Notice of Intent for WaterSense Labeled Homes V. 2.0

Public Meeting | Webinar
March 14, 2018

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Housekeeping

- All attendees are muted to minimize background noise
- Please type questions into the Questions box in the GoToWebinar control panel. We will have a dedicated time for Q&A at the end
- This PowerPoint presentation is being recorded

Agenda

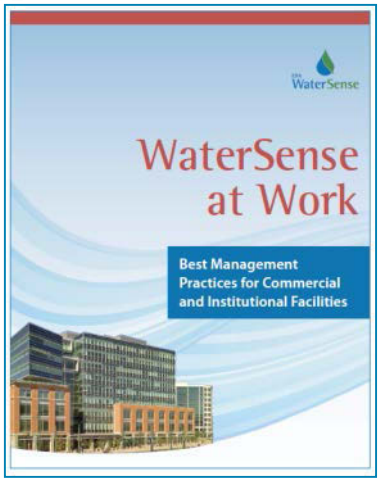
- WaterSense Homes background
- Notice of Intent
  I. Introduction
  II. Technical Requirements
  III. Additional Technical Considerations
  IV. Certification System & Requirements
  V. Summary of Information Requests
- Goals for WaterSense 2.0
- Potential Program Options

WATERSENSE BACKGROUND

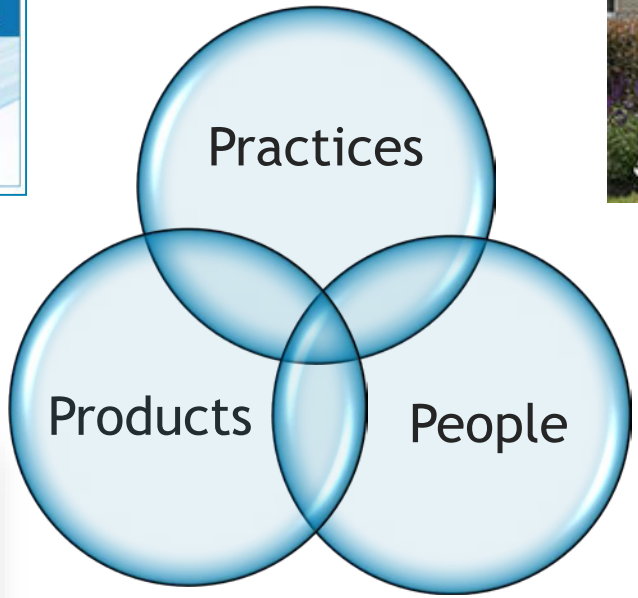
How WaterSense Came to Be

- Beginning in the early 2000's, stakeholders began to lobby the EPA for a voluntary, ENERGY STAR type program focused on water
  - "…request the Environmental Protection Agency establish a voluntary water-efficient product labeling program modeled after the highly successful ENERGY STAR program."
- Individual water utilities were setting inconsistent requirements for water efficient products
  - This created a barrier to product innovation for manufacturers.

How Does WaterSense Work?

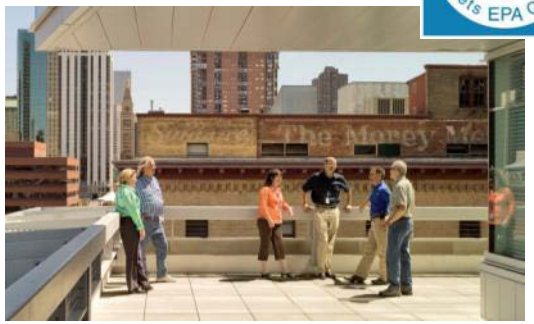


Actions that can be taken to reduce water use -- at home, outdoors and at work



Fixtures and technologies save water

Partners reach users to change behavior



WaterSense Labeled Products

Flushing Urinals

Irrigation Controllers

Spray Sprinkler Bodies

Lavatory Faucets

Toilets

Showerheads

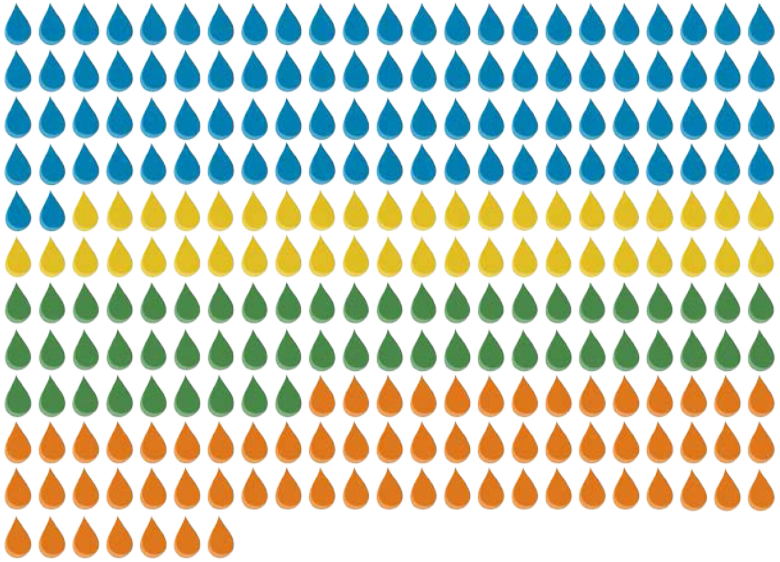
Pre-Rinse Spray Valves

- Are third-party certified for both efficiency AND performance
- Establish the principle of independent oversight as a foundational philosophy of the program
- More than 25,000 certified models

WaterSense Labeled Products Have Been Successful

look for WaterSense Meets EPA Criteria

2.1 trillion **gallons of water** saved since 2006!



2007 – 2013

2014

2015

2016

534 billion gallons saved in 2016

WaterSense has helped **reduce** the amount of **energy needed** to heat, pump, and treat water by

284 billion **kilowatt hours**, enough to supply a year's worth of power to more than

...**consumers save**

$43.6 billion

in water and energy bills

Building Science Solutions

look for WaterSense Meets EPA Criteria

Product Solutions	System Solutions
➢ Deliver consistent, easily implemented solutions within known constraints ➢ Offer easily repeated solutions ➢ Have been widely embraced by the building industry	➢ Can solve complex and variable problems
➢ Fail to fully address many problems due to limited focus and lack of adaptability ➢ Can't consistently define what "efficient" means in a whole house context because the results are often variable	➢ Can be complicated and difficult to implement on a large scale ➢ Are difficult to set standards and test protocols for

WaterSense Labeled Homes

WaterSense labeled homes allow EPA to:

- Address a home's water use using whole-house building science (including places where product solutions are insufficient)
- Communicate the value and impact of WaterSense labeled products
- Set industry definitions and standards for water efficiency referenced in various programs

Requirements for WaterSense Labeled Homes

- Third Party Certification
- WaterSense Labeled Products
- Hot Water Distribution
- Leak Prevention & Service Pressure
- Smart Landscaping & Irrigation

WATERSENSE 2.0
NOTICE OF INTENT

What's an NOI?

- WaterSense mirrors the federal rule-making process as a best practice
- The Notice of Intent or NOI initiates the public discussion
  - Calls out specific questions
  - Serves as notice for stakeholder that wish to be involved
- Draft specification
  - Followed by stakeholder meetings and public comment period
- Final specification
  - Includes supporting statement, response to comments, technical and certification guidance

NOI Outline

I. Introduction

II. Technical and Efficiency Requirements and Implementation Methodology

III. Other Considerations for Technical and Efficiency Requirement

IV. Certification System and Requirements

V. Summary of Information Requests

I. Introduction

December 10, 2009	August 20, 2012	July 24, 2014	February 15, 2018
Final V. 1.0 Specification	V 1.1 Specification	V 1.2 Specification	NOI V2.0

- Version 1.1
  - Removed one of two options for the outdoor requirements
  - Modified product requirements to include WaterSense labeled showerheads and WBICs
  - Allowed units in multifamily buildings to be labeled
- Version 1.2
  - Included minor changes to reflect removal of irrigation partners from the program

II. Technical Requirements: Challenges

- **Lack of flexibility**
  - The current technical requirements are largely prescriptive and binary which can create barriers to participation:

- **Regional variation**
  - The current specification incorporates climate data into the outdoor requirements, but doesn't allow people to chose the most impactful strategies for a specific climate and market

- **Variable value proposition**
  - Many requirements might be good practices, but do not translate into quantifiable savings are a clear value proposition

II. Technical Requirements: Example

Current outdoor and irrigation requirements:

- WaterSense Water Budget Tool (impacts landscape size, plant and irrigation selection)
- Meet minimum site requirements (mulch exposed soils, vegetate slopes, etc.)
- Irrigation system
  - Include a WaterSense labeled irrigation controller
  - Be designed or installed by a certified irrigation professional
  - Be audited by a certified irrigation professional
  - Restricts use of spray irrigation in inappropriate places

In a hot and dry climate, the requirement is theoretically stringent but functionally simple. In a cool and wet climate, it's theoretically easy but functionally difficult.

II. Technical Requirements: Potential Solutions

Add flexibility through:

- Points based rating system
  - Pre-established number of points for specific elements.
  - Requirement of point threshold for certification.
  - Number of points assigned would reflect potential water savings.

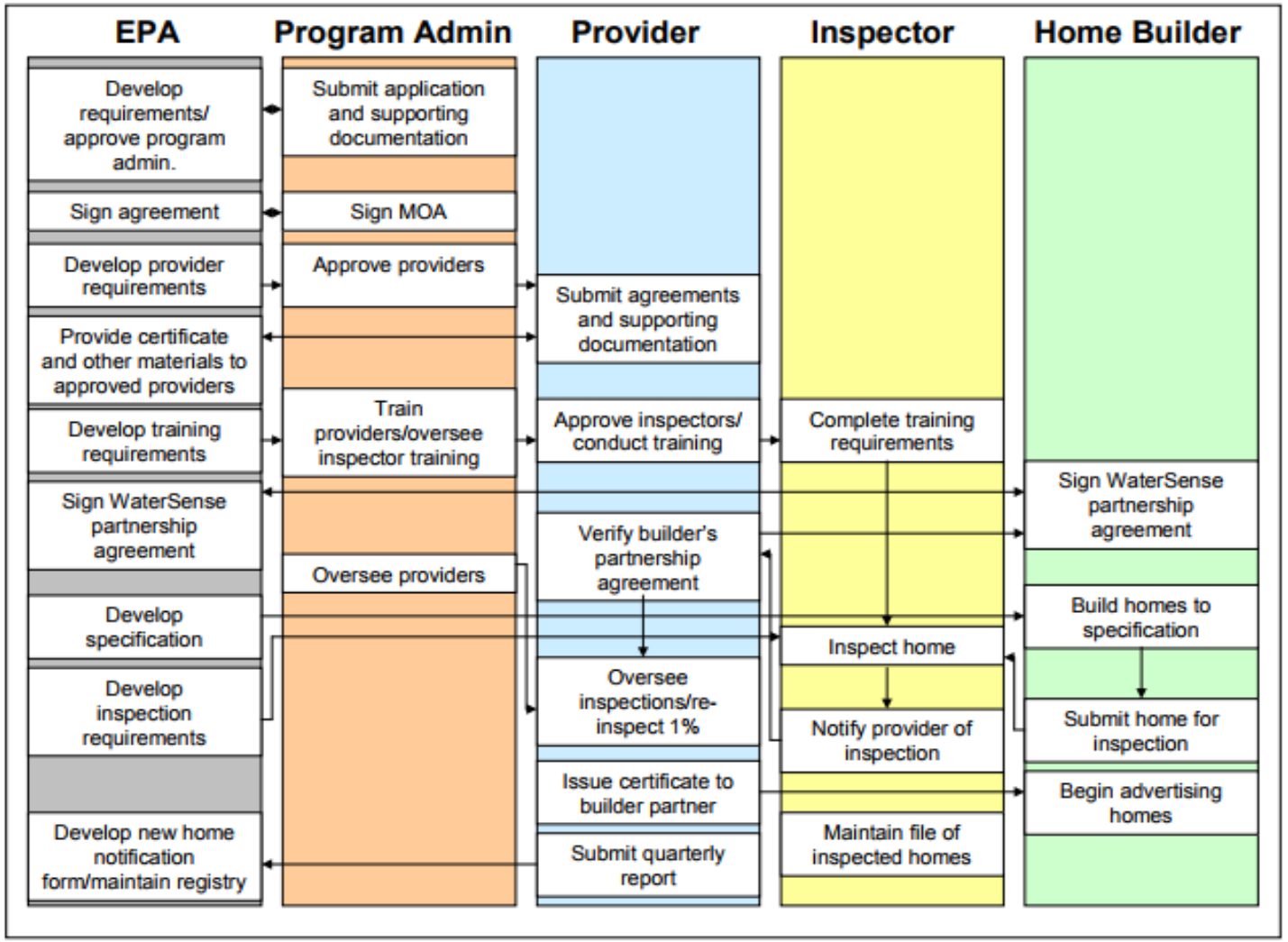
  OR

- Performance based model
  - Use of modeling tool to establish predicted water consumption.
  - Current available models available include
    - Water Efficiency Rating Score (WERS)
    - HERS water rating index ($HERS_{H2O}$)

III. Additional Technical Considerations

- What performance requirements might be needed to ensure WaterSense labeled homes and work as users expect?
- Should WaterSense adopt either a point based or performance path, should a prescriptive path be maintained?
- Should WaterSense incorporate tiers as a way of lowering the barrier for participation and encouraging more advanced practices?
- How would either of the strategies addressed work in regards to units in multifamily buildings currently eligible for the WaterSense label?

IV. Certification System & Requirements



IV. Certification System & Requirements: Objectives

Verification Process

- Homes meet the technical requirements

Professional Training

- Raters/verifiers are knowledgeable and qualified to assess a home

Quality Assurance

- Checks and balances exist to ensure homes receiving the WaterSense label meet all criteria

IV. Certification System & Requirements: Challenges

- **Lack of a professional designation**
  - Training is required to inspect homes for WaterSense but the training does not carry any sort of professional designation or certification that the individual rater can carry

- **Inconsistent accessibility/high barrier to entry**
  - WaterSense is often not accessible to independent raters in a cost-effective way unless their rating provider is also a WaterSense provider

- **Inability of additional verification organizations to participate**
  - It is difficult for other organizations to meet the exact requirements as detailed by the roles and responsibilities of the certification scheme

IV. Certification System & Requirements: Examples

Example: A rater who wishes to offer WaterSense inspections as a service needs to invest in training, but receives no certification/accreditation that can be carried if they change jobs. An independent rater whose rating provider doesn't offer WaterSense, has no cost-effective way to participate in the program.

Example: A potential verification organization might be perfectly capable of conducting a robust quality assurance program without the use of a provider organization. They are not permitted under the current structure.

IV. Certification System & Requirements: Potential Solutions

- Increase flexibility in certification structure
  - Emphasize the underlying quality assurance requirements and desire for independent oversight over specific roles and responsibilities
- Utilize existing mechanisms within verification organizations
  - Give verification organizations freedom to use their existing structures to identify raters/verifiers and maintain quality assurance protocols
- Create a professional category for raters/verifiers

V. Summary of Information Requests

Technical and Efficiency Requirements and Implementation Methodology

- What criteria should WaterSense use for referenced standards or certification systems? Should WaterSense require or prioritize programs that are ANSI-approved?
- Do stakeholders prefer a points-based, performance-based, or hybrid (points-based and performance-based) specification structure for a new WaterSense specification for homes? Why (or, for options not chosen why not)?
- Which specification structure would provide the most flexibility to builders?
- Do stakeholders have other ideas (in addition to modifying the specification implementation methodology) to allow flexibility for home builders to meet the specification criteria and to streamline the certification process?
- WaterSense also requests feedback on which of these approaches would allow for the most streamlined certification process.
- To what extent has the current specification's lack of flexibility impacted regional adoption of the specification?

V. Summary of Information Requests

Other Considerations for Technical and Efficiency Requirements

- Would either a points-based structure or performance rating adequately address performance issues, or should WaterSense include a supplemental set of requirements or a checklist in a specification?
- If WaterSense pursues a points-based or performance rating option, should a prescriptive specification option also be maintained?
- What are the potential benefits or considerations for incorporating a tiered certification system?
- Are there any performance models currently available or in development that could assess a multifamily property's water efficiency performance at the design and construction stages?
- How important is it that WaterSense retain certification eligibility for units in multifamily buildings?

V. Summary of Information Requests

Certification System and Requirements

- How can WaterSense's inspection and certification process be more accommodating and streamlined?
- What is the importance of providing a professional identifier for raters.
- What would be the appropriate requirements for quality assurance how should they be implemented.
- WaterSense is seeking feedback from the administrators of other building certification programs on their interest in qualifying to issue the WaterSense label to homes.

GOALS FOR WATERSENSE 2.0

Recap of Major Challenges

- Lack of flexibility
- Regional variation
- Variable value proposition
- Lack of a professional designation
- Inconsistent accessibility/high barrier to entry
- Inability of additional verification organizations to participate

Objectives for Version 2.0

- Provide flexibility in the technical requirements
- Maintain baseline quality performance
- Streamline certification process/encourage broader participation
- Quantify savings and demonstrate value
- Accommodate regional variation

POTENTIAL PROGRAM OPTIONS

Elements of Program Options

Mandatory Quality Performance Requirements

The minimum acceptable features that must be met in order for a home to be considered "high performing"

Efficiency Requirement

Certification Structure

Elements of Program Options

Mandatory Quality Performance Requirements	Efficiency Requirement	Certification Structure
The minimum acceptable features that must be met in order for a home to be considered “high performing”	How specifically a home is measured and required to demonstrate it is efficient enough to bear the WaterSense label	

Elements of Program Options

Mandatory Quality Performance Requirements

The minimum acceptable features that must be met in order for a home to be considered "high performing"

Efficiency Requirement

How specifically a home is measured and required to demonstrate it is efficient enough to bear the WaterSense label

Certification Structure

How homes are inspected/verified to ensure they meet the quality and efficiency criteria, how raters/inspectors are trained, and how quality assurance is conducted

Mandatory Quality Performance Requirements

- WaterSense labeled toilets, faucets, and showerheads are installed to ensure adequate quality performance of products

- Basic performance items are confirmed (leak free distribution, properly sized/installed toilet flappers, etc.)

POLL

Are these mandatory requirements:

(A) Too Easy

(B) Just Right

(C) Too Hard

Program Option 1: Summary

- **Mandatory Quality Performance Requirements**
- **Efficiency Requirement**
  - A score of 70 in an identified rating system ($HERS_{H2O}$ or WERS)
- **Certification**
  - A revised certification scheme would govern how homes receive the label
  - HERS raters approved to conduct $HERS_{H2O}$ ratings or WERS raters would conduct inspections
  - Standalone providership would still be required

Option 1: Example

If WaterSense adopted this structure, chose RESNET as a program administrator, and $HERS_{H2O}$ score of 70 as the efficiency requirement:

A qualified HERS rater working for/with a WaterSense provider could inspect homes for the WaterSense certification

Using WaterSense labeled faucets, showerheads, and toilets would lower a home's $HERS_{H2O}$ score to between roughly 90-96 (depending on climate)

A combination of water efficient appliances, hot water distribution, and outdoor efficiency (in different proportions depending on climate) could lower the home's rating to the required 70

Program Option 1: Considerations

- Are there any performance models currently available or in development that could assess a multifamily property's water efficiency performance at the design and construction stages?
  - How important is it that WaterSense retain certification eligibility for units in **multifamily buildings**?

- If WaterSense pursues a points-based or performance rating option, should a prescriptive specification option also be maintained?

- How should WaterSense establish the efficiency threshold?

POLL

If WaterSense utilizes a performance model in version 2.0, should a prescriptive path be offered along with a performance path?

YES

NO

POLL

How important is it to you that multifamily homes be able to earn the WaterSense label?

A. Completely unimportant
B. Unimportant
C. Neutral
D. Important
E. Extremely important.

Program Option 2: Summary

- **Mandatory Quality Performance Requirements**

- **Efficiency requirement**
  - A home must be documented to be 30% more efficient than a standard home
  - Efficiency could be demonstrated through a rating system (HER_{H2O}/WERS), point based rating, or prescriptive but must meet general criteria for:
    - Use of best available data and technical rigor
    - Adhering to consensus based development guidelines

- **Certification**
  - Verification organizations apply to EPA and must adhere to requirements for independent oversight, quality assurance, and data reporting of approved efficiency measure to qualify
  - Verification organizations would have freedom to train and license/certify rater and providers based on their existing protocols

Option 2: Example

If WaterSense adopted this structure and approved multiple verification organizations, a home could potentially qualify based on:

Demonstrating a $HERS_{H2O}$ score of 70 or lower following RESNET's policies and procedures

OR

Demonstrating a WERS score of 70 or lower following Greenbuilder Coalition/City of Santa Fe's policies and procedure

OR

Achieving a predetermined number of points in the National Green Building Standard (NGBS) following Home Innovations Labs policies and procedures

Program Option 2: Considerations

- What would be the appropriate requirements for **quality assurance**? How should they be implemented?
- What are the advantages and disadvantages of having **different requirements for WaterSense labeled homes** based on the verification organization?
- How important is it that WaterSense partners with raters or offer a professional designation?

POLL

Do you believe, the program would maintain its reliability if there varying “types” of WS certified homes?

YES

NO

Program Option 3: Summary

- **Mandatory Quality Performance Requirements**

- **Efficiency requirement**
  - A point based WaterSense checklist equates points to the relative water savings of the measure in questions
  - A predefined number of points is needed to meet the WaterSense efficiency criteria

- **Certification**
  - A revised certification scheme would govern how homes receive the label
  - WaterSense providership would still be required
    - Would continue to offer training to raters/water efficiency inspectors

Option 3: Example

If WaterSense set a requirement of 20 points, homes would be required do the following to achieve certification:

- All mandatory checklist items
- Enough additional items to reach the 20-point threshold

Program Option 3: Considerations

- Does a point based system provide enough **flexibility** in the technical requirements?
- What changes to the certification structure would be important in order to facilitate such a structure?
- Is it important that WaterSense partners with raters or offer a professional designation?

POLL

Does a point based system provide enough **technical flexibility**?

YES

NO

Program Options

OPTION 1

TECHNICAL:
HERSh2o/ WERS

CERTIFICATION:
Proprietary Organization

OPTION 2

TECHNICAL:
XX%

CERTIFICATION:
Market Based

OPTION 3

TECHNICAL:
Points

CERTIFICATION:
Current

POLL

What program option do you prefer?

- Option 1
- Option 2
- Option 3

Next Steps

- Summer 2018: Gathering of feedback and comments on the NOI
- October 2018
  - Attendance at the Energy and Environmental Building Alliance (EEBA) Summit
  - Attendance at WaterSmart Innovations (WSI)
- Fall 2018: Draft specification out for comment
  - 90 day comment period
- Spring 2019: Final Draft
- Spring 2019-2020: New Specification rollout phase

www.epa.gov/watersense/homes-specification

Thank You!

Send additional comments on the Notice of Intent to watersense-programs@erg.com

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