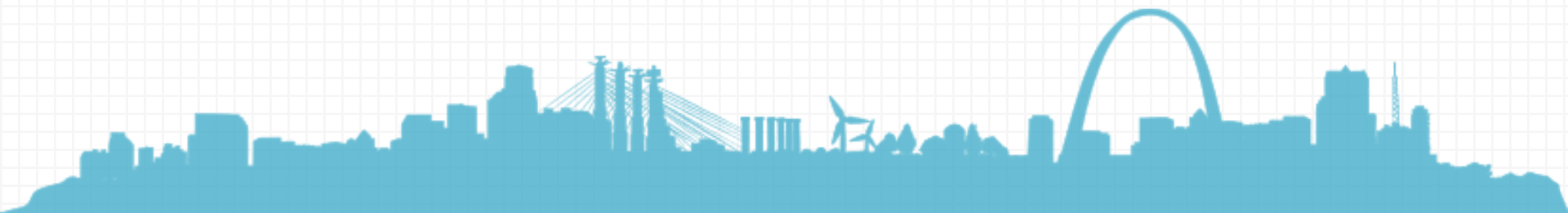


Realtor Training Program & Green Building Registry®

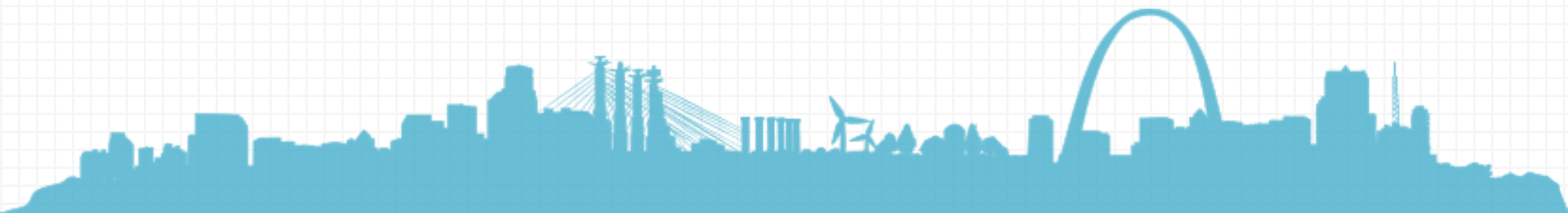
Missouri Division of Energy

Missouri Energy Efficiency Advisory Collaborative | April 2, 2019



Energy Efficiency in the Home Buying Process

Realtor Training Module



Energy Efficiency in the Home Buying Process

- By Cherylyn Kelley
- Certified Course
 - Undergoing updates
 - To be accredited and available online
- Three Missouri Real Estate Commission CEUs
- Continuing Education Elective Topic
- Free for MO Realtors

Topics Covered in Module

- Energy Efficiency
- Home Performance
- Introduction to Building Science
- Changing Buyer Preferences
- Why Efficient Homes Matter
- Home Energy Rating Systems
- Missouri Home Energy Certification
- Financing Opportunities
- Efficiency Incentives
- Marketing Efficient Homes
- Green MLS & Green Addendum
- Green Building Registry®



Energy Efficiency

Defining Energy Efficiency

- “Using technology that requires less energy to perform the same function.” EIA

Improving residential energy efficiency helps to:

- Improve in-home comfort
- Save money on energy bills
- Reduce wasted energy resources and emissions
- Foster growth of local energy efficiency jobs
- Can help mitigate health impacts of homes

Home Performance

Analyzing and improving the

- efficiency
- comfort
- health
- safety
- durability

Focus on a house-as-a-system approach

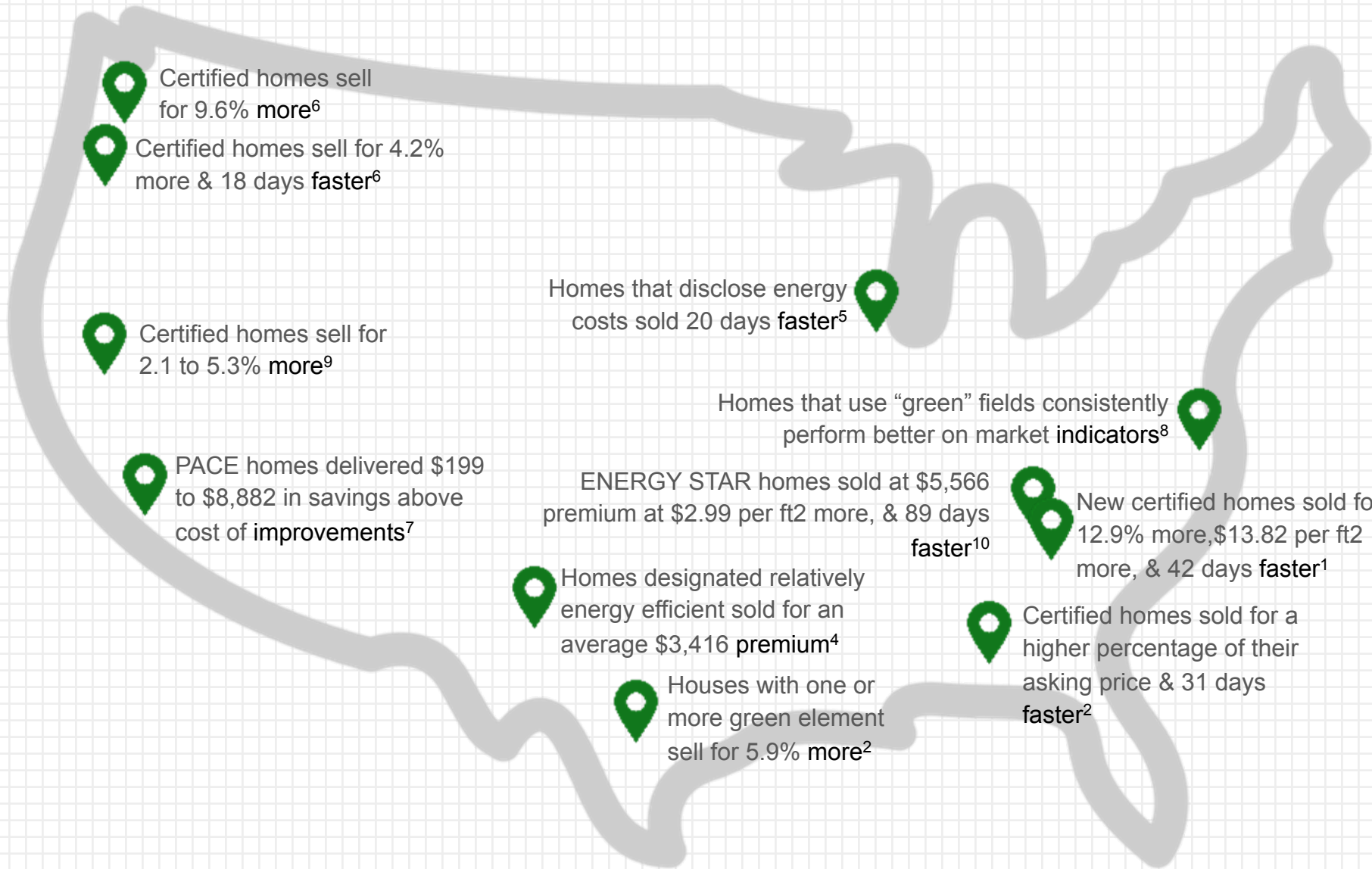
House-as-a-System: Where to Start?

- Focus on air sealing and insulation around the home's envelope
 - The outer walls, windows, doors, and other openings that surround conditioned living space.
- Energy Star states that adding up all the leaks, holes, and gaps in a home would be the equivalent of having a window of the year.

Air Sealing and Insulation Savings Estimates

	Savings in Energy and Money	Savings and Comfort Benefits
Attic	★★★★★	The attic usually has the most potential for energy savings and is typically accessible. Start with the attic if you want to have the highest impact on savings and comfort. Always do attic air sealing before adding insulation.
Basement/Crawlspace	★★★★★	Once the attic has been addressed, the basement or crawlspace is usually the next best place to seal and insulate to reduce energy use and control drafts from below.
Drafts	★★★★★	Leaky ducts can be a significant source of energy loss in your home, especially if ducts are located in the attic or crawlspace where conditioned air leaks to the outside.
Doors/Windows/Walls	★★★★★	Leaks through doors, windows and walls can lead to uncomfortable drafts, but usually have the least impact on energy use. However, these tend to be the most accessible areas and are perfect for a do-it-yourselfer.

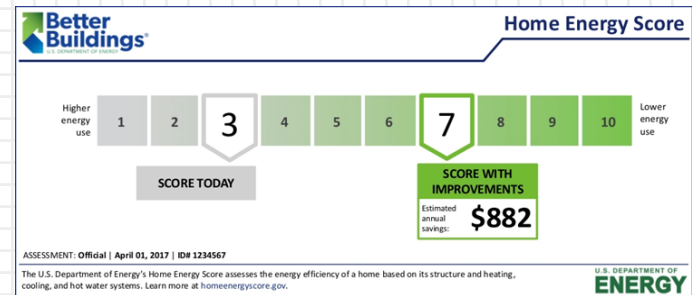
*Results will vary based on climate and the age, construction and condition of your home.



Home Energy Rating Systems

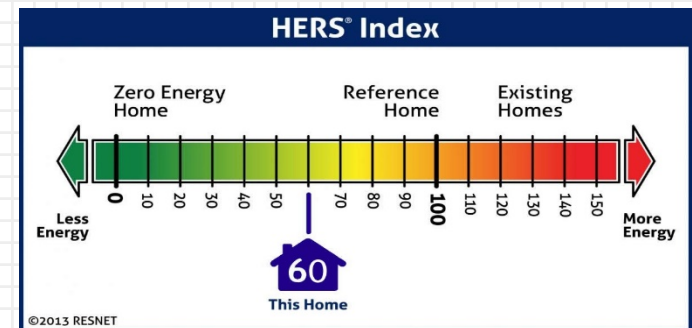
Home Energy Score

- Department of Energy DOE
- Scale of 1-10



Home Energy Rating System Index

- Residential Energy Services Network RESNET
- Scale of 0-150





Missouri Home Energy Certification 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.





How to Participate



Locate a Missouri certified home energy auditor

Make recommended efficiency upgrades to the home

Work with auditor to certify the home

Check with servicing utilities for incentives and rebates



Deduct home energy audit and retrofits



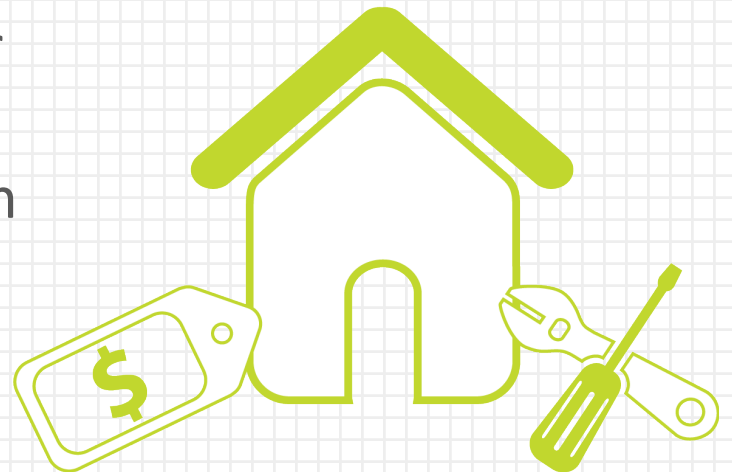
Financing Opportunities

- Energy Efficiency Mortgages
 - Federal Housing Administration FHA
 - Veteran’s Administration VA
 - Fannie Mae
 - Freddie Mac
- Property Assessed Clean Energy PACE



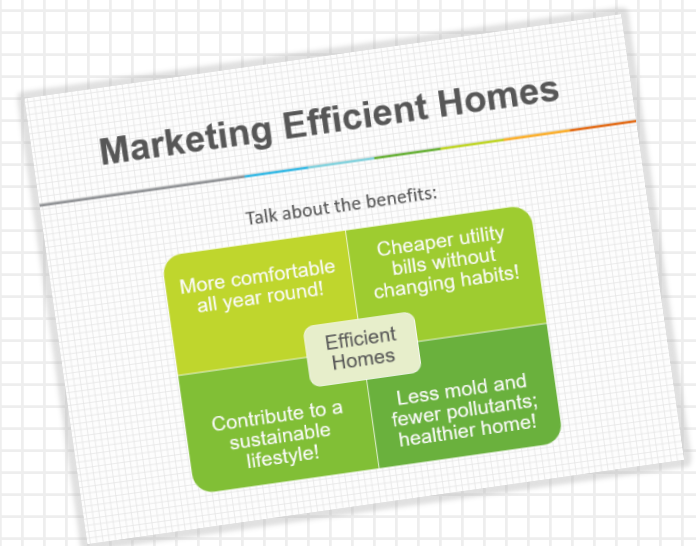
Efficiency Incentives

- Check local utilities and federal programs for rebates and other incentives
 - DSIREUSA.ORG
- Research program specifications before buying products
- Incentive will reimburse costs after post assessment.
 - MO Personal Income Deduction



Marketing Efficient Homes

- Ask and display any third-party certifications
- Include information on MLS
- Encourage energy ratings
- Showcase energy efficient features
- Tailor language
- Talk about the benefits
- Encourage buyers to value energy efficiency



Green Multiple Listing Service MLS


Aims to:

- Help buyers quickly find green homes
- Make promoting the efficient features of a home easier
- Support comparable when appraising green homes



Appraisal Institute's AI Green Addendum

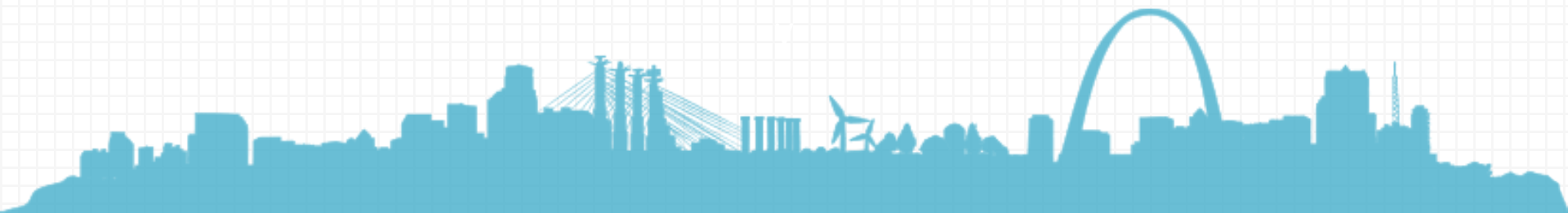
- Appraisal Institute Form 820.04
- Includes EE and RE features
- Can be used an appraiser to form an accurate valuation of property
- Updated for ease of use and consistency between other agencies

 AI Reports® Form 820.05*	Client File #:		Appraisal File #:	17-1244
	Residential Green and Energy Efficient Addendum			
	Client: Habitat for Humanity South Sarasota			
	Subject Property:			
City: North Port		State: Florida		Zip: 34291
Additional resources to aid in the valuation of green properties and the completion of this form can be found at http://www.appraisalinstitute.org/education/green_energy_addendum.aspx				



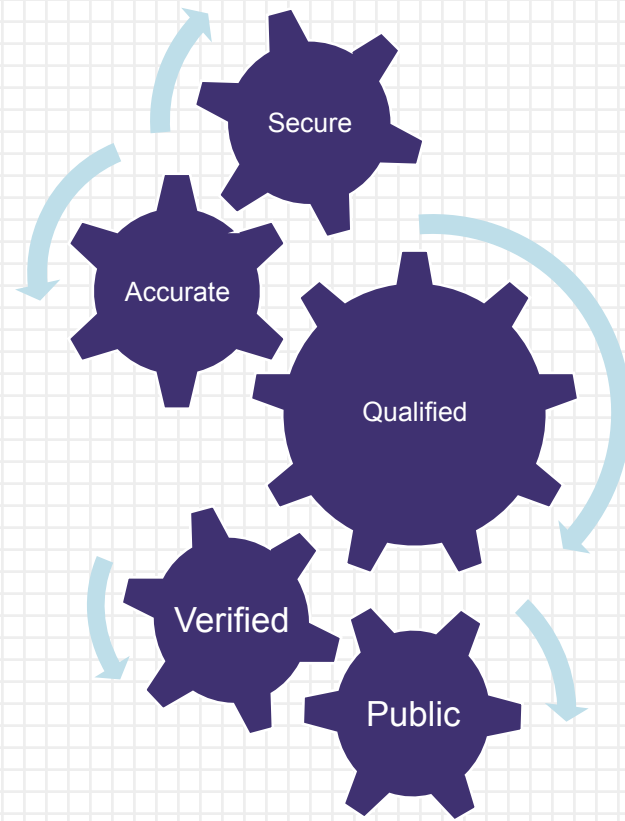
Green Building Registry®

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

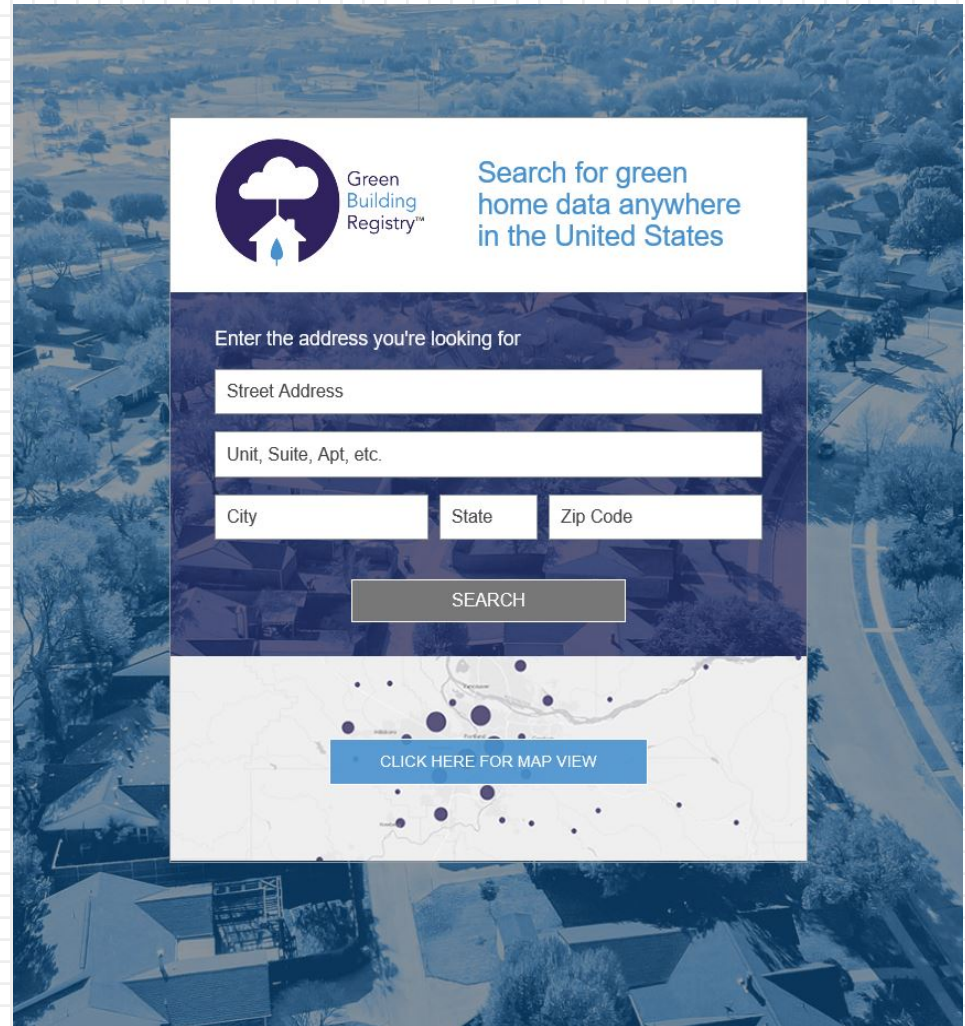
- Search for home energy efficiency data
- Access accurate, third party-verified home energy scorecards
- Arrange to securely retrieve data from trusted sources through API connection
- Import data into Multiple Listing Services at the click of a button
- Use the permanent URL into the notes of a real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

HEScore Scorecard

MISSOURI HOME ENERGY SCORECARD

U.S. DEPARTMENT OF ENERGY

THIS HOME'S SCORE **3** OUT OF 10

THIS HOME'S ESTIMATED ENERGY COSTS

\$1,454 PER YEAR

HOME PROFILE

LOCATION: 2710 NE 64th Ave, Portland, OR 97213
 YEAR BUILT: 1914
 HEATED FLOOR AREA: 3,174 sq. ft.
 NUMBER OF BEDROOMS: 5


ASSESSMENT

ASSESSMENT DATE: 01/29/2018
 SCORE EXPIRATION DATE: 01/29/2026
 ASSESSOR: Matt Hopkins, Hopkins Home Inspection
 PHONE: 503-869-5279
 EMAIL: matt@hopkinsinspections.com
 LICENSE #: 2015-BR-0015-19

MAKE THE MOST OUT OF YOUR NEW HOME!

To learn more about ways to save energy, visit: Energy.mo.gov

Better Buildings Home Energy Score



Higher energy use: 1 2 **3** 4 5 6 7 8 9 10 Lower energy use

SCORE TODAY: 3 | SCORE WITH IMPROVEMENTS: 7 | Savings: \$576

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?

Electric: 11,743 kWh/yr. \$1,291
 Natural Gas: 227 therms/yr. \$163
 Other: 0 gal/yr. \$0
Renewable Generation: (\$0)

TOTAL ENERGY COSTS PER YEAR \$1,454

Columbia Water & Light's EFFICIENCY SCORE

96% Energy efficiency potential of your home

WHAT DOES THE SCORE MEAN?

HOME ENERGY SCORE (HEScore): The HEScore is based on a 1 – 10 score, with a 10 being a high performing/efficient home with comparatively low energy bills, and 1 being an inefficient/low performance home with comparatively high energy bills, and a score of 5 being considered average. A score considers heating/cooling and hot water end uses as well as insulation, and normalizes for weather and home occupancy. This score is most often provided for existing homes (versus new construction) and is provided as part of U.S. Department of Energy's (DOE) Home Energy Score program. Scores are based on absolute energy use, subsequently for a home with the same features, a larger home scores poorer than a smaller home since it will use more energy. The score is also recognized by the U.S. Department of Housing and Urban Development (HUD) Federal Housing Administration's (FHA) Energy Efficient Home (EEH) Policy and can be used for participation in Fannie Mae's HomeStyle® Energy Efficiency Mortgage.

COLUMBIA WATER & LIGHT'S EFFICIENCY SCORE: Indicates the percentage of a home's maximum energy efficiency potential as modeled by the DOE Home Energy Score. The maximum energy efficiency is based on recommendations that provide a 10-year payback or less. Annual energy cost is based on equipment efficiency, size of home and number of bedrooms. The actual costs may vary due to weather, shading, occupant behavior, number of occupants and home maintenance.

- Total energy costs per year are estimated using an average utility cost (per unit of energy) for the State of Missouri (\$0.11/kWh for electric; \$0.20/Ccf for natural gas).
- Actual energy costs per year may vary based on occupant behavior, utility provider, weather patterns, and appliance maintenance/health.
- Relisting 2 - 7 years after the assessment date requires a free reprint of the Report from: missouri.greenbuildingregistry.com to update energy information.
- This report meets the standards of Missouri Home Energy Certification program administered by the Department of Economic Development Division of Energy.

MISSOURI HOME ENERGY SCORECARD

RESNET HERS INDEX

THIS HOME'S SCORE **72** OUT OF 150

THIS HOME'S ESTIMATED ENERGY COSTS

\$1,589 PER YEAR

HOME PROFILE

LOCATION: 3334 NE 55th Ave, Columbia, MO 65201
 YEAR BUILT: 2017
 HEATED FLOOR AREA: 1,100 sq. ft.
 NUMBER OF BEDROOMS: 3

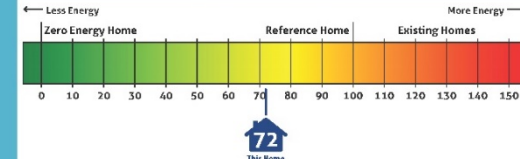
ASSESSMENT

ASSESSMENT DATE: 07/24/2018
 SCORE EXPIRATION DATE: 07/24/2026
 ASSESSOR: GBR Admin, Earth Advantage
 PHONE: 5555551212
 EMAIL: admin@greenbuildingregistry.com
 LICENSE #: 12345678

MAKE THE MOST OUT OF YOUR NEW HOME!

To learn more about ways to save energy, visit: Energy.mo.gov

HERS® Index



← Less Energy | Zero Energy Home | Reference Home | Existing Homes | → More Energy

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150

72 This Home

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?

Electric: 13,251 kWh/yr. \$1,458
 Natural Gas: 653 therms/yr. \$131
 Other: gal/yr. \$0
TOTAL ENERGY COSTS PER YEAR \$1,589

HOW MUCH RENEWABLE ENERGY DOES THIS HOME GENERATE?

_____ kWh/yr

WHAT DOES THE SCORE MEAN?

Home Energy Rating System (HERS) Index: The HERS Rating conveys a home's energy efficiency relative to the 2006 International Energy Conservation code. HERS uses an asset-based energy model that compares the home as designed (the "rated home") against the same home built to 2006 IECC standards, considered the "reference home", which would score 100. A Lower score is better; a home that uses 50% more energy than the reference home would score 150, and a home using 50% less energy would score 50. A zero-energy home that uses no energy (through efficiency and renewables) and saves 100% of the reference home's energy would score a 0. The score is most often used by builders complying with building energy code through the Energy Rating Index pathway in the International Energy Conservation Code (IECC), the ENERGY STAR program, or by contractors who are competing based on energy efficiency in new construction. Some lenders may also recognize HERS ratings and provide favorable financing. RESNET and the US Department of Energy determined that a typical resale home scores 130 on the HERS Index.

- Total energy costs per year are estimated using an average utility cost (per unit of energy) for the State of Missouri (\$0.11/kwh for electricity; \$0.20/therm for natural gas).
- Actual energy costs per year may vary based on occupant behavior, utility provider, weather patterns, and appliance maintenance/health.
- Relisting 2-7 years after the assessment date requires a free reprint of the Report from missouri.greenbuildingregistry.com to update energy information.
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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.

MLS-linking

Real-time reporting

Admin dashboard

RESO compliant

Address matching

SEED® storage

Admin Functions

- Program metrics
- Program savings potential
- Assess program activity
- Isolate by:
 - Date
 - Rating system
 - Assessor
 - Organization
- Export data



Program Dashboard | Missouri Division of Energy

Home Energy Score Results

From: To: [SEARCH BY DATE](#)

Total Assessments	Avg. Score	Avg. Score with Improvements	Avg. Savings	Avg. Carbon Score	Avg. Carbon Score with Improvements
882	5.6	7.89	224.7		0.06



Program Savings Potential

Potential Electric Savings (kWh)	Potential Gas Savings (Therms)	Potential Oil Savings (Gallons)	Potential Wood Savings (Cords)	Potential Propane Savings (Gallons)	Potential Carbon Savings (MMT)
1579517	110910	0	0	3646	-56.2

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

