, including use of wood stoves.

The Vermont Home Energy Score takes into account the energy-efficient features installed in the home on the date the Score was issued, assuming average occupant behavior.

Actual energy use will vary depending on how the building is operated, and costs will vary as fuel prices change over time.

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**ENERGY**

U.S. DEPARTMENT OF ENERGY

**Home Energy Score**



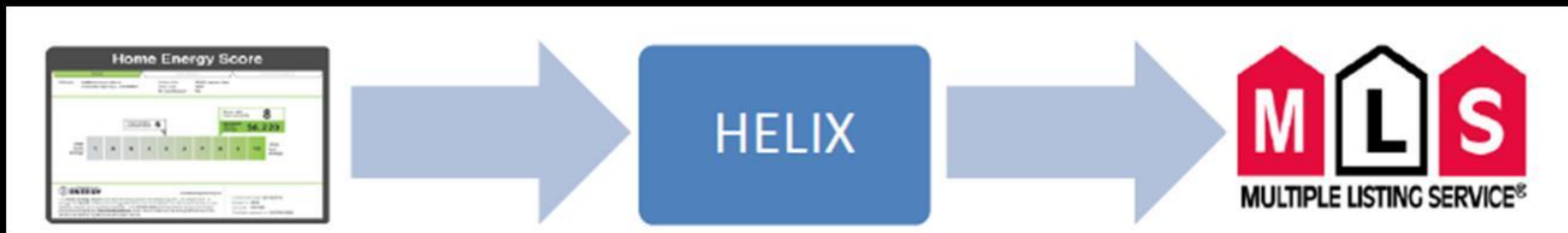
**TURN THE PAGE TO SEE HOW YOU RANK NATIONALLY.**

# NEEP HELIX Project



Making data readily accessible with appropriate privacy protections is critical to the inclusion of home energy information in home appraisals and sales

- Three-year regional project
- Research, design, develop & deploy
- Publicly accessible database (HELIX)
- Database for DOE Home Energy Score data
- Conduit for incorporating data into MLS



# Ongoing Activities... Educate, Educate, Educate!

Realtor education using their accredited, continuing education system

Home

VR Forms Suggestions

Education

Membership Directory

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Online Store

Description Location Sponsors Speakers Registration

## Event Details

**Energy Issues in Existing Homes Part 1 & 2 ~ Montpelier ~ 4 hrs CE**

Nov 04, 2014 09:00am - Nov 04, 2014 01:30pm  
Event Type: Education  
Category: Educational Seminar



# Appraisal Institute's Valuation of Sustainable Buildings Professional Development Program & Registry

Date(s) Conducted	CE Credit Hours	Course Name	# Appraisers Needing Course for Registry Listing
<b><u>Residential Registry Courses</u></b>			
11/20/13 & 11/21/13	14	<b>Residential and Commercial Valuation of Solar*</b> VSECU was a financial underwriter/VGHA mailing	11
08/18/14	7	<b>Case Studies in Appraising Green Residential Buildings – Efficiency</b> Vermont sponsored/VGHA mail	
5/15/2015	7	<b>Introduction to Green Buildings: Principles &amp; Concepts*</b> - Efficiency Vermont offering \$100 incentive for registry listing/VGHA mailing	19

# Break Down the Silos

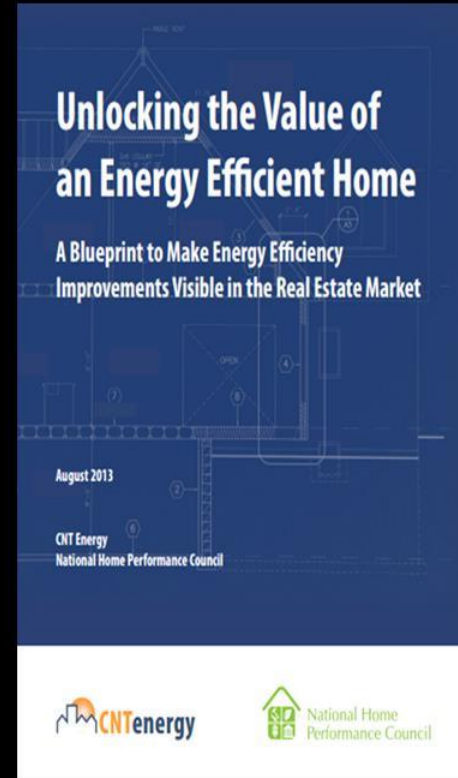
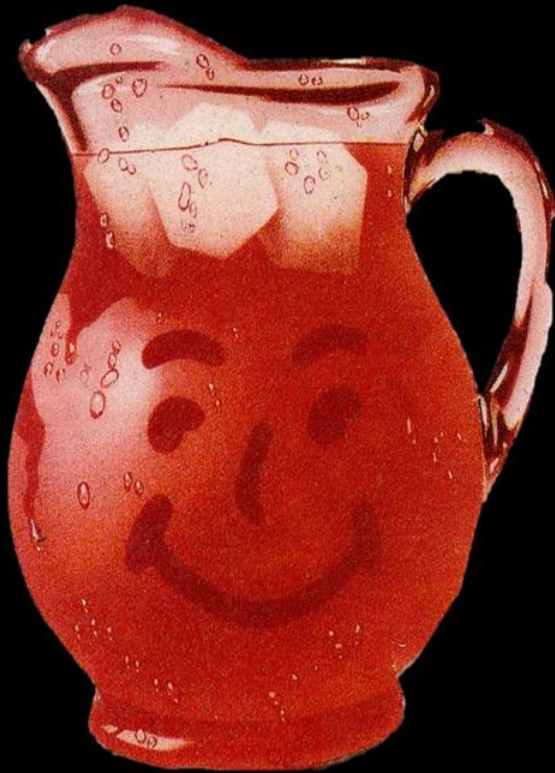
- Real estate industry symposium planned for October 29<sup>th</sup>
- Realtors, appraisers, and bankers from VT and NH
- Continuing ed courses
- Objective is to create a registry of green real estate professionals available to people looking to buy and sell energy-efficient homes



# Vermont Green Home Alliance

In summary, we drank  
the Kool Aid!

We're working the 9 blueprint  
steps slowly, yet steadily,  
with the goal of...



# Acknowledgements

Thanks to Jeff Gephart of the Vermont Green Homes Alliance for sharing his slides

For more information:

Emily Levin

Vermont Energy Investment Corporation

[elevin@veic.org](mailto:elevin@veic.org)

802-540-7694