

Valuing Energy Efficiency in Real Estate Transactions

A Midwest Home Performance Collaborative Webinar



Thank you for tuning in! A few logistical items...

About MEEA

MEEA is a nonprofit membership organization with 160+ members, including:

- Utilities
- Research institutions
- State and local governments
- Energy efficiency-related businesses

As the key resource and champion for energy efficiency in the Midwest, MEEA helps a diverse range of stakeholders understand and implement cost-effective energy efficiency strategies that provide economic and environmental benefits.



Today's Topic:

Valuing EE in Real Estate Transactions

Agenda

- MO Home Energy Certification Program and Green Building Registry Integration
 - Amelia Trout, MO Dept. of Economic Development
- Pearl Certification
 - Robin LeBaron, Pearl National Home Certification
- National HPwES Update
 - Andrew Isaacs, HPwES
- Questions

Missouri Home Energy Certification & Green Building Registry®

Missouri Division of Energy

Midwest Home Performance Collaborative Webinar I March 26, 2019

Missouri Division of Energy

As the state's energy office, the Missouri Division of Energy assists, educates, and encourages Missourians to advance the efficient use of diverse energy resources to drive economic development, provide for a healthier environment and to achieve greater energy security for future generations.



Impacts on Energy Consciousness in Missouri

- Lack of Public Benefit Funds
- Relatively-low utility rates
- Home-rule state
- No statewide energy codes





Missouri Home Energy Certification (MHEC)



What is MHEC?

MHEC is a voluntary statewide program created to stimulate interest in home energy audits and encourage energy efficient retrofits by recognizing the value of these features with a state-issued gold or silver certificate.





Why MHEC?

- Communicates value of EE homes
- Establishes consistency in home ratings
- Recognizes new and existing homes
- Steps of involvement





How to Participate

Locate a Missouri certified home energy auditor

Make recommended efficiency upgrades to the home

Work with auditor to certify the home







Deduct home energy audit and retrofits



MHEC Next Steps for Success

- Reconstruct and enhance online platform
- Work with investor-owned and municipal utilities
- Connect with realtors, inspectors, appraisers, lenders and homebuilder organizations
- Work with residential energy stakeholders to overcome technical and market barriers



Green Building Registry® (GBR)





Green Building Registry®

The GBR performs functions that are essential to communicate the value of accurate and verified home energy data with interested and invested parties at the time of sale.





GBR Demonstrates Efficiency

- Search for home energy efficiency data
- Access accurate, third party-verified home energy scorecards
- Arrange to securely retrieve data from trusted sources through API connection
- Import data into Multiple Listing Services at the click of a button
- Use the permanent URL into the notes of a real estate listing
- Communicate the value of home energy efficiency features



Accessible and Accurate Data

After a home energy audit with a qualified assessor residents may enter their address to search for home efficiency data from qualified sources, such as:

- U.S. DOE HEScore
- RESNET
- Local utility providers





Custom Scorecards





HERS Index Scorecard



Bridging the Gap

GBR bridges the gap among appraisers, efficiency contractors, homeowners, lenders, and real estate agents by providing accessible and accurate energy efficiency home data through features that are reliable, secure, and easy to use.



Resources:

Visit our program webpage: energy.mo.gov/GreenBuildingRegistryMO

Visit Green Building Registry®:

us.greenbuildingregistry.com

Contact:

Amelia Trout 573.751.1304

Amelia.Trout@ded.mo.gov







Pearl Certification: Pearl Making Energy Efficiency Visible





Pearl's Founders



Cynthia Adams CEO

- Former Executive Director of LEAP, Charlottesville VA
- Gov. appointee to Virginia Energy Council and NAR Sustainability Advisory Group appointee
- NAR Green Designee and USGBC LEED AP
- Former new-home builder



Robin LeBaron, PhD President and COO

- Former Managing Director of the National Home Performance Council (now merged with HPC)
- Led national projects on data standards (HPXML) and utility cost-effectiveness testing
- Former developer and manager of multifamily affordable housing



The Challenge: More Home Upgrades, More Quickly

< 1 million HPwES wholehouse upgrades in the past decade

70 million single-unit homes

700 years is too long!



The Solution (I): Making Value Visible





The Solution (II): Supporting Upgrades Over

Instead of a one-time whole-house





 Enable homeowners to stage upgrades over time at their convenience and as their budget allows



How We Do It



Pearl makes energy efficient and renewable home features **visible**

through certification



We work with the real estate sector to make sure that visibility is translated into **value** at time of sale or refinance





High-performing Home Asset Categories



Building Shell 300 Points

Roof, walls, windows, and foundation



Heating & Cooling 360 Points

Furnace, AC, heat pumps, ductwork



Baseload 240 Points

Water heater, lighting, appliances



Home Management

300 Points

Smart devices, demand response, HIP



Renewable Energy Features

Solar panels, battery storage, EV charging, inverters

Pearl Efficiency Certification Levels



Pearl Silver 700 points

A Pearl Silver home typically has an IECC 2015-level building shell OR ENERGY STAR heating and cooling systems



Pearl Gold 825 points

A Pearl Silver home typically has IECC 2015level building shell AND ENERGY STAR heating and cooling systems

Pearl Platinum 975 points

A Pearl Platinum home typically has IECC 2015-level building shell and ENERGY STAR HVAC, plus efficient appliances, water heating, lighting, and smart devices and controls



Pearl's System is NOT an MPG Rating

- Pearl does not model or predict a home's energy usage
- Pearl's showcases a home's energy efficient assets and gives the owner guidance on which improvements to make
- We believe it is important to highlight energy ratings like the Home Energy Score or HERS Index in the certification
 report

High-Performing Home Certification Report



Solar Certification Report



Home Investment Plan

AWHI

Feature Level Education



Attic Insulation

ABOUT INSULATION Attic insulation is one of the most important assets in your home. Keep your home warmer in the winter and cooler the summer by adding to your attic insulation's value. R-value is the capacity of an insulating material to resist heat flow. Higher R-value numbers bring

HOME INVESTMENT PLAN 10710 Gazeb Mequon, WI 5

increased comfort and lowe	rr energy use.	RETURN ON INVESTMENT GREATER THAN 100%		
	Existing	Package 3	Package 2	Package 1
Insulation Type	Fiberglass Batt	Blown Fiberglass	Blown Fiberglass	Blown Fiberglass
R-Value	R-14	R-50	R-50	R-50
Insulation Quality	Unknown	Grade 1	Grade 1	Grade 1
Comments				
How Does It Compare?		Top 35% of WI homes	Top 35% of WI homes	Top 35% of WI homes
Potential Pearl Points		48	48	48

Benefits to Upgrading

LESSENS TEMPERATURE SWINGS IN YOUR HOME

NCREASES SOUND-PROOFING FOR A QUIETER HOME



SIN HOME IMPROVEMENT PACKAGE RECOMMENDATIONS

es Include	Existing	Package 3	Package 2	Package 1
tic Insulation	R-14	Blown Fiberglass R-50 Insulate Attic Hatch	Blown Fiberglass R-50 Insulate Attic Hatch	Blown Fiberglass R-50 Insulate Attic Hatch
Sealing	None	S	8	8
awlspace sulation	None	Spray Foam Closed Cell R-38	Spray Foam Closed Cell R-38	8
al Pearl		726	700	648
al Pearl Tier		Silver	Silver	Asset
Cost		\$14,000	\$10,000	\$5,000

WHAT IS THIS PLAN?

PEARL CERTIFICAT

Understanding what's in your home and your options for improvements can be complicated - Pearl is here to help. A Pearl Home Investment Plan will give you guidance on your home and options for upgrading specific assets to increase your comfort, lower energy bills and improve indoor air quality.

- · Wisconsin Home Improvement is a member of the Pearl Advantage Network which means not only do they deliver superior customer service, but they are approved to collect investment grade data to certify your home.
- · This home investment plan will help you plan for short term and long term improvements to create a high-performing home.
- · Each investment you make will increase your Pearl score making your home more comfortable and energy efficient - as well as valuable.

Co-branded with Contractor

PREPARED BY



Custom Improvement Packages Tied to Certification



MLS and Appraisal Documentation

MLS Listing Report

Pearl

11007 Oak Leaf Court, Reston, VA 20190 Verified Green Fields Listing Sheet

This property's home performance features map to the MLS fields below. Please see accompanying Poerl Home Contilication Report for documentation of the features' technical specifications.

Pearl Silver Hame

Appliances

- ENERGY STAR Clothes washer
- ENERGY STAR Dishwasher
- ENERGY STAR Ref/gerator
- ✓ Water Heater High-Efficiency
- ✓ Water Heater Tankless

Windows/Doors

- ✓ Double Pane Windows
- ENERGY STAR Qualified Windows
- ✓ Low E Windows

Constructions Materials

- Batt insulation
- ✓ Insulated Exterior Duct-work
- 🖌 Spray Foam

Cooling System

- ✓ ENERCY STAR Cooling System
- ✓ Heat Pump(s)
- Programmable Thermostat

Heating Fuel

✓ Electric

Natural Gas

Date: 7/21/2016

Certificate #00221

Appraisal Addendum

Solar Panels The following items are considered within the appraisal analysis of the subject property: Solar Photovoltaic (Electric) System Array #1 Array #2 (if applicable) □ Leased Owned □ *Solar Loan with UCC Filing Type of Leased Owned O Solar Loan OUCC Ownership Purchase Power Agreement (PPA). solar loan has UCC Filing, it is considered personal property and should not be Purchase Power Agreement (PPA) included in market value System Size: 7.3700 kW (1kW – 1000 Watts) System Size: kW (1kW – 1000 Watts) Age of Panels: years Age of Panels: 0 years Energy Production: 14048 kWh Source of Energy Production Estimate: Aurora Energy Production: kWh Panel Specifications Source of Fnergy Production Estimate: Manufacturer: Boviet Manufacturer: Warranty on Panels: years Warranty on Panels: 25 years Array Location (roof, ground, etc.): Ground ocation (roof, ground, etc.): Placement Tit / Slope: Affects energy Tilt / Slope: 30 *Azimuth: production. *Azimuth: 220 *Orientation (direction panels face): *Orientation Number of Inverters per Array: 1 Number of Inverters per Array; Age: 0 years Age: years Inverter Nattage: 300 watts Wattage: watts Specifications Manufacturen: Solar Edge Manufacturer: Warranty Term: 25 years Warranty Term: years Sattery Type: 🛛 Lithium-ion 🗶 Lithium-ion Polymer 💭 Lead Add 💭 Lead Caldium 💭 AGM 💭 GEI Energy Storing Manufacturer: Storage Capacity: KWh Batteries Warranty Term: years - Battery age Name of Charge / kWh CVEC \$ 103/ kWh Utility from Utility Company: Solar Thermal Water Heating System Type of Active: Direct Direct Storage Tank Sallons assive: O Integral collector O Thermo-syphon System: Size Collector Flat-Plat Integral Evacuated-Tube Solar System Age lears: Type: Conventional Water Heater C Tankless On Demand Back-Up Warranty System: Term Solar Energy *Rating ranges 1 to 11. Higher number is more efficient Manufacture Factor (SEF): Comments Discuss Discuss source of information and define other renewable energy sources, such as wind, hydropower, hiomass power, etc. ncentives.

available for new panels, condition of

current panels, Note: Leased solar PV systems and Power Purchase Agreements

and any maintenance issues. If leased, the lease or PPA have on the price bayers are willing to pay for the property. If a system is of the lease or PPA have on the price bayers are willing to pay for the property.

lease terms.

Certification App: Contractor View



RE Agent "Certify My Home" App



Survey Results

a 500, 1577 Spring Hil...

CONGRATULATIONS!

Pearl

HOME **PRE-QUALIFIES**

This home prequalifies for Pearl Certification.

Independently certified homes average of 3% -9% more than non-certified

Schedule Pearl Certification Visit

This home also has features that can be included in the CMA and listed in the MLS.

Have a Pearl certifier visit the home to create:

- Pearl Home Certification Report
- Pearl Verified MLS Green Fields Report
- Appraisal Institute Green and Energy Efficient Addendum

Features:

- 7 simple questions
- Instant results •
- Request ٠ certification through the app



Independent appraiser study finds Pearl Certification adds 5% to the sales price


Two Channels to Market



Contractors use Pearl to close more sales and sell higher-quality goods and services



Real Estate agents use Pearl to differentiate themselves from competition and make the listing stand out



In Their Own Words: Pearl's Value Proposition



"We're not just closing with Pearl, we're opening the door with Pearl."

John Kane *Home Solutions Expert* Allied Energy



"Pearl allows our agents to get maximum value for their homes."

Carol Perry CBDO HomeSmart International



"Pearl not only provides a home certification but also documentation of the value we add."

Josh Goldschmidt President Eagle Construction



National Expansion



Signed On With Pearl:

48 builders/contractors

10 large brokers in **16 states** (including #1 Trane dealer and 5th largest brokerage in the US)

Pilots



HomeSmart, City of Phoenix and APS

Certifying a critical mass of homes and studying market







Driving a critical mass of residential certifications in three Massachusetts





NYSERDA

Pearl as a pilot voluntary home energy rating system for three regions in New York state



The NYSERDA Pilot

Pilot 1

Contractors test the effectiveness of Pearl Certification as a sales tool and guide to help homeowners make energy efficiency improvements

Pilot 2

Home Inspectors provide Pearl Certifications for new home buyers to encourage energy efficiency upgrades

Three NYS Regions

- Irondequoit
- Tompkins County
- Staten Island





What the Network Looks Like: **Phoenix**



Phoenix wants to Pearl Certify 25% of housing stock by 2030 to drive demand for energy efficient and renewable energy installations



Thank You

Robin LeBaron, Co-Founder, President and COO robin@pearlcertification.com

Home Performance with ENERGY STAR 2019 Overview

HOME PERFORMANCE WITH

Andrew Isaacs, National Account Manager HPwES

March 26th 2019





Home Performance with ENERGY STAR Program Updates

General Program Updates

- New HPwES Program Manger Steve Dunn, DOE
- Sponsor Check In Calls and HPC April 1-4, 2019 Chicago, IL
- Reporting: Collecting Newly Revised HPwES Annual Reports
- HPwES Awards Update Awards Ceremony April 11th 2019 in DC.
 *Winners announced Tuesday, April 9th
- DOE RBI Meeting in Chicago Monday, April 1st

2019 Key Priorities

- Home Energy Score and HPwES Integration
- Research Opportunities for Sponsors and the National Labs

Low and Mod Income and Multifamily – Extending the Reach
 Strepartment of
 ENERGY

Home Performance with ENERGY STAR in Focus

energy
HOME PERFORMANCE WITH ENERGY STAR

- 16th Anniversary for HPwES
- 41 Sponsors and 2 Aggregator Pilots
- Over 774,682 completed projects under the HPwES
- Over 86,660 completed projects in 2018
- Approximately 1,400 contractors participating nationwide in HPwES
- Average project size was \$5,700 in 2018



HOME PERFORMANCE V

Importance of the ENERGY STAR Brand



ENERGY STAR

91%

of households recognized the ENERGY STAR label when shown the label

75% of households had a high understanding of the ENERGY STAR label



Source: The Consortium for Energy Efficiency's report National Awareness of ENERGY STAR for 2016

HOME PERFORMANCE WITH ENERGY STAR

Continuing to Expand Applicability of HPwES





Incremental Programs-HVAC



Multi-Family Programs



Affordable/Low

Income Programs

Whole-House Multiple Measure Programs



Renewable Programs



Health and Home Performance Programs

Buildings		Home Energy Sco.			
CONDITIONED AREA YEAR SILLS CODT BASIS NO. OF BLOROOMS	1.500 m ² 1000 2011 (KMK) 31.153 (cheen 2		12345 Honeysadile Lane Smithelia, AR 72466	SCORS 100W	3
		Average Wome Barry			
Hayloor energy too	² 3	4 5 6	7 8 9 1	0 Internet	120
	SCORE TODAY		SCORE WITH IMPROVEMENTS \$573		
	The U.S. Department of Free structure and heating, cool	gy's Home Promy Seven owenons the og, and hot water systems. For more i	energy efficiency of a lowest lossed on its information visit HomeEnergyScene.gov.		
Page 1 of 6			ASSESSMENT: Official I December 22.	2014 1124 1	214

Home Energy Score



2019 HPC National Home Performance Conference We will see you there!!!



http://www.homeperformance.org/conferences/HPC19



2019 HPC National Home Performance Conference DOE RBI Meeting, Monday April 1st 1:30PM - 5:00PM

1:30 - 1:40	Welcome		
1:40 - 3:00	The Midafternoon Show with Joan GlickmanMonologue		
	 Year in Review and Plans for the Future 		
	Guest Interviews		
	 Amanda Stinton, National Association of REALTORS 		
	 Jonathan Waterworth, AZ Energy Efficient Home 		
	 Deborah Philbrick, Elevate Energy 		
	 Kara Jonas, Midwest Energy Efficiency Alliance 		
3:00 - 3:15	Coffee break		
3:15 - 3:45	Audience Feedback on Residential Buildings Integration Activities		
3:45 - 4:00	Introduction to Speed Meeting Activity		
4:00 - 5:00	Speed Meeting Activity. Small group discussions on		
	Home Performance with ENERGY STAR and Home Energy Score integration		
	Home Improvement Expert Checklists		
	Home Energy Score implementation		
	• IAQ		
	Opportunities for communicating resources		
5:00	Adjourn		

https://www.eventbrite.com/e/residential-energy-efficiency-programs-from-the-usdepartment-of-energy-hpc-2019-tickets-55282872560



2019 HPC National Home Performance Conference We will see you there!!!

DOE RBI HPwES HPC Sessions

- Doing it Right: Contractor of the Year Showcase
- Home Performance with ENERGY STAR: All the Ingredients You Need for a Successful Program
- Show Me the Money: Financing Products to Enable Home Performance Projects
- Efficient and Affordable: Expanding Opportunities for Deeper Impacts in Low and Moderate Income Households
- Getting residential air-source heat pumps right in cold climates

http://www.homeperformance.org/conferences/HPC19



Questions?

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HOME PERFORMANCE WITH ENERGY STAR

Questions?

Please type questions into the chat box.

Thank you for joining us!

Stay tuned for the next Midwest Home Performance Collaborative Webinar coming soon.