



HUD Water Wednesdays

WaterSense and LEED

Housing Programs



June 17, 2015
Jonah Schein, EPA
Asa Foss, USGBC



Housekeeping



- All attendees are muted to minimize background noise.
- Please type questions into the questions/chat box in your GoToWebinar panel. We will have a dedicated time for Q&A.
- A recording of this presentation will be posted on the WaterSense website at <http://epa.gov/watersense/hudwebinars>
- Second webinar available now at <https://youtu.be/g5wL4ixAfT8>



Poll Question



- How did you hear about this webinar?
 - Listserve
 - HUD websites
 - Twitter or Facebook
 - FedCenter
 - Other



Today's Presenters



- **Jonah Schein**, Technical Lead, WaterSense



- **Asa Foss**, LEED Residential Technical Director, U.S. Green Building Council





The Bigger Picture



- Federal Requirements
- Energy/Water Nexus
- Costs
- Water Use
- Weather and Climate
- The Opportunity



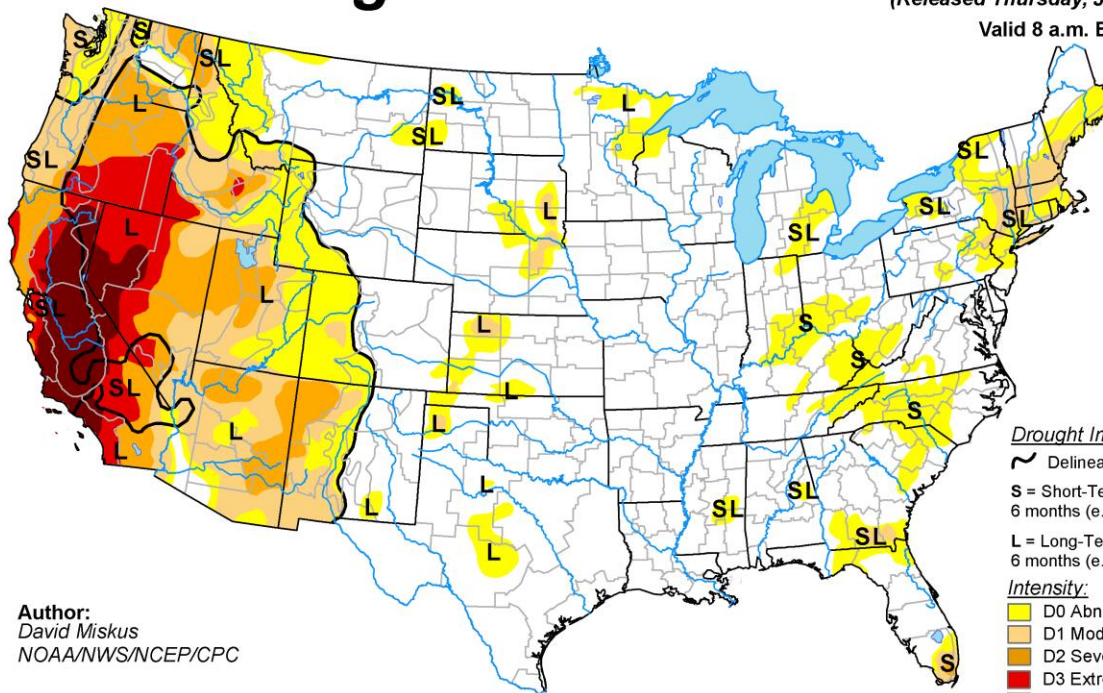


Current Newsworthy Driver



U.S. Drought Monitor

June 9, 2015
 (Released Thursday, Jun. 11, 2015)
 Valid 8 a.m. EDT



Author:
 David Miskus
 NOAA/NWS/NCEP/CPC

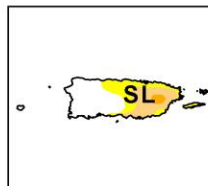
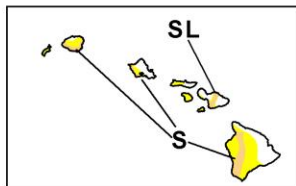
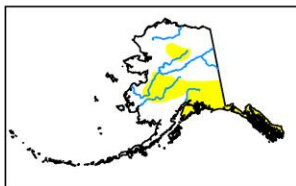
Drought Impact Types:

- ~ Delineates dominant impacts
- S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
- L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



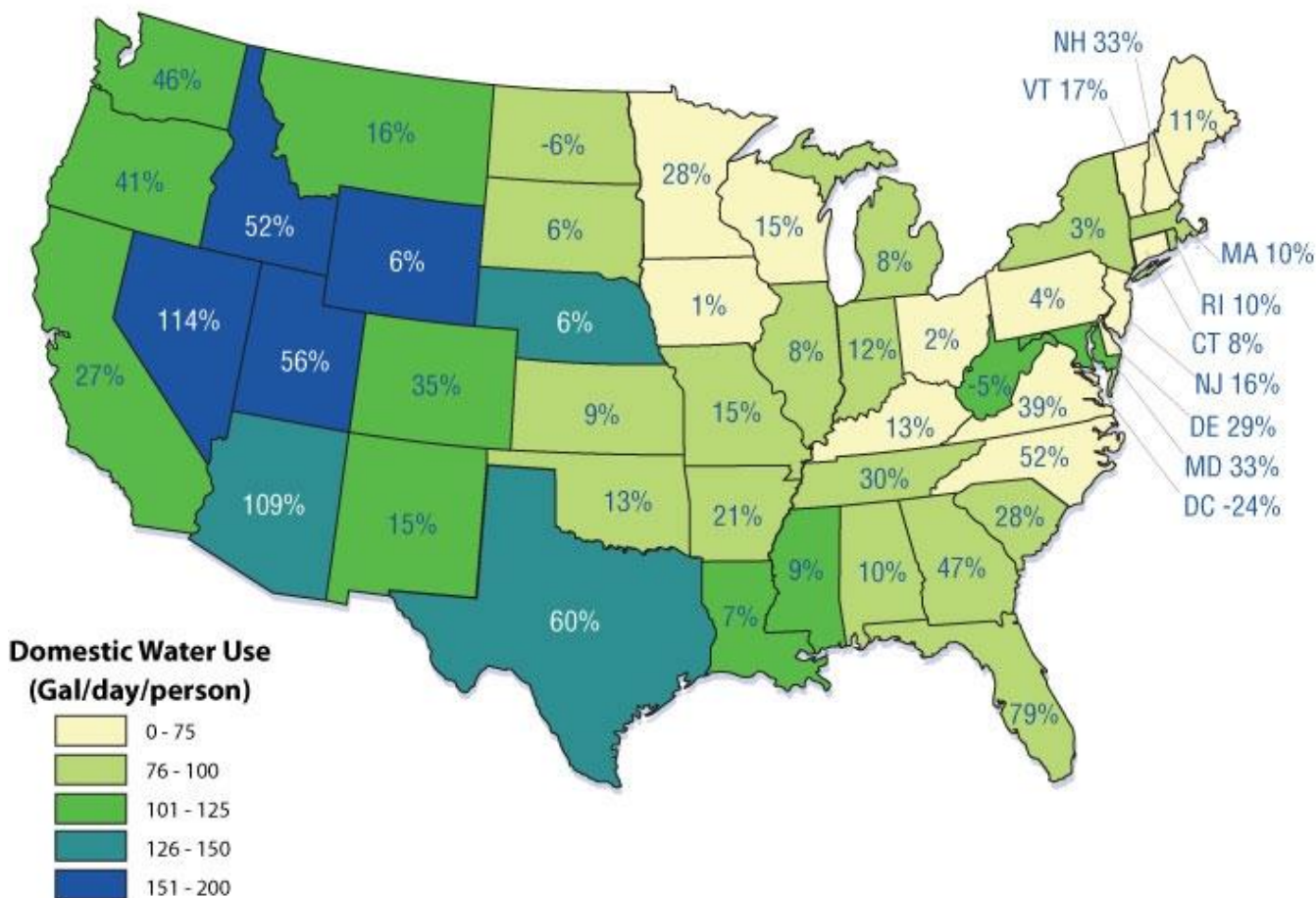
<http://droughtmonitor.unl.edu/>



The Need for Water Efficiency



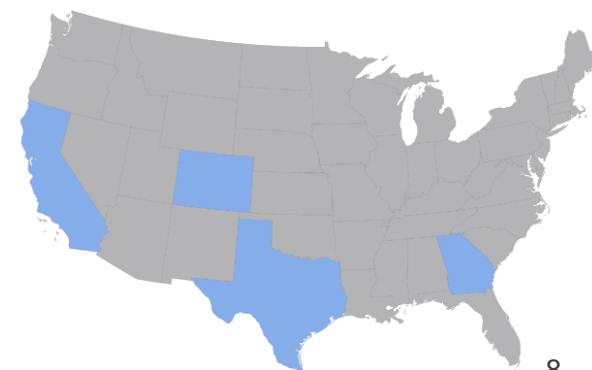
Domestic Water Use in Gallons per Day per Person and Projected Percent population Change by 2030





What Will This Mean?

- Rising costs for water and sewer
 - Higher utility bills
 - Larger connection fees
- Increased use of outdoor water restriction
 - Designated watering days
 - No new planting
 - Water budget based billing
 - No outdoor water use
- More stringent code
 - More efficient plumbing products
 - Strict permitting & development policies



WaterSense Vision



- All Americans will understand the importance of water efficiency and take positive actions to reduce their water use – in their homes, outdoors, and at work



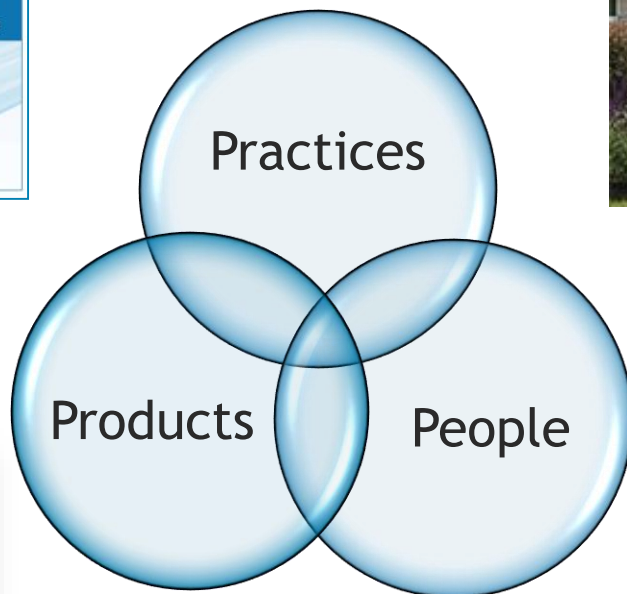
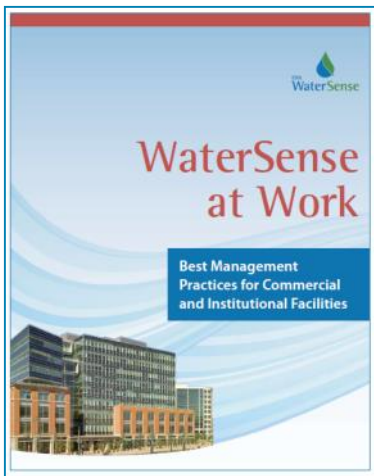
- How will we achieve it?
 - By transforming the marketplace for products and services that use water
 - By promoting a nationwide ethic of water efficiency to conserve water resources for future generations and reduce water infrastructure costs



WaterSense Focus - 3 P's



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





What is a WaterSense Labeled Home?



- **Part of the “whole-house/building” building science approach**
 - Provides a key market differentiation
 - Allows builders to stay a step ahead of codes and utility rates
- **Convenience, efficiency, & confidence**
 - Hot water will be delivered to users faster and use less energy
 - Regionally appropriate landscaping
 - WaterSense labeled products provide efficiency *and* performance
 - Improved quality and reduced call backs
- **Ability to co-brand with WaterSense**
 - Access to WaterSense partner resources
 - Meet the growing demand for green products
 - Eligibility for awards



Who Can Get WaterSense Labeled?



- Single-family homes & townhomes

OR

- Residential units in multi-family buildings three stories or less in size

OR

- Residential units in multi-family buildings, including mixed-use buildings, that have independent heating, cooling, and hot water systems separate from other units



Requirements for Homes in MF Buildings



- Even though the units receive the label, buildings must meet certain common area and outdoor criteria in order to be labeled
 - Consider these prerequisites

Note: Specific requirements and considerations are summarized in Appendix D of the specification.



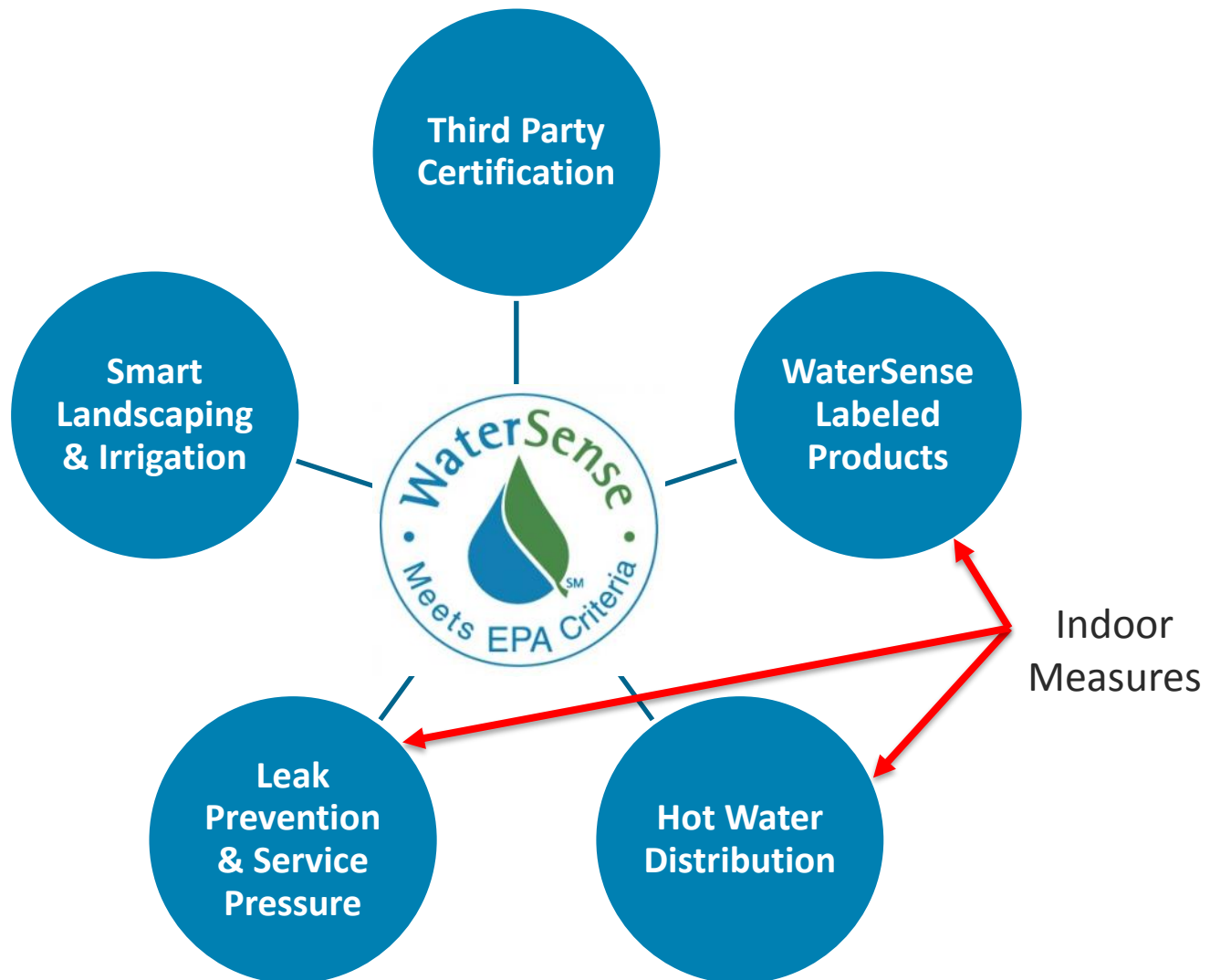


What Makes a WaterSense Labeled Home?



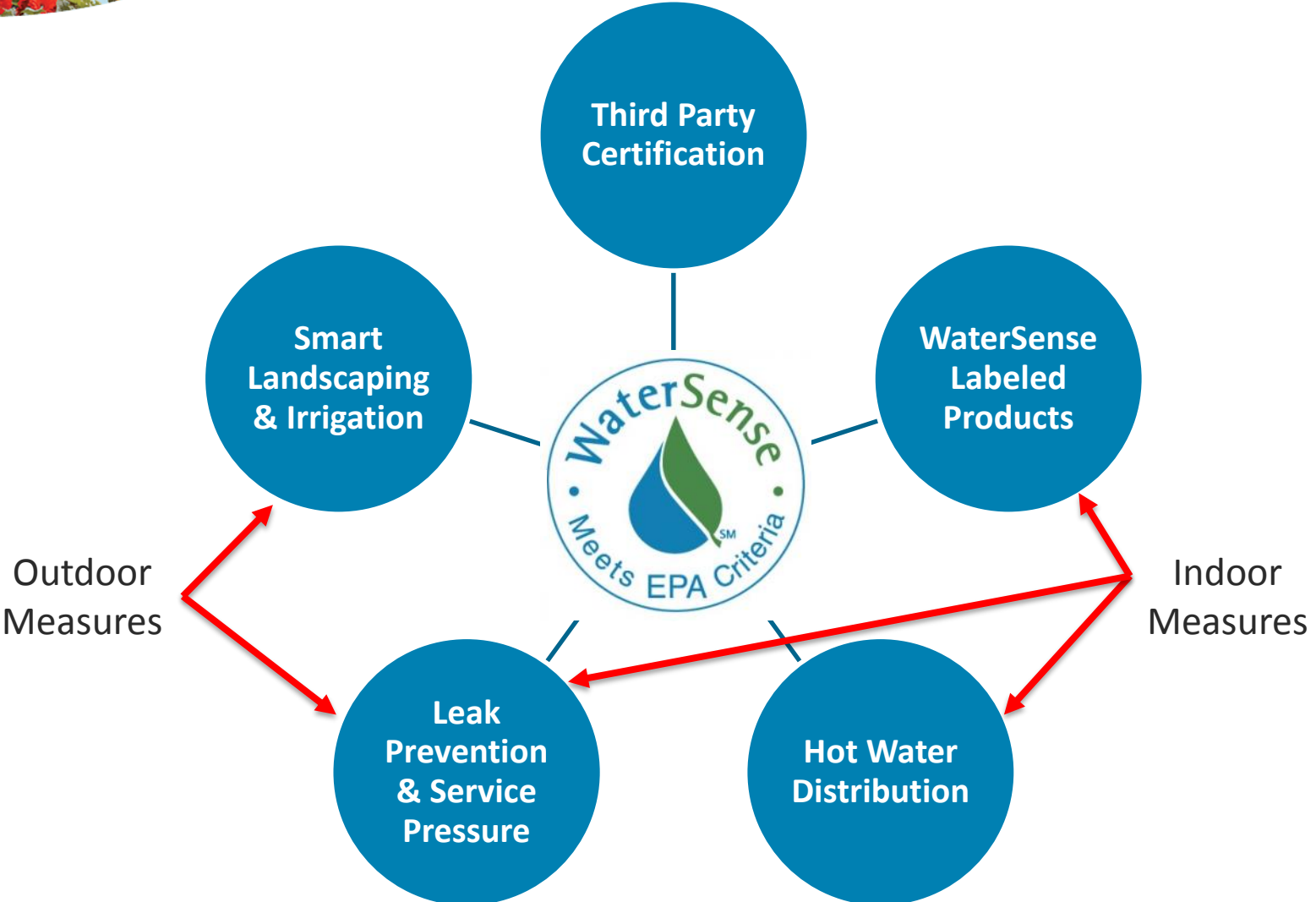


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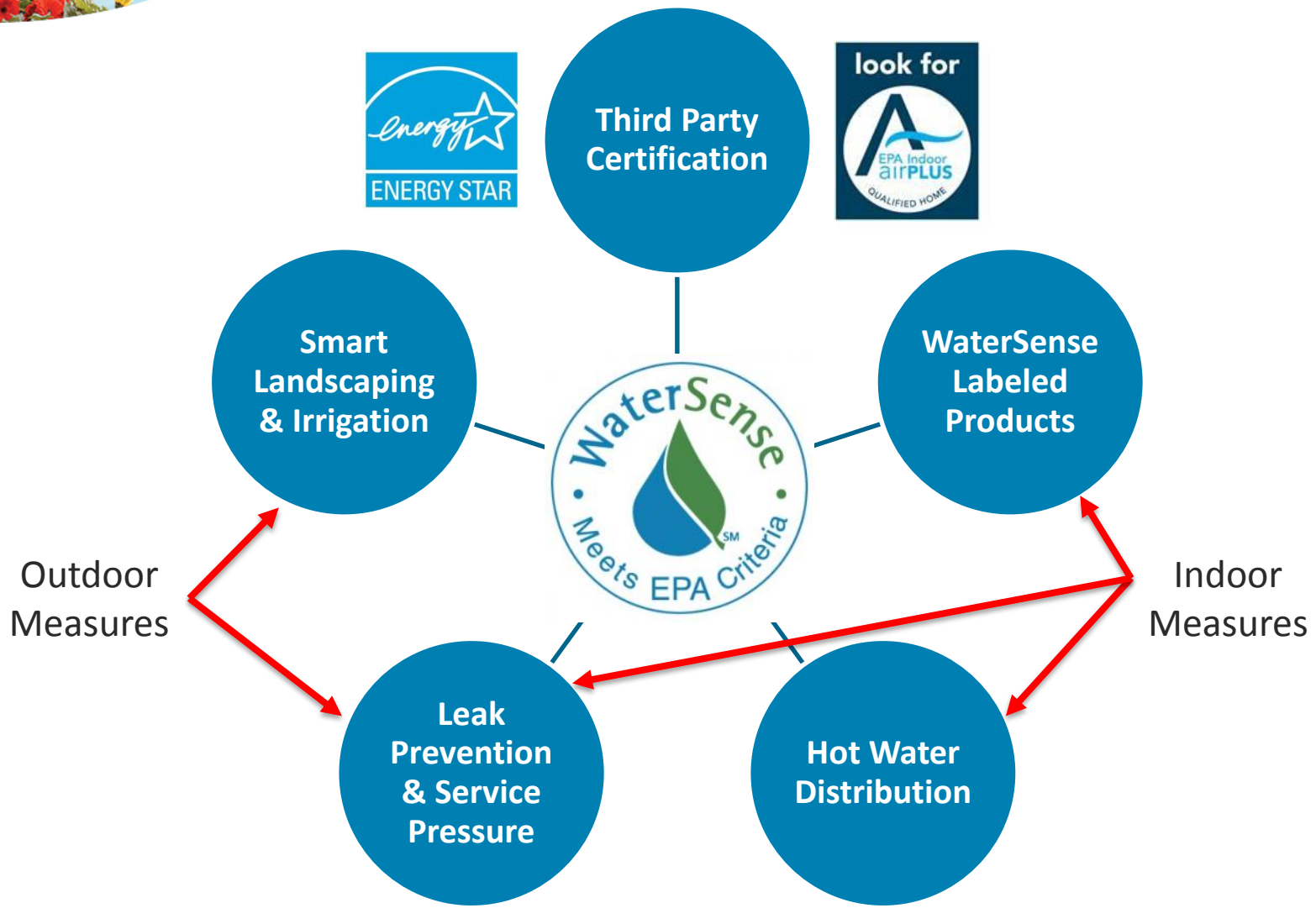


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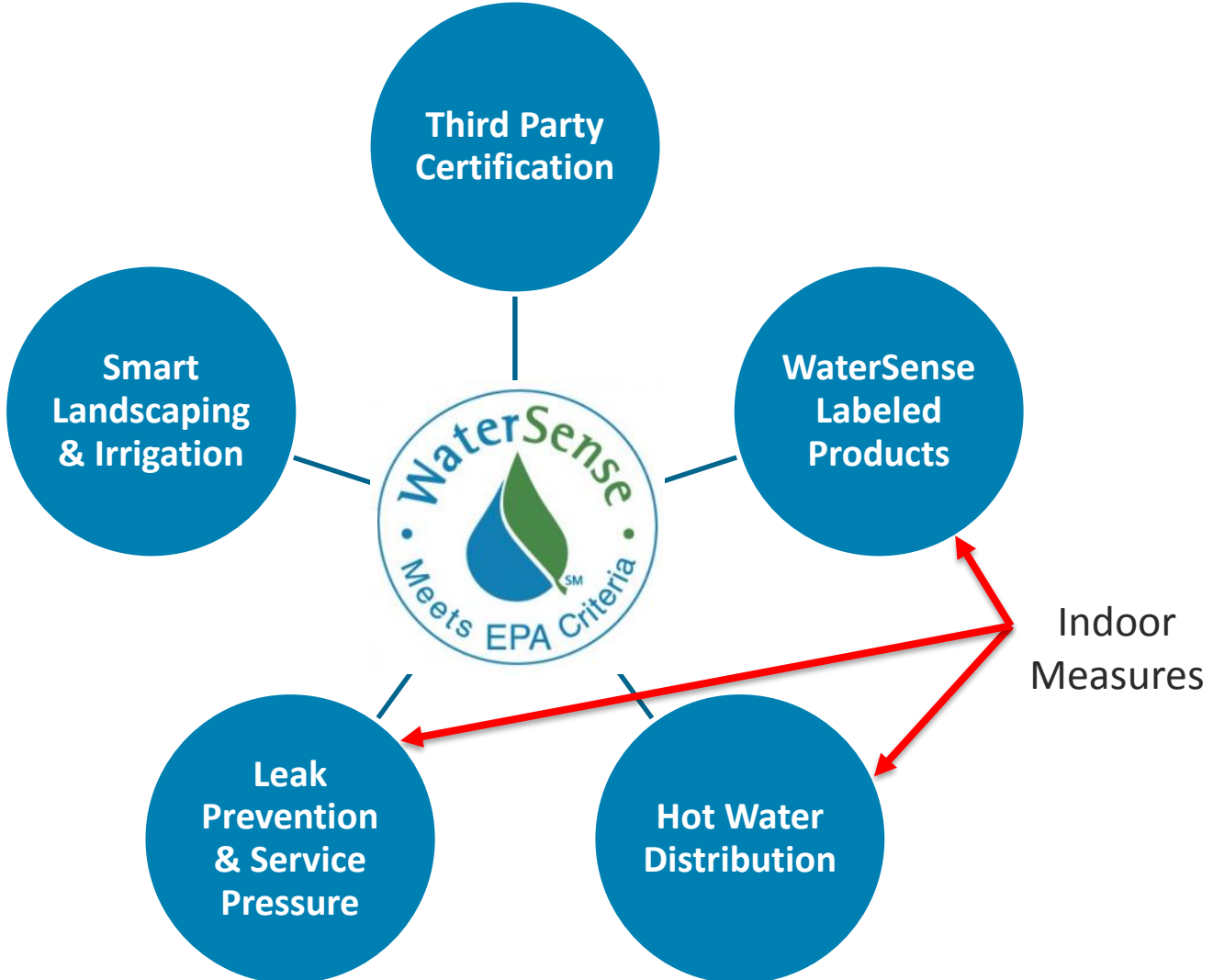


What Makes a WaterSense Labeled Home?





What Makes a WaterSense Labeled Home?



WaterSense Labeled Products

look for



**Flushing
Urinals**



**Lavatory
Faucets**



**Irrigation
Controllers**



Showerheads



**Tank-Type
Toilets**



**Pre-rinse
Spray
Valves**

More than 15,000
Labeled Models



Hot Water Distribution Systems Performance Requirement



- Shall store no more than 0.5 gallons in any piping/manifold between the hot water source and any hot water fixture
- Shall be tested by producing a 10°F rise in temperature before 0.6 gallons of water is discharged
 - 20% buffer allows for heat lost and water stored within fixtures
- Recirculation system must be demand initiated (push button or motion sensor)
 - Recirculation based solely on temperature and/or timing do meet this requirement
 - Schedule adaptive and hybrid water heaters are allowed

Save Water & Energy

Don't Waste Time! Get Hot Water Fast!

WaterSense® labeled homes
have efficient plumbing systems that get you hot water right when you need it!

www.epa.gov/newhomes



Requirements for Homes in MF Buildings



Laundry Facilities

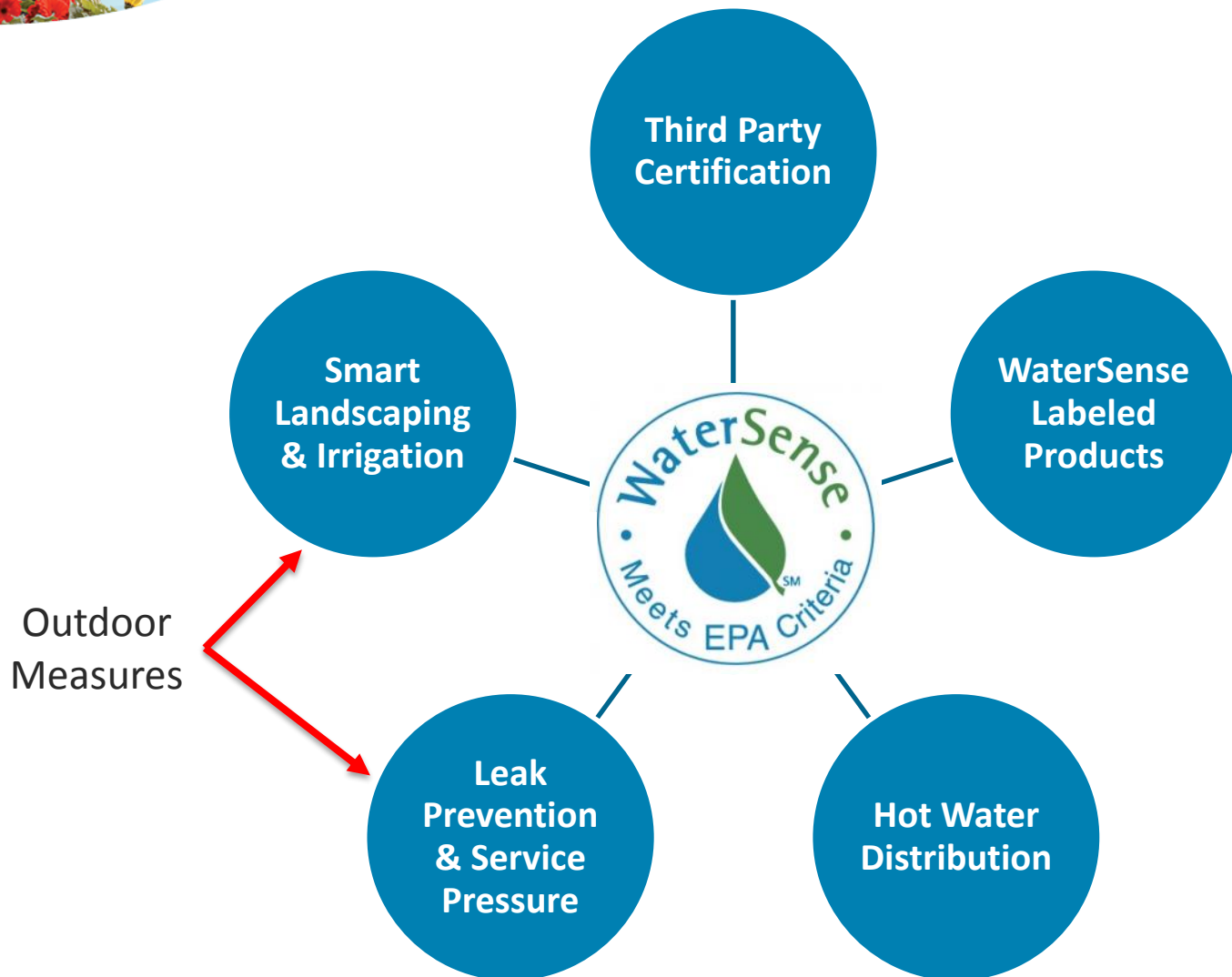
- Common-use laundry rooms shall include ENERGY STAR certified clothes washers with water factors of 6.0 or less

Metering

- Each labeled unit shall be individually metered, submetered, or equipped with alternate technology capable of tracking water use for individual units



What Makes a WaterSense Labeled Home?





Landscape Design



STEP 1 Location and Area

STEP 2 Plants and Irrigation

STEP 3 The Results

Congratulations on choosing to design a locally appropriate water-efficient landscape! The WaterSense water budget tool will help you determine if your landscape meets EPA's criteria for efficient outdoor water use in your area.

In order to use the water budget tool, you will need to know some basic information about your landscape:

- The location and zip code
- The total area of applicable landscape
- Types of plants and the total coverage
- Methods of irrigation (if any)

Your landscape will receive a pass/fail based on local climate, plant selection, irrigation methods, and size of the landscape. Follow the instructions on screen to find out if your landscape meets the WaterSense criteria.

For what purpose is the tool being used?
What are you landscaping?

How many sites?

 Development of Multiple Landscapes Single Site

Is there an irrigation system?

 Yes No

Enter Zip Code

Enter Landscaped Area for a Single Home or Siteⁱ

 Sq. Ft.

Enter Multi-Home/Development Landscaped Area Rangeⁱ

 to Sq. Ft.

NEXT STEP >

http://www.epa.gov/watersense/water_budget



Irrigation Design and Installation



Irrigation is not required, if irrigation is included in a home, it must meet both design and installation requirements:

- Product requirements:
 - Include WaterSense labeled irrigation controllers
 - Utilize non-spray irrigation on all plant types other than turf
- Design and installation requirements:
 - Be designed or installed and audited by certified professional to achieve a distribution uniformity of 65%
 - July 2015 changes should greatly increase the number of certified professionals



Requirements for Homes in MF Buildings



Outdoors

- Outdoor criteria shall apply to all common use area that are improved upon
 - Includes areas that are landscapes (including sod or turf), water features, etc.
- If there is an irrigation system, it shall meet all existing criteria AND be independently metered, submetered, or equipped with an alternate technology.
- If units are occupied prior to completion of outdoor (or common-use space), the indoor inspection can be completed but the label should be withheld until all criteria are met.



Requirements for Homes in MF Buildings



Pools

- Are treated differently than in single-family homes
 - Typically larger pools with more advanced equipment and controls
- Are not accounted for in the landscape design criteria (as they are in single-family homes)
- Must be independently metered or submetered
- Must be equipped with a gutter or grate system
- Must be equipped with either sorptive media (pre-coat) or cartridge filtration





What Makes a WaterSense Labeled Home?





Inspection & Certification



- Requires a simple one time inspection
 - Typically occurs after the home is completed but before it is occupied
- Uses a parallel certification to ENERGY STAR Homes
 - Can be offered as a stand alone certification or in conjunction with other programs
- WaterSense requires a separate providership administered by RESNET
 - There is a required training for the quality assurance designees of interested providers
 - Interested Raters can inquire with their existing rating provider or with existing WaterSense providers



Poll Question



- Are you interested in following up with EPA to consider how you might build to the WaterSense label?
 - Yes
 - No



QUESTIONS



Poll Question



- Have you ever worked to get a LEED project certified?
 - Yes
 - No
 - No, but I have worked/lived in a LEED certified property
 - Hope to in the future



LEED FOR HOMES

Southern Living Idea Home
Photo by Rob Moody

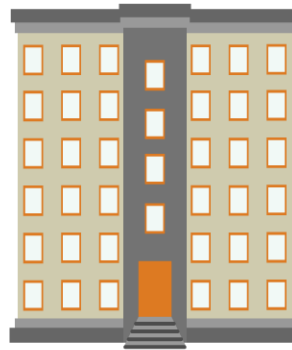
Program Scope and Applicable Building Types



Single-Family Homes



Low-Rise Multifamily
(1 – 3/5)



Mid-Rise (4 – 8 mandatory, 9-12 optional)



Single-Family Production



Gut Rehab

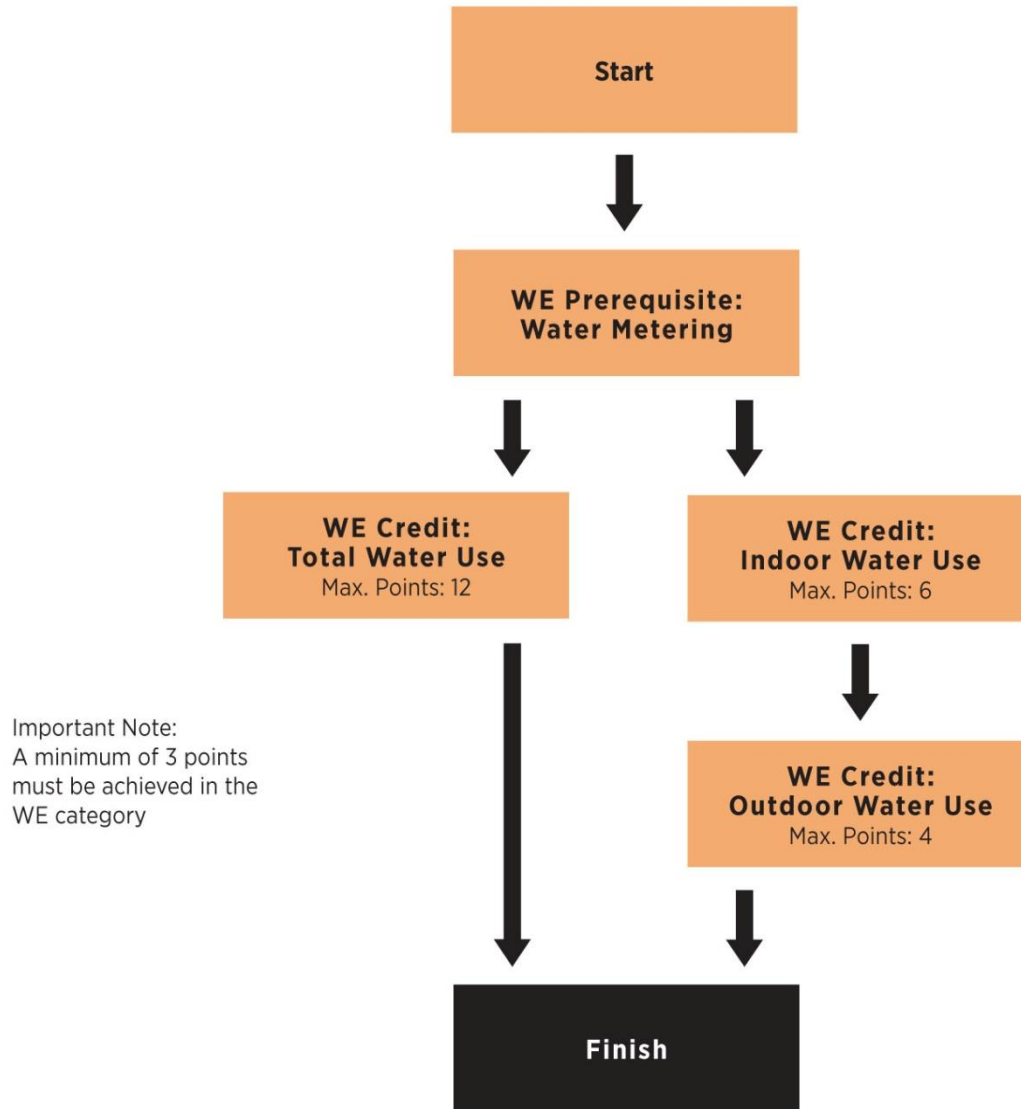


Figure 1. Optional Pathways through the WE Category



LEED v4 TECHNICAL IMPROVEMENTS: WATER EFFICIENCY

Highlights:

- New prerequisite requiring water metering
- New performance pathway credit combines indoor and outdoor water use, using calculators to gather total water use
- Testing for water leaks is required, as is testing for water pressure in single family homes

Water Metering

2008: NA

V4: Prerequisite

New Prerequisite

•Single Family

- Install a whole house water meter
- Test water pressure to ensure it's below 60 psi

•Multifamily

- Install water meter or submeter for each unit or entire building

•Single and Multifamily

- Encourage homeowners or tenants to share consumption data with USGBC
- Test building for water leaks

Implications / Change Rationale

“You don't value what you can't measure”

We as a green building community need to start doing post occupancy studies to see if green buildings are truly saving water, energy, etc.

Indoor Water Use

2008: WE 3

v4: Credit (6 points)

Requirements

- Increased stringency
 - Each lavatory faucet must be WaterSense and 1.5gpm (1pt) or 1.0gpm (2pt)
 - [2008: 2.0gpm (1pt), 1.5gpm (2pt)]
 - Each shower must be WaterSense and 1.75gpm (1pt) or 1.5gpm (2pt)
 - [2008: 2.0gpm (1pt), 1.75 (2pt)]
 - Each toilet must be WaterSense and average flush rate over toilets must not exceed 1.1gpf
 - Each clothes washer must be ENERGY STAR qualified (1pt)

Implications / Change Rationale

WaterSense is the ENERGY STAR for water using devices

Increasing stringency in core LEED category (along with EA) part of LEED update

Outdoor Water Use

2008: SS 2.3-2.5

v4: Credit (4 points)

Changes

- Irrigation system and water reuse credits from 2008 go away – replaced by reduced turf grass and native plantings credit
- Discourage use of turf, while encouraging native plants:
 - <60% turf & >25% native (1pt)
 - <40% turf & >50% native (2pt)
 - <20% turf & >75% native (3pt)
 - <5% turf & >75% native (4pt)

Implications / Change Rationale

- Combining outdoor water into single credit is a no brainer
- If projects want to take credit for irrigation, use total water calculator.
- Turf is water intensive, doesn't absorb stormwater very well, and is often doused in chemical fertilizers – minimizing the use of turf is important.

Total Water Use

2008: N/A

v4: Credit (12 points)

Changes

•WE Performance Path

- New credit that combines indoor and outdoor water calculator
- For indoor use USGBC Water Reduction Calculator
- For outdoor use the EPA WaterSense Water Budget Tool

Implications / Change Rationale

- Calculator learning curve
- We want project teams to focus on their major (predicted) water end use.
 - Priorities change for different project types, in different locations.
- The water calculator provides a baseline for us to compare actual water use against



QUESTIONS



Future HUD Water Wednesday Webinars



	http://epa.gov/watersense/hudwebinars
July 29	Water Efficiency Best Management Practices for Multi-unit Property Managers Learn about WaterSense BMPS for facilities and case studies of how facility managers have assessed their water use and made changes to improve efficiency
August 26*	Tracking Water and Energy Savings Hear about how property managers can use the ENERGY STAR Portfolio Manager to track their water as well as energy.



Future HUD Water Wednesday Webinars



	http://epa.gov/watersense/hudwebinars
September 16* (<i>date change</i>)	Incorporating Green Infrastructure into Housing Developments Learn about EPA resources to help integrate green infrastructure and hear about experiences from HUD grantees
October 28*	Greywater Reuse – Is it Right for Your Facilities? Learn more about greywater reuse and experiences of HUD grantees who have worked with cities to implement projects.

* Dates subject to change.



Help HUD Help You!



- In concert with this training, HUD is requesting feedback on water issues via the public forum “Water Watch” on Switchboard.
- <http://switchboard.uservice.com/forums/293865-water-watch>
- Please let them know (a) what challenges your community or organization is facing with water access and water quality; and (b) what more do you think HUD can do to help?



WaterSense Information



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HUD webinars -

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Questions?

E-mail: watersense@epa.gov

Helpline: (866) WTR-SENS (987-7367)

