



**Better
Buildings®**
U.S. DEPARTMENT OF ENERGY

**Capturing Energy Efficiency in Residential
Real Estate Transactions:
Steps that EE Programs Can Take**

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Agenda

- Why EE programs are the vital link
- Barriers to valuing EE in home sale prices
- Overview of national efforts to address issues
- Overview of home sale transaction system
- Activities for EE programs – 3 activity areas
- Program examples:
 - Fundamental lower resource-intensive efforts
 - More extensive efforts
- Getting Started

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Poll Question #1: Your organization

- What type of organization or program do you work for?

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 the information needed to drive EE valuation
- Create a future in which homeowners feel more pay for efficiency upgrades



Key barriers to accurately valuing EE

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



Poll Question #2: Most challenging barrier

- What is the most important barrier to accurately valuing EE in home resale prices?

National efforts underway

- Value for High Performance Homes Campaign
- New standards and efforts to align residential efficiency and real estate information, e.g., BPI 2100 (HPXML) and 2101 Standard
- Green the MLS Toolkit and Implementation Guide (NAR)
- DOE Accelerators: Home Energy Information & Home Upgrade Program

Activities for EE programs

1. Document 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 touchpoints



Program Activities: Where to Start?

- Potential activities involve range of effort level
 - Foundational efforts, e.g.
 - Offering rating or efficiency certification
 - Putting sticker with EE info on home's circuit box
 - More extensive efforts, e.g.
 - Establishing green MLS data fields
 - Using inter-operable data standards

Program Activities: Where to Start?

- First step: assess local situation
 - What 'green' fields does the MLS accept (if any)?
 - Is there interest among local real estate professionals?
 - Is there a growing inventory of high performance homes?
 - Does my program already offer an energy rating or EE certification?
 - Is my program authorized to share participants' efficiency data?
 - What resources do I have available?

Poll Question #3: Your local situation

- What is the situation in your city or region?
(Choose all that apply)


Activity Area 1: Standardized Data Formats

Leverage existing resources (foundational approach)

- Rating systems (e.g., HES, EPS, HERS)
- 3rd-party verified certificates (e.g., HPwES)
- Appraisal Institute Residential Green and Efficient Addendum:

<http://www.appraisalinstitute.org/assets/1/7/Interactive820.04-ResidentialGreenandEnergyEfficientAddendum.pdf>

Residential Green & Energy Efficient Addendum

 AI Reports® Form 820.03*	Client File #:	Appraisal File #:
	Residential Green and Energy Efficient Addendum	
	Client:	
	Subject Property:	State:
City:		Zip:

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

Activity Area 1: Standardized Data Formats



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**

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

Green the MLS (extensive effort)

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



Program Example: State of Colorado

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

Colorado: An Integrated Effort

- Documenting/communicating in standardized formats
 - Home Energy Score offered through utility programs and home inspectors
 - Mortgage Incentive Program – up to \$3K for improving Score
 - Green MLS – statewide adoption of green fields, requires attached report for 3rd party certifications
- Retaining the information and communicating at time of sale
 - Central database of Scores can feed MLS
 - Working toward auto-population of MLS
- Training & outreach to REALTORS – CE credits available for Home Energy Score training, Ads/map

Activity Area 1: Standardized Data Formats

- Extensive 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

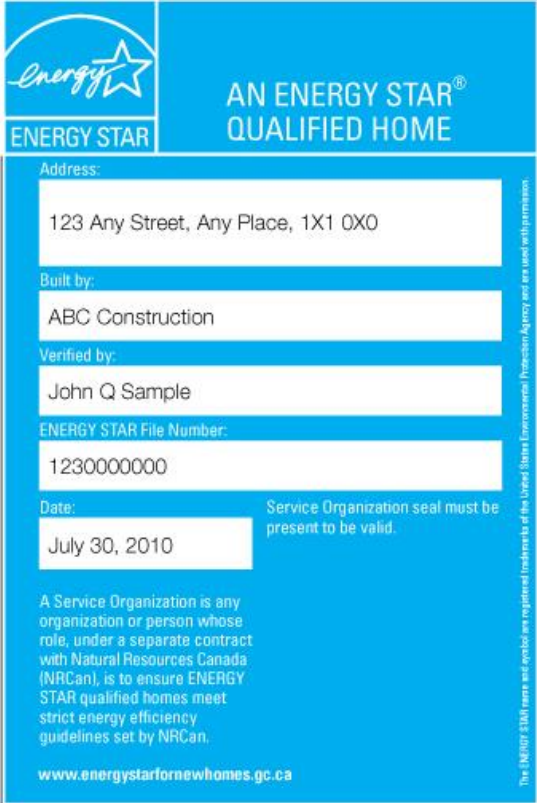
- Goal: open market to multiple software vendors
- (Re)evaluated every data field
- Additional benefit: improved workflow

Aligning EE and real estate data standards


- BPI-2101: Standard Requirements for a Certificate of Completion for Residential Energy Upgrades
- BPI-2100: Standard for Home Performance-Related Data Transfer (HPXML)
- BPI-2200: Standard for Home Performance-Related Data Collection
- Real Estate Transaction Standard (RETS)
- Appraisal Institute Residential Green and Energy Efficient Addendum

Activity Area 2: Retain and Communicate

- Keep EE information with the home (foundational effort)
 - 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 and white ENERGY STAR Qualified Home sticker. At the top left is the ENERGY STAR logo. To its right, the text reads "AN ENERGY STAR® QUALIFIED HOME". Below this, there are several fields for information: "Address:" with the example "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". A note states "Service Organization seal must be present to be valid." At the bottom, there is a definition of a Service Organization and the website "www.energystarformehomes.gc.ca". A vertical disclaimer on the right edge reads "The ENERGY STAR logo and symbol are registered trademarks of the United States Environmental Protection Agency and are used with permission."

	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: July 30, 2010	Service Organization seal must be present to be valid.
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.energystarformehomes.gc.ca	

Activity Area 2: Retain and Communicate

- Engage program participants beyond the upgrade (foundational effort)
 - 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

- Ensure EE information is considered in appraisals (more extensive effort)
 - 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

- Automate data transfer to MLS (extensive effort)
 - First step: ask program participants for permission to share EE data

Program Examples:

- Virginia LEAP piloted HPXML transfer from contractor software to program database
- Energy Trust of Oregon arranged to transmit Energy Performance Score to county tax records

Activity Area 3: Education and Training

- Conduct outreach and provide recognition (foundational effort)
 - E.g., “brown bag” talks
 - Develop relationships, network

Program Example: Energy Trust of Oregon

- Created real estate ally designation similar to contractor trade ally designation

Activity Area 3: Education and Training

- Support classes that provide CEUs for real estate license renewal (more extensive effort)
 - 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 Examples:

- Colorado Energy Office supported Appraisal Institute certification training, green MLS trainings for agents, scholarships to home inspectors for BPI training.
- MEEA Partnered with NAR Green Designation and local board of Realtors®, offered discounts
- Vermont Green Homes Alliance partnership held real estate educational symposium and offers CEU courses

Activity Area 3: Education and Training

- Tips from Programs
 - Work with partners to get courses CEU-certified
 - Promote through many channels
 - Messaging important: “Expand your expertise in a changing market”
 - 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, subsidize real estate professional training courses, etc.?

Resources Appendix: examples

- **Documentation and data standardization**
 - Data standards (e.g., BPI 2101, HPXML)
 - Green the MLS Toolkit/Implementation Guide
 - Appraisal Institute Green and Energy Efficient Addendum
- **Home performance rating systems**
 - Home Energy Score, HERS, EPS, Home MPG
- **Certification programs**
 - ENERGY STAR, LEED, National Green Building Standard, Passive House
- **Education resources**
 - Appraisal Institute, BPI, Earth Advantage Broker and Accredited Green Appraiser, EcoBroker, Build it Green Certified Real Estate Professional
 - NAR Green Designation, list of states that approve NAR courses for CEUs

Thank you!

Download the paper here:

<http://energy.gov/eere/better-buildings-residential-network/resources#realestate>

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Lender/Appraisal Challenges



Sandra K. Adomatis,
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Complex Appraisal Assignment

- Require skilled appraisers to identify the problem and develop a credible value conclusion
- Fees must be commensurate with the difficulty of the assignment
- Appraisal ordering process must have knowledge of how to qualify appraiser – adequate appraiser database
- Additional time to complete the assignment is necessary.

Lender-Appraisal Ordering Challenges

- Lender or AMC is not aware of high performance features because
 - Borrower did not alert lender of features
 - Borrower did not provide a completed AI Residential Green and Energy Efficient Addendum at the time of loan application
- Some markets have no appraisers with experience or education in high performance properties

Lender-Appraisal Ordering Challenges

- Some appraisal ordering departments do not have appropriate database on appraiser education and experience to make good choices
- Some appraisal ordering departments are not familiar with high performance property characteristics and assume they are standard
- Appraisal ordering department lacks a policy on complex appraisal assignments

Appraisal Challenge 1

- Limited energy or green data on the appraisal property
 - Complete HERS Reports not available
 - Two years of energy bills on existing home not accessible
 - Green Score Sheets not available

Solution to Challenge 1

- Make all documents listed available for the appraiser
- Do not assume documents taken to the lender will reach the appraiser – make two copies

Appraisal Challenge 2

- Limited sales of similar properties with similar features
 - Often sales are available but they are not identifiable because of insufficient databases – MLS
 - MLS fields are not populated
 - MLS fields are inaccurately populated

Solution to Challenge 2

- Auto population of MLS fields
- Access to more fields in RESNET database
 - Can provide ENERGY STAR® Ratings (Version and date)
 - Can provide Solar PV characteristics
- Access to Green Scoring databases

Appraisal Challenge 3

- Fannie Mae Selling Guide is not clear in the methods they will accept to support adjustments.

Appraisers must compare energy-efficient features of the subject property to those of comparable properties in the Sales Comparison Approach adjustment grid. If the appraiser's analysis determines that an adjustment is warranted based on the market reaction to such item(s), the adjustment must be included in the adjustment grid.

Part B, Origination Through Closing
Subpart 4, Underwriting Property
Chapter 1, Appraisal Requirements, Appraisal Report Assessment

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Solution to Challenge 3

- Mortgage Letter to Lenders clarifying the methods they will accept.
- See FHA/HUD's guideline on supporting adjustments on following slide

Solution to Challenge 3

- Mortgage Letter to Lenders clarifying the methods they will accept.
- See FHA/HUD's guideline on supporting adjustments on following slide

Solution to Challenge 3

(d) Adjusting Comparable Properties

(i) Standard

Calculation of the Contributory Value includes methods based on the:

- direct sales comparison approach;
- cost approach; and
- Income approach.

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HUD Handbook 4000.1
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Thank you

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<http://energy.gov/eere/better-buildings-residential-network/resources#realestate>