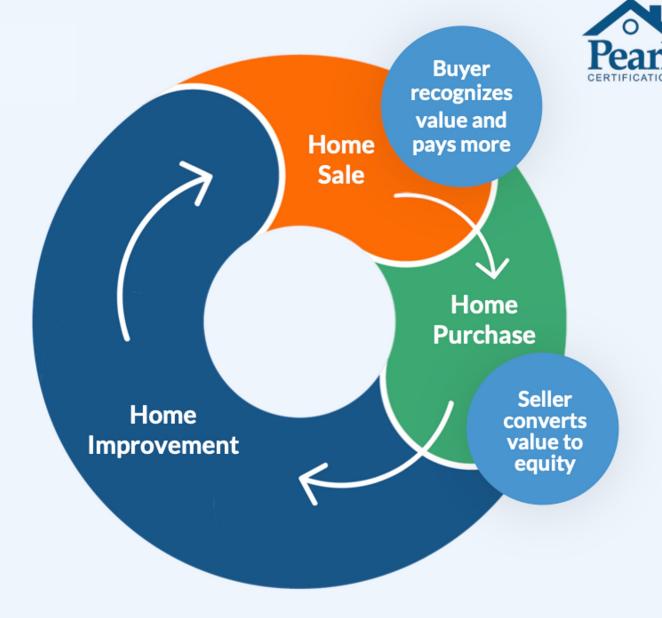
Navigating the Era of Energy-Efficient Homes and the Inflation Reduction Act

Cynthia Adams, CEO Pearl Certification 9/20/2023



Pearl and the Home Value Cycle

- √ Home BUYER "sees" highperforming features in Pearl's
 Certification Report and marketing
 materials.
- √ Home SELLER captures the value of the upgrade in the sale price.
- ✓ **DEMAND** for High-performing homes drives more improvements, completing the cycle.

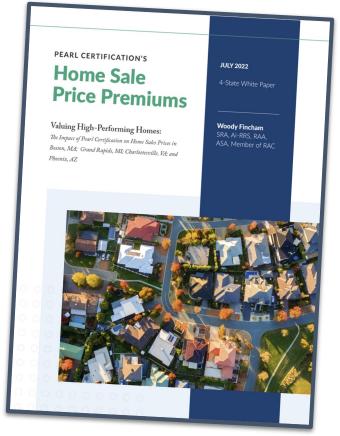


We Help Homeowners Increase Home Equity



Pearl Certified homes sell on average for 5% more*

*Verified by independent appraiser studies in four markets





Program and Standards Partners















Investor and Program Partner



Data and Program
Partner

Licensing Agreement and Policy Partner

Data and Standards Partner



Data and Standards
Partner



Standards and Program Partne



Contractor and Standards Partner

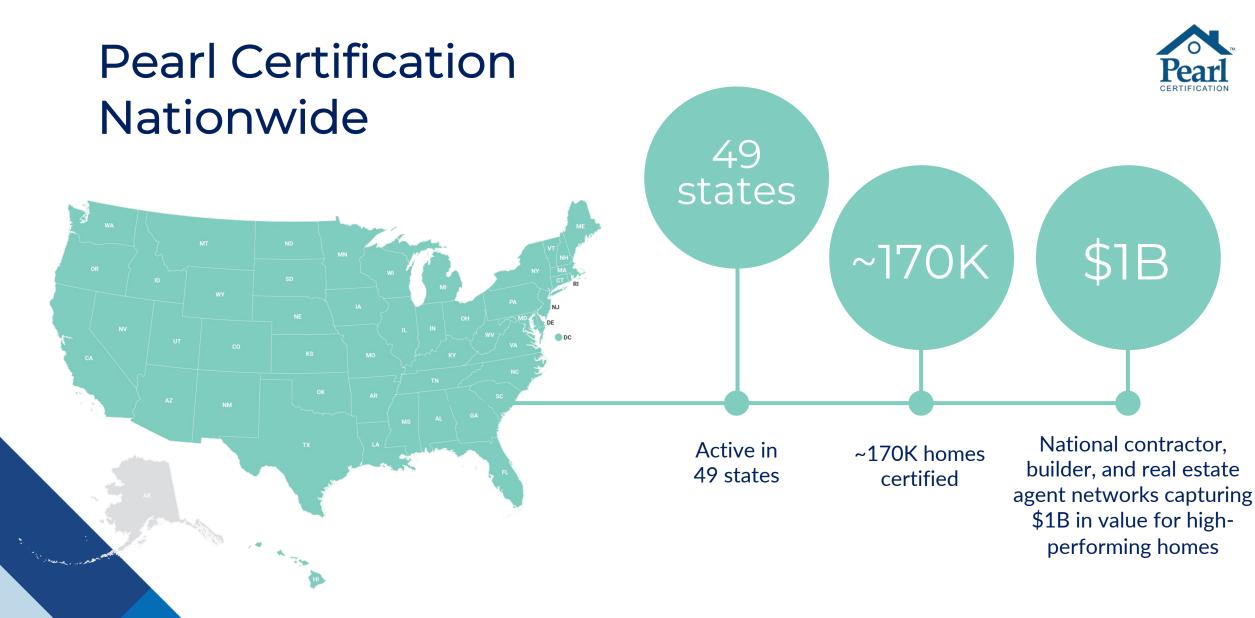


Program Partner



Agent Training Partner









Market Trends (beyond mortgage rates!)



What do you know about these trends?



- Consumer Demand
 - Climate change and generational influence (Millennials) force greater focus on sustainability
- 2 Building Code Updates

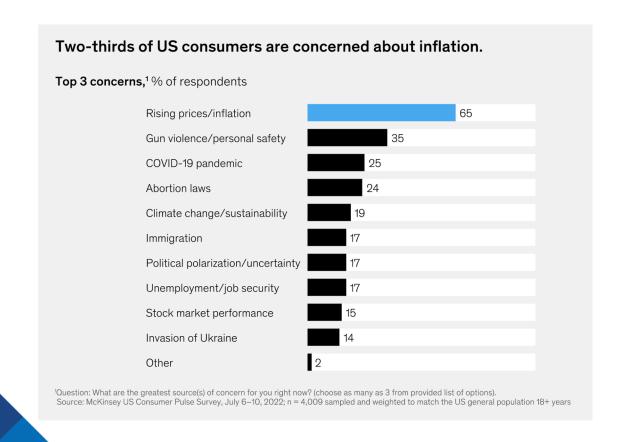
 New construction is inherently energy efficient
- Federal Policy
 Inflation Reduction Act's rebate programs and
 tax credits will drive consumer awareness and
 uptake





Consumer Concerns





Concerns that can impact purchasing decisions:

• Inflation: 65%

• COVID: 25%

Climate change: 19%

 (esp. among
 Millennials and Gen Z)



Millennials Spend the Most \$\$\$



According to 2022 James Hardie Homeowner Survey on home improvement spending during COVID:

- Millennials spent \$40K
- Gen X spent \$10K
- Boomers spend 11K

Millennials are 2nd largest cohort of homeowners and make up 40% of the labor force





What do Millennials Care About?



2022 Deloitte survey said:

- Cost of living and financial anxiety
- Climate change and the environment
- Social justice / societal values (including their employers and companies they do business with)



NAR's Research: 2023 Sustainability Report

Value of Energy Efficiency Promotion in Residential Listings

Region:	Northeast	Midwest	South	West
Very valuable	21%	17%	22%	23%
Somewhat valuable	35%	47%	40%	41%
Neutral	27%	21%	23%	23%
Not very valuable	9%	7%	9%	7%
Not at all valuable	5%	5%	5%	4%
Depends on the listing	3%	2%	2%	3%



- The home features that respondents believed were most important to clients included windows, doors, and siding (39%), a comfortable living space (37%), and a home's utility bills and operating costs (25%)
- ~63% found promoting energy efficiency in listings was very or somewhat valuable
- 34% thought solar panels increased home value



Consumers Want Efficiency



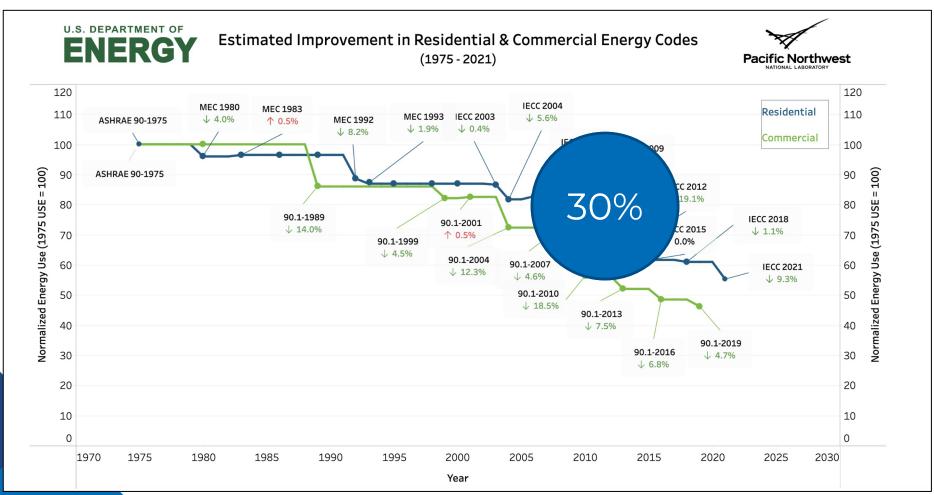
Looking ahead, here are the top 10 major investment projects homeowners tell ANGIE they intend to pursue in the next five years:

- 1. Bathroom remodeling, 35.93%
- 2. Solar panels, 29.41%
- 3. Outdoor work, 26.89%
- 4. Basement refinishing, 26.43%
- 5. HVAC upgrade, 23%
- 6. Build home office, 22.77%
- 7. Build a new addition, 21.85%
- 8. Add a bathroom, 20.94%
- 9. Convert garage to gym, 20.48%
- 10. Other, 5.49%



How Building Code Has Improved

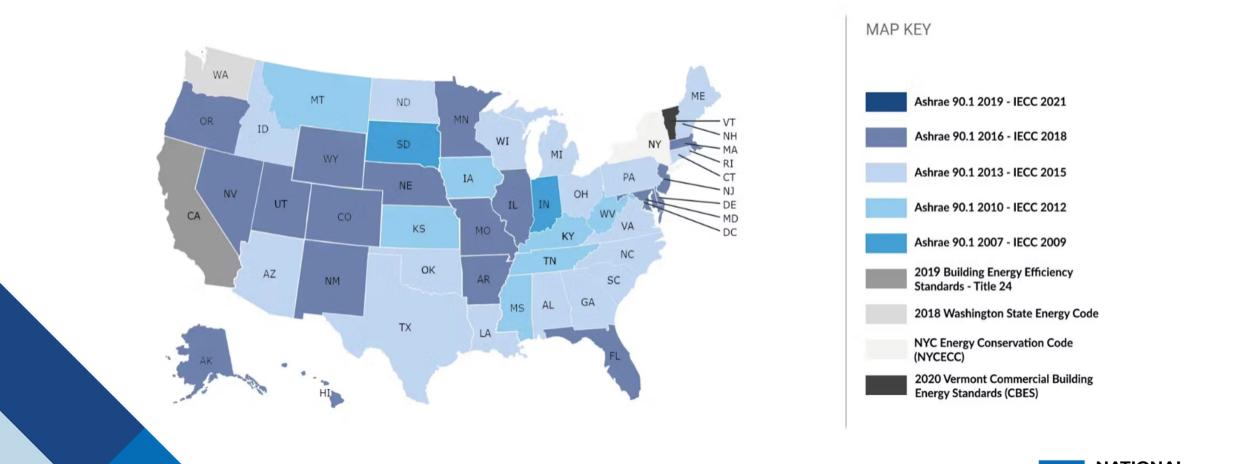






States' Adoption of Building Code







New Technology = New Features

















Inflation Reduction Act Overview



"The overarching goal of the Home Energy Rebate programs is to accelerate the transition to more affordable, efficient, resilient, and low carbon homes."

- US Department of Energy

US Dept. of Energy estimates 70% of households will qualify for rebate programs...

Coming soon to a home near you!







Overview



- Provides tax credits through federal government
- Provides rebates for residential efficient electrification and energy efficiency upgrades through state energy offices
- Rebates are focused on low and moderate income homeowners
 40% of US households eligible as low income





Tax Credits



45L New Construction Tax Credit



https://www.irs.gov/pub/taxpros/fs-2022-40.pdf

- Homes built to ENERGY STAR standards \$2500
- Homes built to Zero Energy Ready standards \$5000



25c Efficiency Tax Credits: Effective 1/2023 https://www.irs.gov/pub/taxpros/fs-2022-40.pdf



Tax credit available for qualified improvements installed that year.

Limits apply: heat pumps have a \$2000 limit; everything else has a combined \$1200 limit; \$3200 is *total* limit for the year.

- Doors (\$250/door \$500), windows and skylights (30% of cost up to \$600); labor not included
- Insulation, air sealing (30% of cost up to \$1200); labor not included
- Home energy audits (30% of cost up to \$150)
- AC, water heater, furnace, boiler, electrical improvements (30% up to \$600 each)
- Electric or natural gas heat pumps and heat pump water heaters, biomass stoves and boilers



25c Efficiency Tax Credits: More Info



Other requirements:

- Only existing homes and remodels, not new construction; must be owner occupied
- Doors and windows: ENERGY STAR
- Insulation: IECC code standard for two years prior
- AC, water heater, furnace, heat pumps, heat pump water heaters: meet or exceed CEE standard: https://www.ahrinet.org/certification/cee-directory/cee-directory/
- Oil furnaces and hot water boilers: ENERGY STAR
- Electric panels: meet NEC and be 200 amps or more



25c Efficiency Tax Credits: More Info



- Can't carry the energy efficiency credit forward (unlike renewable energy/solar credits)
- Can qualify for the max amount every year in which improvements are made
- Rebates cannot apply to same install, but a tax credit for same install can be combined with rebate
- Contractors should make sure to give product literature or other documentation for efficiency rating of your installed system, cost of system, and date installed to as back up for the tax credit



Clean Energy Tax Credits: Starting 1/2023



Qualifying installations for up to 30% of the cost (new and existing homes), labor included, no dollar limit, carry forward allowed, owned systems only. Covers:

- Solar electric property expenditures (solar panels)
- Roofing shingles that serve as solar collectors
- Solar water heating property expenditures (solar water heaters)
- Fuel cell property expenditures (maximum credit of \$500 for each half kilowatt of capacity of the qualified fuel cell property)
- Small wind energy property expenditures (wind turbines)
- Geothermal heat pumps
- Battery storage technology expenditures





Rebate Programs



Rebate Programs Run Until 9/2031

1

Funding Meant to be "braided"

State rebates can be combined with tax credits, utility rebates, manufacturer rebates, and some other grant programs.

Electrification and Energy Efficiency rebates may NOT apply to the same installation. 2

States' grants will be gated

States must have approved application, Implementation Blueprint, Market Transformation Plan, Data/QA plan, AND meet minimum low-income targets to secure tranches of funding.

3

Requires energy modeling

For both bill impacts (Electrification Rebate) and savings threshold requirements (Energy Efficiency Rebate), contractors will have to model projected bills.



Electrification Rebates \$4.5B (HEERA)



- Point of Sale rebate reduces out of pocket costs
- Requires owner be <150% area median income to access
- Covers 100% of cost for households <80%
- Covers up to 50% of cost for 80% 150% AMI



Electrification Rebates \$4.5B (HEERA)



Product Rebates				
Upgrade Type	Qualified Product	Rebate Amount Not to Exceed		
	Heat Pump Water Heater	\$1,750		
Appliance	Heat Pump for Space Heating or Cooling	\$8,000		
	Electric Stove, Cooktop, Range, Oven, or Heat Pump Clothes Dryer	\$840		
	Electric Load Service Center	\$4,000		
Building Materials	Insulation, Air Sealing, and Ventilation	\$1,600		
	Electric Wiring	\$2,500		
Maximum Rebate		\$14,000		



HOMES Rebates \$4.3B



- Single and multifamily: states are required to allocate 40% to low-income single family and 10% to low-income MF
- \$200 incentive to complete work in low-income home
- No income qualification (but, below 80% AMI homeowners eligible for 2x the rebate amounts); states required to have a carve out for low income
- BPI 2400 compliance requirement for energy modeling (utility bill calibration)
- BPI 1200 standard referenced for assessments: blower door and combustion safety
- Community Benefits Plan requires contractor engagement for rebate program and workforce development
- Requires 3rd party certification of project to access rebate



HOMES Rebates \$4.3B



Single-Family				
Modeled Energy Savings	Income Level	Rebate Amount		
20%-34%	Less than 80% AMI*	Lesser of \$4,000 or 80% of project cost		
	80% AMI and greater	Lesser of \$2,000 or 50% of project cost		
35% and	Less than 80% AMI*	Lesser of \$8,000 or 80% of project cost		
greater	80% AMI and greater	Lesser of \$4,000 or 50% of project cost		



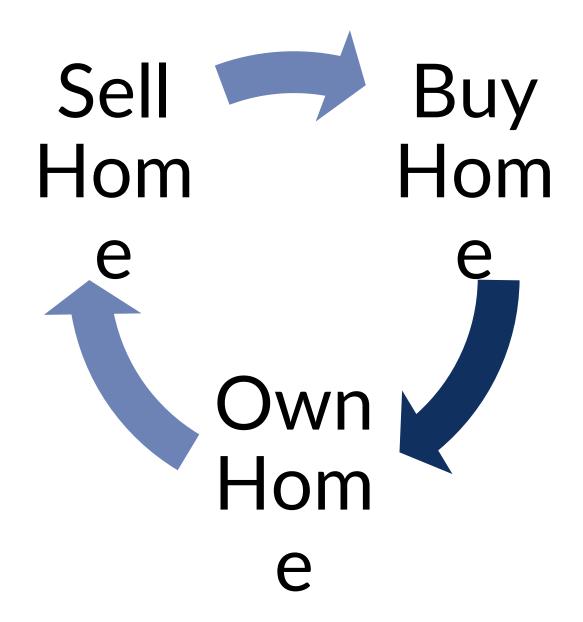
Market Transformation Plan



25% of states' Electrification and Energy Efficiency rebate programs funding is tied to an approved "Market Transformation Plan," which must:

Describe how the State program will enable the market to recognize the value of homes that have been upgraded through the Home Energy Rebates, including at time of sale/rental. At a minimum, the plan must include a strategy for aggregating home data from the home assessment and/or home certification and making such data available to real estate stakeholders.



















Own Home







Buy Home



MARKET TRANSFORMATION



Improve Home's

Energy Efficiency Own Home





IRA Fueled Emerging Trend: Market Transformation



Listing agents market certified homes and educate buyers

Real estate industry increases certified homes' visibility through MLS



Sell

a home



States drive market transformation through education and incentives

Contractors & builders create inventory



2023 Cost vs. Value Report by Zonda



Rank	Remodeling Project	Job Cost	Value at Sale	Cost Recouped
1	HVAC Electrification Conversion	\$17,747	\$18,366	103.5%
2	Garage Door Replacement	\$4,302	\$4,418	102.7%
3	Manufactured Stone Veneer	\$10,925	\$11,177	102.3%
4	Entry Door Replacement Steel	\$2,214	\$2,235	100.9%
5	Siding Replacement Vinyl	\$16,348	\$15,485	94.7%
6	Siding Replacement Fiber- Cement	\$19,361	#17,129	88.5%
7	Minor Kitchen Remodel Midrange	\$26,790	\$22,963	85.7%
8	Window Replacement Vinyl	\$20,091	\$13,766	68.5%
9	Bath Remodel Midrange	\$24,606	\$16,413	66.7%
10	Window Replacement Wood	\$24,376	\$14,912	61.2%



IRA Website Resources



- Tax Credits: https://www.irs.gov/pub/taxpros/fs-2022-40.pdf
- Rebate programs: https://www.energy.gov/scep/home-energy-rebate-programs-frequently-asked-questions
- State allocations: https://www.energy.gov/articles/biden-harris-administration-announces-state-and-tribe-allocations-home-energy-rebate
- Area median income calculator: https://ami-lookup-tool/
 tool.fanniemae.com/amilookuptool/
- Weatherization Assistance Program: https://www.energy.gov/scep/wap/weatherization-assistance-program
- Consumer information: www.energy.gov/save
- Consumer information on electrification: https://www.rewiringamerica.org/IRAguide





WHAT DOES IT ALL MEAN FOR YOU?



BEYOND TRENDS TO TRANSFORMATION





IMPACTS MLS DATA

Buyer search, Green Fields, marketing



IMPACTS AGENT EDUCATION

Training on: new products and features, programs to assist buyers and sellers



IMPACTS AGENT EDUCATION

CMAs, appraisals, lending rates, home insurance



What You Should Be Thinking About



- Can <u>you</u> tie benefits like comfort, indoor air quality, affordability of homeownership, sustainability, and home equity to energy efficiency and renewable energy features?
- What education or training might you need to price and market homes that have efficient or renewable features?
- How can you position your knowledge on IRA rebates and tax credits to differentiate?
- What type(s) of housing stock exists in your area, and what needs does it have?
- What rebates and/or tax credits might your clients qualify for?
- What resources do you have/can you share with clients?
- What do the IRA rebate programs mean for your local association and any relevant initiatives? How might the state's Market Transformation plan impact your business?

Resources



- NAR's website on sustainability
- Information on NAR's Green Designation
- NAR's Green Resource Council website
- NAR Intro to Sustainability and Resiliency: What REALTORS Need to Know
- RESNET Registy
- Green Building Registry



Pearl is Your Partner









Provide MLS's data through API

Populate listings with feature level data, potential revenue share for certified listings



Agent network and training

Online resources, webinars, free consumer app "Green Door" for custom rebate and upgrade information

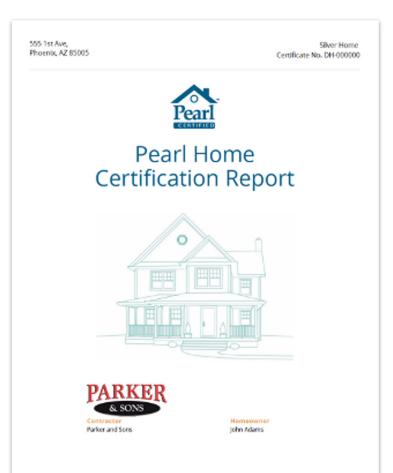


Certification and Equity Calculators

Report includes completed Appraisal Addendum and discounted cash flow for efficiency and solar

Home Certification Package







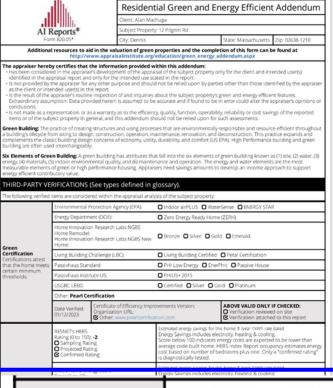




Appraisal Support

Appraisal File #:





Insulation	□ Fiberglass Blown-In						
Building Envelope	Envelope Tightness: 1.5 Unit: CFM25 CFM50 CACH50 DACH natural Instructions: Insert the rating as a number that could be 0.5 to 7ACH50 or higher. The lower the number, the more air tight the envelope. Building Codes for area show maximum Envelope Tightness allowed based on the dimate zone. Not all areas have adopted a building code. http://bcap-energy.org/						
Windows	© ENERGY STAR®	© Low E	☐ High Impact	□ Storm	☑ Double Pane ☐ Triple Pane	■ Tinted	□ Solar Shades
Day Lighting	# of Skylights: # of Solar Tubes: # of lighting LEDs: 100				•		
ENERGY STAR® Appliances	ENERGY STAR®: ♥ Dishwasher □ Refrigerator ♥ Washer/Dryer ♥ Other Both Washer and Dryer are ENERGY STAR Energy Source □ Propane □ Blearic □ Natural Gas □ Other (Describe): Note: ENERGY STAR® appliances do not result in an ENERGY STAR® Home.						
Water Heater	Size: >55 gallons □ Tankless			t page) 🕑 Heat P	Heat Pump Coil		
HVAC & Related Equipment Describe in comments area.	High Efficiency HVAC SEER Efficiency Rating % AFUE* *6 *Annual Fuel-Utilization Efficiency	Efficiency Rating: Programma COP: Auxiliary He HSPF: 10.5 Radiant Flo SEER: 19.5 Geothermal		ble Thermostat?		ØYes □ No ØYes □ No □ Yes □ No □ Yes □ No □ Yes □ No □ Yes □ No	
Indoor Environmental Quality	☑ Other Measured Whole-House Ventilation Device (See glossary) ☐ Radon :			■ Radon Sy	Pest Control stem: Passive		
Water Efficiency	Redaimed Water System (Describe): Greywater reuse system O vister system O Location of distem:			igation			
Utility Costs	Annual Utility Cost: \$ /year, based on: to (full year). Indudes (check all that apply): ① Electric ① Heating ① Water ② Other: # Of Occupants:			pants:			
Comments Include source for information provided in this section.	The following property has a number of high-performing features as detailed in the Pearl Certification report. According to a 2017 study by Remodeling magazine, air sealing and attic insulation has the highest value-to-cost ratio of any home improvement and was the only improvement to have a ratio higher than 1.0 (i.e., the added home value was more than the cost to perform the work). With the cooperation and approval of the Appraisal Institute, Pearl Certification has an AI REPORTS® License Agreement. The Appraisal institute makes no representations, warranties or guarantees as to, and assumes no responsibility for, the data, analysis or work product provided by the individual appraiser(s) or any other individual in the specific contents of the AI Reports®						



HVAC & Related Equipment Describe in comments area. ☐ High Efficiency HVAC SEER Efficiency Rating % AFUE* **%** *Annual Fuel-Utilization Efficiency Heat Pump
Efficiency Rating:
COP:
HSPF: 9.5
SEER:19.0
EER:

Thermostat/Controllers?
Programmable Thermostat?
Auxiliary Heat Source?
Radiant Floor Heat?
Geothermal?
Electric Vehicle Ready? (car charger)

Yes No



Marketing Support for the Sale





9960 NW Windover Ln, Kansas City, MO 64153-2806 Certified on February 03, 2023 Pearl Gold Certificate | Pearl Score: 982



Air Sealing: Top 3% of MO homes

Sooo many benefits with a well-sealed home: from a comfort perspective it's less drafty and has greater humidity control. Bonus: less dust and insects!

All homes should be air sealed to increase comfort, minimize air leakage and enhance the effectiveness of the insulation. This home's performance for air sealing is exceptionally high.

Air sealing typically includes using spray foam on the rim joists, areas where plumbing and electrical penetrations come through walls, around windows/doors, and other areas of the home.



9960 NW Windover Ln, Kansas City, MO 64153-2806 Certified on February 03, 2023 Pearl Gold Certificate | Pearl Score: 982



Filters: Hospital-grade

The filter for this home's filter cleans the air of mold, mildew, pet dander, pollen, and other particles that can impact allergies or asthma.

The American Lung Association has found that indoor air can be very polluted compared to the outside. This home's special air filter attracts and captures airborne articles and allergens, making for a better indoor environment.

These filters are likely to be nearly as effective as true HEPA (hospital grade!) filters at controlling most airborne indoor particles.



9960 NW Windover Ln, Kansas City, MO 64153-2806 Certified on February 03, 2023 Pearl Gold Certificate | Pearl Score: 982



Thermostat: Smart home feature

Save money and enjoy the convenience of wifi-enabled heating and cooling control with this high-quality thermostat.

This home's thermostat gives the owner broad control over the home's heating and cooling systems, helping to keep the home at the right temperature and save money.

Plus with real-time control via a phone app, you can adjust the temperature settings no matter where you are - at the office, away on vacation, etc.



12379 Bevan Dr, Arlington, TN 38002-4889 Certified on September 23, 2022 Pearl Gold Certificate | Pearl Score: 891

Learn more about this Pearl Certified home's benefits: read the free report at www.pearlcertification.com/registry.

Pearl Certification is a national firm that provides third-party certification of **high-performing homes**: homes with "performance assets" that make them **healthy, safe, comfortable, energy and water efficient**. Pearl is an ENERGY STAR Partner.

This Pearl Gold home has verified high-performing assets for a number of features that enhance the quality of life for its owners. Pearl Certified: it's what value feels like.

What You Need to Know

This home has many high-performing features, including its heat pump, forced air ducts, attic insulation, attic hatch and filters.

This home will be healthier, more comfortable, cleaner and quieter, and cost less to operate, than most Tennessee homes.



Gold Certified: Special Performance Features of this High-Performing Home



Heat Pump: Top 2% of electricheated homes Forced Air Ducts: Ducts very wellinsulated Attic Insulation: Top 5% of TN homes

Attic Hatch: Very Well-insulated Filters: Hospitalgrade Room Ventilation: Lower indoor humidity

Water Filtration System: Cleaner Water Air Sealing: Top 16% of TN homes LED Lighting: Very efficient lighting



Social Media Posts: 12379 Bevan Dr, Arlington, Tennessee

HEAT PUMP

12379 Bevan Dr, Arlington, TN 38002-4889 just hit the market, and one of the stand-out features is the high-efficiency heating and cooling system. When you consider that this accounts for almost half of a home's energy bills, this heat pump system is a huge value-add for any buyer. It's what helped the home earn Pearl Gold Certification and is one of many features that make this property worth a look. [Link to listing]



12379 Bevan Dr, Arlington, TN 38002-4889 Verified MLS Green Fields Listing Sheet (RESO Green Fields Report)

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

Green Marketing Group

Attic/Crawl Hatchway(s) Insulated

Insulation

Electric Water Heater

Lighting

Humidity Control

Humidity Control (Heating)

Carbon Monoxide Detector(s)

HVAC

Forced Air

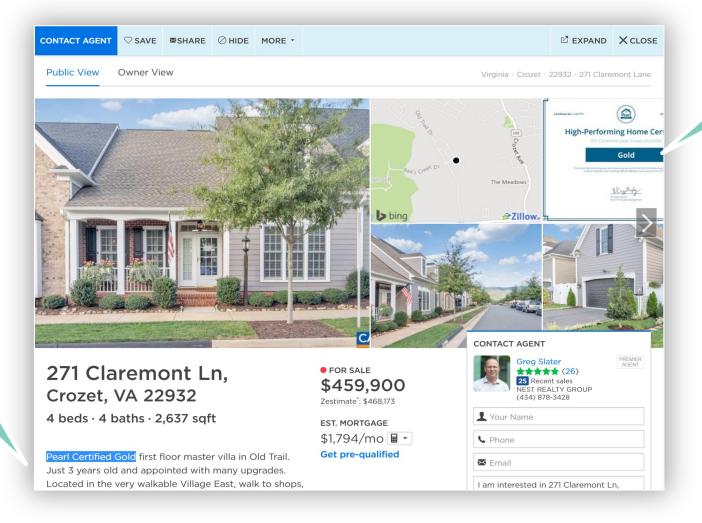


Sample Certification In Action



Certificate image

Call out certification in remarks







Questions?



