

About Earth Advantage

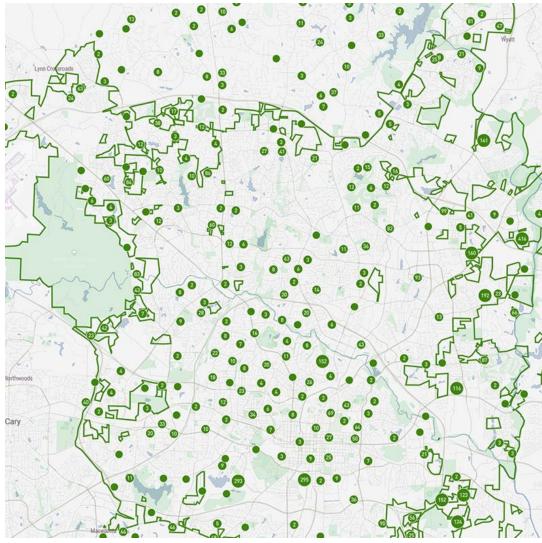
HELPING TO CREATE AN INFORMED AND HUMANE RESIDENTIAL REAL ESTATE MARKETPLACE

— OUR PURPOSE



Our Work









Home Standards

Delivering the use of credible, nationally-applicable standards that document the climate and health impacts of a home.

Home Data

Enabling the disclosure of verified climate-related information in residential real estate transactions.

Climate Justice

Addressing climate vulnerability through direct services, advocacy, and finance system reform.

Training

Advancing the development of a knowledgeable and diverse workforce to help build, remodel, sell, and lease climate-friendly homes.



About Green Building Registry® (GBR)

- Built in 2017 (SaaS for States, municipalities, utilities HES programs/policies)
- Provides VERIFIED building performance data to the real estate market homeowners, real estate agents, appraisers, and lenders across the US
- Leading provider of this data in the US API for Data Auto-population
- 2.8M+ Building Certifications (Mostly Residential SF) Data aggregation began in 2020
- **■** Multi-family, Commercial
- Annual Energy Cost Estimates, Energy Cost Estimate Source
- Appraisal Institute's Residential Green & Energy Efficient Addendum



WHY DOES IT MATTER?

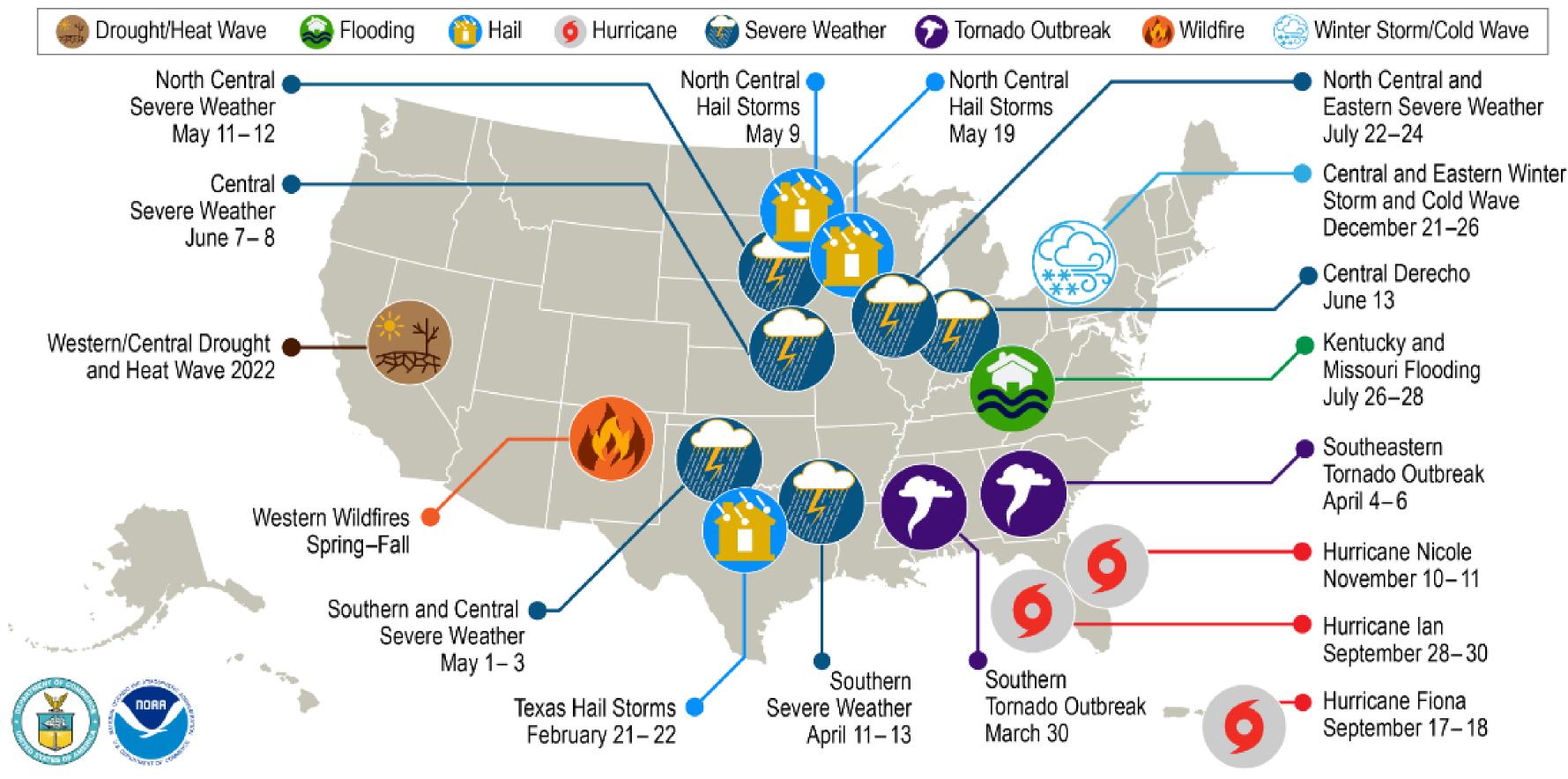
Factors Impacting Change

■ Climate change – Carbon reduction goals, climate action plans (federal, state, municipal)

- Corporate Sustainability
- ESG Investing
- Green MBS
- Federal/Utility Incentive Programs
- Better Building Codes, Energy Labeling Mandates
- Consumer Demand
- MLS Demand for Data
- Data Automation UAD Updates; Addenda going away



U.S. 2022 Billion-Dollar Weather and Climate Disasters



This map denotes the approximate location for each of the 18 separate billion-dollar weather and climate disasters that impacted the United States in 2022.

California Storm's Price Tag Estimated at 'Several Hundred Million' by FEMA

BY **MEGHAN ROOS** ON 1/19/23 AT 7:30 PM EST

HTTPS://WWW.NEWSWEEK.COM/CALIFORNIA-WINTER-STORM-REPAIRS-PRICE-ESTIMATED-SEVERAL-HUNDRED-MILLION-FEMA-DEANNE-CRISWELL-1775159

California: Wildfire Season Damages Powers Lines, Threatening Safety

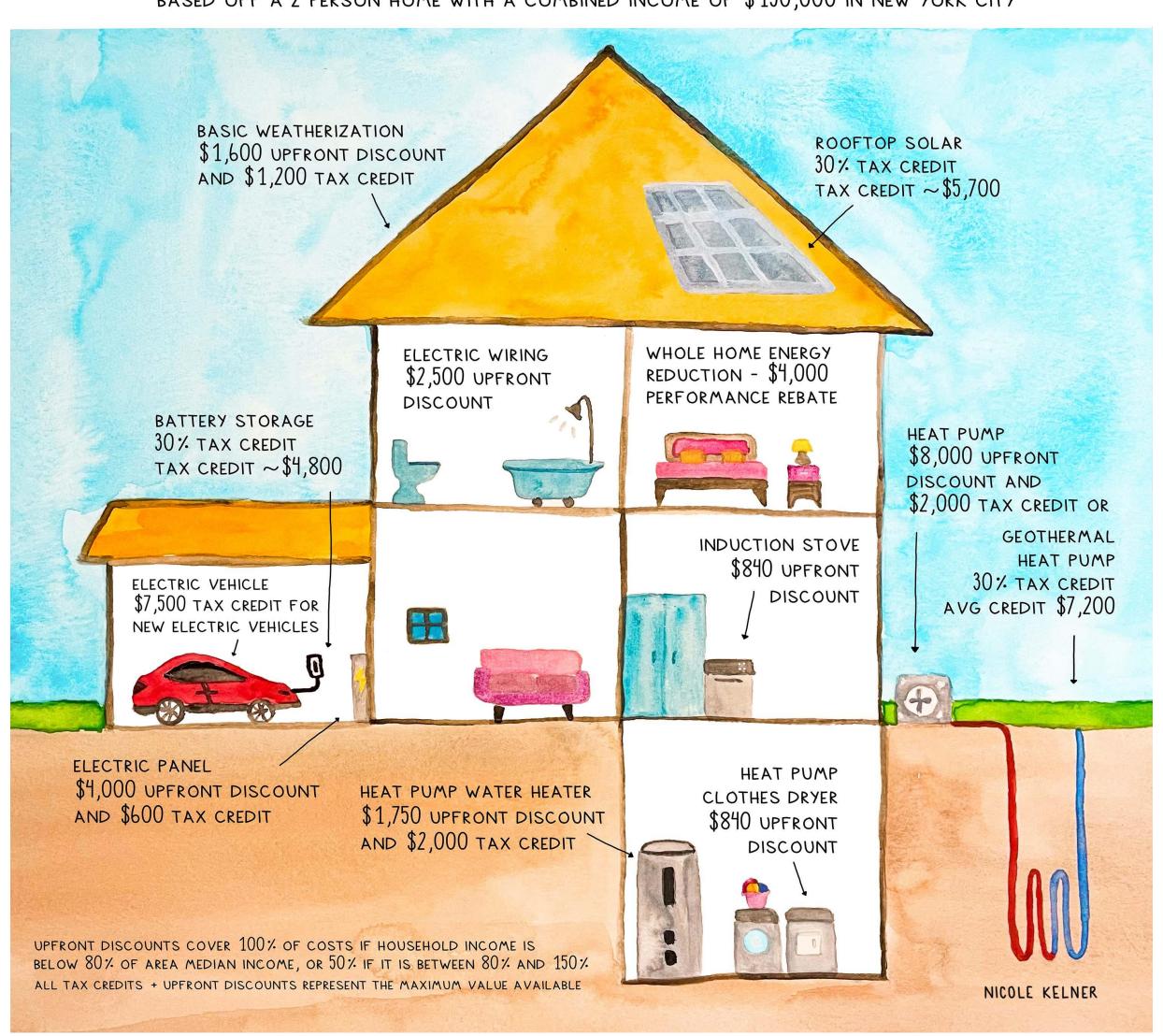
California's power lines spark major wildfires

HTTPS://WWW.UNEARTHLABS.COM/BLOGS/THE-COST-OF-EXTREME-WEATHER-FOR-UTILITIES

Inflation Reduction Act Tax Incentives

POTENTIAL SAVINGS FROM THE IRA

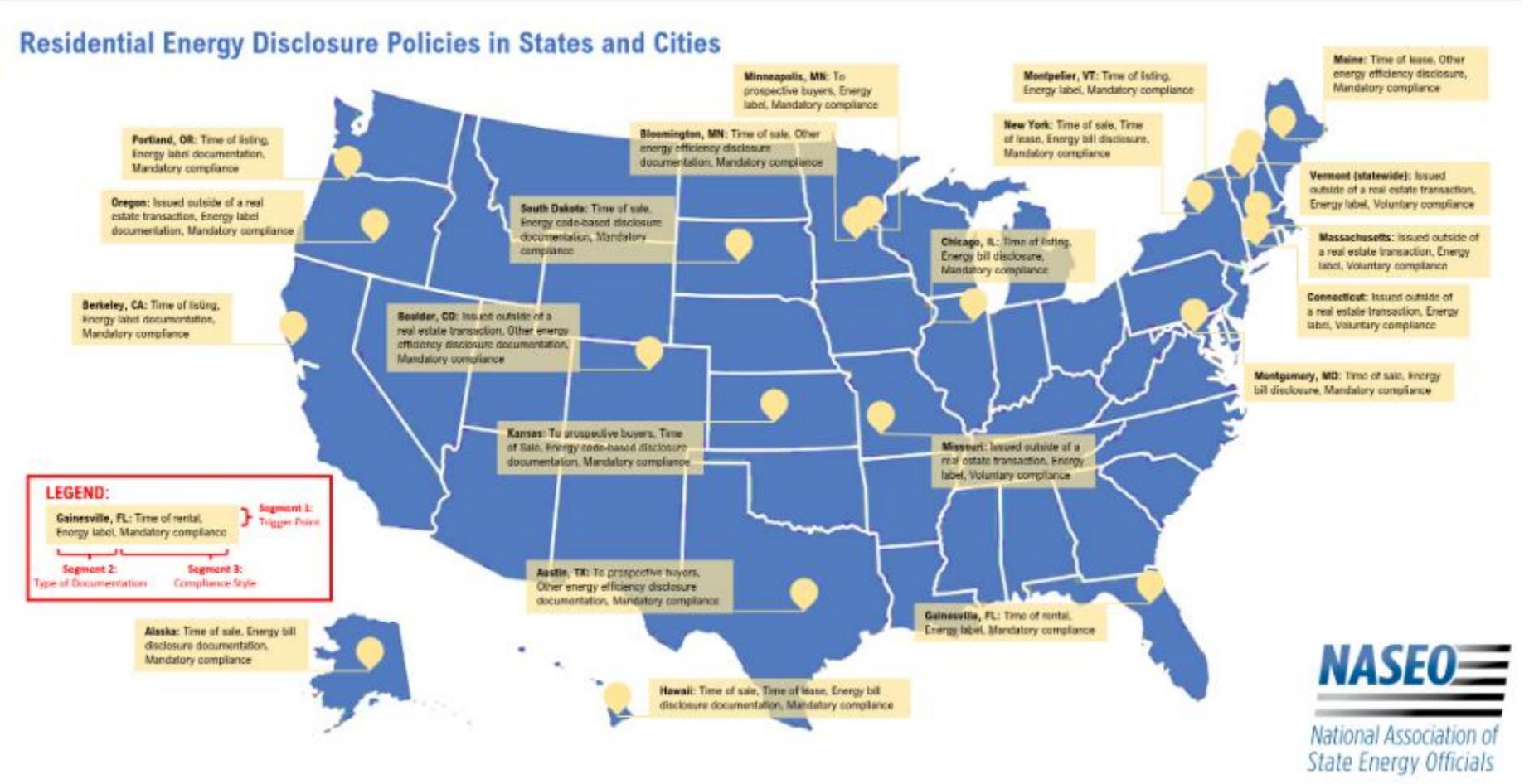
BASED OFF A 2 PERSON HOME WITH A COMBINED INCOME OF \$150,000 IN NEW YORK CITY



Energy Disclosure Policies

Residential Energy Disclosure Policies in States and Cities

(Last updated November 2022)



PIEDMONT, CA ALSO HAS A MANDATORY TIME OF LISTING ENERGY DISCLOSURE POLICY USING HOME ENERGY SCORE ANN ARBOR, MI JUST PASSED HES MANDATORY DISCLOSURE POLICY

A WELL-FUNCTIONING REAL ESTATE
MARKET REQUIRES THAT THE
ASSETS OF A HOME BE RECOGNIZED
BY BUYERS AND ACCURATELY
VALUED BY APPRAISAL AND
LENDING PROFESSIONALS.

MARKET RESEARCH

How Does Home Energy Score Affect Home Value and Mortgage Performance?

Margaret Pigman, Jeff Deason, Lawrence Berkeley National Laboratory

Nancy Wallace, Paulo Issler, Fisher Center for Real Estate & Urban Economics, UC Berkeley

- HES VARIABLES WERE ONLY STATISTICALLY SIGNIFICANT FOR SALES IN CITIES WHERE ASSESSMENT IS MANDATED AT POINT OF SALE.
 - An increase in one level of HES was associated with a 0.5% in purchase price
 - An increase of \$100 of estimated annual energy bills was associated with a 0.4% decrease in purchase price
- Potential buyers preferred energy efficient homes only when information about inefficient ones was also disclosed

A STUDY PUBLISHED BY THE NATIONAL ASSOCIATION OF HOME BUILDERS IN FEBRUARY 2021 NOTED THAT: "THE MAJORITY OF BUYERS PREFER TO GO GREEN WHEN PROVIDED THE OPTION". INCLUDING THIS INFORMATION IN LISTINGS HELPS DELIVER A BUYER THAT OPTION.

MARKET RESEARCH

- The Process Of High-Performance Home Valuation More importantly, the study described barriers in the D.C. marketplace that may be preventing homeowners and developers who have invested in energy efficiency during building or remodeling from receiving the value of their investments at the time of sale. https://www.buildingenergymagazine-digital.com/eneb/0218_fall_2018/MobilePagedArticle.action?articleId=1422004#articleId1422004
- Adomatis Overview of Studies on Green Features http://www.adomatisappraisalservice.com/PublishedStudiesofGreenHomes.pdf
- FREDDIE MAC STUDY: HERS® HOMES SELL FOR MORE, HAVE BETTER LOAN PERFORMANCE AND HAVE BETTER MORTGAGE PROFILE STUDIES THAN COMPARABLE UNRATED HOMES HTTPS://www.resnet.us/raters/freddie-mac-study-hers-homes-sell-for-more-have-better-loan-performance-and-have-better-mortgage-profile-studies-than-comparable-unrated-homes/

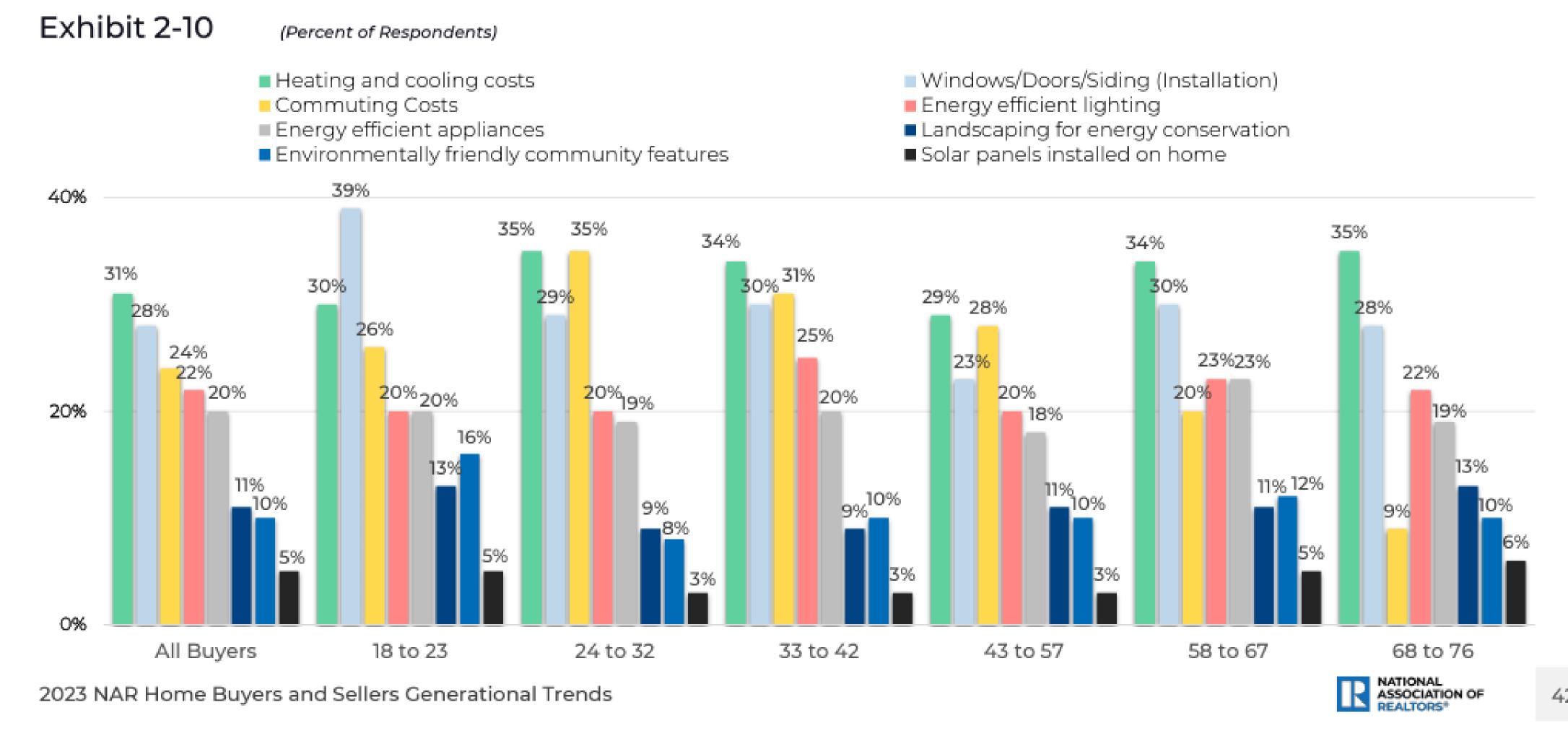
Important Information is Missing

Historically, information on a home such as:

- The energy use
- Third party building certifications
- Power production (solar panels)

have not made it into the real estate transaction process.

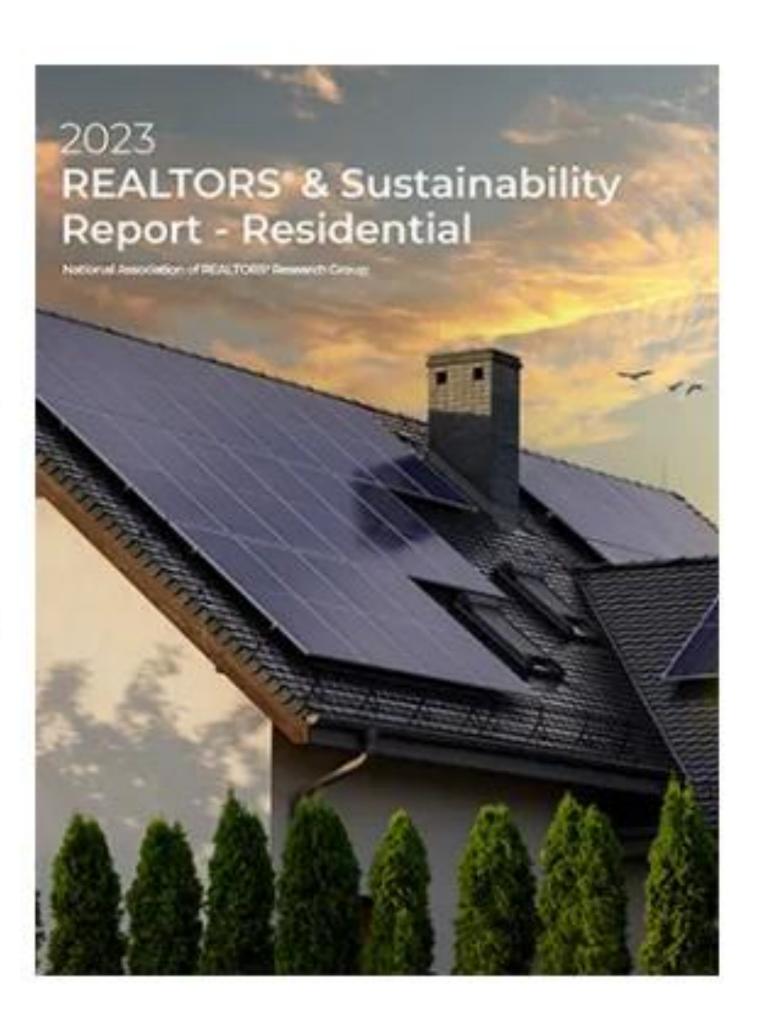
ENVIRONMENTALLY FRIENDLY FEATURES CONSIDERED "VERY IMPORTANT"



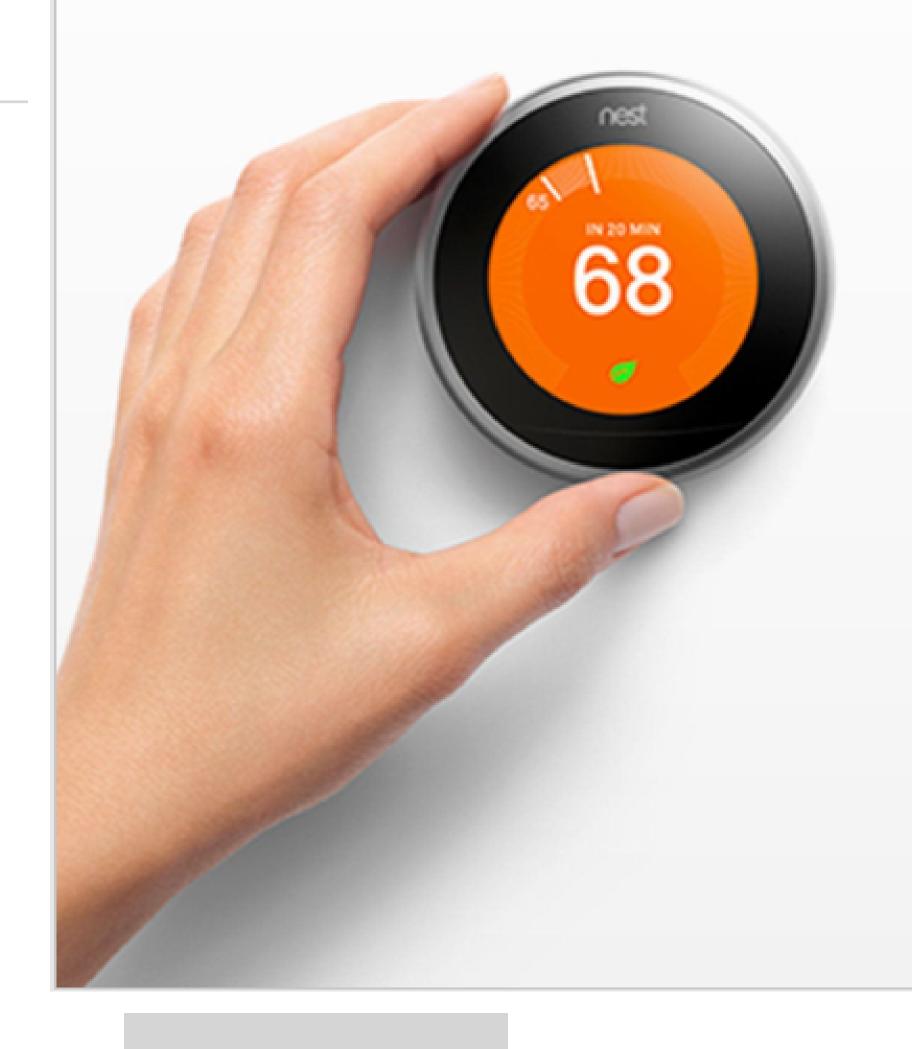
Highlights

In March 2023, NAR surveyed its members about sustainability issues facing the industry. Some of the findings are as follows:

- 32% of respondents reported that their MLS has green data fields, and respondents typically used the green data fields to promote green features and energy information.
- 63% said energy efficiency promotion in listings was very or somewhat valuable.
- 48% of respondents found clients were at least somewhat interested in sustainability.
- 42% of homes with green certifications spent neither more nor less time on the market.



63% "energy efficiency promotion in listings was very or somewhat valuable"



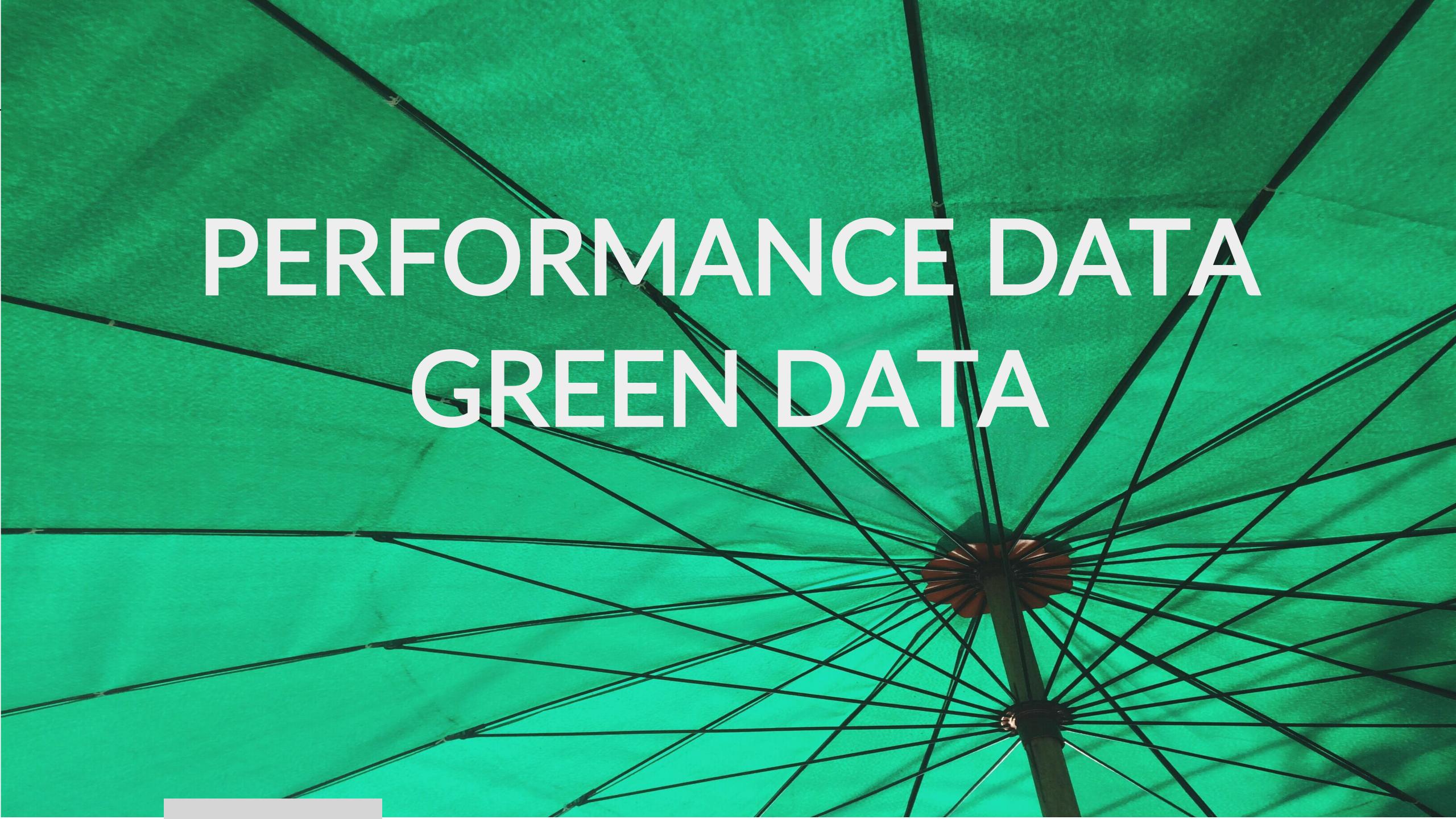
THE GREAT DISCONNECT

 59% <u>DON'T KNOW</u> if their MLS has green data fields

 48% of respondents <u>DON'T USE</u> the green MLS data fields

HTTPS://WWW.NAR.REALTOR/RESEARCH-AND-STATISTICS/RESEARCH-REPORTS/REALTORS-AND-SUSTAINABILITY

DEFINING THE DATA



What is this 'performance' data?

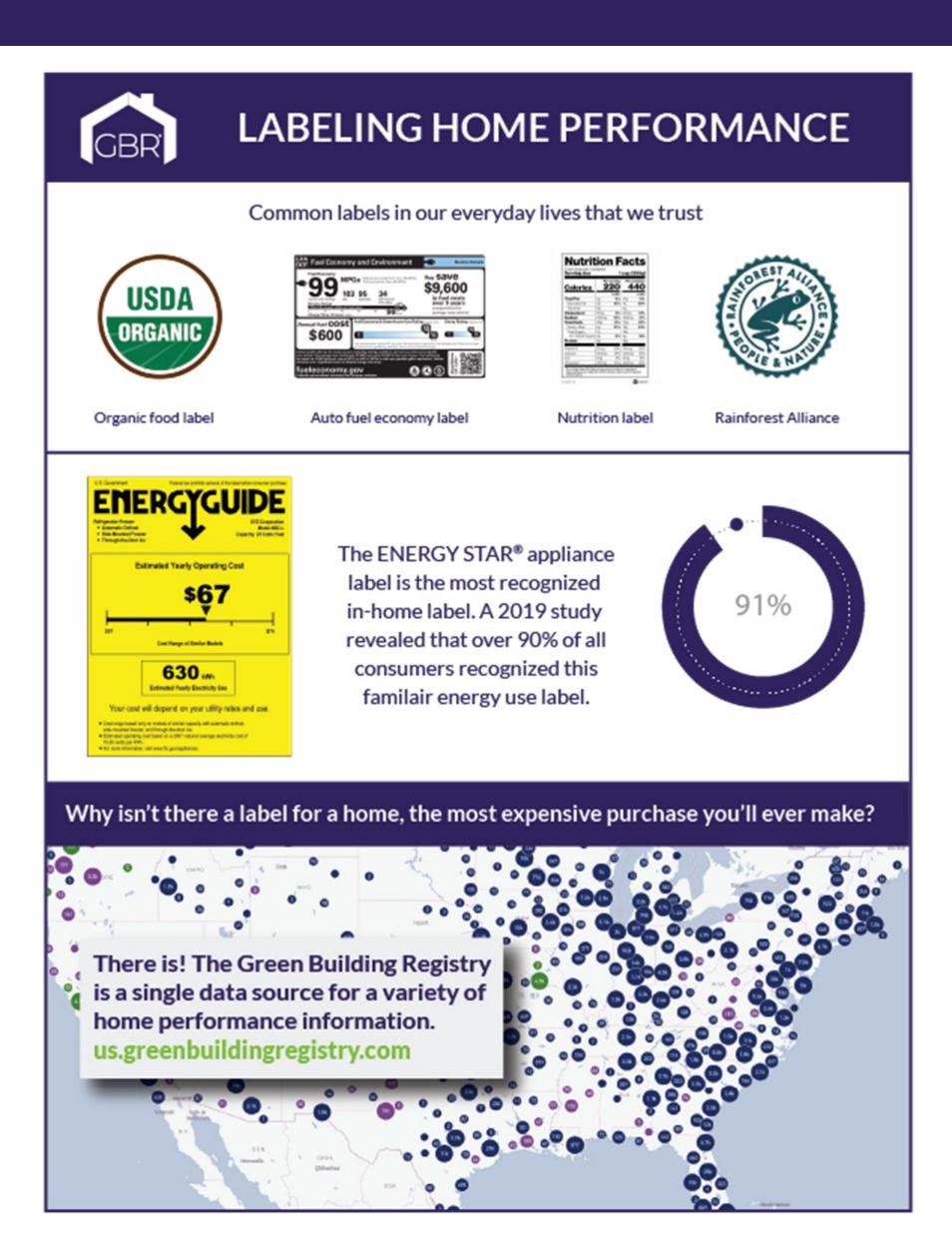
Home Inspection vs. Home Performance

- Home Inspection Condition & Safety
- Home Performance How all aspects of the home work together as one comprehensive system (energy efficiency lens)

Green Building Registry® - A new national database of third-party certified buildings & solar data:

- Residential
- Multi family
- Commercial

Some solar data (regional)



GBR Data

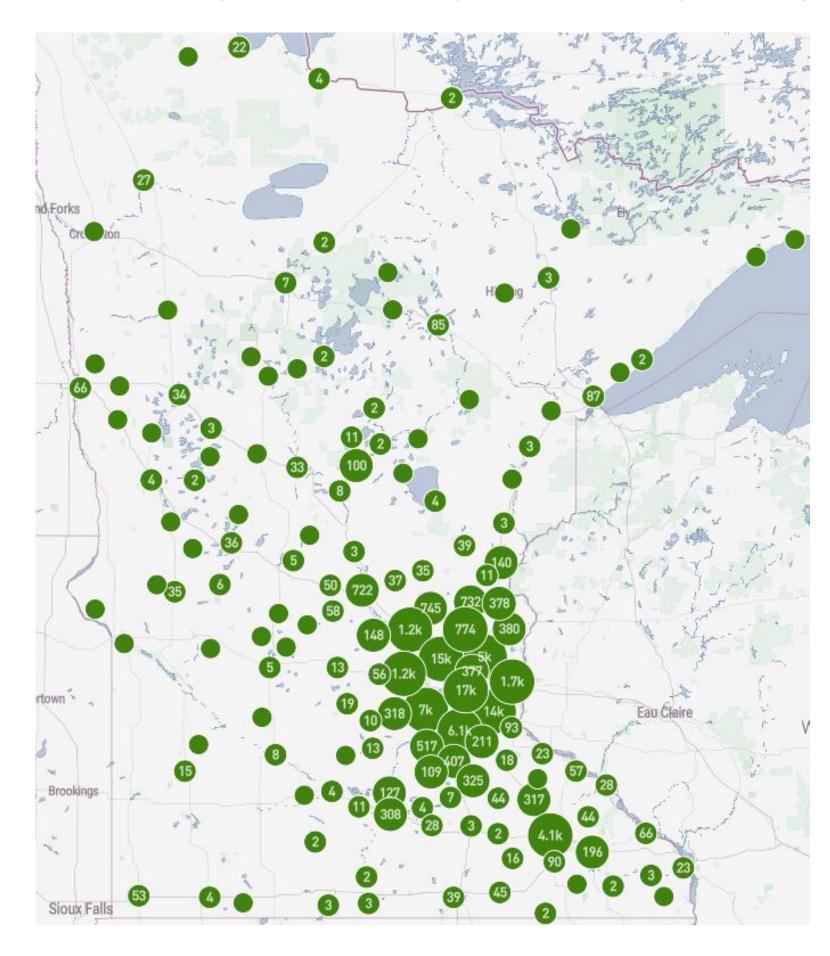
- Original Source Direct from the Program
- Trained & Certified third-party building science professionals
- Quality Assurance, Verified by Program
- Address Verification
- Real Estate Standardized Data (RESO)
- Homeowner Reported
- Permission-Based

IT'S GOOD DATA

PROGRAM DATA & DATA FIELDS

GBR Data for Minnesota

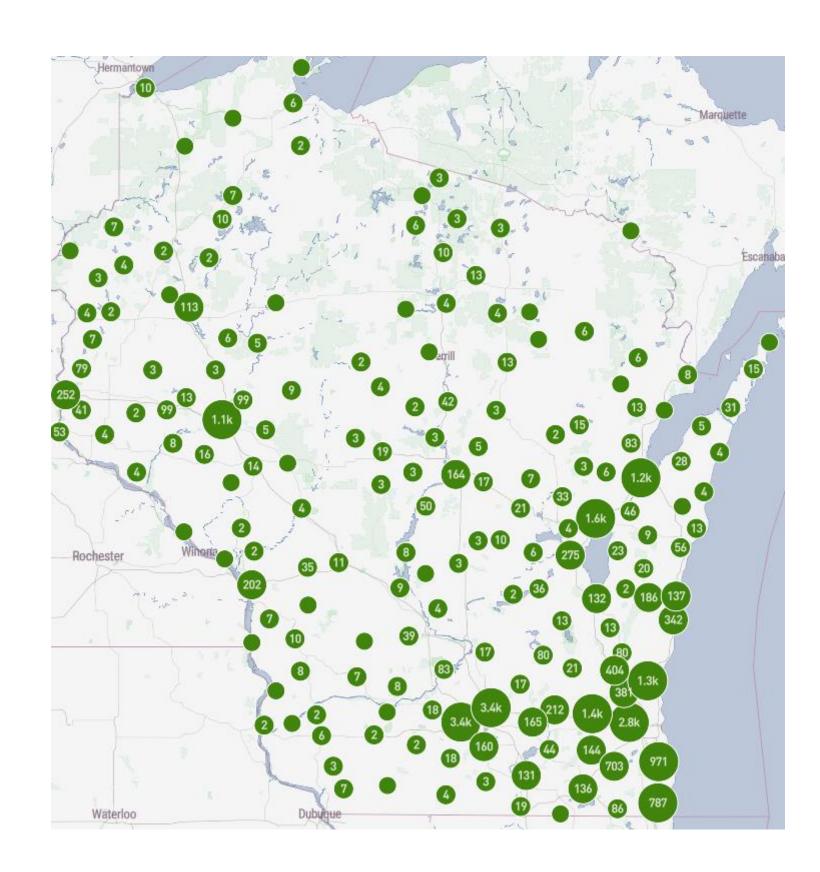
		ENERGY STAR											
	ENERGY STAR		GreenStar Homes				LEED for	National Green	Time of Sale	DOE Zero Energy			
state		Construction(Resi)		HERS	HES	LEED		Building Standard		<u> </u>		Total Records	Total Properties
MN	672	TBD	52	66304	14	4 163		5	14592	TBD	2	81851	•



■ ENERGY STAR Residential and DOE Zero Energy Ready Home data will become available after the contract is completed.

GBR Data for Wisconsin

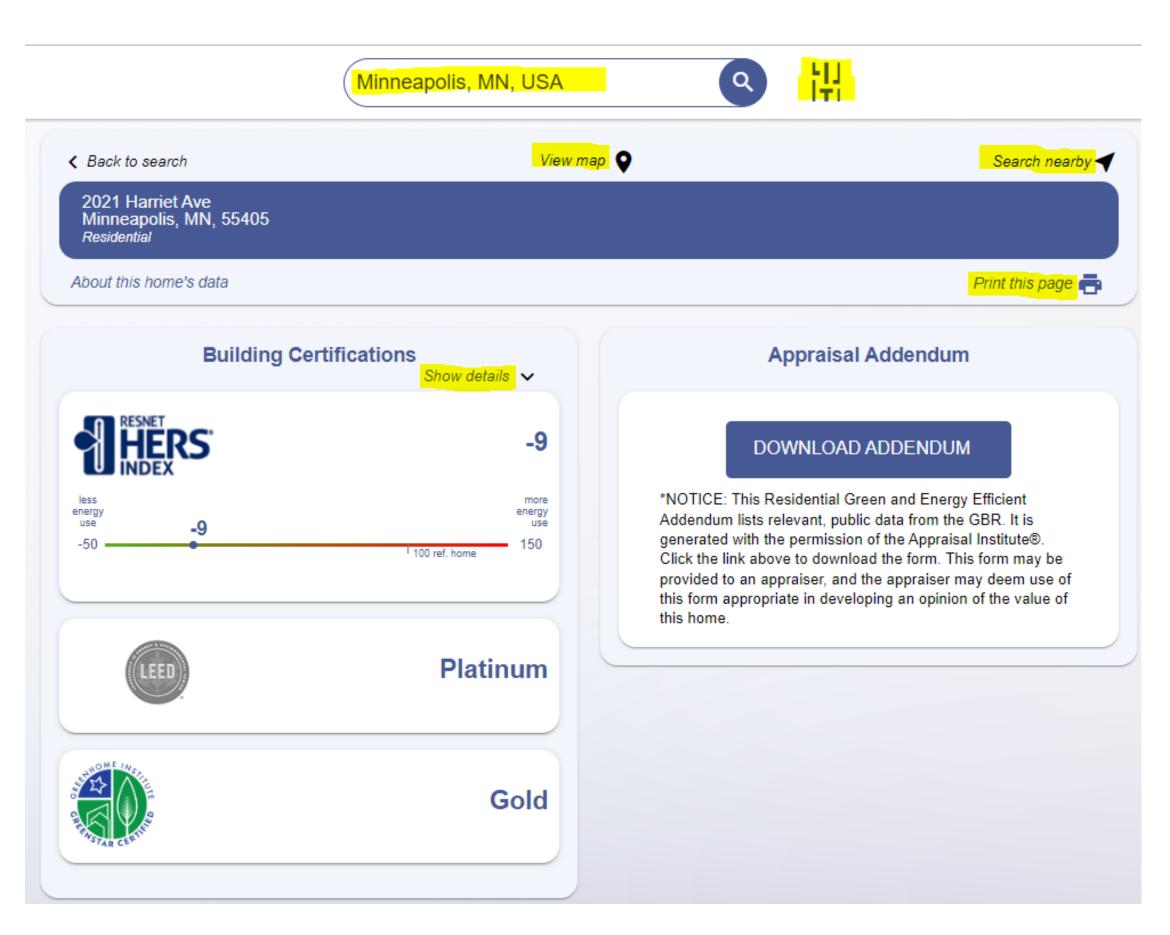
	ļļ.		<u> </u>				ļ.		l	
		ENERGY STAR								
	ENERGY STAR	Certified New				LEED for	National Green	DOE Zero Energy		
state	Certified Building	Construction(Resi)	HERS	HES	LEED	Homes	Building Standard	Ready Home	Total Records	Total Properties
WI	579	TBD	23296	1	187	17	50	TBD	24130	24082



GBR Data for NorthstarMLS System

- Data available for discovery on Green Building Registry website us.greenbuildingregistry.com
- Available at the parcel (address) level
- Green Verification Data, Power Production (Solar PV), Report links
- Annual Energy Cost Estimate & Source
- Link to Appraisal Institute Residential Green & Energy Efficient Addendum
- Option to auto-populate this data into listings
 - Ensure accuracy
 - Improve listing input efficiency
 - GBR as the source of the data

Explore – us.greenbuildingregistry.com



- Property Research Search public website by address, town, county
- Filter Results by property type, certification type, date and score (HERS, HES)
- View Property on a map
- Search nearby to learn what other nearby properties have green verifications
- Print the page to have another record of the data
- Show details to view the data details

Available Data Details



Platinum



Gold

Verification Type

Verifying Entity

Verification Date

Verification Rating

Data Source

Verification Key

Version No.

Year Verified

LEED for Homes

US Green Building Council

2018-05-30

Platinum

US Green Building Council

1000065780

LEED-HOMES v2008

2018

Verification Type

Verifying Entity

Verification Date

Verification Rating

Data Source

Verification Key

Version No.

Year Verified

Green Star Homes Certification

GreenHome Institute

2018-04-30

Gold

GreenHome Institute

20180430001

1

2018

Available Data Details



84

VISIT EXTERNAL LINK

DOWNLOAD PDF

Verification Type

Verifying Entity

Center for Energy and Environment

Verification Date

Verification Metric

Data Source

City of Minneapolis

Verification Key

7986

Year Verified



Home Energy Summary

You are on your way to an energy efficient home, but you are not there yet. You still have opportunities for cost-effective energy improvements that will lower your energy bills and make your home more comfortable. To learn more visit **mncee.org/TISH** or contact an Energy Advisor.

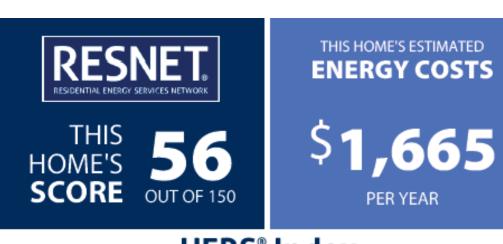
	Energy Improvements (by priority)	Improvement Points	Typical Cost	Utility Rebate	Yearly Bill Savings
Attic Insulation	Air seal and insulate your attic	12	\$1,900- \$2,200	Up to \$500	\$150-\$300
Wall Insulation	Insulate your exterior walls when remodeling	4	\$3,100- \$3,550		\$200-\$400
Heating System	Congrats, your furnace is efficient and less than 20 years old. Consider a clean and tune service.				
Storm Windows	Congrats! No single-pane windows without storms.				

Available Data Elements

- HERS-rated homes have an Energy Cost Estimate
 - Based on assets of the property; State average energy rates updated as rates change
 - Supports insight into affordability, helps buyers make a more informed decision
 - Consistent metric to compare homes







HOME PROFILE

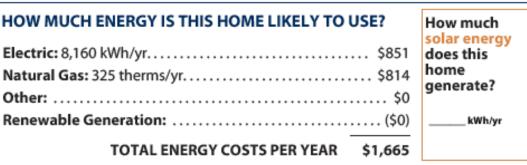
LOCATION: 2332 Noble Rd Raleigh, NC 27608 YEAR BUILT: 2014

HEATED FLOOR AREA: 2,734 sq.ft. NUMBER OF BEDROOMS:

ASSESSMENT

09/26/2014

HOW MUCH ENERGY IS THIS HOME LIKELY TO USE?



THIS HOME'S CARBON FOOTPRINT:



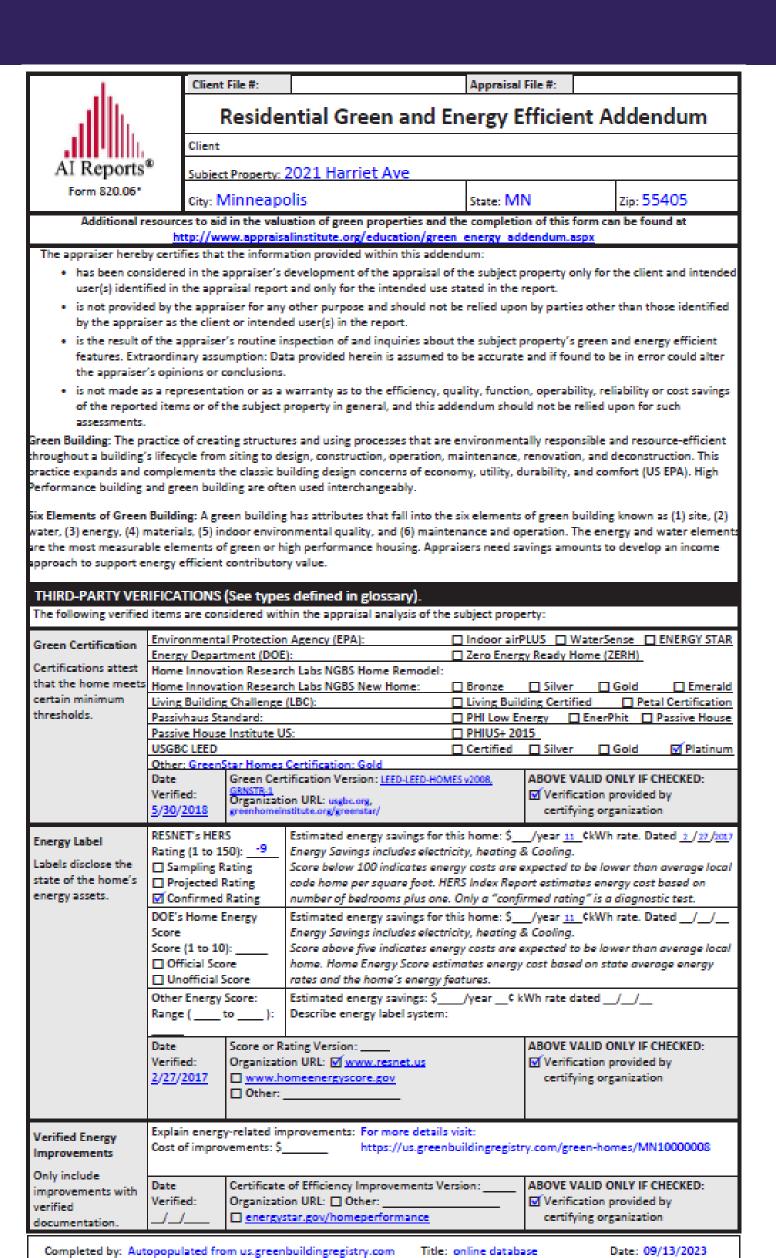
To understand the impact of carbon emissions visit: epa.gov/energy/greenhouse-gas-equivalencies-calculator

- Actual energy use and costs may vary based on occupant behavior and other factors. Estimated energy costs were
 calculated based on current utility prices (\$0.10/kwh for electricity; \$2.50/therm for natural gas; \$3.88/gal for heating
 oil; \$3.28/gal for propane).
- Additional energy efficient features may be present in the home and were not documented at time of assessment.
- Trees & exterior features may provide additional energy efficiency benefits. Visit energy.gov to learn more.

 Carbon footprint is based only on estimated home energy use. Carbon emissions are estimated based on utility and
- fuel-specific emissions factors provided by US EPA eGRID data.
 This report was created from information provided by the responsible green verification entity. The latest copy of this report is available from us.greenbuildingregistry.com with updated utility and carbon information annually.

Available Data Elements

- GBR has an agreement with the Appraisal Institute to provide a pre-filled Residential Green & Energy Efficient Addendum
- Great benefit for appraiser members
- Knowledgeable appraiser uses this to support valuation – Make sure it's included in the listing packet
- Al Green Addendum URL Field



GBR Data – Auto-pop into Listings

Suggest adding screen shots and instructions about how this looks and works in the NorthstarMLS system for data auto-population

GBR Data in NorthstarMLS

- Suggest adding screen shots and information about where the data can be discovered in the NorthstarMLS system once it has been auto-populated or entered
 - Will it be included on property reports? If so, where?
 - Are these data fields searchable? If so, how?
 - Will this data be available in outgoing data feeds? If so, communicate newly available data and ask the third-party real estate websites to include it on their property views
 - For members, Include this data on your member (broker/agent) IDX websites

MARKETING & THE OPPORTUNITY



MARKETING MATRIX

NOW —

► FUTURE

В	EST	



T				
	Explain Value Proposition in Public Remarks	Home Score + Logo on Main Photo	Fields in Data Feeds	Image/Logo on Property Report
	Link to Documentation in Public Remarks	Documentation to Buyer/ Open House	Searchable Fields	Green Data Auto Population
	Score/Rating in Public Remarks	Include in VT	Add Fields to Property Reports	Ask/Require Portal Display of Fields
	Include Data on Listing	Upload Documentation to the Listing	Adopt RESO Power Production Fields	Upload Appraisal Inst. Green Addendum to Pics
D	Education	Upload Certification to Pics	Adopt RESO Green Verification Fields	Upload Appraisal Inst. Green Addendum to Listing





Include Data on Listings

PUBLIC REMARKS – EXPLAIN WHAT IT MEANS

"DON'T JUST PUT THE THIRD-PARTY CERTIFICATION LOGO ON YOUR PACKAGE, TELL THE STORY OF WHY IT'S THERE"

Learn More - Resources

- Green Building Registry Data Types https://www.earthadvantage.org/home-data/data-types.html
- About Green Building Registry https://www.earthadvantage.org/home-data/green-building-registry.html
- NAR "Intro to Sustainability and Resiliency: What REAOTORS® Need to Know https://www.nar.realtor/sustainability/intro-to-sustainability-and-resiliency-what-realtors-need-to-know (1 hour, on-demand, FREE)
- NAR Green Designation https://green Edina, MN Oct 16 17, 2023. Register: https://maarportal.ramcoams.net/Education/Registration/Details.aspx?cid=6fbe29ca-f240-ee11-9cb4-00155d10122d



Sr. Manager, Real Estate Services meg@greenbuildingregistry.com (503) 968-7160 x162

us.greenbuildingregistry.com earthadvantage.org

The Green Building Registry is a product of the nonprofit Earth Advantage, Inc.

