

look for



WaterSense® Labeled Homes

Version 2.0

Additional flexibility for water-efficiency options



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RaterFest 2022



Content

- Background
- New Technical Requirements
- Home Certification Organizations
- Onsite verification
- Verifiers & Resources

WaterSense Labeled Homes V2.0



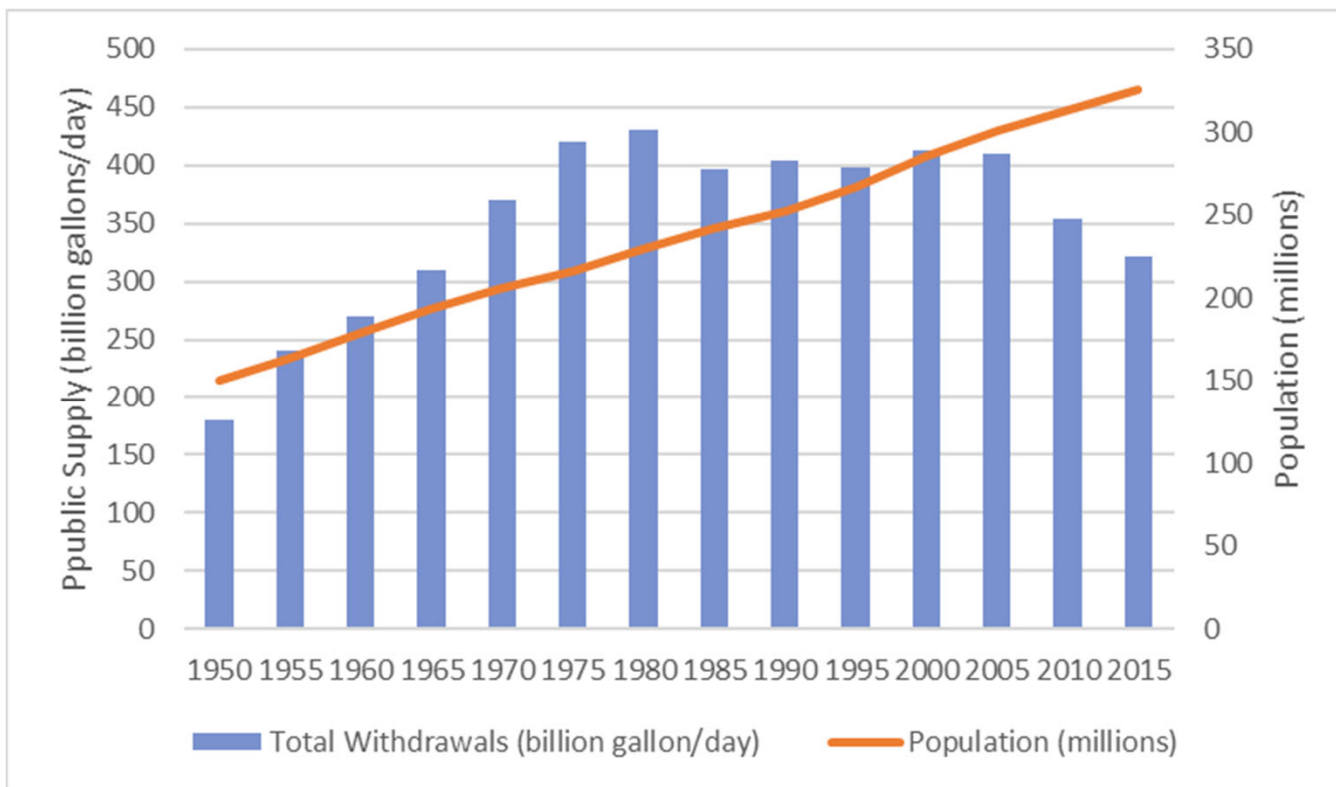
- Available NOW!
 - Transition grace period ended in 2021
- Minimal prescriptive items
- Ability to use a performance-based, whole-house approach
 - For example, a HERSH2o score of 70 or lower is needed for WaterSense certification
- Easy training for verifiers
 - Available through individual HCOs
- Ability to work with additional HCOs



Taking the Next Step in Water Efficiency



Has enabled us to grow (and build), even where water is limited or infrastructure lacking



Has allowed water utilities and communities to maintain systems without extensive investment

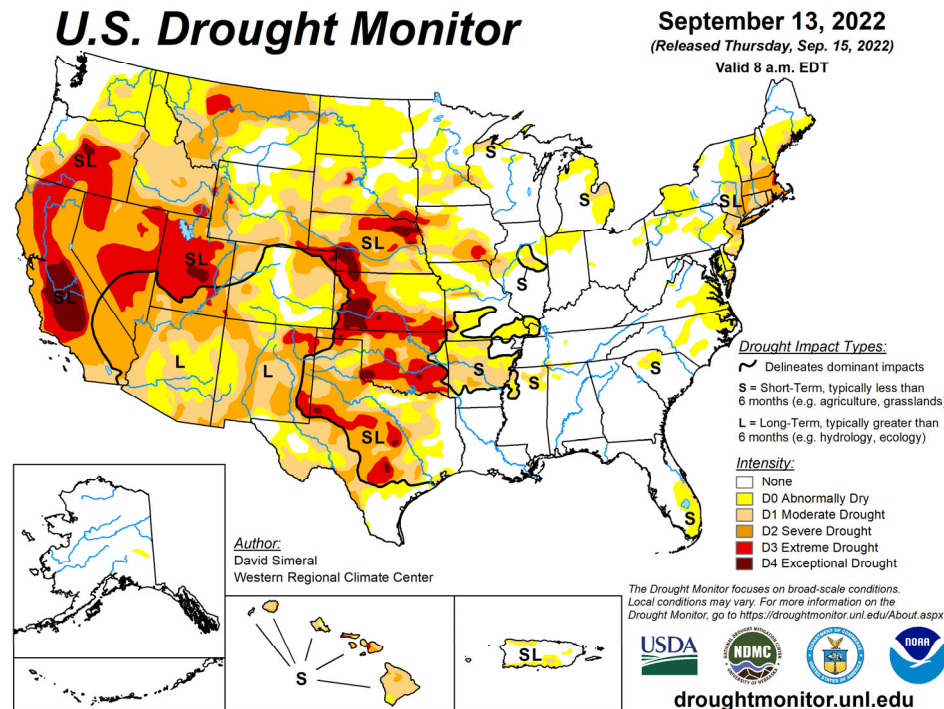
Water is an “Problem” Everywhere Just Not the Same “Problem”

West

East

- Governed by doctrine of “prior appropriation”
- Limited supply due to drought, climate, etc.
- Substantial community growth

- Governed by “riparian rights” schemes
- Older infrastructure with substantial capital improvement needs
- High frequency of combined sewers





Water Matters to Communities and the Building Industry

For Communities/Water Agencies:

- Preserves the ability to add housing and grow in water or infrastructure constrained communities
- Lots of savings, built in from the start at the most cost-effective intervention point
- The building industry is an important consumer of labeled products
- Whole-house building science approach

For Builders:

- Rising cost of water/connection fees
- Social pressures from communities and investors
- Increasingly important part of the land entitlement process
- Corporate disclosures & reporting



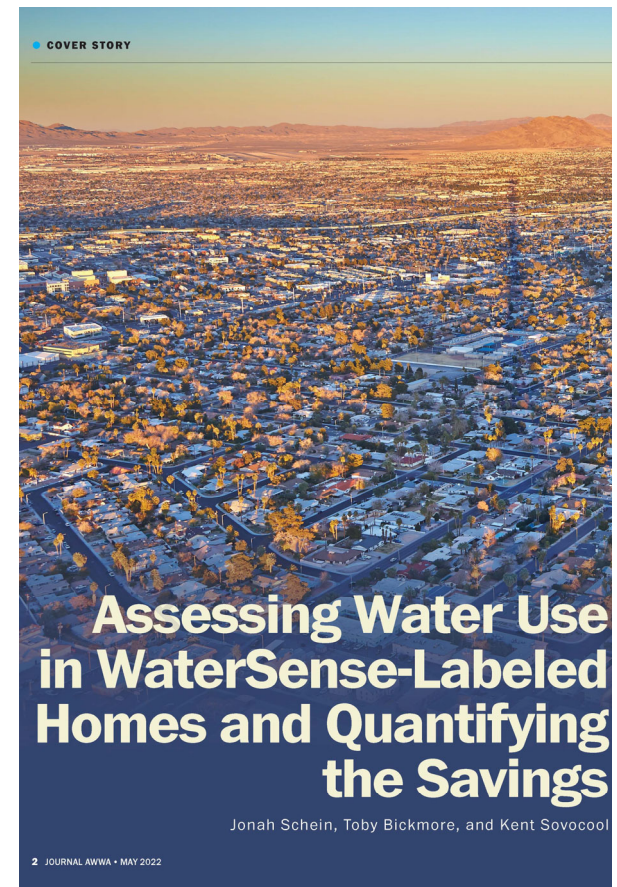
History of WaterSense Labeled Homes



- Version 1.1
 - Removed one of two options for the outdoor requirements
 - Modified product requirements to include WaterSense labeled showerheads and WBICs
- Version 1.2
 - Included minor changes to reflect removal of irrigation partners from the program
- V2.0 Pilot Program
 - Allowed for new version to be implemented in specific regions
 - Opportunity to receive feedback from stakeholders
- Version 2.0
 - Comprehensive change to methodology in the technical requirements

Las Vegas Pilot Study

- V2 was piloted in the Las Vegas region in the summer of 2020 following the sunset of Water Smart Homes
 - 568 homes were certified through the pilot project
- Metered water usage was collected from the retail utilities and paired with information gathered during the inspection/certification process
- Median use was 44 kgal/year (based on 160 WaterSense labeled homes) compared to 97 kgal/year in typical new construction in the area
 - At this rate roughly 7.5 homes/year can be supplied with an acre-foot of water compared to 3-4 homes/year typically seen in the West
- [Full report available online](#)



Building Water-Efficient Homes is Imperative for Communities and the Building Industry



Source	Scope	Study period, results, and notes	Average Value (kgal/household/year)
Residential End Uses of Water Study	National	Stock housing monitored 2013-2014	146
SNWA	Greater Las Vegas Area	New homes built 2000-2003	129
SNWA	Greater Las Vegas Area	New homes built 2008-2009	97
SNWA	Greater Las Vegas Area	New Water Smart Homes built 2008-2009	94
USGS Daily Withdrawal Data	Clark County, NV	2015 domestic withdrawal estimate includes all homes/residential water use in the area	124
Real Time Residential Water Use Monitoring	Greater Las Vegas Area	All Flume water monitoring device users in the area Oct 2020-Sep 2021	196



Technical Requirements



Technical Requirements for V2

MANDATORY CHECKLIST FOR WATERSENSE LABELED HOMES

Item	Requirements	Confirmed	
Leaks	Pressure-loss test on all water supplies detected no leaks	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from hot water delivery system	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from toilet(s), as determined through visual assessment and by conducting a dye tablet test in each toilet to ensure the flapper is not leaking	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from bathroom faucet(s)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from showerhead(s)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from bathroom tub faucet(s), i.e., tub spout(s), when showerhead(s) is activated, as determine through visual assessment after showerhead has been activated for one minute	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from kitchen and other sink faucet(s)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
	Free of visible leaks from other fixtures or appliances (e.g., clothes washers, dishwashers, hose bibs, irrigation systems) at point of use or point of connection to water distribution system	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Toilets	WaterSense labeled	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Bathroom sink faucets	WaterSense labeled	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Showerheads	WaterSense labeled	<input type="checkbox"/> Yes	<input type="checkbox"/> No

- Meet all items on the mandatory checklist
- Meet an efficiency target of 30% relative to standard new construction



Mandatory Checklist

- Ensures that all WaterSense labeled homes contain a minimum set of features that meet homeowners' expectations for quality performance
- Criteria for checklist features
 - Basic measure of quality performance not represented by volumetric use
 - Universally applicable to homes regardless of market or climate
 - Easily attainable at little or no incremental cost
- Loss of quality-performance was identified as a risk of setting a standard based on performance efficiency
- Ensures some measure of balance in climates that are more likely to have high outdoor water use



How do I Measure 30%?

- EPA allows HCOs to develop their own method of measuring water use
 - EPA retains the role of reviewing/approving each HCO's method
 - This evaluation protocol is available on our website
- EPA has approved various **Home Certification Organizations (HCOs)**
 - HCOs can use a different tool or approach to measure the 30% efficiency requirement.
 - EPA evaluates their method, as part of the application process, to reiterate that the tools are measuring water efficiency accurately.
 - Methods are then referred to as WACMs – WaterSense Approved Certification Methods
- Goal is to protect the integrity of the WaterSense Program and label ensuring certified homes meet the stated efficiency threshold regardless of the WACM used.



What About Outdoors?

- The impact of these credits varies based on the size of the home, the lot, and the climate
- There are no outdoor requirements on the mandatory checklist
- WACMs may offer outdoor credits for
 - Reduced landscape size
 - Improved irrigation technology
 - Plant selection
 - Proper commissioning by a certified professional




















Home Certification Organizations

(HCOs)



EPA Approved HCOs

HCO	SCOPE			METHOD FOR LABELING HOMES
	REGIONALITY	BUILDING TYPES	CONSTRUCTION TYPE	
		Single-Family 	New Construction 	Achieve a score of 70 or less under CHEERS WaterSense
		Single-Family 	New & Existing Construction 	Achieve a score of 66 or less under the Water Efficiency Rating Score (WERS) with WaterSense Baselines
		Single-Family & Multifamily 	New & Existing Construction 	Complete a set of selected practices from the National Green Building Standard (NGBS)
			New Construction 	Achieve a score of 64 or less under the Water Rating Index
		Single-Family 	New & Existing Construction 	Achieve a score of 70 or less under HERS _{H2O}

Application process involves 2 main steps:

1. Review and approval or organizational and administrative process
2. Technical review, evaluation and approval of water efficiency measuring model

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CHEERS



- Score of 70 needed for certification
- Uses Standard 850 as their WACM
- New single-family homes in California
- CHEERS offers BOTH energy & water rating



Green Builder Coalition (GBC)



- Score of 66 or lower needed for WaterSense Certification
- Uses the Water Efficiency Rating Score (WERS) as their WACM.
- Applicable to single-family properties in the United States.
- Aligns with Built Green Canada, Austin Energy's Green Building Program, Built Green Washington

Home Innovation Research Lab



- Provides 3 paths for certification: Prescriptive, Performance & WRI stand-alone
 - Prescriptive WaterSense checklist
 - Performance path WRI score of 64 or lower
 - Stand-alone WRI score of 64 or lower
- Uses the NGBS (ICC-700)





RESNET HERSH2o



- Needs score of 70 or less to achieve certification
- Uses the HERSH2o standard (ANSI/RESNET/ICC 850)
- New and existing single-family and duplex homes, including townhomes.
- Aligns with HERS rating and Energy Star Certification



HCO Specific Training



All CHEERS HERS Raters are eligible to conduct WaterSense field verifications after completing CHEERS' online WaterSense training program. This training is provided by CHEERS at no cost.



Training involves a verifier course which includes both classroom and field training, along with a written and field exam. Online and in-person training is offered.



WRI Verifer training is offered to qualified NGBS Green Verifiers. By completing this training course, verifiers earn two credentials: (1) WRI Verifer and (2) WaterSense Home Verifer.



HERSH2O Rater Training is provided on the RESNET Training Portal and viewing the WaterSense Labeled Homes Version 2 training video. HERSH2O Raters are also required to work under a RESNET Accredited HERSH2O Rating Provider.



Verifier Training

Part 1

Technical Requirements

- Mandatory Checklist
 - 30% efficiency requirement

Part 2

Verification Process

- Leak Detection Protocols
- WaterSense labeled products identification
- WS Product search tool

Part 3

Verifier Responsibilities

- Documentation
- Recordkeeping
 - Reporting

Part 4

Verifier Resources

- Verifier Search tool
- Promotional materials
- Technical Resources



Verification



Verifier Responsibilities

- Verify homes in accordance with the *WaterSense Specification for Homes* and the HCO's WACM
- Submit documentation to HCO after each verification
- As per HCO guidance:
 - Documentation requirements
 - Record keeping requirement
 - Reporting requirements

Completing a Rating



Basic Information

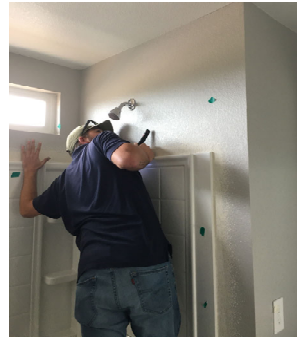
- Location
- Conditioned area
- Lot size
- Number of bedrooms

Verifying Mandatory Checklist



WaterSense Labeled Products

Verify that WaterSense labeled plumbing products are used



Get efficiency info (flush volume, flow rate, etc.) when you're checking for the WaterSense label.



🚽 Toilets

Keyword ?

Filter by keyword Add

Brand Names

- ACARA
- A&E
- Aflush/Waso
- American Standard
- AmeriSink
- ANZZI
- AOTEER
- Aquasource
- AquaSource

Flush Types ?

- Single
- Dual

Flush Mechanism ?

- Gravity
- Pressure
- Other

Flush Volume (gpf) ?

- 1.28 or less
- 1.6 or less

4678 Records Found for Toilets ?

Showing Records **1** through **10**

Sort By ▼ ↓ ↑

ACARA	Model Number: AC249HL+T491.2GS	Flush Volume (gpf): 1.00
	Bowl Model Number: N/A	Flush Type: Single
	Tank Model Number: N/A	Flush Mechanism: Gravity
ACARA	Model Number: AC249L+T491.1GS	Flush Volume (gpf): 1.00
	Bowl Model Number: N/A	Flush Type: Single
	Tank Model Number: N/A	Flush Mechanism: Gravity
ACARA	Model Number: AC249R+T491.0GS	Flush Volume (gpf): 1.00
	Bowl Model Number: N/A	Flush Type: Single
	Tank Model Number: N/A	Flush Mechanism: Gravity
A&E		

Verifying Mandatory Checklist



Leak Free!

Verify there are no visible leaks at any water connection points:

- Fixtures
- Tub spout
- Water heater
- Toilet leaks
- Pressure loss

Note the pressure when you conduct the leak tests. You'll need it later in the rating.





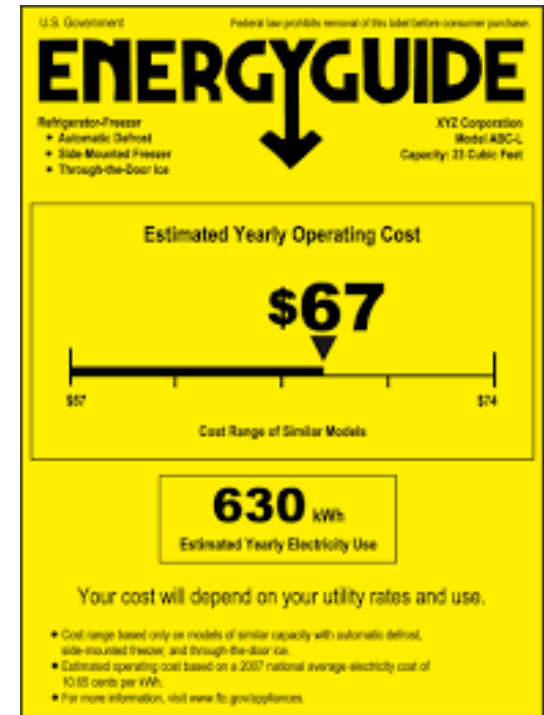
Appliances

Appliance Data



- Clothes washer
 - IWF
- Dishwasher
 - WF
- Water softener
 - Gallons/thousand grains removed

Usually, this information can be found in product documentation, DOE or ENERGY STAR databases, or the spreadsheet will “reverse calculate” based on the ENERGYGUIDE label.



DHW



HWD
System

Large homes in cool climates will see a larger impact on the rating from improved hot water delivery.

- Rating software will automatically estimate the length of pipe based on the size of the home
- This value can be improved upon with actual/observed values
- Can be further adjusted with circulation technology

Outdoors



Landscaping

Irrigated Area

- Lot area
- Is there an automatic irrigation system?
- Irrigated Area (if it grows, it counts)
- Is there WaterSense labeled irrigation controller?
- Was the system commissioned by a certified irrigation professional?
- Is there any unfinished area on the lot?
- Are there any water features (pools, Spas, etc.)



One of the most effective ways to improve your outdoor rating is by making the landscape smaller!



Verifier Resources

Tools, marketing & technical resources to support verifiers in promoting themselves and offering the WaterSense certification service.

Find a WaterSense Home Verifier



WaterSense and its approved home certification organizations (HCO) jointly maintain the Directory of Home Verifiers. Updates to the directory are made quarterly and reflect the best information available at the time. Individuals listed in the directory have been trained and authorized by an HCO to verify homes in accordance with the WaterSense Specification for Homes.

Related Links

- [Homes: The Basics](#)
- [Homes Certification and Verification](#)
- [Download Full List of Verifiers](#)
- [WaterSense Home](#)

131 Records Found for Home Verifiers
Showing Records **1** through **10**

Sort By ▾ ↓ ↑

Reset ZIP Code Only

Search by ZIP Code [?]

Enter ZIP Code Search

25 Miles

Verifier/Company Name

Enter a Keyword Add

State

- All
- Alabama
- Alaska
- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Delaware
- District Of Columbia

Home Certification

Organization - Program

- Home Innovation Research Labs
- RESNET

Dan Aaron

Company Name Home Energy Check LLC
Email: dan@home-energy-check.com
Phone: N/A
Website: N/A
Home Certification Organization - Program: RESNET

Distance (Miles): N/A
City: Pinehurst
State: NC

Paul Adame

Company Name Energy Inspectors
Email: padame@eicompanies.com
Phone: N/A
Website: N/A
Home Certification Organization - Program: RESNET

Distance (Miles): N/A
City: Las Vegas
State: NV

William Adamson

Company Name Energy Inspectors
Email: wadamson@eicompanies.com
Phone: N/A
Website: N/A
Home Certification Organization - Program: RESNET

Distance (Miles): N/A
City: Arvada
State: CO

Robert Alcenius

Company Name EnergyLogic, Inc.
Email: Robalce@gmail.com
Phone: 970.820.0107
Website: N/A
Home Certification Organization - Program: RESNET

Distance (Miles): N/A
City: Berthoud
State: CO



Searchable by

- Name
- Company
- Location
- HCO

WaterSense Verifier Promotional Label



- Optional promotional label that verifiers authorized by an HCO to verify homes to the *WaterSense Specification for Homes* can use
- Helps increase verifier marketability
- Provides verifiers with a recognizable mark similar to the WaterSense label



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HCO Factsheets



WaterSense Labeled Homes Program

Home Certification Organization: RESNET

The U.S. Environmental Protection Agency's (EPA) WaterSense® program works with Home Certification Organizations (HCOs) to certify and issue the WaterSense label to homes that meet EPA's criteria for both water efficiency and performance.

What's in a WaterSense Labeled Home?

All WaterSense labeled homes are independently certified to meet EPA's Mandatory Checklist and be at least 30 percent more water-efficient than a typical new home.

MANDATORY CHECKLIST TO ENSURE QUALITY PERFORMANCE

LEAKS

- Pressure-loss test on all water supplies detects no leaks
- Free of visible leaks from all fixtures and appliances at point of use or point of connection to water distribution system
 - Toilets
 - Bathroom faucets
 - Showerheads
 - Bathroom tub faucets, i.e., tub spouts
 - Kitchen and other sink faucets
 - Other fixtures or appliances (e.g., water heaters, clothes washers, dishwashers)

WATERSENSE LABELED PLUMBING FIXTURES

- Toilets
- Bathroom sink faucets
- Showerheads

EFFICIENCY REQUIREMENT

VERIFIED EFFICIENCY

- At least 30 percent more water-efficient than a typical new home (based on national standards and common design and landscape practices).

What is a Home Certification Organization's Role in Labeling Homes for WaterSense?

Within the WaterSense Labeled Homes Program, HCOs are responsible for quality assurance, verifier training and oversight, home verification protocols, and reporting. HCOs also maintain their own certification method (reviewed and approved by EPA) to evaluate a home's water efficiency and determine whether it meets EPA's efficiency requirement. This WaterSense Approved Certification Method (WACM) can include features such as water-efficient fixtures, appliances, and systems (e.g., irrigation and hot water delivery) that builders can include in homes to meet the efficiency requirement. Keep reading to learn more.



How Builders Can Get Involved:

Are you a builder ready to get started? Partner with WaterSense and visit www.epa.gov/watersense/watersense-labeled-homes to learn more.

HCO Profile: RESNET

RESNET is a national non-profit organization founded in 1995. RESNET develops standards for the certification and oversight of home energy and water ratings and the certification of individuals who conduct those ratings. With its network of more than 2,500 active and Rates and Rating Field Inspectors, RESNET has a footprint software used to complete ratings and a network of quality as oversight of energy and water ratings.

Method for Labeling Homes: HERS₁₀₀

RESNET uses HERS₁₀₀ for WaterSense certification. HERS₁₀₀ is based on the nationally accredited standard ANSI/RESNET/ICC 650. To earn the WaterSense label through HERS₁₀₀, a home must achieve a score of 70 or less and adhere to the items on WaterSense's Mandatory Checklist. Since HERS₁₀₀ is a performance-based program, builders can use any combination of indoor and outdoor water efficiency measures to achieve the target score.

Alignment With Other Certification Programs

HERS₁₀₀ was designed to be easily added to a HERS rating. HERS Rates and Rating Field Inspectors who have been trained and authorized as WaterSense Home Verifiers only need to complete a few additional testing and inspection requirements during their final HERS inspection in order to issue a HERS₁₀₀ rating and verify that a home has earned the WaterSense label. This process makes it easy for builders to use one Rater to obtain HERS and HERS₁₀₀ ratings, the WaterSense label, and ENERGY STAR® certification.

For more information about RESNET, visit:



HCO Profile: CHEERS

As California's largest Home Energy Rating System (HERS) Provider, CHEERS operates the central data verification platform where building industry professionals register projects for California energy code (Title 24), state, and federal efficiency program compliance. From single-employee shops to the nation's largest builders, more than 60,000 registered users utilize CHEERS to implement California energy and water efficiency programs.

Method for Labeling Homes: CHEERS WaterSense

CHEERS WaterSense is a system for rating whole-house water efficiency that includes both indoor and outdoor water uses. It is a performance-based program that requires a score of 70 or lower to earn the WaterSense label.

Alignment With Other Certification Programs

As a California Energy Commission approved HERS Provider and EPA ENERGY STAR® Partner, CHEERS addition of WaterSense is a natural complement to CHEERS HERS Rates, who serve energy and water efficiency-minded builders.

For more information about CHEERS, visit:



HCO Profile: Home Innovation Research Labs

Home Innovation Research Labs is an internationally recognized, third-party product testing and certification laboratory. Their work is solely focused on the residential construction industry, with a mission to improve the affordability, performance, and durability of housing. Home Innovation leverages its deep residential expertise and experience in its administration of green certification programs for residential construction. Home Innovation serves as certification body for the ICC-700 National Green Building Standard (NGBS), a Multifamily Review Organization (MRO) for EPA's ENERGY STAR® Multifamily New Construction Program, and an HCO for the WaterSense Labeled Homes Program.

Method for Labeling Homes: NGBS Green with WaterSense

There are two compliance pathways based on selected practices from the 2020 NGBS:

- (1) **Prescriptive** - Implement selected practices from NGBS Chapter 8 or 11, including installing efficient plumbing fixtures, appliances, hot water distribution, and irrigation systems.
- (2) **Performance** - Demonstrate overall water performance by earning a Water Rating Index (WRI) score of 64 or lower. A WRI score is a value between 0 and 100 that indicates a property's total indoor and outdoor water use compared to a baseline based on the home's size and basic configurations.

Alignment With Other Certification Programs

Home Innovation's WaterSense compliance methods are based on selected practices from the 2020 NGBS.

Achievement of WaterSense certification under either pathway nearly satisfies the water efficiency requirements for NGBS Green Certification. Dual certification to NGBS Green and WaterSense offers NGBS Green Partners added marketing benefit through a streamlined dual-certification process.

For more information about Home Innovation, visit www.homeinnovation.com/WaterSense



HCO Profile: Green Builder® Coalition

The Green Builder Coalition is a non-profit membership organization for green building professionals that provides its members with information and advocacy resources. The Green Builder Coalition also owns the Water Efficiency Rating Score (WERS®) Program.

Method for Labeling Homes: Water Efficiency Rating Score (WERS) With WaterSense Baselines

WERS is a performance-based water efficiency program for both new and existing residential properties that preserves design freedom and product choice flexibility. Third party analysis and data collection is utilized to generate a score and predict water usage. An eligible property must meet the WaterSense prescriptive requirements and achieve a WERS of 66 or less using WaterSense baselines.

Scope

WERS is available in the United States and Canada but can be utilized anywhere in the world. WERS for WaterSense is currently only applicable to single-family properties in the United States.

Builders cannot use the capture and reuse function of WERS to earn the WaterSense label. While it does not contribute towards WaterSense certification at this time, WERS can accommodate any form of capture and reuse, including rainwater, graywater, blackwater, and stormwater.



Alignment With Other Certification Programs

WERS is an alternative compliance path in the following green building programs:

- Built Green Canada
- Austin Energy's Green Building Program
- Built Green Washington

WERS is also the basis for the Water Rating Index (WRI) found within the National Green Building Standard.

Information for Verifiers

Training is available for those who wish to become WERS Verifiers. The verifier course includes both classroom and field training, along with a written and field exam.

Online and in-person training is offered. To register for the online course, please visit <https://greenbuildingcoalition.org/courses/WERS-Verifier-Course>

For in-person training options, please contact Lauren at l@greenbuildingcoalition.org. Minimum class size is 5 and maximum class size is 12.

For more information about Green Builder Coalition, visit: www.wers.us.



EPA 600-R-20-008 SEPTEMBER 2022



Introductory Guide





Questions + Discussion

- Are you seeing any local interest in water conservation in your region?
- What seems to be the biggest challenges/ barriers for builders?
- Conversations at the utility, municipal or state level?
- Foreseeable challenges for verifiers?



Hello WaterSense

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