

Real Estate Workshop

Bridging the Gap Between Energy Efficiency and Real Estate



ELEVATE ENERGY
Smarter energy use for all

©2014 Elevate Energy



The Agenda

- Introductions
- Models of Stakeholder Engagement
- Workshop Overview
 - Purpose of the Class
 - The Virtuous Cycle
 - The Value Chain
 - Why Now?
- Real Estate 101
- The Visible Value Blueprint: Steps 1-5
- Discussion

©2014 Elevate Energy



Introductions

- Name
- Where are you from?
- Where do you work/what do you do?

©2014 Elevate Energy



Models of Stakeholder Engagement

- Vermont (Efficiency Vermont)
- California (Build it Green)
- Oregon (Earth Advantage)
- Colorado (Colorado Energy Office)

©2014 Elevate Energy

Models of Stakeholder Engagement - Vermont

VT Entities documenting energy information:



- **Energy efficiency utility**
 - State-wide except, Burlington Electric Dept.
 - Funded by public benefits fee collected by electric utilities
 - Home Energy Ratings provided at no charge to Residential New Construction participants
 - VT Home Energy Profile & DOE Home Energy Score soon to Home Performance with ENERGY STAR participants
- **Vermont Gas Systems (natural gas)**
- **Building Performance Contractors**
- **Weatherization Agencies**

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Models of Stakeholder Engagement - Vermont

Stop this!



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Models of Stakeholder Engagement - Vermont

Start this!



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Models of Stakeholder Engagement - Vermont

Vermont Green Home Alliance (VGHA)

The VGHA is an informal alliance of collaborating trade organizations & businesses that operates on a consensus basis.

Our Mission

Transformation of the real estate market so that buyers & sellers can identify & accurately value energy efficiency benefits.



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Models of Stakeholder Engagement - Vermont

Vermont Green Home Alliance (VGHA)

Association of Vermont Credit Unions
 Building for Social Responsibility (*local green building group*)
 Building Performance Professionals Association of Vermont (*BPI certified*)
 Efficiency Vermont (*statewide energy efficiency utility*)
 Energy Futures Group (*ESCO/consultant*)
 Home Builders & Remodelers Association of Northern Vermont (*NAHB*)
 New England Real Estate Network (*our region's MLS*)
 Passive House Alliance – Vermont Chapter
 Vermont Association of Professional Home Inspectors
 Vermont Chapter of the Appraisal Institute
 Vermont Energy Investment Corporation (*Burlington non-profit - HERS provider*)
 Vermont Green Building Network (*local USGBC Chapter*)
 Vermont Housing Finance Agency
 Vermont Mortgage Bankers Association
 Vermont Realtors® (*local NAR chapter*)
 VSECU – *a credit union serving all Vermonters*

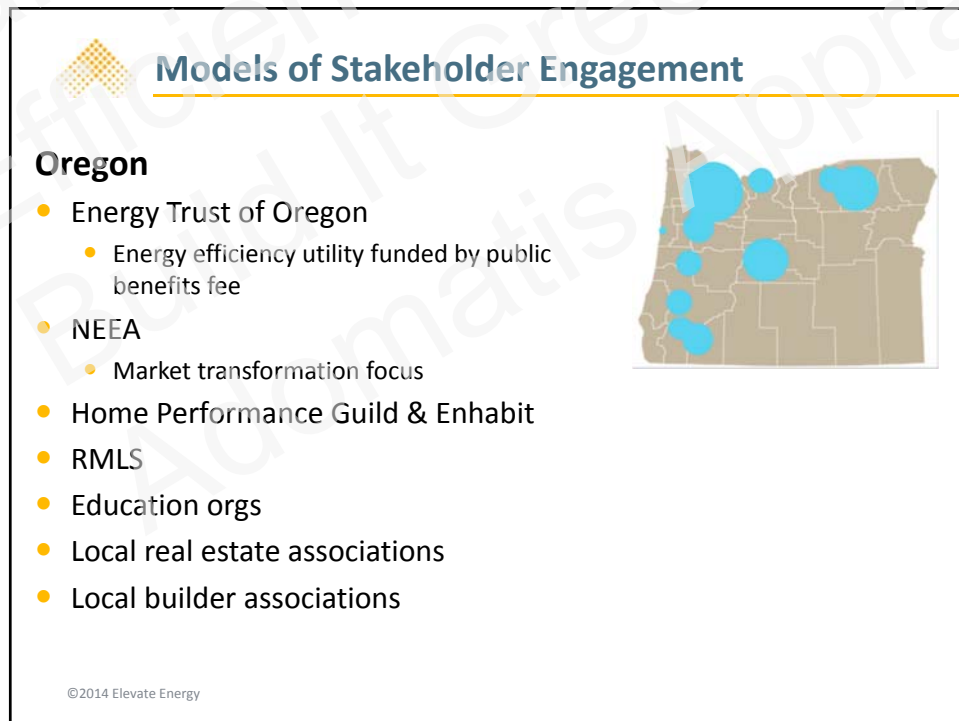
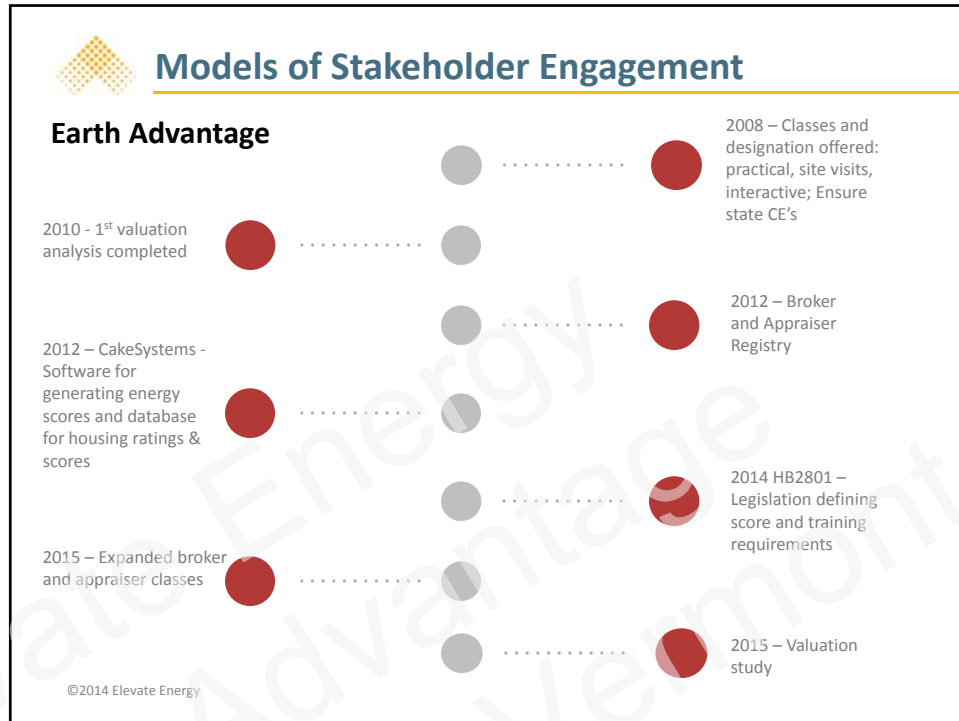
Jeffrey Gephart, Vermontwise Energy Services, Inc.



Models of Stakeholder Engagement

Earth Advantage

- | | |
|--|--------------|
| • Education: Market-based classes | 2008-ongoing |
| • Education: Licensees | 2013-ongoing |
| • Education: ARRA in four states | 2009-2012 |
| • Education: MLS classes | 2014-2015 |
| • Education: Utilities | 2010-ongoing |
| • Software (data flow): Utilities, Gov, etc. | 2012-ongoing |
| • Research (Valuation): Utilities | 2009, 2015 |





Models of Stakeholder Engagement

- California (Build it Green)

©2014 Elevate Energy



Models of Stakeholder Engagement

- Colorado (Colorado Energy Office)

©2014 Elevate Energy



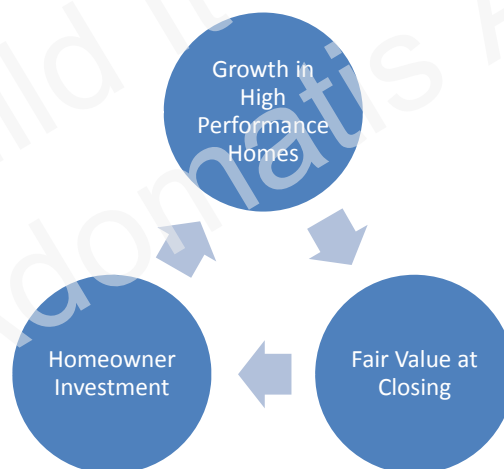
Workshop Overview

- **Purpose of the Class**
- The Virtuous Cycle
- The Value Chain
- Why Now?

©2014 Elevate Energy



Purpose of the Class: The Virtuous Cycle



©2014 Elevate Energy



How Do We Get There?

We turn you into informed & effective advocates for sharing your energy information with real estate professionals through the normal channels...

your **Multiple Listing Service (MLS)**, the real estate system's...



© 2014 Elevate Energy



The Value Chain: Make the Invisible Visible with Data

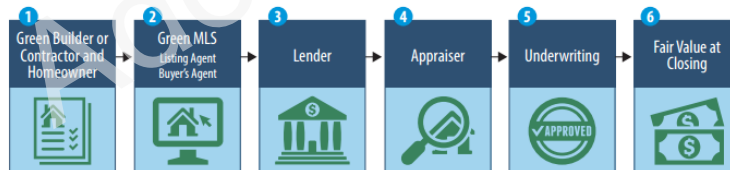
The Rationale:

Cross industry collaboration, between real estate and energy efficiency is the key to making the invisible improvements visible and valued

The Outcome

Real estate markets will consistently value high performance homes as a critical step to transforming all real estate markets nationally.

Value for Green Homes



Documentation is key:
 ✓ Green building certificate
 ✓ Performance test results
 ✓ Local green disclosure form
 ✓ 12 month utility usage

© 21 Source: Green MLS Toolkit: National Association of REALTORS®



Workshop Overview

- Purpose of the Class
- The Virtuous Cycle
- The Value Chain
- **Why Now?**

©2014 Elevate Energy



Why Now? The Consumer

National Association of REALTORS
2013 Profile of Homebuyers and Sellers

EXHIBIT 2-25 IMPORTANCE OF HOME'S ENVIRONMENTALLY FRIENDLY FEATURES
(Percentage Distribution)



©2014 Elevate Energy



Why Now? The Consumer



Smaller, flexible spaces
they're looking for modern homes that are **cost- and energy-efficient**, and designs that better reflect how people live comfortably today.



Facebook Twitter LinkedIn YouTube Instagram Text Size

What Millennial Buyers Want (Now)

Here are 10 trends in home amenities and interior design that elicit interest from the newest generation of buyers.

OCTOBER 2014 | BY BARBARA BALLINGER

6. Technologically efficient, green, and healthy.



Millennials

The Millennial Way of Shopping: More Careful, **Durable**, and Frugal Than You Think

By Claire Suddath | April 25, 2014

© 2014 Elevate Energy



Why Now? The Market

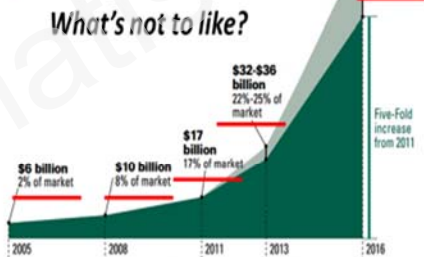
New and Remodeled Green Homes: Transforming the Residential Marketplace



www.nahb.org/generic.aspx?genericContentID=198341&fromGSA=1

Single Family Housing Green Residential Market (Billions of Dollars)

■ Green market-Base Estimate
■ Green market-Upper Estimate



Source: Green Market. Size calculation McGraw-Hill Construction, base value of construction market from McGraw-Hill Construction Market Forecasting Service, as of February 2012.

MHC defines a Green Home as one that is either built to a recognized green building standard or an energy and water-efficient home that also addresses indoor air quality and/or resource efficiency.

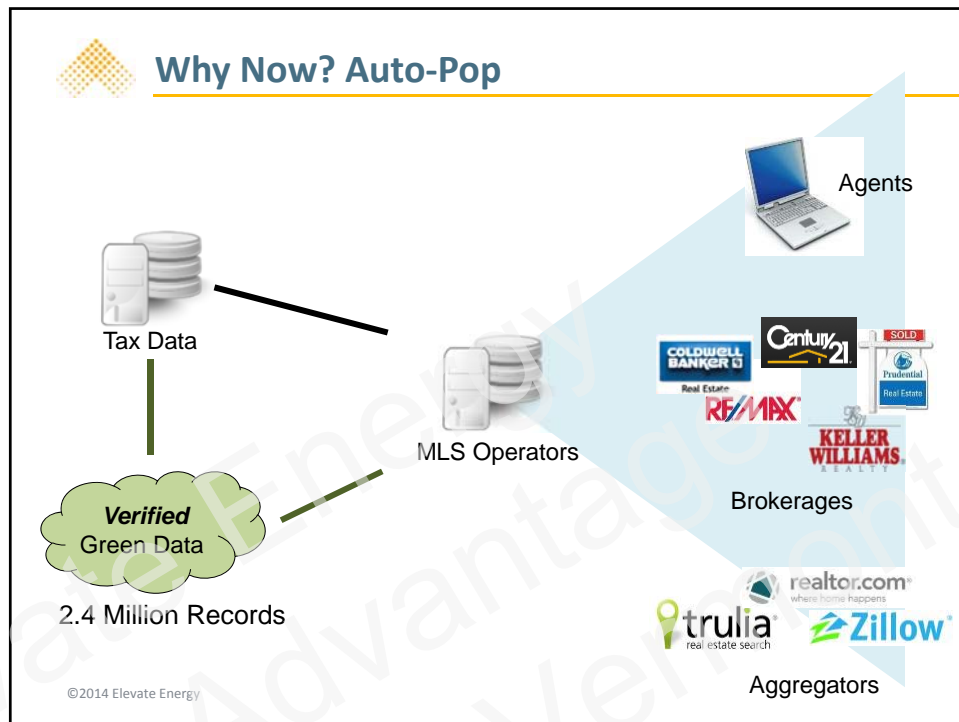
1. Green Outlook 2011: Green Trends Driving Growth, McGraw-Hill Construction, 2010. 2. Ibid. 3. McGraw-Hill Construction, Construction Market Five Year Forecast, through March 2012. 4. Ibid. 5. Ibid. 6. McGraw-Hill Construction, green rating derived from market research data, market conditions and Construction Market Five Year Forecast, March 2012. 7. Ibid. 8. Ibid. 9. A New Decade of Growth for Remodeling: Improving America's Housing, Joint Center for Housing Studies of Harvard University, 2011. 10. Ibid. 11. Ibid. 12. Ibid.

SmartMarket Report

McGraw-Hill Construction



© 2014 Elevate Energy





Real Estate 101

Why this stuff is important to know


©2014 Elevate Energy



Real Estate 101: The Real Estate Professional Basics

- REAL - TOR
- REALTOR vs Agent vs Broker
- Association Structure
 - Local
 - State
 - National

©2014 Elevate Energy



Real Estate 101: The Business Case

©2014 Elevate Energy



And here is the business case


[BUSINESS](#)
[PRODUCTS](#)
[HOW-TO](#)
[BENCHMARKS](#)
[PROJECTS](#)
[RESOURCES](#)
[COST VS. VALUE](#)

[Get the latest industry news](#)
[Subscribe](#)
[Newsletter](#)

COST VS. VALUE 2016

■ Number of markets with 100% return

Remodeling Project	Number of markets with 100% return
Attic Insulation - Fiberglass	10
Manufactured Stone Veneer	9
Garage Door Replacement	8
Garage Door Replacement - Upscale	7
Steel Entry Door Replacement	6
Entry Door Replacement - Fiberglass, Upscale	5
Minor Kitchen Remodel	4
Siding Replacement - Fiber-Cement, Upscale	3
Engineered Siding Replacement	2
Deck Addition - Wood	1
Window Replacement - Vinyl, Upscale	1
Window Replacement - Wood, Upscale	1

©2014 Elevate Energy



The Business Case from NAR

2015 Remodeling Impact Report



National Association of REALTORS® Research Department



©2014 Elevate Energy

Insulation Upgrade

Consumers' Viewpoint After Completing the Project:

- Top reason for doing the project: to improve energy efficiency - 71 percent.
- Second most common reason: to upgrade worn-out surfaces, finishes, and materials - 13 percent.
- Most important result: better energy efficiency - 30 percent.
- Sixty-one percent of homeowners have a greater desire to be home since completing the project, 30 percent have an increased, 65 percent have the same sense of enjoyment when they are at home, and 61 percent have a major sense of accomplishment when they think of the project.
- Joy Score: 8.7

Cost Recovery:

- NARI Remodelers' cost estimate: \$2,100.
- REALTORS® estimated cost recovered: \$2,000.
- Percent of value recovered from the project: 95 percent.

2015 Remodeling Impact Report

©2014 Elevate Energy





Real Estate 101: Threats to the Industry



©2014 Elevate Energy



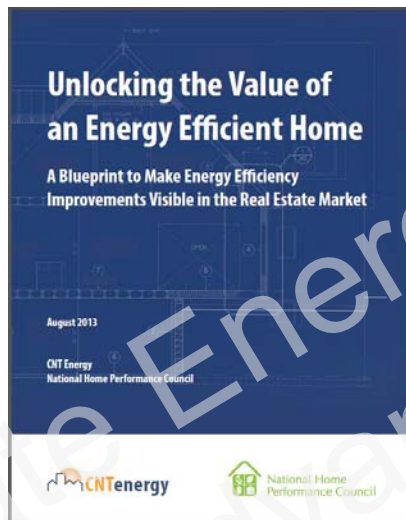
The Agenda

- Introductions
- Workshop Overview
- Real Estate 101
- **The Visible Value Blueprint: Steps 1-5**
- Discussion

©2014 Elevate Energy



The Blueprint



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

© 2014 Elevate Energy

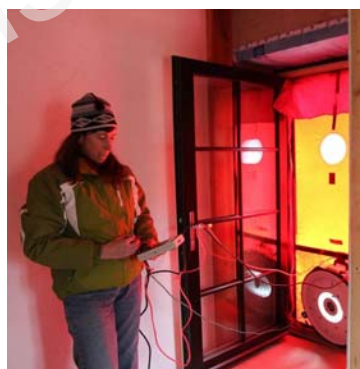
34

Blueprint Step 1: Document energy efficiency features and improvements using consistent, standardized methods.

Is there a group that understands documenting building features & performance more than this one?

Along with being educators, inspectors, scolds, advocates, & serial enablers, identifying building features, testing performance, documenting it, QC on all that, plus evaluation... it's a huge part of what you do.

Step 1 is you.



Jennifer Severidt, Efficiency Vermont

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 1: Document energy efficiency features and improvements using consistent, standardized methods.

What's a consistent, standardized method?

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 1: Document

Home Energy Rating Certificate

South Burlington, VT 05403

5 Stars Plus Confirmed

Uniform Energy Rating System		Energy Efficient	
1 Star	1 Star Plus	2 Stars	2 Stars Plus
3 Stars	3 Stars Plus	4 Stars	4 Stars Plus
5 Stars	5 Stars Plus	6 Stars	6 Stars Plus

HERS Index: 48

General Information

Conditioned Area: 1931 sq. ft. House Type: Single-family detached

Conditioned Volume: 27184 cubic ft. Foundation: Conditioned basement

Bedrooms: 3

Mechanical Systems Features

Heating: Fuel-fired air distribution, Natural gas, 90.0 AFUE.

Water Heating: Instant water heater, Natural gas, 0.82 EF, 0.0 Gal.

Cooling: Air conditioner, Electric, 14.5 SEER.

Duct Leakage to Outside: 0.00 CFM25.

Ventilation System: Exhaust Only: 161 cfm, 46.8 watts.

Programmable Thermostat: Heating: Yes Cooling: Yes

Building Shell Features

Ceiling Flat: R-60.0 Slab: R-0.0 Edge, R-0.0 Under

Sealed Attic: NA Exposed Floor: NA

Vaulted Ceiling: NA Window Type: U-Value: 0.300, SHGC: 0.290

Above Grade Walls: R-21.0 Infiltration Rate: Htg: 785 Cfg: 785 CFM50

Foundation Walls: R-15.0 Method: Blower door test

Lights and Appliance Features

Percent Interior Lighting: 94.00 Range/Oven Fuel: Natural gas

Percent Garage Lighting: 100.00 Clothes Dryer Fuel: Natural gas

Refrigerator (kWh/yr): 685.00 Clothes Dryer EF: 2.67

Dishwasher Energy Factor: 0.84 Ceiling Fan (cdm/Watt): 70.40

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.
REMRate - Residential Energy Analysis and Rating Software v14.6.1 Vermont
This information does not constitute any warranty of energy cost or savings.
© 1995-2015 Horowitz, Boulder, Colorado.

Registry ID: [REDACTED]
Rating Number: [REDACTED]
Export Build Run No: [REDACTED]
Certified Energy Rater: [REDACTED]
Rating Date: September 11, 2015
Rating Ordered For: [REDACTED]

Estimated Annual Energy Cost

HERS® Index

More Energy

Existing Homes

Standard New Home

2015 VT

48

Zero Energy Home

Less Energy

Vermont Energy Services, Inc.
128 Lakeside Ave
Burlington, VT 05401
888-621-4990
802-656-1643

Jeffrey Gephart, Vermontwise Energy Services, Inc.



Blueprint Step 1: Document

Other means to document energy efficiency features & improvements using consistent, standardized methods.



Blueprint Step 1: Document energy efficiency features and improvements using consistent, standardized methods.

What's happening to make sure we can share energy information?

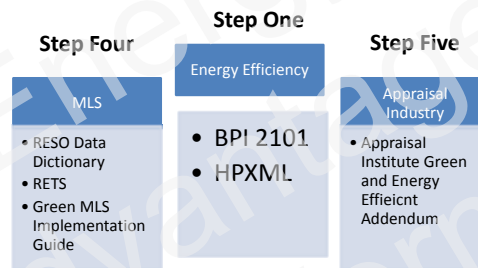


Data Collection Standards

Collect energy efficiency features, 3rd party verified ratings/scores/building certifications & upgrade information in a standard & consistent way that is MLS and appraiser-friendly.

Why: To make sure data from the energy efficiency world is transferrable to the real estate market.

Ultimate Goal: Consistency and Compatibility



©2014 Elevate Energy

Step One



Blueprint Step 1: Document Existing Home Std.

Energy Information – Existing Homes



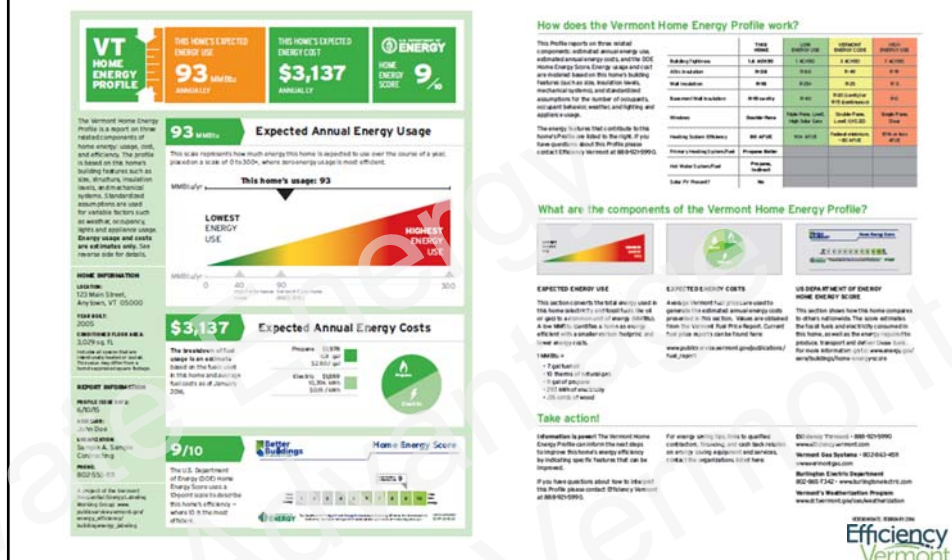
Building Performance Institute, Inc.
BPI Standard

BPI-2101-S-2013
Standard Requirements for a
Certificate of Completion for
Residential Energy Efficiency
Upgrades

©2014 Elevate Energy

Blueprint Step 1: Document Case Study - Vermont

Introducing the Vermont Home Energy Profile

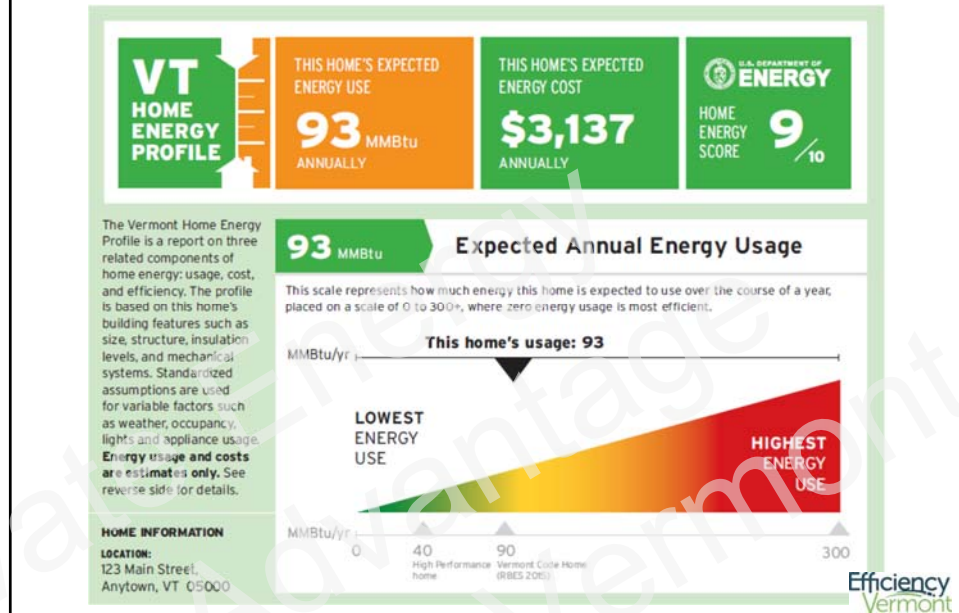


Blueprint Step 1: Document Case Study - Vermont

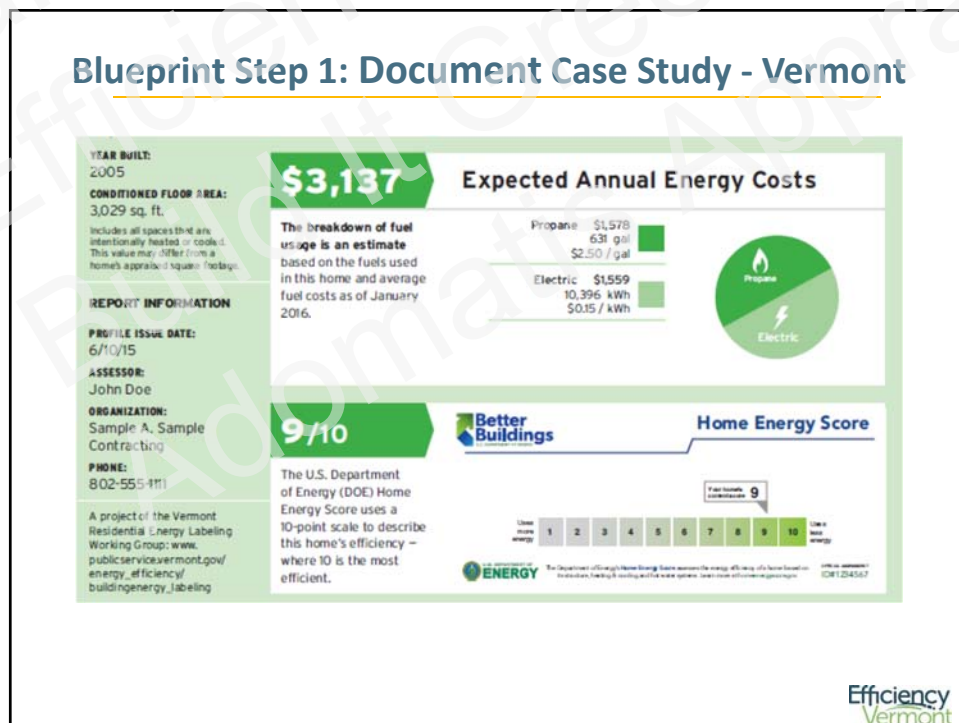
Energy Information - Existing Homes

- The Vermont Home Energy Profile summarizes a home's expected energy usage, costs, & features such as size, insulation levels, & mechanical systems
- US Dept. of Energy (DOE) Home Energy Score (HES), a score that uses a 10-point scale to describe a home's energy efficiency & carbon impact is also calculated & provided
- The Profile (an asset rating), is the estimated MMBtu/Year
- The MMBtu/Year & other energy usage information are calculated using the DOE HES software engine

Blueprint Step 1: Document Case Study - Vermont



Blueprint Step 1: Document Case Study - Vermont



Blueprint Step 1: Document Case Study - Vermont

How does the Vermont Home Energy Profile work?

This Profile reports on three related components: estimated annual energy use, estimated annual energy costs, and the DOE Home Energy Score. Energy usage and cost are modeled based on this home's building features (such as size, insulation levels, mechanical systems), and standardized assumptions for the number of occupants, occupant behavior, weather, and lighting and appliance usage.

The energy features that contribute to this home's Profile are listed to the right. If you have questions about this Profile please contact Efficiency Vermont at 888-921-5990.

	THIS HOME	LOW ENERGY USE	VERMONT ENERGY CODE	HIGH ENERGY USE
Building Tightness	1.6 ACH50	1 ACH50	3 ACH50	7 ACH50
Attic Insulation	R-38	R-60	R-49	R-19
Wall Insulation	R-18	R-25+	R-25	R-3
Basement Wall Insulation	R-19 cavity	R-40	R-20 (cavity) or R-15 (continuous)	R-0
Windows	Double-Pane	Triple-Pane, Low-E, High Solar Gain	Double-Pane, Low-E (U-0.32)	Single-Pane, Clear
Heating System Efficiency	80 AFUE	90+ AFUE	Federal minimum, ~80 AFUE	70% or less AFUE
Primary Heating System/Fuel	Propane Boiler			
Hot Water System/Fuel	Propane, Indirect			
Solar PV Present?	No			

Efficiency
Vermont

Blueprint Step 1: Document Case Study - Vermont

What are the components of the Vermont Home Energy Profile?



EXPECTED ENERGY USE

This section converts the total energy used in this home (electricity and fossil fuels like oil or gas) to a common unit of energy (MMBtu). A low MMBtu identifies a home as energy efficient with a smaller carbon footprint and lower energy costs.

1 MMBtu =

- 7 gal fuel oil
- 10 therms of natural gas
- 11 gal of propane
- 293 kWh of electricity
- .05 cords of wood



EXPECTED ENERGY COSTS

Average Vermont fuel prices are used to generate the estimated annual energy costs presented in this section. Values are obtained from the Vermont Fuel Price Report. Current fuel price reports can be found here:

www.publicservice.vermont.gov/publications/fuel_report



US DEPARTMENT OF ENERGY HOME ENERGY SCORE

This section shows how this home compares to others nationwide. The score estimates the fossil fuels and electricity consumed in this home, as well as the energy required to produce, transport and deliver those fuels. For more information go to: www.energy.gov/eere/buildings/home-energy-score

Take action!

Information is power! The Vermont Home Energy Profile can inform the next steps to improve this home's energy efficiency by indicating specific features that can be improved.

If you have questions about how to interpret this Profile please contact Efficiency Vermont at 888-921-5990.

For energy saving tips, links to qualified contractors, financing, and cash back rebates on energy saving equipment and services, contact the organizations listed here:

Efficiency Vermont • 888-921-5990
www.efficiencyvermont.com

Vermont Gas Systems • 802-863-4511
www.vermontgas.com

Burlington Electric Department
802-665-7342 • www.burlingtonelectric.com

Vermont's Weatherization Program
www.dcf.vermont.gov/eeo/weatherization

Efficiency
Vermont

Blueprint Step 1: Document Case Study - Vermont

2016 Vermont Energy Profile Pilot – (existing home energy label)

Efficiency Vermont, partnered with:

- Burlington Electric Dept.
- Vermont Gas Systems
- Weatherization Assistance Programs
- Non-profits (Neighborworks)

Goals

- assess the market for the Profile in Vermont
- evaluate customer types willing to pay for the Profile & under what circumstances
- see whether & how home performance contractors, home inspectors, & Realtors® can fit the Profile into their business models.

Efficiency
Vermont

Blueprint Step 1: Document Case Study - Vermont

Vermont Home Energy Profile 2016 Pilot - Efficiency Vermont

- Assessors solicited from 3 professions: HPw/ES Contractors (BPI/RESNET), Home Inspectors, & Realtors®
- Participation is completely voluntary - no payment, incentives, or subsidies for customers to get the Profile
- Assessors will have the opportunity to pilot the Profile with 2 customer types:
 - Those completing Home Performance energy audits & improvements - HPw/ES Contractors (BPI/RESNET)
 - Home buyers and sellers at time of sale– Home Inspectors & Realtors®

**(and
refinance?)**

Efficiency
Vermont



Group Question

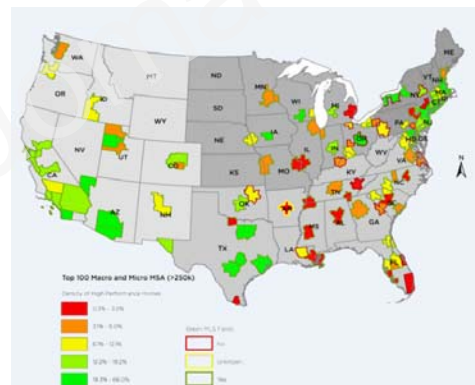
- Do you know what the high performance home density is where you live? If yes, how do you know?

©2014 Elevate Energy



Blueprint Step 2

Disclose inventories of energy efficient homes to track supply.



©2014 Elevate Energy



Blueprint Step 2: Why Track Supply? The Business Case

- Efficiency Advocates
- Real Estate Sales/Buyer's Agent
- MLS
- Appraisers

©2014 Elevate Energy

Step Two

Blueprint Step 2: Disclose inventories

Why Track Supply? The Business Case

Efficiency Advocates – HERS Raters/BPI Auditors

- Disclosure through MLS adds value to HERS
- With sufficient data in the marketplace the real estate market can begin to act rationally & create that “virtuous cycle resulting in even more energy efficient homes & home improvements
- Creates more advocates or at least empowers real estate professionals to better serve their clients.

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

Why Track Supply? The Business Case

Real Estate Sales/Buyer's Agent

- Trusted advisor, industry expert
- Stay relevant
- Satisfy market demands – list home efficiency features accurately & find efficient homes as a buyer's agent
- Be smarter than your client
- “Ever suggest a coat of paint?”
 - Proactively address energy upgrades with sale

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

MLS - Why Track Supply? The Business Case

- Value added to MLS - derived from your data
Independent, 3rd party verified energy information helps MLS subscribers (Realtors® & appraisers), find, & more appropriately value energy efficient & green certified properties.
- Value added – more information for buyers & downstream brokerage websites, & aggregators like Zillow, Trulia, & Realtor.com.
- Less risk of liability - 3rd party verification & certification, based on professional testing & analysis, helps ensure claims of energy efficiency or green construction...

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

MLS - Why Track Supply? The Business Case

...are not merely greenwash.



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

MLS - Why Track Supply? The Business Case

You should also know...

=IF(Your_MLS="NAR_Board_of_Realtor®_owned",
"Your_MLS_has_to_meet_RESO_DD_Green_Field
_Std_by_2018","Or_else_I_don't_know")

The point being you can help them with this!

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

MLS – How to Make The Business Case

How

- To gain entry you must document significant market share (using consistent, standardized methods)
 - Ratings/Scores & 3rd party verified building certifications
- Support from MLS subscribers (Realtors® & appraisers), is critical
- Explicitly identify for the MLS what you need them to include for “green fields” & corresponding enumerations

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

MLS – How to Make The Business Case

- We notified our MLS (NEREN) when the RESO Data Dictionary approved green fields were announced
- Provided specific enumeration sets (others include NGBS, LEED for Homes, Passive House, Earth Advantage, DOE Home Energy Score, etc.)

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

What – Priority for Tracking 3rd party verified ratings/scores/ & certifications

RESO DD Approved Third-Party Verified Rating/Score & Building Certification Fields	Enumeration Set 1	Enumeration Set 3
Green Building Verification (program)	Home Energy Rating (HERS)	ENERGY STAR® Homes
Green Verification Body (program sponsor)	Residential Energy Services Network (RESNET)	U.S. Environmental Protection Agency
Green Year Verified	year	year
Green Verification Rating (level achieved)	n/a	ENERGY STAR® Home
Green Verification Status (proposed or official)	Proposed or Official	Proposed or Official
Green Verification Metric (efficiency score results)	-200 to 500	n/a
Green Verification URL (web address for more details)	http://www.resnet.us/	www.energystar.gov/index.cfm?c=new_homes.hm_index

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories - Business Case

Appraisers

High performance homes are complex appraisal assignments

- They have unique features compared to traditionally built homes & appraisers need reliable information on these features
- Absent energy data for a home or a market, research to find comparable homes is extremely challenging
- Without knowledge of construction methods, costs, & benefits to the owner, it will be difficult for an appraiser to appraise this specialized property type appropriately
- The Competency Rule should ensure just that (Sandy will elaborate)
- Trained appraisers should command higher fees for these more for these complex assignments

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 2: Disclose inventories

Efficiency Vermont Residential New Construction Services

Data exists on 6,355 homes built from March, 2000 to end of August, 2015.

For 1,420 of these homes, Efficiency Vermont has approval to release the home energy data & that data is included is currently available to appraisers in our MLS.

This includes data associated with:

- RESNET accredited Home Energy Ratings System (HERS) Home Energy Ratings (Classic and Index Ratings)
- Any third-party verified building certifications earned by those HERS rated homes (e.g., EPA ENERGY STAR Homes, USGBC LEED for Homes, NAHB National Green Building Standards, Passive House Institute U.S. PHIUS+ certified homes)



Blueprint Step 2: Disclose inventories

Efficiency Vermont Existing Home Service Home Performance with ENERGY STAR and WAP (existing homes)

- Over 4,000 homes have participated in Efficiency Vermont's HPwES program since 2005 & thousands of additional homes have been weatherized through the VT Weatherization Assistance Program (WAP), but it is unclear what data will be available for those homes:
 - It is unlikely that VT Home Energy Profiles and DOE Home Energy Scores can be retroactively generated for these homes due to limitations in the available data
 - Homes that have gone through the HPwES program may be able to receive a completion certificate retroactively as a 3rd party verified building certification
 - Efficiency Vermont does not have permission to release the data for these homes.



Step 2: Disclose Inventories Case Study VT

Vermont's available data has been inventoried is currently being reorganized and cross referenced to:

- enable the identification and elimination of duplicative data fields
- classify data as prescribed in the *Green MLS Implementation Guide v1.0* categories:
 - 4a. Third-Party Verified Fields (certifications and labels) – *1st priority information*
 - 4b. At-A-Glance: Green Search/Marketing Fields
 - 4c. Specific/Technical Fields
- classify data in accordance with the New England Real Estate Network (NEREN) multiple listing system (MLS) "Code Features" section within the MLS

Efficiency
Vermont

Step 2: Disclose Inventories Case Study VT

Home Energy Rating & Building Certification Appraiser Database

Privacy Issues?

- Yes, we had to secure approval from state utility regulators
- We use Efficiency Vermont's Residential New Construction Enrollment Form to acquire the necessary owner approval

Efficiency
Vermont

Step 2: Disclose Inventories Case Study VT

HOME ENERGY RATING INFORMATION RELEASE:

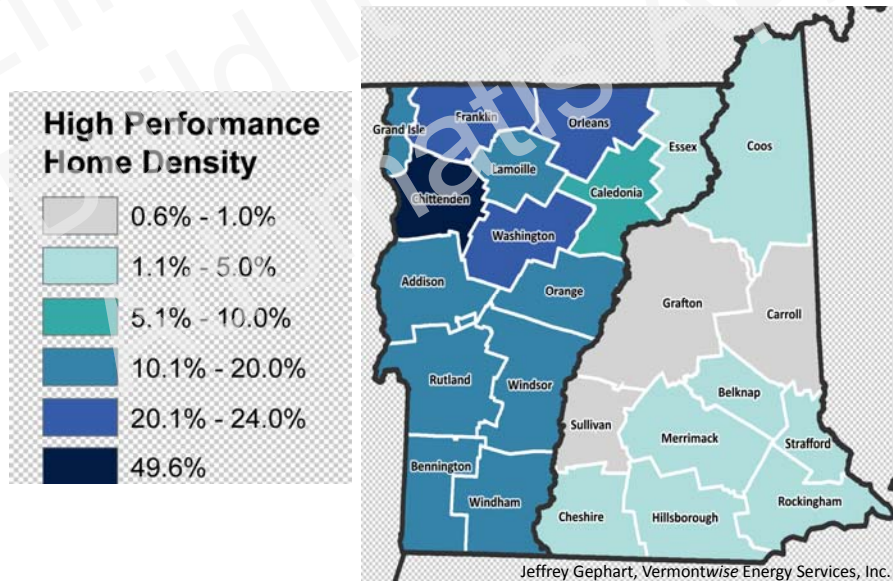
The enrollee hereby authorizes Efficiency Vermont to release the following Home Energy Rating System (HERS) information for the purpose of assisting real estate appraisers and realtors in the development of accurate home appraisals: the physical address of the rated property; the HERS Index Score; whether the home is labeled as ENERGY STAR®, LEED for Homes, National Green Building Standard, or Passive House; and the date that Efficiency Vermont criteria was met.

Requests by enrollees to withhold such release will be honored, providing such notification is received prior to completion of HERS documentation. For all enrolled properties, Home Energy Rating and associated project documentation will be available to subsequent owners of the property upon request.

Efficiency
Vermont

Blueprint Step 2: Disclose Inventories Case Study VT

Vermont & New Hampshire spooning since 1791



Blueprint Step 2: Disclose Inventories Case Study VT

Northeast Energy Efficiency Partnership (NEEP)



Mission & Vision

NEEP, founded in 1996, is a non-profit whose mission is to serve the Northeast & Mid-Atlantic to accelerate energy efficiency in the building sector through public policy, program strategies & education.

Blueprint Step 2: Disclose Inventories Case Study VT

Northeast Energy Efficiency Partnership (NEEP)



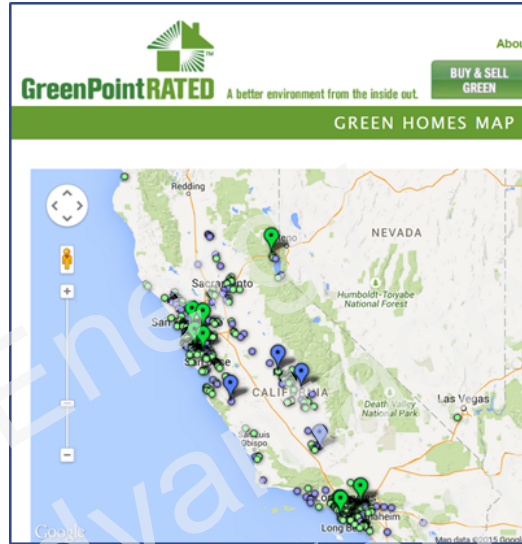
Home Energy Labeling Information Exchange (HELIX)

A new initiative to create:

- A common, easy to use, publicly accessible database of home energy scores, ratings, & certifications
- A regional database for US DOE Home Energy Score data & other 3rd party verified energy efficiency data & source for eventual auto-pop data for the MLS



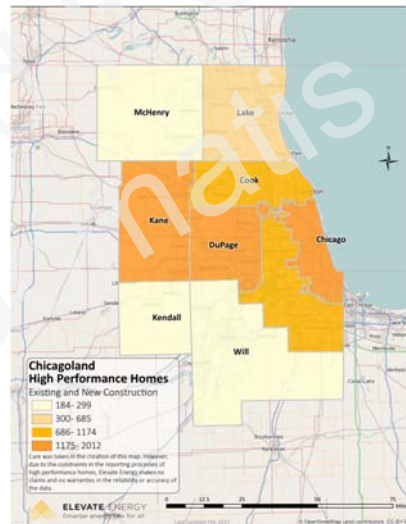
Case Study: Build it Green



© 2014 Elevate Energy



Case Study: The Chicagoland Lone Wolf Story



© 2014 Elevate Energy



The North Carolina Story

©2014 Elevate Energy

Step Two



The Challenge



©2014 Elevate Energy

Step Two



Call to Action: Disclose Inventories

- Work with HERS Provider to compile inventory reports for local markets



©2014 Elevate Energy



Call to Action: Step 2 Disclose Inventories

- Organize your data to facilitate sharing information through MLS
- Ask local energy efficiency program sponsors and/or 3rd party verifiers to create a database to append to the MLS (to accelerate market awareness of the efficient homes being built)
 - List all homes that get HERS Ratings & earn 3rd party verified building certifications to help appraisers & realtors with local comparable sales data
- HERS Raters or program sponsors to provide a completed *AI Addendum* (RESNET needs to hear from you that this is important)

©2014 Elevate Energy



Group Question

- What kind of outreach have you done with real estate professionals to educate them on HERS ratings/high performance homes/market value?
- Was it successful?

©2014 Elevate Energy



Blueprint Step 3

Capitalize on existing high-quality
continuing education and designation training

OR

CE is the way to a
real estate professionals heart

©2014 Elevate Energy



Back to the Business Case

But...

©2014 Elevate Energy



Buyer's Agents ≠ Listing Agents

Buyer's Agents Want

- Max purchase value
- Differentiate from Zillow
- Inspect to avoid surprises
- Happy clients!

Listing Agents Want

- Max sales price, fast sale
- No liability for marketing claims
- Avoid negative disclosures
- Happy clients!



79

©2014 Elevate Energy



Green Value to Listing Agents

Listing Agents Want

- Max sales price, fast sale
- No liability for marketing claims
- Avoid negative disclosures
- Happy clients!

Green Building Offers

- Features + Benefits = Sale
- 3rd Party Verified Performance Claims
- Focus on positive differentiators
- Market differentiation



©2014 Elevate Energy



Green Value to Buyer's Agents

Buyer's Agents Want

- Find best home client can afford
- Inspect to avoid surprises
- Differentiate from Zillow
- Happy clients!

Green Building Offers

- Access to financing & incentives
- Home improvement solutions
- Source of the source!
- Reasons to reconnect with past clients



81

©2014 Elevate Energy



State Funded: Massachusetts

“Can't imagine the course would be effective without the CE credits available. Probably could have got some interest, but it would be only to the converted. The CEs allow me bring the message to a wider audience.”

- Craig Foley, Realtor extraordinaire in MA, designed and delivers this course

©2014 Elevate Energy

Step Three



Utility Funded: Georgia and North Carolina

“The utility wants to bring more value to their residential new construction programs. To make that program successful, real estate professionals need to know how to talk about it and why the features of these homes are super valuable. They realize that they **won't get much participation in these classes without CE** so they fund us to coordinate that effort as well as deliver the classes.”

- Kristi Matthews, Advanced Energy

©2014 Elevate Energy

Step Three



NAR's Green Designation and EcoBroker



© 2014 Elevate Energy

Step Three

Step 3: Case Study Vermont Green Real Estate Symposium

GREEN SYMPOSIUM



Join us for the 2015 Green Real Estate Symposium

Appraising, Selling & Financing with Energy Efficient & Renewable Energy Features

Featuring powerhouse speakers and leading instructors in the real estate industry.

The 2015 Green Real Estate Symposium is presented by the Vermont Green Home Alliance (VGHA) in collaboration with the U.S. Department of Energy, VT Public Service Department, NH Office of Energy and Planning, NH electric and gas utilities, GDS Associates, and the Northern New England Real Estate Network.

2015 GREEN REAL ESTATE SYMPOSIUM

October 25, 2015

Lake Morey Resort

Fairlee, Vermont

Registration: \$100

Includes lunch

Continuing Education Credits

6 hours CE for Realtors® in Vermont

6 hours CE for Realtors® in New Hampshire

4 hours CE for Appraisers

Note: The Symposium Keynote and Panel Discussion have been approved for 2CE in Vermont (combined).

[REGISTER](#)

The 2015 Green Real Estate Symposium is presented by the Vermont Green Home Alliance (VGHA) in collaboration with the U.S. Department of Energy, VT Public Service Department, NH Office of Energy and Planning, NH electric and gas utilities, GDS Associates, and the Northern New England Real Estate Network.

The Vermont Green Home Alliance

Association of Vermont Credit Unions

Building for Social Responsibility

Efficiency Vermont

Energy Futures Group

Home Builders & Remodelers Assoc. of Northern Vermont

Northern New England Real Estate Network

Passive House Alliance - Vermont Chapter

Vermont Association of Home Inspectors

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Step 3: Case Study Vermont Green Real Estate Symposium



Liz Gamache,
Efficiency Vermont
Director and Isaac
Chavez, Vermont
Realtors® Chief
Executive Officer,

welcome **225**
attendees to this first
in the nation event!!!



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Step 3: Case Study Vermont Green Real Estate Symposium



Chicago area Realtor® Laura Stukel, provides our keynote
address ***Getting to the Heart of the Transaction: For
Today's Consumer.***



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Step 3: Case Study Vermont Green Real Estate Symposium



Wrapping up the day and putting a bow on it... our speaker panel summarizes important take-away information.



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Step 3: Case Study Vermont Green Real Estate Symposium

Green Real Estate Symposium: Appraising, Selling, and Financing Buildings with Energy Efficient and Renewable Energy Features

October 29, 2015

Lake Morey Resort, Fairlee, VT



		State Approved Continuing Education Credit Hours			
		Appraisers		Real Estate Agents	
		NH	VT	NH	VT
8:00 AM	Registration & Breakfast				
9:00 AM	Welcome & Keynote (1 hr)				
Terrace Ballroom	Welcome - Liz Gammache & Isaac Chavez & Keynote Address - Laura Stukel				1*
10:00 AM	Break				
10:30 AM	Break Out Workshops (2 hrs)				
Terrace Ballroom	Residential Green Evaluation Tools - Sandra Adomatis (moderator: Bryan Kent)	2	2	2	2
Morey Room	Realty's New Reality - Craig Foley (moderator: Collin Frisbie)			2	2
Waterlot	Using Total Cost of Ownership in Mortgage Sales - Kerry Langley (moderator: Lauri Bessey)			2	2
Lakeside East	NH Energy Code - Bruce Bennett (moderator: Autumn Curilla)	2		2	
Lakeside West	VT Energy Code - David Keefe (moderator: Chris Gordon)				2
12:30 PM	Lunch (1 hr)				
Lakeside Dining Rm	Isaac Chavez, Vermont Realtors® & Chad Jacobson, New England Real Estate Network				
1:30 PM	Break Out Workshops (2 hrs)				
Terrace Ballroom	What Will Fannie & Freddie Allow? - Sandra Adomatis (moderator: Bryan Kent)	2	2	2	2
Morey Room	Realty's New Reality - Craig Foley (moderator: Katrina Spaulding)			2	2
Waterlot	Using Total Cost of Ownership in Mortgage Sales - Kerry Langley (moderator: Lauri Bessey)			2	2
Lakeside East	NH Energy Code - Bruce Bennett (moderator: Rick Minard)	2		2	
Lakeside West	VT Energy Code - David Keefe (moderator: Richard Faesy)				2
3:30 PM	Break				
4:00 PM	New England Real Estate Network Plenary (15 minutes)				
Terrace Ballroom	MLS Green Fields & Other Features Involving High Performance Homes - Liz Tewksbury & Meg Willeke				
4:15 PM	Plenary Panel Discussion (1 hr)				
Terrace Ballroom	Panel Discussion - Mod: Gephart/Panel: Adomatis, Foley, Langley, Stukel, & Willeke *				1*
5:15 PM	Adjourn				
Total continuing education credits available:		4	4	4	6*

* Where indicated, 2 hours of continuing education credit are available for attending both the Keynote and the Panel Discussion.

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 3: Use Your MLS to Educate - Vermont

Greening Our MLS
Northern New England Real Estate Network



Using Home Energy Ratings & Building Certifications to Document & Market Energy-Efficient & Green Certified Homes

Webinar by
Jeffrey Gephart
Trade Ally Outreach Contractor
Efficiency Vermont/Vermont Energy Investment Corp.
800-893-1997
vtwise@together.net

Jeffrey Gephart, Vermontwise Energy Services, Inc.



Case Study: Build It Green's Strategy

In resale market, focus
on Buyer's Agents



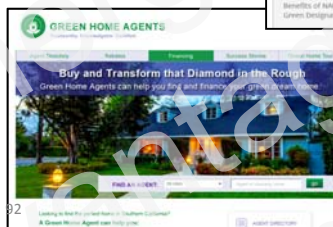
In new home market, focus on
Listing Agents

©2014 Elevate Energy



Buyer's Agent Engagement

- NAR Green Designation training
- Directory of Green Realtors
- Home buyer marketing campaign



©2014 Elevate Energy



Keys to Success

1. Free training
2. Ongoing support
3. Continuing Education Units
4. Strong partnerships with local associations



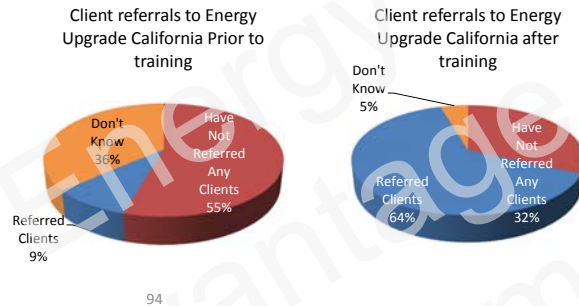
93

©2014 Elevate Energy



2014-2015 Training Results

- Trained 600+ NAR Green Designation Realtors



© 2014 Elevate Energy



Oregon: Diverse Topics

Spectrum of Content

Coursework designed to engage real estate professionals at all levels of energy efficiency interest and understanding



© 2014 Elevate Energy

Step Three



Call to Action: Continuing Education

- Establish baseline awareness and evaluate
- Funding Options
- Offer CEs and designation training
- Provide more than “one and done” classes
- Diverse topics draws beyond niche audience
- Keep learning objectives simple and succinct

©2014 Elevate Energy



Group Question

- Do you have green fields in your MLS?

©2014 Elevate Energy



Blueprint Step 4

Work with the MLS community to ensure that data about home energy efficiency improvements are incorporated into for-sale listings.

Body	Rating	Status	Year	Score
ENERGY STAR Certified Homes	SPA			
HERS	RESNET			
Home Energy Score	DOE			
Home Performance w/ ENERGY STAR	DOE			

©2014 Elevate Energy

Step Four



What is an MLS?

The primary source of information about homes and properties for real estate agents, appraisers, and ultimately for consumers.



©2014 Elevate Energy



Real Estate 101: "The" MLS



RPR Partner Map

©2014 Elevate Energy



High Performance Home Existentialism

- If a high performance home isn't listed as such in the MLS, is it really high performance?



©2014 Elevate Energy



Blueprint Step 4: The Players and The Tools

Real Estate Standards
Organization (RESO)

Green MLS
Implementation Guide

Data
Dictionary



©2014 Elevate Energy

RESO defines the standards that an MLS uses around data

"Real estate brokers today know that
data is also your destiny."

- RESO Website

"Once you start down the dark path, forever will it
dominate your destiny, consume you it will."

- Yoda

©2014 Elevate Energy



RESO Data Dictionary

"What is the Data Dictionary? It's Real Estate's *Rosetta Stone*. Hundreds of MLS, and other source providers, gather data. ***But what good is it if the data cannot be shared or understood?*** The Data Dictionary ensures that each system "speaks" the same language."

- RESO Website

"GGGWARRRHWWWW."

- Chewbacca, *A New Hope*

"AAARARRRGWWWH."

- Chewbacca, *Return of the Jedi*

"RRRAARRWHHGWWR."

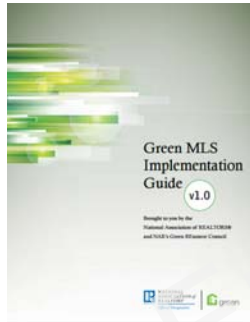
- Chewbacca, *The Empire Strikes Back*

©2014 Elevate Energy

Step Four



Green MLS Implementation Guide



Green Building Verification Type – *Home Energy Score*
 Green Verification [Type] Body – *U.S. Department of Energy*
 Green Verification [Type] Year - *2015*
 Green Verification [Type] Rating - *Not applicable*
 Green Verification [Type] Metric - *8 out of 10*
 Green Verification [Type] URL –
www.homeenergyscore.gov/12345 (*link to the Score report for that home, if and when we're able to do that*)

©2014 Elevate Energy

Step Four



Breaking News: Green Field Update

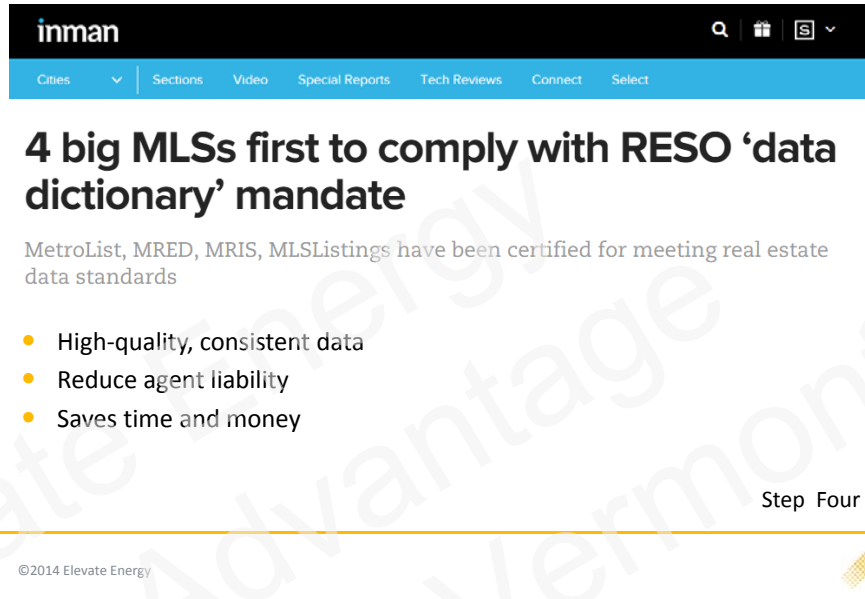
Year	2015-2016	2017	2018	2019	2020+
Effective	1/1/2015	1/1/2017	1/1/2018	1/1/2019	1/1/2020
Level	Core	Bronze	Silver	Gold	Platinum



©2014 Elevate Energy

Step Four

The Business Case for Data Dictionary Compliance



The screenshot shows the inman website with a navigation bar containing links for Cities, Sections, Video, Special Reports, Tech Reviews, Connect, and Select. The main headline reads "4 big MLSs first to comply with RESO 'data dictionary' mandate". Below the headline, a sub-headline states: "MetroList, MRED, MRIS, MLSListings have been certified for meeting real estate data standards". A bulleted list highlights three benefits: "High-quality, consistent data", "Reduce agent liability", and "Saves time and money". The text "Step Four" is visible in the bottom right corner of the article preview. A copyright notice "©2014 Elevate Energy" is at the bottom left, and a small logo is at the bottom right.

inman 🔍 📁 📄 ▼

Cities ▼ Sections Video Special Reports Tech Reviews Connect Select

4 big MLSs first to comply with RESO 'data dictionary' mandate

MetroList, MRED, MRIS, MLSListings have been certified for meeting real estate data standards

- High-quality, consistent data
- Reduce agent liability
- Saves time and money

Step Four

©2014 Elevate Energy

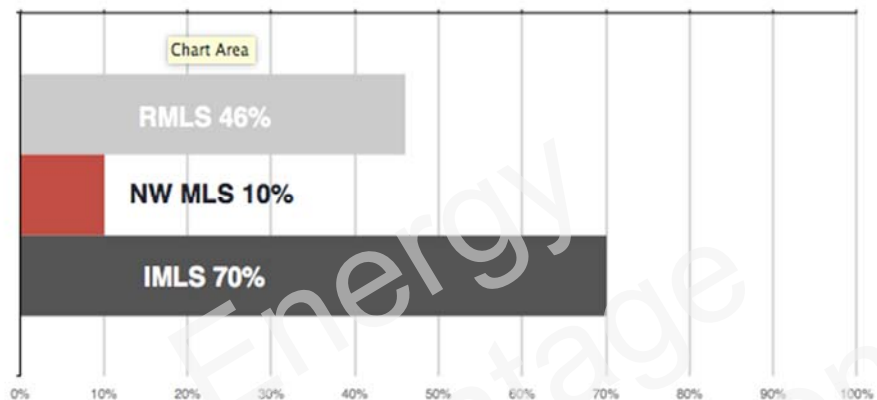


Case Study: Earth Advantage

Oregon

- Work with local MLS to establish green fields
 - 2007 Green Fields Committee subcommittee to the Forms Committee
 - Real estate and green building representatives
- Support Real Estate industry to use green fields
 - Home Performance Information manually entered/uploaded
 - MLS classes
- Data Aggregators
- Auto Pop

ACCURACY OF LISTINGS



Blueprint Step 4: Case Study VT

99ENERGY.com Home About Us Search Find An Agent Real Estate News Member Login Sales Stats

Official Website of the Vermont Real Estate Association

Detailed Search Open House Search Sold Properties Search Back To Results

Condominium

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

Photo 1 of 12

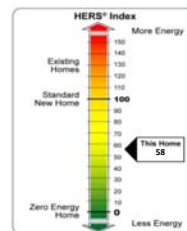
Listing Agent:
Melissa Allen
Long McLaughly Spers
RE/ S. Burlington
550 Hinesburg Rd
South
Burlington, VT 05403
8029640541
Contact Agent

MLS #: 2003783
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
Year Built: 2010
Circle Feet: \$175
Community:

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 sits on 1/4 acre 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:

Style: Townhouse Color: Sand Assemblies: Garden Spans, Snow Removal, Trash, Other Fall Bath: 0 3 / 4 Bath: 0 1 / 2 Bath: 0 Basement: Association, Private Water Heater: Gas Natural Basement: Unfinished, Walk Out, Other Construction: Wood Frame Delivery: Parcel Electric: 100 Amp Circuit Breaker(s) Exterior: Vinyl Foundation: Concrete Garage / Parking: Attached, Auto Open, Off Premises: Heating / Cooling: Baseboard, Multi Zone Heat Fuel: Gas Natural Lot Description: Common Acreage, Subdivision Trail/Neat Trail: Village Roof: Shingle Architectural	Interior Features: CABIN, Eat in Kitchen, Living Room, Living/Dining, Master BR with BA, Smoke Det Attached w/Bath, Vaulted Ceiling, Walk-in Closet Water: Public Sewer: Public School District: Elementary: Hinesburg Elementary School Junior High: Hinesburg Elementary School High School: Champlain Valley UNED #13 Fuel Type: Sewer: No Surveyed: Yes Zoning: Res Flood Zone: No Book: 157 Page: 128 Map: 30783C HERS Index: 58	Room Dimensions: Master Bedroom: 12x14 Bedroom 2: 12x13 Kitchen: 9x13 Living Room: 18x14 Dining Room: 9x10
--	--	---



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 4: Case Study VT



Current 3rd-party verified
building certifications
added to NNEREN MLS
(subscriber input fields)

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

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 4: Case Study VT

Welcome Joseph Ryan

[Search](#)
[Hotsheet](#)
[Maintenance](#)
[Reports](#)
[Admin](#)
[Misc](#)
[Financials](#)
[NNEREN](#)
[Log Out](#)
[Home](#)

MLS
Subscriber View

Tip of the Week

A Home Energy Rating Score (HERS) is a nationally recognized energy performance certification, measuring the overall energy efficiency of a home. Homes are rated using the National Residential Energy Services Network "Index" Rating scale, with 0 points being the most efficient.

NNEREN has a field to add this information in Listing Maintenance.

Home Energy Rated Index Score	<input type="text"/>
-------------------------------	----------------------

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 4: Case Study VT

Many of Vermont's most energy efficient & green certified new homes are custom homes that are never listed on the MLS.

To ensure that appraisers & Realtors® have a broader view of market trends we developed a work around with our MLS.

Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 4: Case Study VT

MLS Home Energy Rating & Building Certification Database

The screenshot displays the NNEREN MLS subscriber interface. On the left sidebar, the 'VT Grand List' and 'HERS Database' are highlighted with red boxes. The main content area shows a list of property records with columns for MLS Number, List Price, and Property Type. The 'VT Grand List' section is visible, showing a list of properties with their respective values and addresses. The 'HERS Database' section is also visible, showing a list of properties with their HERS scores and addresses. The interface includes a search bar, a list of active listings, and a sidebar with various navigation links.

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



Jeffrey Gephart, Vermontwise Energy Services, Inc.

Blueprint Step 4: Case Study VT

MLS Home Energy Rating & Building Certification Database



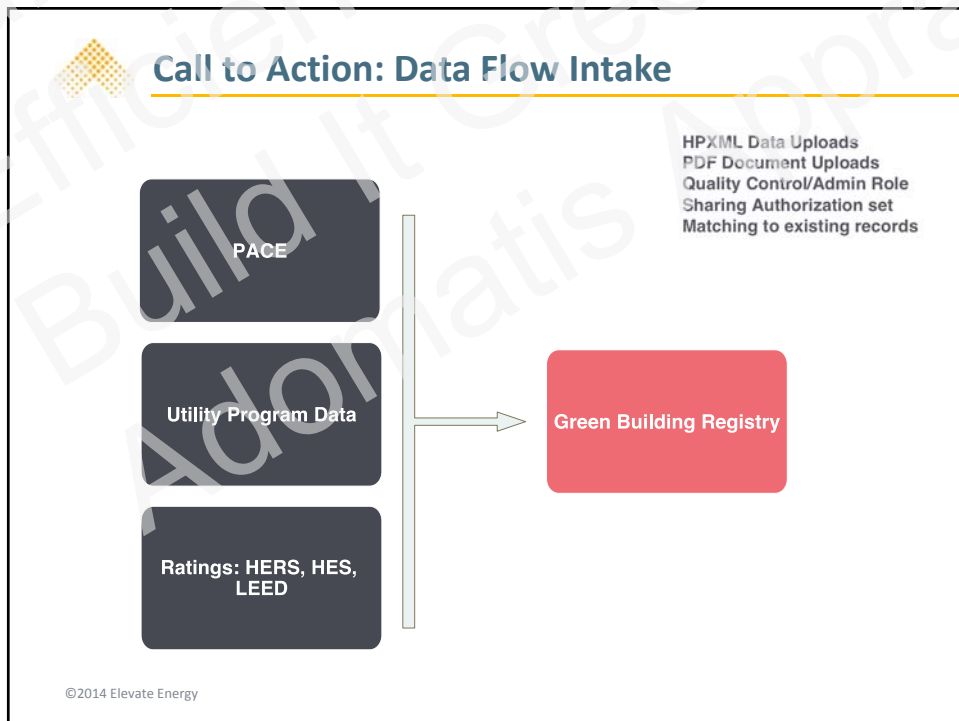
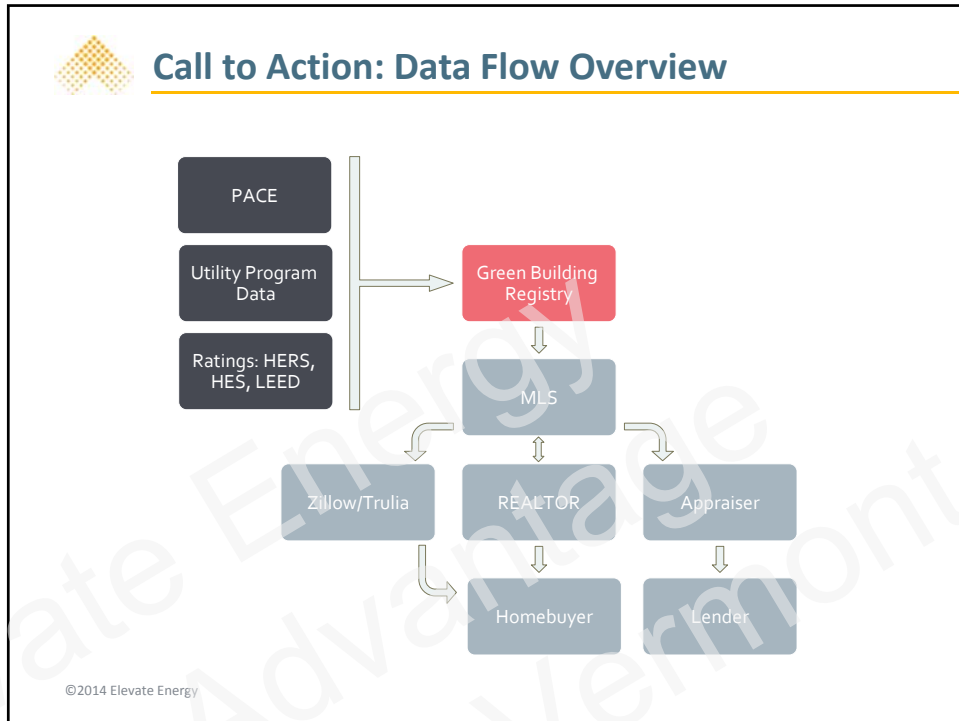
State	County	City	Postal Code	Development Name	StreetNr	Address1	Address2	HERS Index Score	ENERGY STAR Home	LEED for Homes	NAHB - Nat Green Bldg Std	Passive House	Vermont Builds Greener	Claimed Complete Date
VT	Addison	Addison	05491					55						05/31/12
VT	Addison	Ferisburg	05456					63	TRUE					01/11/12
VT	Addison	Ferisburg	05456					1	TRUE					9/6/2012
VT	Addison	Lincoln	05443					57	TRUE					01/20/12
VT	Addison	Lincoln	05443					53	TRUE					08/12/12
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					59	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					52	TRUE					01/11/12

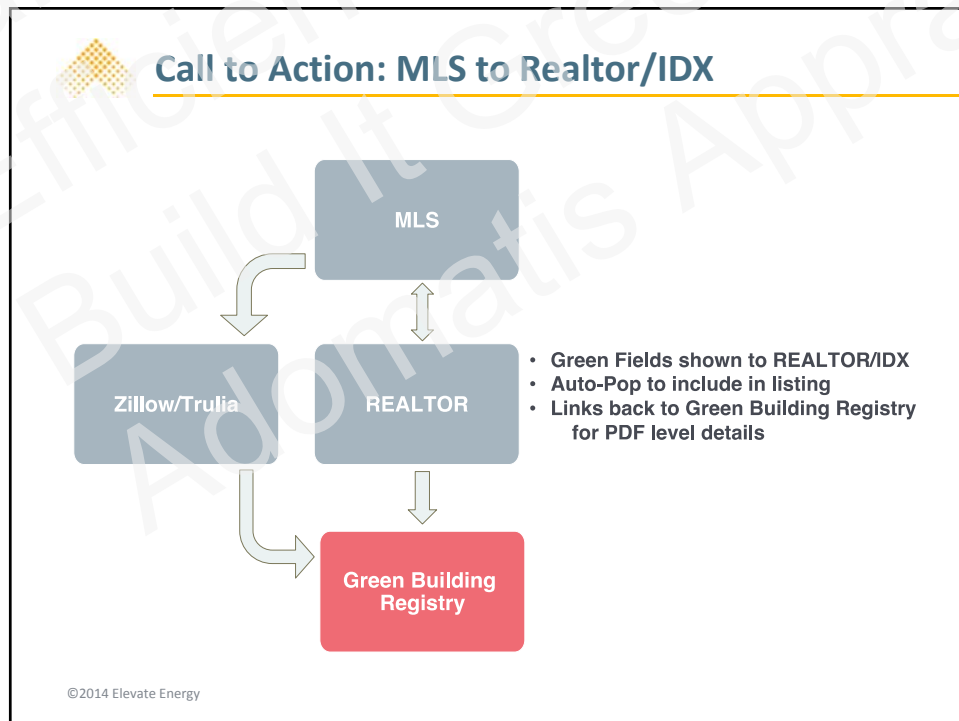
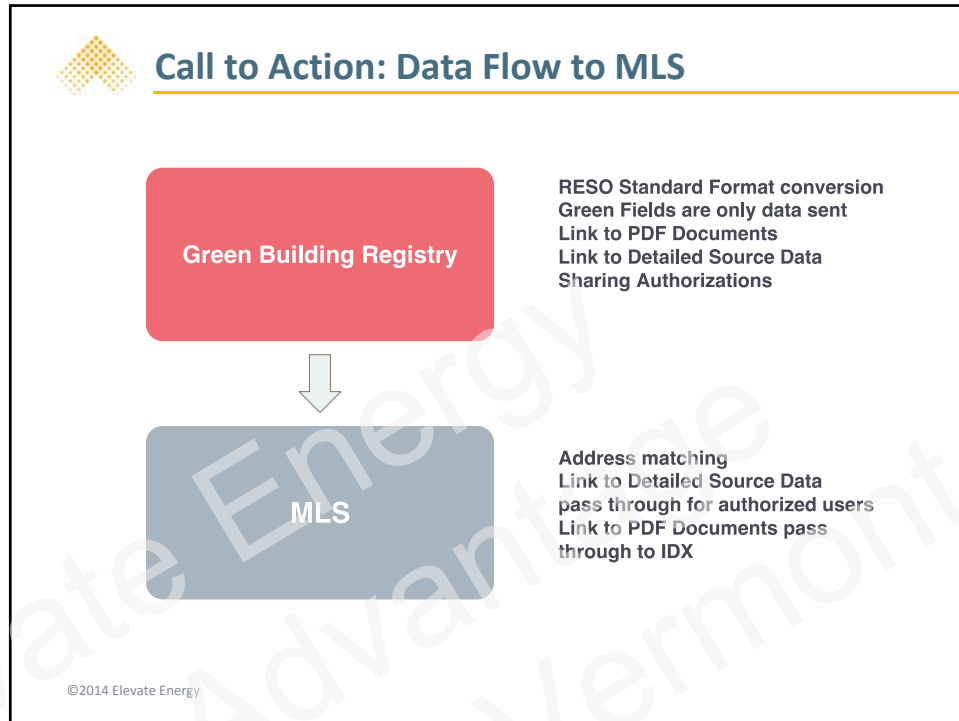
Jeffrey Gephart, Vermontwise Energy Services, Inc.



Call to Action: Green MLS Fields

- Establish relationship with your MLS
- Approach them about RETS compliance
- Determine what legal authorization language is needed for home data to be made public
- Understand tools & work arounds to send home inventory data to MLS
 - manual upload, verification/policing, utility bills, data to tax records, aggregators etc.
- Consider development of a regional registry to house verified data







Call to Action: Green MLS Fields

©2014 Elevate Energy



Blueprint Step 5

Ensure that the data about home energy efficiency improvements are incorporated into the appraisal process.

The image shows a sample of the 'Residential Green and Energy Efficient Addendum' form. The form is titled 'Residential Green and Energy Efficient Addendum' and includes sections for 'Green Features', 'Green Building', and 'Green Elements'. It contains various checkboxes and fields for recording energy efficiency data, such as 'Energy Star', 'LEED', and 'Green Building'.

©2014 Elevate Energy



What do you offer?

“Borrower’s Bill of Rights”

The
Lending/Appraisal
Process
Power Tools

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

125

Will the market pay more?

EarthCents® New Home



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

126



WHAT IS GREEN WORTH?

Unveiling High-Performance Home Premiums in Washington, D.C.

Sandra Adomatis, SRA, LEED Green Associate
Adomatis Appraisal Services

September 2015



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

127

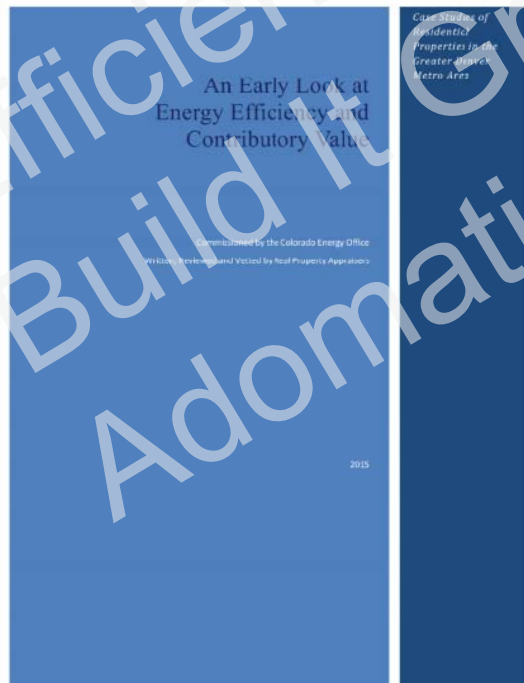
A Study by Appraisers

Washington, D.C. Study Results

Study Results	
Sales Price Premium – Mean	3.46%
Sales Price Premium – Median	2.91%
19 of 32 Pairs Support Sales Price Premium between	2% and 5%
Structure Age Ranges	4 – 107 years
Avg. Days on Market – HPH Sales	20 days
Avg. Days on Market – Non – HPH Sales	16 days

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

128




Shows positive sales price premiums



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

129

Home > Certified New Homes



What do YOU put in the electrical box?


- HERS Index and/or Green Rating
- Envelope Rating
- Duct Rating
- Insulation Installation Rating
- Date Rated
- Name of Rater

Sandra K. Adomatis, SRA, LEED Green Associate

130

EarthCents® New Home

- HERS Index
- Envelope Rating
- Duct Rating
- Insulation Installation Rating
- Date Rated
- Name of Rater



What do YOU put in the electrical box?

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

131

Solar Panel Details	
Description	Array #1
kW (size)	
Leased or Owned	
Year Installed	
Installer Name	
Panel Warranty Term	
Panel Tilt	
Panel Azimuth	
Inverter Size (Watts)	
Inverter Warranty	
Year Installed	

Labels Matter
Post them in
electrical box?



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

132

Builders need tools!



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

133

Appraised Value & Energy Efficiency: Getting it Right



Handout – Tool with Power Tips

http://bcap-energy.org/wp-content/uploads/2015/11/Appraisal_Guidance_2pager_2016.pdf

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

134

Point Out the Solution to Builders Problems..

A ready-made solution exists.

[Fannie Mae](#), [Freddie Mac](#) and [FHA](#) guidelines require lenders to choose competent appraisers who have the requisite knowledge required to perform a professional quality appraisal for the specific geographic location and particular property type.

Appraisers who are specially trained on energy efficient / high-performing homes will analyze market trends relating to special energy-efficiency features. You can access a list of qualified appraisers at the [Valuation of Sustainable Buildings Professional Development Program Registry](#).

What can builders do?

Builders can help the buyer assure a competent appraiser is selected by doing these things:

1. Complete and provide buyers with the [Residential Green and Energy Efficient Addendum form](#).
2. Provide a copy of a complete Home Energy Rating System (HERS) report (if available).
3. Prepare the buyer to notify the lender that they require a competent appraiser for this special type of construction; add your logo and provide a copy of the directions on the next page.
4. Add your logo, the property address, and contact info to the attached letter. Direct your buyer to give the letter (along with 1 and 2 above) to their lender.

http://bcap-energy.org/wp-content/uploads/2015/11/Appraisal_Guidance_2pager_2016.pdf

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

135

For Buyers: Assuring a Competent Appraiser for Your New Home

Congratulations on choosing an energy efficient, high-performing home!

Your new home was built to higher energy efficiency standards that will improve your quality of life. Your home will be more comfortable to live in and have lower monthly energy bills than other newer homes on the market. According to the U.S. Department of Energy, homes built to the 2012 or 2015 International Energy Conservation Code (IECC) are 15-16% more efficient than those built to the 2009 IECC or earlier. Some of your home features may include:

- More ceiling and wall insulation to keep conditioned air inside your home
- Windows that keep the heat out in the summer months to improve comfort
- Fewer drafts and air leaks, which improves indoor comfort

What You Need to Know

As part of the typical loan process, lenders randomly assign an appraiser to determine the appraised value of a new home. However, yours is not a typical new home – it is a high-performing building with unique features. Fannie Mae, Freddie Mac and FHA guidelines require appraisers to be competent in the property type they are appraising. If you do not clearly identify the property as a special property type requiring a competent appraiser trained in energy efficient, high-performance homes, a typical appraiser will be assigned, and these features may not be taken into account, which will put your appraisal at risk of not being competently appraised.

What You Need to Do

Provide your lender with three things provided to you by your builder:

- The lender letter regarding this special property type and the need for a trained, competent appraiser for energy efficient, high-performing homes
- The Appraisal Institute's Residential Green and Energy Efficiency Addendum, completed by your builder
- The Home Energy Rating System (HERS) report (if available)

<http://bcap-energy.org/appraised-value-and-energy-efficiency-getting-it-right/>

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate
136

**For Buyers:
Assuring a
Competent
Appraiser
for Your
New Home**

For Lenders

Dear lender,

The new home located at _____ is a special property type. It is an energy efficient, high-performing home that meets the stringent energy efficiency requirements of the code checked below:

- ___ 2012 International Energy Conservation Code
- ___ 2015 International Energy Conservation Code

A copy of the Green and Energy Efficient Addendum form, and the HERS report (if available) should be included with the appraisal engagement letter. Fannie Mae, Freddie Mac and FHA guidelines require lenders to choose competent appraisers who have the requisite knowledge required to perform a professional quality appraisal for the specific geographic location and particular property type. As a high-performing, energy efficient home, it requires an appraiser that is competent to assess the value of the green and/or energy efficiency features in the local real estate market.

You can access a list of qualified appraisers at the Valuation of Sustainable Buildings Professional Development Program Registry, available [here](#). These specially trained appraisers have completed 28 hours of education and passed three exams. If the appraisers on your panel are not on this list, they can [complete 14 education hours online](#) to get started. Appraisers on this list are not required to be Appraisal Institute members but must take the required courses and pass the exams to be listed.

If you have questions, please contact our representative at:

Name: _____

Phone: _____


Email: _____

<http://bcap-energy.org/appraised-value-and-energy-efficiency-getting-it-right/>

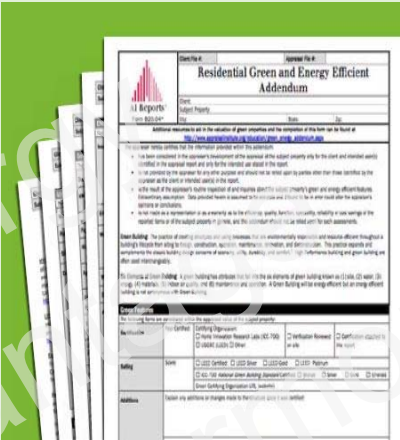
Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate
137

**2nd Page of
Handout**

**Encourage
builder to use
this lender
letter with
every loan
application.**



Document



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

138

AI Res. Green & EE Addendum

- If borrower does not identify the property as a "high performance" chances are the appraiser choice is appropriate.

WARNING

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

139

Appraisal Institute Courses



Valuation of Sustainable Buildings

Title	Hours	State Approval
Introduction to Green Buildings	8	State Approval
Case Studies in Appraising Green Residential Buildings	8	State Approval
Residential and Commercial Valuation of Solar	15	State Approval
Case Studies in Appraising Green Commercial Buildings	15	State Approval

[FAQs](#)

[Program Registry – Residential](#)

[Program Registry – Commercial](#)

Find Green Appraiser

<http://www.appraisalinstitute.org/education/your-career/professional-development-programs/>

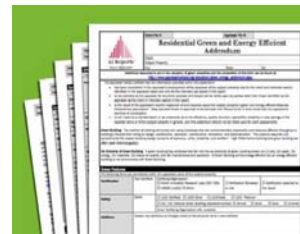
Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

140

Identify the Hidden Value



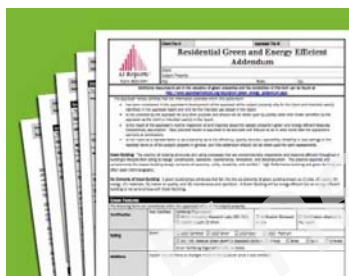
Addendum reveals
what is behind the
walls.



Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

141

AI Residential Green and Energy Efficient Addendum and Residential Green Valuation Tools



These two tools complement each other. Chapter 6 of the book, *Residential Green and Energy Efficient Addendum Form*, has 67 pages that takes the reader through completing the Addendum and provides valuable resources.



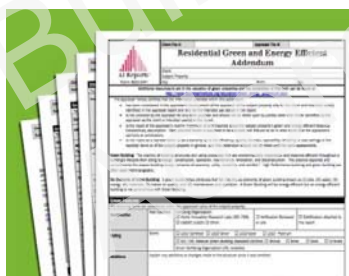
<http://www.appraisalinstitute.org/education/education-resources/green-building-resources/more-green-resources/>

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

142

AI Residential Green and Energy Efficient Addendum and Residential Green Valuation Tools

Who Can Complete the Addendum?



- Builders
- Contractors
- Homeowners
- Third Party Verifiers
- Appraisers

<http://www.appraisalinstitute.org/education/education-resources/green-building-resources/more-green-resources/>

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

143

Green Feature Section

The following items are considered within the appraised value of the subject property:			
Certification	Year Certified: 2013	Certifying Organization: <input type="checkbox"/> Home Innovation Research Labs (ICC-700) <input type="checkbox"/> USGBC (LEED) <input checked="" type="checkbox"/> Other: EARTHCRAFT HOUSE	<input checked="" type="checkbox"/> Verification Reviewed on site <input checked="" type="checkbox"/> Certification attached to this report
Rating	Score: 339 Platinum min 100p	<input type="checkbox"/> LEED Certified: <input type="checkbox"/> LEED Silver <input type="checkbox"/> LEED Gold <input type="checkbox"/> LEED Platinum <input type="checkbox"/> ICC 700 National Green Building Standard Certified: <input type="checkbox"/> Bronze <input type="checkbox"/> Silver <input type="checkbox"/> Gold <input type="checkbox"/> Emerald Green Certifying Organization URL (website) www.earthcrafthouse.org	
Additions	Explain any additions or changes made to the structure since it was certified: NONE Do changes require recertification to verify rating is still applicable? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
Comments	Attach the rating worksheet that provides the ratings for each element to provide a better understanding of the features. The worksheet will assist in comparing the subject to sales rated by different organizations. If a property is built green but not formally certified, it still deserves proper description and analysis to value the features. The market analysis is of the structure's physical, economic, and locational attributes and not an analysis of its label alone. See attached worksheet, it's recapped as follows: Site Planning 10 pts Construction Waste Management 4 pts Resource Efficiency 36 pts Durability and Moisture Management 48 pts Indoor Air Quality 29 pts High Performance Building Envelope 55 pts Energy Efficient Systems 92 pts Water Efficiency 35 pts Education and Operation 25 pts Innovation 5 pts TOTAL 339 pts - min required 100 pts Other Designations: Energy Star, Indoor AirPlus, WaterSense		

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

144

Energy Efficient Feature Section

ENERGY EFFICIENT ITEMS			
The following items are considered within the appraised value of the subject property:			
Insulation	<input type="checkbox"/> Fiberglass Blown-In <input checked="" type="checkbox"/> Foam Insulation <input type="checkbox"/> Cellulose <input type="checkbox"/> Fiberglass Batt Insulation <input checked="" type="checkbox"/> Other (Describe): Slab Edge Insulation R-7 <input type="checkbox"/> Basement Insulation (Describe): <input checked="" type="checkbox"/> HERS Insulation Installed Rating: <input checked="" type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 (See Glossary)		R-Value: <input checked="" type="checkbox"/> Walls R-27 <input checked="" type="checkbox"/> Ceiling R-37 <input type="checkbox"/> Floor
Envelope	Envelope Tightness: 0.21 ACH50 Unit: <input type="checkbox"/> CFM25 <input type="checkbox"/> CFM50 <input checked="" type="checkbox"/> ACH50 <input type="checkbox"/> ACHnatural <input checked="" type="checkbox"/> Envelope Tightness based on Blower Door Test		
Water Efficiency	<input type="checkbox"/> Reclaimed Water System (Explain): Community System <input checked="" type="checkbox"/> Greywater reuse system <input checked="" type="checkbox"/> WaterSense® fixtures		Location of cistern: <input type="checkbox"/> Cistern - Size: Gallons <input type="checkbox"/> Rain Barrels Provide Irrigation
Windows	<input checked="" type="checkbox"/> ENERGY STAR® <input type="checkbox"/> Skylights <input type="checkbox"/> Solar Tubes	<input checked="" type="checkbox"/> Low E <input type="checkbox"/> High Impact <input type="checkbox"/> Storm <input checked="" type="checkbox"/> Other (Explain): 63% LED Bulbs, 32% CFL's	<input checked="" type="checkbox"/> Double Pane <input type="checkbox"/> Triple Pane <input type="checkbox"/> Tinted <input checked="" type="checkbox"/> Solar Shades
Day Lighting	ENERGY STAR® Light Fixtures		
Appliances	Appliances: <input checked="" type="checkbox"/> Dishwasher <input checked="" type="checkbox"/> Refrigerator <input checked="" type="checkbox"/> Washer Water Heater: <input checked="" type="checkbox"/> Solar <input type="checkbox"/> Heat Pump <input type="checkbox"/> Tankless <input type="checkbox"/> Coil Size: 80 Gal. Appliance Energy Source: <input type="checkbox"/> Propane <input checked="" type="checkbox"/> Electric <input type="checkbox"/> Natural Gas <input type="checkbox"/> Other (Describe):		

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

145

Energy Efficient Feature Section

HVAC (Describe in Comments Area)	<input type="checkbox"/> High Efficiency HVAC SEER: Efficiency Rating: % AFUE* % *Annual Fuel Utilization Efficiency	<input checked="" type="checkbox"/> Heat Pump Efficiency Rating: Mini-Splits COP: 8.2 HSPF: 14.3 SEER: EER:	<input checked="" type="checkbox"/> Thermostat/Controllers	<input checked="" type="checkbox"/> Passive Solar (Defined in Glossary) Many Passive Solar techniques
	<input checked="" type="checkbox"/> Programmable Thermostat	<input type="checkbox"/> Radiant Floor Heat	Used <input type="checkbox"/> Geothermal	
Energy Rating	<input checked="" type="checkbox"/> ENERGY STAR Home - Version: Version 3 <input checked="" type="checkbox"/> Other (Describe): DOE Challenge Home Zero Energy Home Ready / EPA Indoor AirPlus, EPA Watersense Home Energy Score (HES) (Score range 1-10): HERS Index: -2 - produces more energy than it consumes <input checked="" type="checkbox"/> Certification Attached			
Indoor Air Quality	<input checked="" type="checkbox"/> Indoor Air PLUS Package	<input checked="" type="checkbox"/> Energy Recovery Ventilator Unit or Whole Building Ventilation System	<input type="checkbox"/> Non Toxic Pest Control	
HERS Information	Rating: -2	Monthly Energy Savings on Rating: \$ 150	Date Rated: 8/9/2013	
Utility Costs	Average Annual Utility Cost: \$ 225 per month based on:			# of Occupants: 4
Energy Audit	<input type="checkbox"/> Infrared Photograph Attached Has an energy audit/rating been performed on the subject property? <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown If yes, comment on work completed as result of audit.			

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

146

Energy Efficient Feature Section

Comments (Include source for information provided in this section) Attach documents or reference them in your workfile The energy element is the most measurable element of green or high performance housing.	Information was provided by: Department of Energy DOE Case Study ENERGY STAR v3.0 Home Verification Summary EarthCraft House 2011 Testing Sheet DOE Challenge Home Verification REMrate Building Summary
--	--

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

147

Solar Section

Solar Panels					
The following items are considered within the appraised value of the subject property:					
Description	Array #1 <input type="checkbox"/> Leased <input checked="" type="checkbox"/> Owned	Array #2 <input type="checkbox"/> Leased <input type="checkbox"/> Owned	Description	Solar Thermal Water Heating System	
NW (Size)	10		If Active System - type	<input checked="" type="checkbox"/> Direct <input type="checkbox"/> Indirect	
Manufacturer of Panels	LG LG2555BK-G3		If Passive System - type	<input type="checkbox"/> Integral collector <input type="checkbox"/> Thermosyphon	
Warranty on Panels	25		Storage Tank Size	# Gallons: 50	
Age of Panels	New		Collector Type	<input checked="" type="checkbox"/> Flat-Plate Collector <input type="checkbox"/> Integral Collector <input type="checkbox"/> Evacuated Tube Solar	
Energy Production kWh per Array	+/- 14,000 kWh		Back-Up System	<input type="checkbox"/> Conventional Water Htr <input type="checkbox"/> Tankless On Demand <input type="checkbox"/> Tankless Heat Pump	
Source for Energy Production Estimate	Sun		Age of System	new	
Location (Roof, Ground, Etc.)	Roof		Warranty Term	10 years	
Tilt/Slope for Array	35		Manufacturer	AET	
Azimuth per Array	South		Solar Energy Factor (SEF) (Rating range 1 to 11 - higher number is more efficient)	0.95	
Age of Inverter(s)	new				
Manufacturer	i-Microinverter				
Warranty Term					

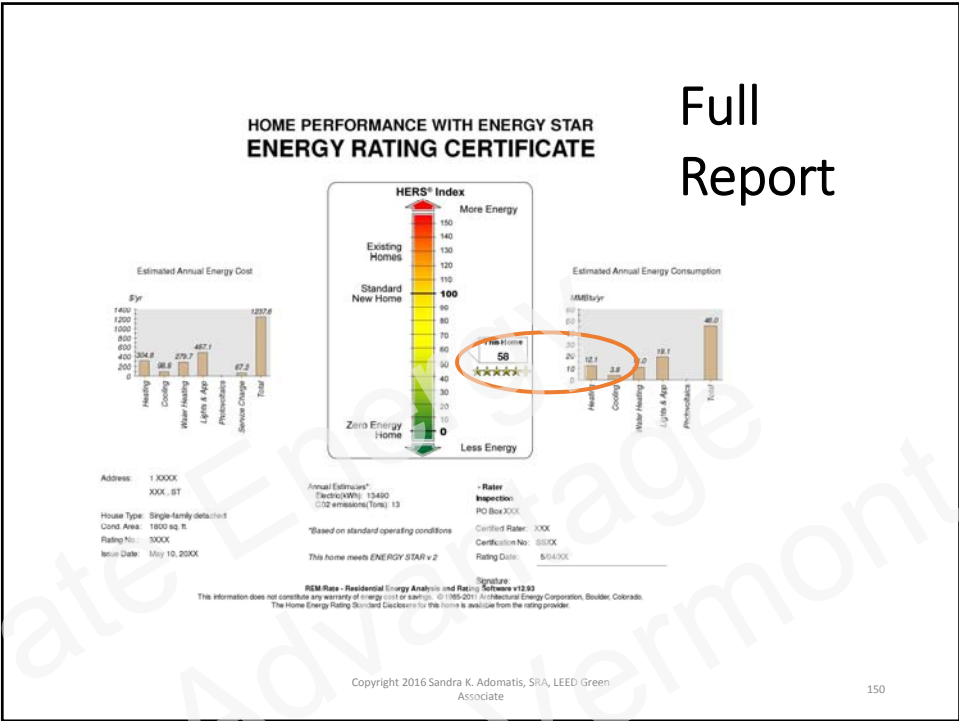
Name of Utility Company: GreyStone Power Cost per kWh charged by Company: \$ /kWh

148

Solar Section

<p>Comments (Discusses incentives available for new panels, condition of current panels, and any maintenance issues. If leased, provide the lease terms.)</p> <p>A free online tool and manual for valuing the energy production of the Solar PV System is available at www.pvvalue.com</p> <p>Download the PV Value™ Manual for explanation of the solar worth on QRS form and inputs used in the PV Value Tool</p>	<p>Discuss source of information and define other renewable energy sources, such as wind, hydropower, biomass power, etc.</p> <p>This is a Net Zero home which means that it generates more power than it consumes.</p>
---	---



149



Energy Cost	
Energy Improvements Cost	<input type="text" value="13608"/>
For a purchase money mortgage, the cost of the energy improvements may be added to the purchase price of the property. For a refinance, the cost of the energy improvements may be added to the loan amount.	
Energy Report Cost	<input type="text"/>
If the cost of the energy report is paid for by the borrower, the cost may be financed as part of the mortgage by including it in the cost of the energy improvements.	
Cost Effectiveness Test	
The Energy improvements must be cost-effective, which means that they must have a positive net present value. A positive net present value means the cost of the improvements, including maintenance, is less than the energy savings over the useful life of the improvements. The cost-effectiveness of the of the improvements may be assessed in the aggregate and is not required to be assessed separately for each energy improvement.	
Net Present Value (must be positive)	<input type="text" value="8341"/>
Energy Savings	
Monthly Energy Savings	<input type="text" value="106"/>

Copyright 2016 Sandra K. Adomatis, SRA, LEED Green Associate

152

Dodd-Frank Says Appraiser Cannot Talk to You

A Myth!

2015 Copyright Adomatis Appraisal Service

153

Dodd-Frank Section 129E. Appraiser Independence Requirements say..

~ (c) Exceptions- The requirements of subsection (b) shall not be construed as prohibiting a mortgage lender, mortgage broker, mortgage banker, real estate broker, appraisal management company, employee of an appraisal management company, consumer, or any other person with an interest in a real estate transaction from asking an appraiser to undertake 1 or more of the following:

- ~ (1) Consider additional, appropriate property information, including the consideration of additional comparable properties to make or support an appraisal.
- ~ (2) Provide further detail, substantiation, or explanation for the appraiser's value conclusion.
- ~ (3) Correct errors in the appraisal report.

2015 Copyright Adomatis Appraisal Service

154

Does Dodd-Frank or any pre-existing appraisal requirement require lenders or AMCs utilize rotational panels in making appraisal assignments?

2015 Copyright Adomatis Appraisal Service

155

"No, Dodd-Frank nor any other pre-existing appraisal requirements require the use of a rotational list of approved appraisers by lenders and AMCs.

Appraisers should not be selected for an assignment just because they are "next on the list." Further, lenders are under no obligation to expand the number of appraisers on their appraiser panels as a result of these requirements."

2015 Copyright Adomatis Appraisal Service

156

"Instead, lenders and AMCs should select the appraiser on their panel that is **most qualified and competent** with the local market in which the property is located, **must be competent** to appraise the subject property, and must have access to the data sources necessary to develop credible appraisal."

2015 Copyright Adomatis Appraisal Service

157



Other Questions? More Discussion.



©2014 Elevate Energy