

## New Opportunity for Raters: EPA's WaterSense Label for New Homes

2008 RESNET Building Performance Conference  
San Diego



# Presentation Outline

- Introduction to WaterSense
- WaterSense New Homes
- Overview of efficiency criteria
- Proposed certification process
- Program timeline





# What Is WaterSense?

A partnership program  
sponsored by the U.S. EPA

## Mission

To promote the value of water and help Americans make smart decisions regarding water use and water-using products

To increase the adoption of water-efficient products and services by consumers and organizations





# A Thirsty Nation

- Between 1950 and 2000, U.S. population doubled while the demand on public supply systems more than tripled.
- At least 36 states are anticipating water shortages by 2013.
- To save water for future generations, we need to use it more efficiently.





## Strained Resources

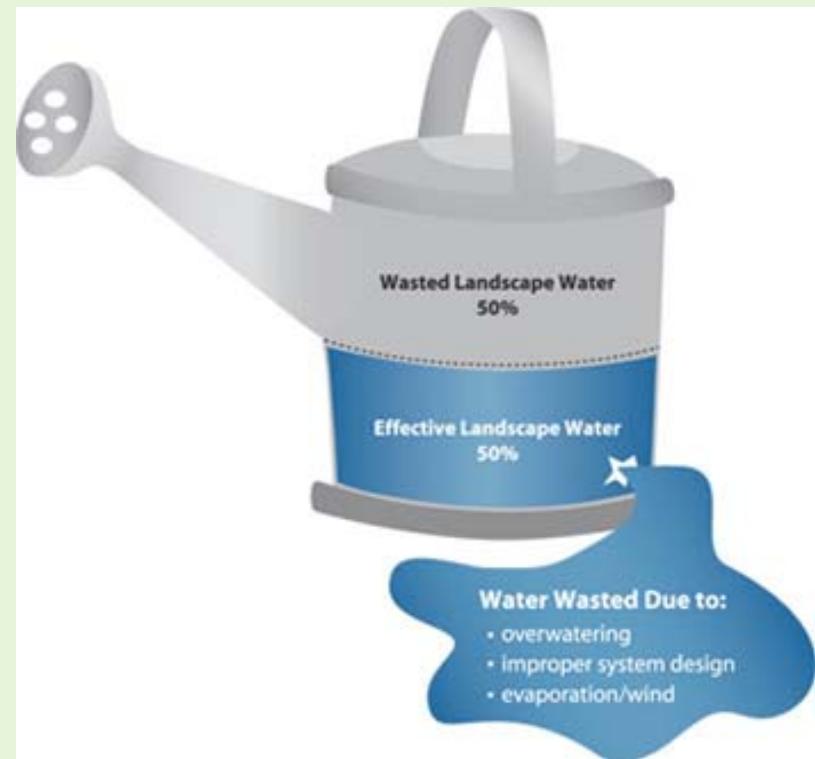


- Updating infrastructure could cost nearly \$500 billion.
- Water efficiency could help delay these costly projects and save energy associated with pumping and treating water.



## Inefficient Water Use

- Approximately 5% to 10% of American homes have water leaks that drip away 90 gallons per day or more.
- Older toilets are 60% less efficient than today's high-efficiency toilets.
- Up to 50% of landscape watering is wasted.





# Need for Water Efficiency

Water shortages  
expected in 36 states

Consumers looking for  
ways to save on rising  
utility bills

High-performing  
technology available

Water efficiency  
has potential  
for significant  
infrastructure savings



Opportunity to change  
landscaping and  
plumbing practices





# WaterSense Product Evaluation Factors

**WaterSense uses the following factors in determining which products to label. Products must:**

- Offer equivalent or superior performance.
- Be about 20 percent more water-efficient than conventional models.
- Realize water savings on a national level.
- Provide measurable results.
- Achieve water efficiency through several technology options.
- Be effectively differentiated by the WaterSense label.
- Be independently certified.





# Schedule for Evaluating WaterSense Products & Programs

	<i>Completed: 2006/2007</i>	<i>Planned: 2008 and Beyond</i>
<i>Irrigation</i>	<i>Certification for Irrigation Professionals</i>	<i>Moisture Sensors Drip Micro Technology Smart Controllers</i>
<i>Residential Plumbing</i>	<i>Toilets Faucets</i>	<i>Showerheads Water Softening Systems</i>
<i>Commercial Plumbing</i>		<i>Toilets Pre-rinse Spray Valves Urinals</i>
<i>Other</i>		<i>New Homes Autoclaves Medical Vacuums Additional Professional Certifications</i>





## Program Benefits— Environmental

- Reduces water use today so that water resources are maintained for future generations
- Maintains the health of aquatic environments
- Protects drinking water resources by decreasing the need to withdraw ground or surface water supplies
- Minimizes water pollution by decreasing the amount of runoff from landscaping and irrigation practices
- Helps mitigate the effects of drought





## Program Benefits—Energy



- Water savings also translate to energy savings.
- Approximately 80% of municipal water processing and distribution costs are for electricity.
- Nationwide, drinking water and wastewater systems use 50 billion kilowatt-hours per year—enough electricity to power more than 4.5 million homes for an entire year.



## Program Benefits—Economic

- Reduces the need for building costly water wastewater treatment facilities
- Saves energy used to pump, heat, and treat water
- Provides a competitive edge for businesses as water quality regulations become stricter and the cost of water increases



## Program Benefits—Health

- Minimizes health risks associated with water pollution
- Reduces the amount of energy needed to treat wastewater, resulting in less energy demand and therefore, less air pollution from power plants





## Program Benefits— Global Climate

- Reduces greenhouse gas emissions associated with energy needed to pump, treat, and heat water
- Helps minimize risks associated with uncertain future climate impacts
- If only one out of every 100 American homes retrofitted with water-efficient fixtures, we could avoid 80,000 tons of greenhouse gas emissions—equivalent to removing nearly 15,000 automobiles from the road for a year!





# Outdoor Water Use

- WaterSense labels professional certification programs for:
  - Irrigation system auditors
  - Irrigation system designers
  - Irrigation system installation and maintenance professionals
- Certified individuals can then become WaterSense partners



**Nearly 300 irrigation partners have joined WaterSense so far!**



## Indoor Water Use

- WaterSense is partnering with product manufacturers, distributors, and retailers to promote water-efficient plumbing fixtures.
- Manufacturers can apply for the WaterSense label once a final specification has been released for their product type.





# Look for the WaterSense Label

- Toilets
  - More than 120 labeled models
  - List available online at:  
[www.epa.gov/watersense/pp/het.htm](http://www.epa.gov/watersense/pp/het.htm)
- Faucets
  - More than 30 labeled models
  - List available online at:  
[www.epa.gov/watersense/pp/bathroom\\_faucets.htm](http://www.epa.gov/watersense/pp/bathroom_faucets.htm)
- Showerheads
  - Under development





# Niagara-Sized Savings

- If we converted all the inefficient toilets in U.S. homes to WaterSense labeled models, we could save more than 950 billion gallons of water per year—more than two weeks flow over Niagara Falls.
- Over 10 years, a WaterSense labeled toilet can save a family of four roughly \$1,000.





# Partnership Opportunities

<b>Promotional Partners</b> -Utilities -State & Local Governments -Nonprofit Organizations	<ul style="list-style-type: none"><li>▪ Promote WaterSense labeled products and practices to customers</li><li>▪ Promote the concept of water efficiency and value of water</li><li>▪ Offer rebates for WaterSense labeled products (utilities)</li></ul>
<b>Manufacturers</b>	<ul style="list-style-type: none"><li>▪ Manufacture WaterSense labeled products and promote them to buyers</li></ul>
<b>Professional Certifying Organizations</b>	<ul style="list-style-type: none"><li>▪ Sponsor and promote professional certification programs that highlight water efficiency (currently only irrigation)</li><li>▪ Encourage certified individuals to become WaterSense partners</li></ul>
<b>Irrigation Partners</b>	<ul style="list-style-type: none"><li>▪ Promote WaterSense labeled products</li><li>▪ Practice water-efficient services</li></ul>
<b>Retailers/Distributors</b>	<ul style="list-style-type: none"><li>▪ Stock, promote, and sell WaterSense labeled products</li></ul>



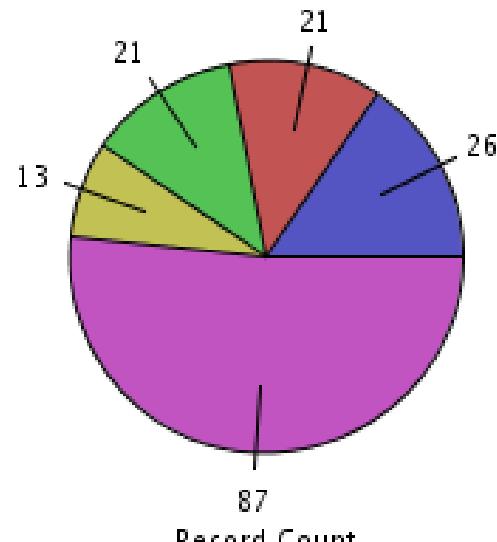


# WaterSense Promotional Partners

## Partners:

- 30 Manufacturers
- 179 Promotional Partners
  - 90 utilities in 27 states
  - 28 state agencies
  - 23 local governments
  - 22 NGOs
  - 16 trade associations
- 4 Certifying Organizations
- 20 Retailers/Distributors
- 296 Certified Irrigation Professionals

Promotional Partners by Type



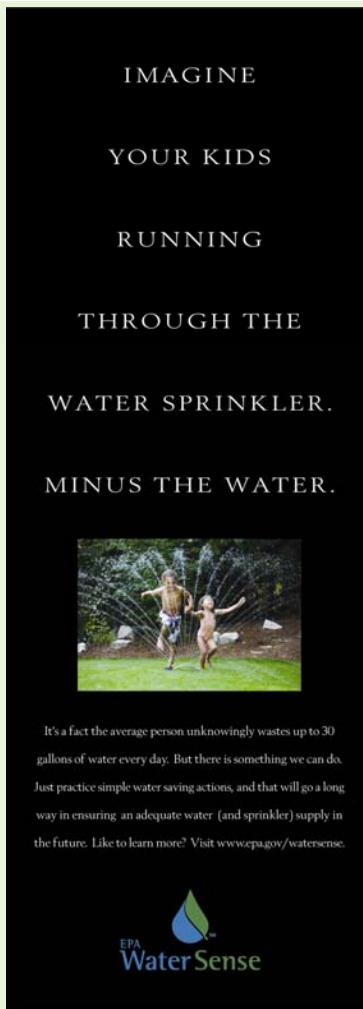
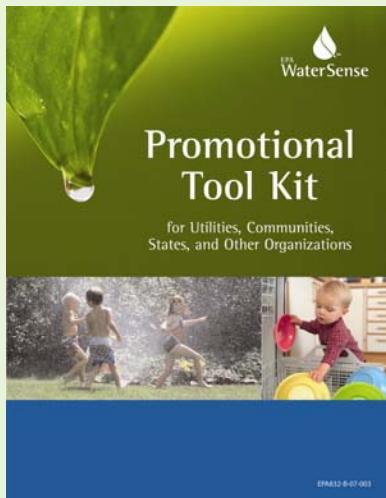
Type	
State Government	26
NGO	21
Utility	87
Local Government	21
Trade Association	13





# Sample Partner Resources

- Tool kits



- PSAs

A template for a PSA. The left side features a large green leaf with a water droplet. The right side has white text: "Want to Cut Your Water Bill by 10 percent? Older toilets can use 75 to 80 percent more water per flush than new high-efficiency models. Leaky faucets can waste more than 2,700 gallons of water per year. Don't let your water and money go down the drain! Look for products with EPA's WaterSense™ label and start saving today!" Below this is a paragraph about WaterSense and its website. On the far right is a "look for" logo with "WaterSense" and "EPA" and a placeholder "Your logo here".

- Bill stuffer, magnet, and water bottle templates





# WaterSense New Homes





# A New WaterSense Program

- EPA is developing a new program that will address water efficiency in New Homes.
- It will use existing WaterSense criteria for products and irrigation professionals and additional criteria for other water-related products and designs.
- Builders who meet the specification can differentiate their homes as WaterSense labeled
  - EPA intends to develop a third-party certification program for WaterSense labeled New Homes using the RESNET model





## Why New Homes?

- As many as 14 million new homes needed by 2015.
- Water use in new homes may be increasing.
- Homes with highly efficient technology can save about 30% or more in water use.
- If all new homes used high efficiency technology, about 1 billion gallons of water per day could be saved by 2015.





# WaterSense New Homes Program Philosophy

- Develop a voluntary program that promotes water efficiency in single-family new homes.
  - Recognizes real-world challenges in the homebuilding and buying market.
  - Provides guidance on measures that fit current and evolving building practices and considers the cost of construction and ownership.
  - Seeks beneficial long-term change in practices for new construction.
  - Incorporates flexibility and regionally appropriate options.





# WaterSense New Homes Program Design

- Stand-alone program under the WaterSense mark (possible nesting in other programs)
- Single-level efficiency designation
- Efficiency criteria (pass/fail)
  - Indoor – mostly prescriptive
  - Outdoor – prescriptive or performance-based
- Third-party certification





# Overview of Specification

Homebuilders must meet specific water efficiency criteria in order to qualify their homes for the WaterSense label:

- Indoor
  - Plumbing fixtures
  - Hot water distribution
  - Appliances (if installed)
  - Other equipment (if installed)
- Outdoor
  - Landscape Design
  - Irrigation (if installed)
- Whole House
  - Service pressure
  - Homeowner's manual





# Key Considerations

Specifications must be:

- Simple to understand
- Objective and verifiable for inspection
- Flexible to fit building practices
- Affordable to compete with other homes
- Adaptable throughout the US





## Draft Specification - Indoor...

**WaterSense plumbing fixtures where applicable.**

- **Toilets** – WaterSense labeled
- **Bathroom Faucets** – WaterSense labeled
- **Kitchen Faucets** – existing national standard (no water efficiency criteria)
- **Showerheads** – existing national standard  
(WaterSense notice of intent to label)





# Draft Specification - Indoor...

**Hot Water Delivery System** – reduce water wasted while drawing hot water.

- Insulate all hot water pipes
- Choice of several types of delivery systems designed to reduce hot water pipe diameters and lengths





# Draft Specification - Indoor Optional Items...

## Appliances – Energy Star labeled

- If offered, financed, installed, or sold as upgrades:
  - Dishwasher – Dishwashers shall be ENERGY STAR® labeled.
  - Clothes washer – Clothes washers shall be ENERGY STAR® labeled with a water factor criterion.





# Draft Specification - Indoor Optional Items

## **Other Equipment** – precludes use of water wasters

- If offered, equipment such as the following shall meet applicable water use criteria:
  - Evaporative coolers
  - Water softeners
  - Drinking water treatment systems
  - Whole house humidifiers





# Draft Specification - Outdoor...

- **Landscape Design**
  - Turf area
  - Mulching
  - Pools/spas
  - Ornamental water features
- **Irrigation System Design**
  - Type and placement
  - Containment of flow and spray
  - Controller





# Draft Specification - Whole House

- **Service Pressure** – affects flow, leaks
- **Operating Manual** – a written homeowner's O&M manual for all water-using equipment and controls.





## Third-Party Certification

- EPA intends to develop a third-party certification program for WaterSense labeled New Homes
- We intend to use the RESNET model to develop the criteria for the certification program
- We will provide materials and instructions for training the Home Inspectors
- We will develop checklists and instructions for the inspection and certification of the home for conformance with the WaterSense New Homes specification





# Interim Certification Process

- EPA will first establish an interim certification process
  - Rely on existing RESNET Accredited Training Providers and Accredited Rater Providers to provide training and certification of the Home Inspectors
  - Once the program is established, EPA will develop a final certification program, which will undergo public review and comment
  - Eventually all Providers will have to be accredited to meet the criteria established by EPA





## Benefits of an Interim Process

- Allows earlier release of the specification
- Allows time to vet the process
- Allows the opportunity for more informed public comment
- Allows time for Providers and inspectors to become familiar with the specification and the WaterSense Program



# 2008 Program Timeline

Issue draft spec for public comment	Feb
Hold public meeting/webinar	Mar
Receive comments	May
Finalize program materials	Sep
Devise marketing and recruiting plan	Sep
Prepare marketing materials, partner services	Oct
Determine label format; revise guidelines	Oct
Develop interim certification scheme	Nov
Issue final specification	Nov
Launch program on geographically-limited basis	Dec





# EPA Green Bundle

- EPA will soon have a number of programs that clearly define performance thresholds for critical components of a 'green' home.
  - These include ENERGY STAR for energy efficiency,
  - Indoor Air Package for indoor air quality
  - Water Sense for water efficiency
- These three labels can be integrated with any existing national or regional green building program as an 'ingredient brand' or be used by any builder as a 'bundle' to demonstrate their commitment to 'green.'





# WaterSense New Homes Final Thoughts

- Half of the homes that will exist in 2030 have yet to be built.
- WaterSense New Homes will use at least 20% less water than “conventional homes.”

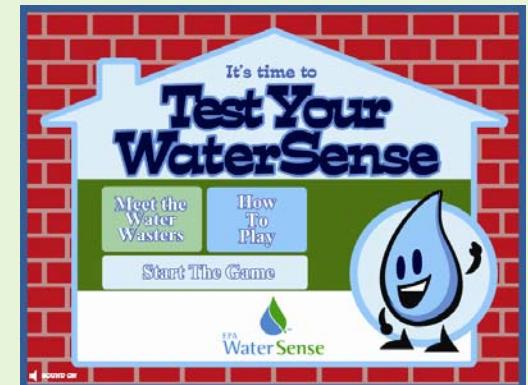




## More Information

- WaterSense Information

- Web site: [www.epa.gov/watersense](http://www.epa.gov/watersense)
  - List of products
  - Partnership information
  - Test Your WaterSense Quiz
  - Fact sheets and other resources
- E-mail: [watersense@epa.gov](mailto:watersense@epa.gov)
- Toll-free Helpline: (866) WTR-SENS





EPA  
**WaterSense**

Every drop counts.

