This presentation premiered at WaterSmart Innovations

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look for WaterSense Meets EPA Criteria

Making a Splash with the WaterSense®

H_2Otel Challenge

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U.S. EPA WaterSense
2014 WaterSmart Innovations

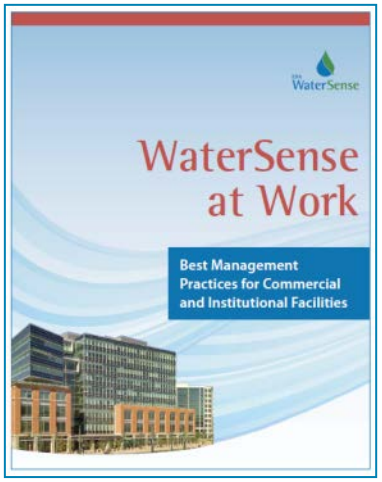
WaterSense H_2Otel Challenge

What Is WaterSense?

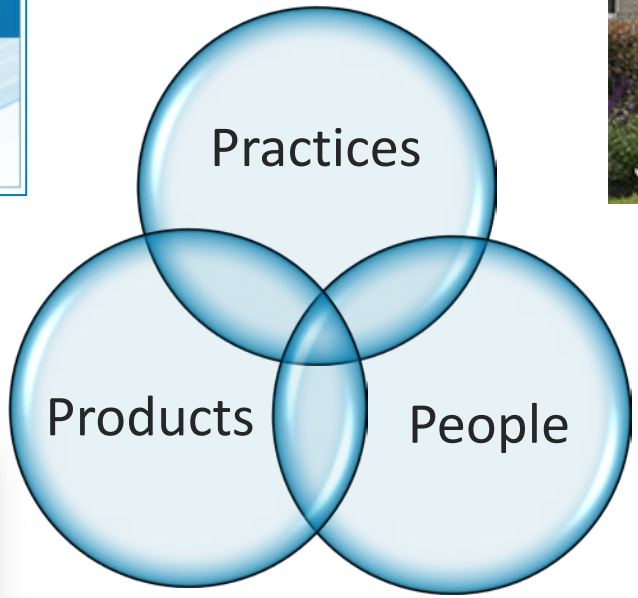
- WaterSense is a voluntary program launched by EPA in 2006 that provides a simple way to identify water-efficient:
  - Products
  - Homes
  - Programs
  - Practices
- To date, more than 12,000 different models have earned the label
  - Independently certified for water efficiency and performance

WaterSense H2Otel Challenge

WaterSense Focus – 3 P's



Tips and BMPs to save water indoors and outdoors – at home & business



Specific fixtures and technologies save water

Partners reach users to change behavior

WaterSense Labeled Products

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Flushing Urinals

Lavatory Faucets

Irrigation Controllers

Pre-rinse Sprayers

More than 12,000 Labeled Product Models

New Homes

Tank-Type Toilets

Showerheads

ENERGY STAR

Water factors are also included in many ENERGY STAR qualified products

Savings Add Up! 2006-2013

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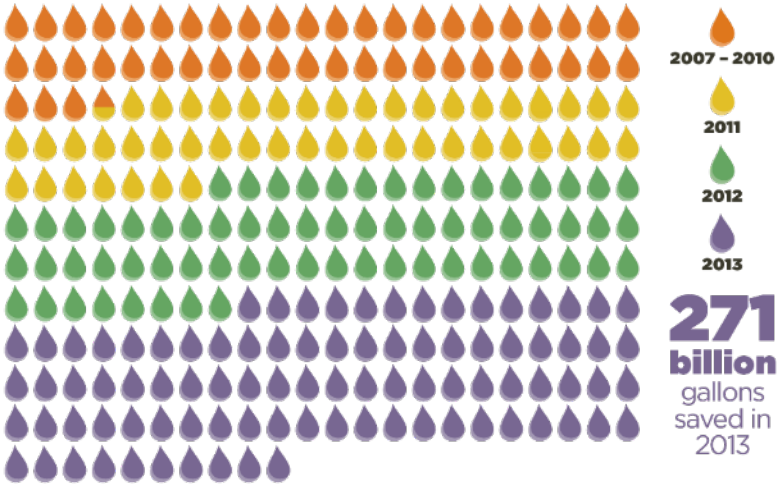
757 billion **gallons of water** saved since 2006!

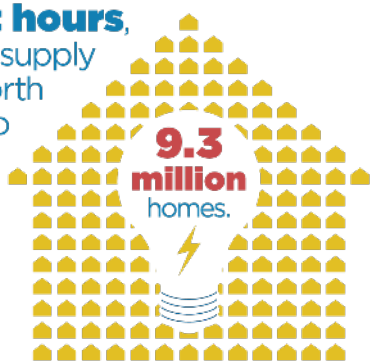


271 billion gallons saved in 2013

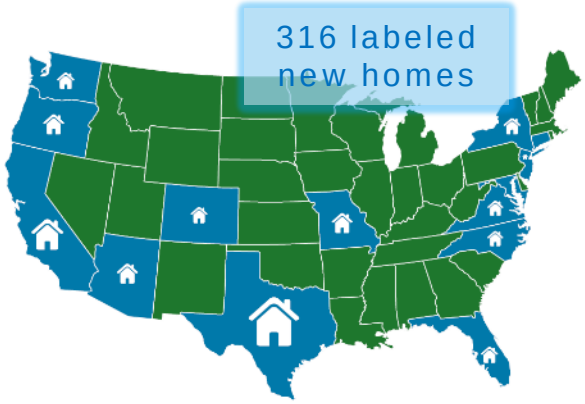
That's enough water to supply all the homes in the **United States for 26 days!**

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

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

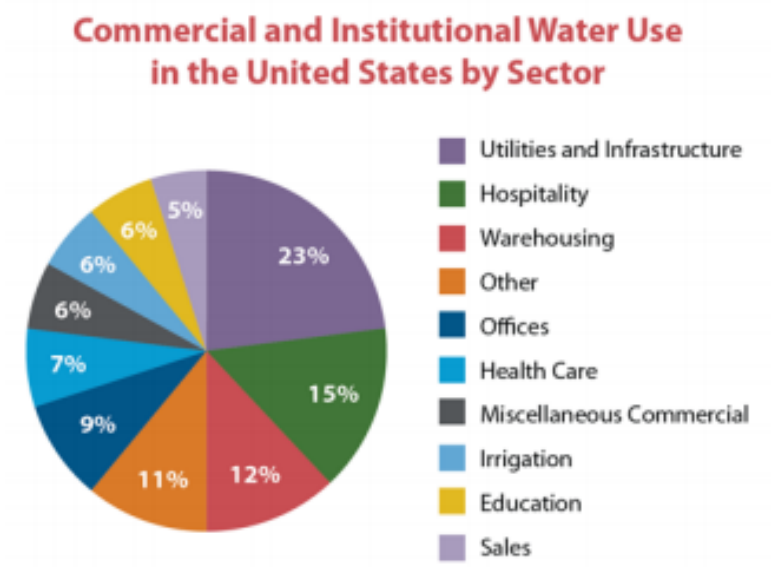


WaterSense has **saved consumers** **$14.2 billion** in water and energy bills.



WaterSense and CI

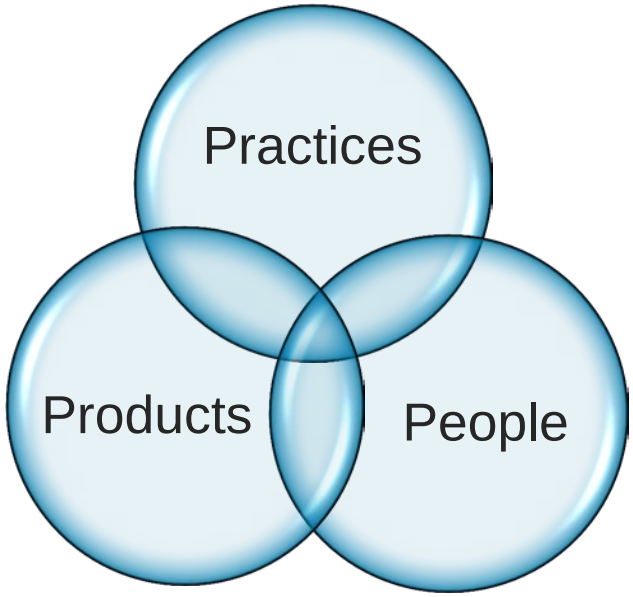
- Primary WaterSense focus is on influencing residential water demand
- Commercial and institutional water use also matters
  - Estimated to account for 17 percent of municipal water demand
  - Opportunities to save water and energy by making changes
- Challenged to replicate ENERGY STAR's successful program
  - Limited data hinders benchmarking



Source: Dziegielewski, et al. 2000. *Commercial and Institutional End Uses of Water*. American Water Works Association Research Foundation.

WaterSense Efforts Build off the 3 P's

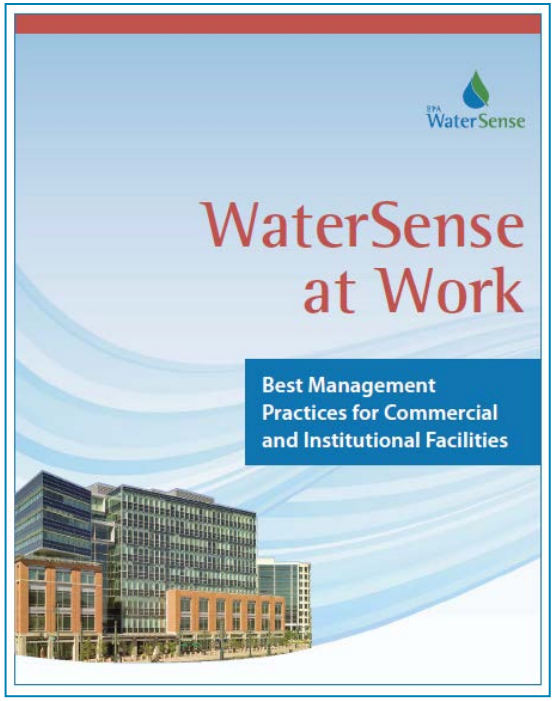
- Products
  - Continue to look at developing specifications for products used in the commercial sector
  - Active work currently on flushometer valve toilets
- Practices
  - **Identify and promote practices to improve water use efficiency**
  - Carry out work to support potential benchmarking in future
- People
  - Businesses are people too – focus outreach on sectors to drive action
  - Leverage partner relationships



WaterSense at Work

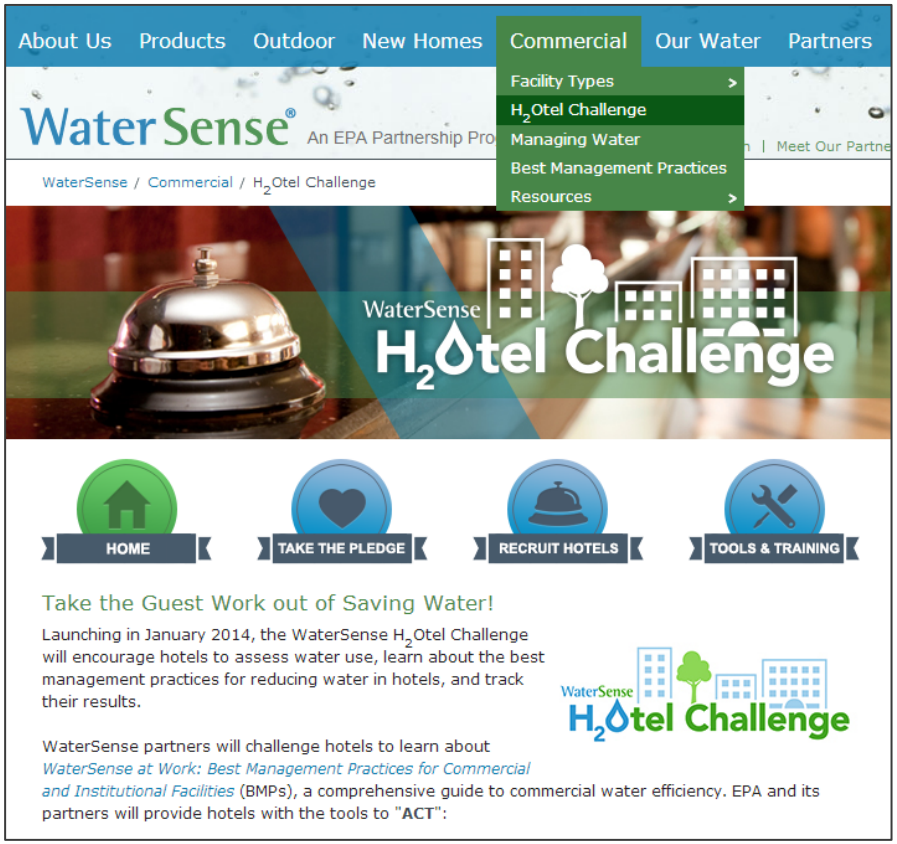
Best Management Practices

- Released in late 2012
- *WaterSense at Work* is an online guide facilities can use to manage water use:
  - Water management planning
  - Water use monitoring and education
  - Sanitary fixtures and equipment
  - Commercial kitchen equipment
  - Outdoor water use
  - Mechanical systems
  - Laboratory and medical equipment
  - Onsite alternative sources of water



- A navigable "flip-book" is online at: www.epa.gov/watersense/commercial/docs/watersense_at_work/index.html

2014 Commercial Outreach Focus

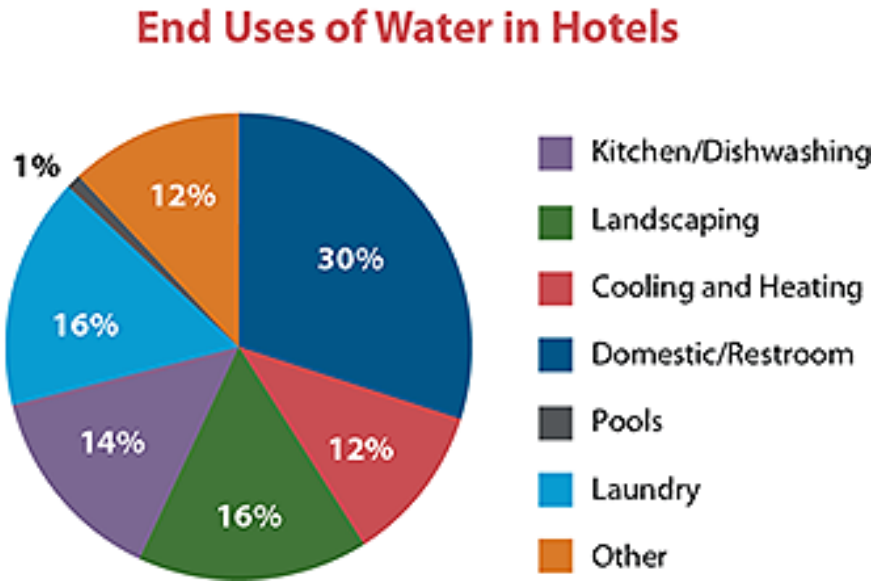


www.epa.gov/watersense/challenge

- Raise awareness of WaterSense among hotel facility managers
  - Increase the use of WaterSense labeled products
  - Promote best management practices for water use reductions
  - Improve data quality by tracking progress
- Give WaterSense partners a framework to engage commercial and institutional customers
- Provide training and tools to assist hotel facility managers in saving water, energy, and money
- Educate hotel facility managers, employees, and guests about water efficiency

Water Use in Hotels

- Restrooms and guest bathrooms are highest users
- Laundries use large amounts of water and energy
- Landscaping can benefit from more water-smart plants and technologies
- More efficient kitchen fixtures and appliances are available
- Large volumes of water are needed to cool spaces



Why Save Water in Hotels?

- Save operational costs
  - Water and sewer rates have risen well above inflation
  - Saving water saves energy costs for heating and treating water
  - Improving plumbing fixtures can reduce maintenance calls
- Build on successes of towel/linen reuse programs
  - Best management practices have even greater savings potential
- Save water while enhancing the guest experience
- Show sustainability leadership in the community
  - Recognition for participating in H_2Otel Challenge
  - Hotels can demonstrate leadership by reducing their impact on local water supplies
  - Utilities and local governments can show commitment by assisting local hotels

Business Case for Going Green

- Competitive edge in the green travel marketplace
  - More companies are making water conservation a priority
  - 55 percent of hotel buildings expected to be “green” in five years
  - Nearly two-thirds undertaking green building projects by 2015
  - Three-quarters of hotel owners plan to incorporate green operations and maintenance activities by 2015
  - 77 percent of hotel owners consider reducing water use important
- Customers increasingly demand it
  - TripAdvisor survey found 79 percent of travelers find eco-friendly accommodations important
- Green hotel owners are reporting results
  - More than half see reductions in energy use and operating costs
  - Increases in asset value (11 percent) and return on investment
  - More than two-thirds of hotel owners reported increase customer satisfaction, 83 percent say it has a positive impact on workers

WaterSense

H_2Otel Challenge

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- Launched February 5, 2014
- Hotels pledge to assess, change, and track water use throughout the year
- WaterSense partners recruit and recognize hotels that pledge in their local areas
- EPA provides tools, training and tips to hotels that sign up

WaterSense H_2Otel Challenge

H_2Otel Challenge Goals

- Raise awareness of WaterSense and water efficiency
  - Increase the use of WaterSense labeled products
  - Promote best management practices for water use reductions
  - Improve data quality by tracking progress
- Provide training and tools to assist hotel facility managers in saving water, energy, and money
- Educate hotel facility managers, employees, and guests about water efficiency
- Give WaterSense partners a framework to engage commercial and institutional customers in saving water for future generations

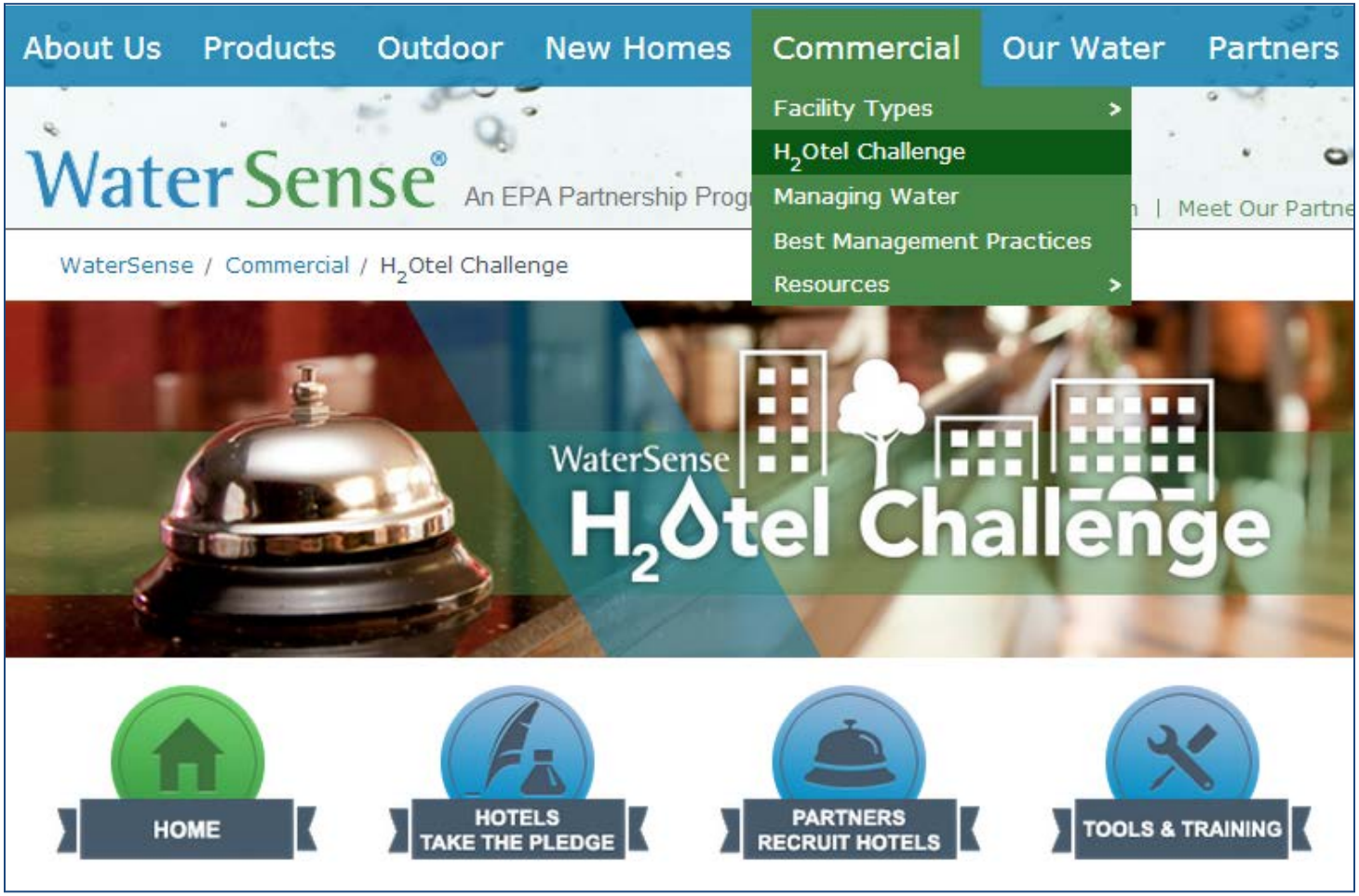
What Is the Challenge?

Challenge hotels to **take the pledge to ACT**:

Three Steps	Partners Would Ask Hotels	EPA Will Provide Tools to Assist
Assess	Conduct a simple water assessment to evaluate water use and identify opportunities to save it.	• Water assessment checklist • BMP payback evaluation spreadsheet
Change	Implement at least one of the *WaterSense at Work* BMPs to save water in the facility.	• Hotel-specific BMP Web page • *Saving Water in Hotels* fact sheet • PDF of BMPs and case studies
Track	Track facility's progress in water efficiency before/after implementing BMPs.	• ENERGY STAR® Portfolio Manager • Connections to existing partner data collection methods

Important note: CI businesses and institutions are still not eligible for WaterSense partnership at this time. Organizations that work with them (e.g. trade associations can be promotional partners.

Pledge to Take the Plunge



www.epa.gov/watersense/challenge

Recognition and Outreach

- Participant logo for hotels
  - Once pledge signed
  - NOT a building label
  - Websites, social media
  - Brochures, in-room signage

- Certificate of participation for hotel lobby
- Sample press release and language for websites and in-room amenities binders
- Monthly emails from WaterSense with tips for success, webinars, case studies, ongoing outreach ideas

H_2Otel Challenge Scope

- Awareness campaign - not a labeling program
  - Challenge logo is NOT a facility label
  - Hotels are participants NOT WaterSense partners
- Scale of challenge is flexible so it can apply to:
  - Individual facilities and franchises – locally owned/operated
  - Portfolios of hotel facilities – company-wide or selective groups
  - Geographic locations - regional, state, or local focus
- Partners and organizers can customize challenge by:
  - Adding requirements – specific water reductions, reporting
  - Providing incentives – rebates, giveaways, on-site assistance
  - Giving recognition – awards, participant lists

Technical Support – *Tools and Webinars*

- Monthly tips, case studies, and resources
- 8 webinars include case studies and guest speakers – all are recorded/posted on YouTube to allow for future review
- WaterSense has developed two new tools to help hotel facility managers and building operators **ACT**
  - Water Assessment Worksheets
  - Water Use & Savings Evaluation Tool (WaterUSE Tool)
- Hotels (and other facilities) can use these tools to identify and prioritize cost-effective water efficiency projects and best management practices

www.epa.gov/watersense/commercial/challenge_tools.html

Case Studies on Website

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Putting WaterSense® to Work

Georgia Hotel Saves $1M Annually By Maximizing Mechanical System

Sector: Hotels; Focus: Mechanical Systems

Project Summary

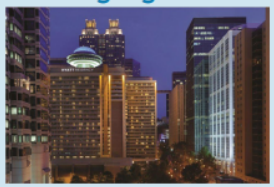
With water and sewer costs in Atlanta, Georgia, increasing by more than $20 per hundred cubic feet (CCF) of water between 2000 and 2013, Hyatt Regency Atlanta has made water conservation a priority, with a heavy emphasis on reducing water use in its cooling towers, water-cooled equipment, and chiller and boiler systems. As a result, the hotel used 35 percent less water in 2013 compared to 2000. Had Hyatt Regency Atlanta continued to use as much water as it did in 2000, the drastically increased water rates would have cost the hotel $1 million more per year in water and sewer costs.

The hotel has also encouraged water savings by engaging staff and instituting a Green Team to help ensure that the systems put in place are effective. By making everyone in the facility a part of the process, Hyatt Regency Atlanta is able to promote water savings on every level. In addition to reducing water use through mechanical and heating, ventilating, and air conditioning (HVAC) best management practices, the hotel installed high-efficiency restroom fixtures in guest rooms; reduced exterior landscaping and supplemental irrigation; served water only on request in its restaurants; installed high-efficiency toilets and non-water urinals in public restrooms; and started a towel and linen reuse program. Through these efforts, Hyatt Regency Atlanta has managed to stay below the average utility cost per room among hotels in Atlanta and was awarded "Top Water Saver" by the Atlanta Better Buildings Challenge in July 2013.

Staying a Step Ahead Drives Savings

To stay at the forefront of water and energy efficiency improvements, Hyatt Regency Atlanta developed a long-term capital plan that keeps track of all future building system projects, such as chillers, HVAC, and boilers that might need to be replaced. When projecting equipment replacements, the hotel considers efficiency improvements into the life cycle of these projects so that the return on investment (ROI) can influence project timing. For example, if a chiller is nearing the end of its projected useful life, replacing it with a newer, more efficient model could translate to water and utility cost savings, influencing the timing

Case Study Highlights



- **Hotel:** Hyatt Regency Atlanta
- **Location:** Atlanta, Georgia
- **Property size:** 1.5 million square feet
- **Number of guest rooms:** 1,260
- **Water savings:** Reduced water consumption by 35 percent between 2000 and 2013, saving 36 million gallons of water in 2013 alone
- **Cost savings:** Approximately $1 million annually in water and sewer costs

Monthly Tips to Registrants

Tip of the Month

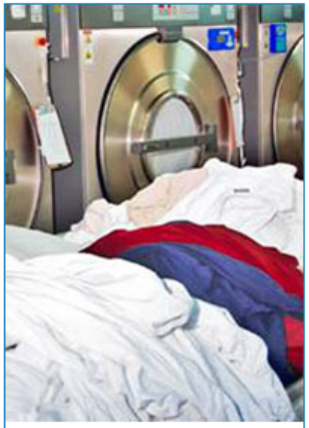
Wash Smarter, Save Water

Laundry water use makes up approximately 16 percent of a hotel's total water use. Whether hotels offer washing machines for guests or use larger, industrial style laundry equipment, water-efficient best management practices can help hotels save water, energy, and money, while ensuring clean linens and customer satisfaction.

For clothes washers on guestroom floors, consider posting a reminder to select the setting that correctly matches the size of the laundry load or run full loads whenever possible. Replacing inefficient commercial clothes washers with ENERGY STAR® qualified models can save water, energy, and detergent. In fact, ENERGY STAR qualified models are 37 percent more efficient than non-qualified models and are more efficient than models that simply meet the federal minimum standard for energy efficiency.

If your hotel has in-house linen laundry services, ensure that washers are operating as efficiently as possible by establishing ongoing maintenance procedures. If possible, program washers for the least number of wash and rinse cycles needed, and encourage staff to do their part by weighing loads of laundry to help them fill washers to capacity.

Here are some additional tips to help your hotel



Texas Hotel Cleans Up With Water Savings

Through the San Antonio Water System (SAWS) WaterSaver Hotel program, the Westin Riverwalk in San Antonio, Texas, made its laundry operations more efficient by replacing washers with high-efficiency models and installing a water reuse/recycling system. Together, these upgrades helped the hotel reduce its laundry water use by 65 percent.

Assess, Track, and Realize Payback

- Overview of the key steps for conducting a water assessment, including
  - Assessing facility water use
  - Establishing a baseline
  - Creating a water balance
  - Identifying key areas and projects to target for reductions
  - Estimating savings and payback

- Case Study: Caesar's Entertainment

Washing 101: Laundry and Plumbing Primer

- Review major water use areas from laundry and guest sanitary operations
- Identify operation and maintenance best management practices
  - Plumbing fixtures
  - Laundry equipment
- Provide ideas on retrofit and replacement options
  - WaterSense labeled products
  - ENERGY STAR qualified equipment
- Case Study: San Antonio Water System work with Holiday Inn, Hilton & Westin

Outdoor Water Savings

- Review water use from outdoor landscaping and irrigation, as well as and pool and spa operations
- Identify outdoor water use best management practices
  - Includes pools and spas
- WaterSense labeled irrigation controllers' benefits

- Finding and using irrigation professionals certified through a WaterSense labeled program
- Case Study: ValleyCrest and the Resort at Pelican Hill, CA

Water in Mechanical/HVAC

- Water use from mechanical equipment and HVAC
  - Single-pass cooling
  - Cooling towers
  - Chilled water systems
  - Boiler and steam systems
- Introduce mechanical and HVAC and operation and maintenance best management practices
- Review water-saving retrofit and replacement options
- Case Study: Hyatt Regency Atlanta

Education and Outreach

- Importance of educating all on water efficiency
  - Management
  - Employees
  - Guests (including towel/linen reuse efforts)
- How to gain management/owner support
- Educating employees on operational changes
  - Standard operating procedures
  - Reporting leaks
- Communicating with customers using WaterSense
- Case Study: Kalaloch Lodge, Olympic National Park, WA

What's Cooking: Commercial Kitchens

- Discuss commercial kitchen water use
  - Ice machines, combination ovens, steam cookers and kettles, dipper wells, pre-rinse spray valves, dishwashers, food disposals
- Review commercial kitchen operation and maintenance best management practices
- Provide guidance on retrofits and replacements
  - WaterSense, ENERGY STAR qualified replacements
- Case Study: Loyola Marymount University (CA) Lair Marketplace

Water Assessment and Project Evaluation Tool

- Tool will help hotels understand water use and identify cost-effective projects to implement
- Downloadable Excel file – not web-based
- Split into several components:
  - General Facility Information – utility rates, building attributes
  - Water Use Tracker – compatible with Portfolio Manager
  - Water Assessment Checklist and Guidance
  - Detailed calculations of potential savings in each area of hotel
- Remember ENERGY STAR's Portfolio Manager can also serve as a water use tracking tool

Water Assessment Worksheets

- The first step of managing facility water use is to conduct a water assessment.
- A water assessment will help hotels identify key water use areas and savings opportunities.
- The Water Assessment Worksheets can be used to guide hotel facility managers through the water assessment process.

The WaterUSE Tool

- Tool takes the facility specific information gathered during the water assessment and identifies:
  - Estimated water use from each water use area
  - Potential water-efficient fixture/equipment retrofit or replacement projects
  - Estimated water, energy, and cost savings from the projects
  - Estimated project payback period
  - Best management practices to reduce water and energy use
- Downloadable and Excel based (macros must be enabled). Links with *WaterSense at Work.*

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW

B2 Instructions

WaterUSE Tool

Instructions

The U.S. Environmental Protection Agency's WaterSense® program has developed the Water Use and Saving
building operators ACT—assess, change, and track water use.

The WaterUSE Tool, in combination with the Water Assessment Worksheets, can assist hotels in identifying
management practices (BMPs) to reduce water and energy use and save money.

The worksheets will help you capture information about your water-using fixtures and equipment needed t
definitions, context, and additional information about the fields in the tool. If you need help understanding
worksheets. In addition, there is space at the end of each worksheet to write notes about malfunctioning ec
immediately following your assessment, as well as any other information you would like to remember that

For more information on how you can reduce your water use, please visit the *WaterSense at Work Best Man*
or the H2Otel Challenge web page.

Steps to Completing the WaterUSE Tool

1. Conduct a walk-through of your hotel to gather data and information regarding the specific types of eq
patterns. WaterSense has prepared a series of worksheets to facilitate this data collection. Informatio
this WaterUSE Tool. Each worksheet number corresponds to a numbered tab within this tool. As an exa
into the "Guest Rooms" tab of the WaterUSE Tool.
2. Fill out the "Facility Info" tab using information from Worksheet 1: Facility Information. The Facility Info tab must be completed in order for the remainder of the tool to function properly.
3. Navigate to the WaterUSE Tool tabs relevant to your facility to identify water usage, potential savings projects, and recommended BMPs. Information you gathered using the worksheets during your facility walk-through should be entered into the dark blue and light blue cells on each applicable tab, when prompted. Grey-shaded cells throughout the tool are optional and can be filled out for your own tracking purposes.
4. After entering all applicable information, click the "Show My Results" button at the bottom of each tab. Based on your inputs, the tool will identify potential projects, best management practices, and savings potential for that specific water use area.
5. If information is available, consider entering project-specific costs and rebate information in the green cells towards the bottom of each tab to make project payback periods more accurate for identified projects.
6. In addition, review the supporting data and assumption area at the bottom of each tab and consider altering the data in the red cells if you have more facility-specific assumptions. This will also make the savings and project payback periods more accurate for the identified projects.

Please Note

Potential projects, BMPs, and savings potential identified in the tool are offered as guidance only. Actual water, energy, and cost savings can vary based on use and other factors. Before initiating a potential project identified by this tool, WaterSense recommends more thoroughly evaluating the project's cost and savings to accurately evaluate its cost-effectiveness. WaterSense recommends that you conduct a facility walk-through every four years to identify changes in your operations and reevaluate savings opportunities

- Tab 1: Facility Information
- Tab 2: Metering & Billing
- Tab 3: Guest Rooms
- Tab 4: Public Restrooms
- Tab 4: Guest Ice & Laundry
- Tab 6: Linen Laundry
- Tab 7: Commercial Kitchens
- Tab 8: Dishwashing
- Tab 9: Heating, Ventilation, and Air Conditioning (HVAC) and Mechanical
- Tab 10: Irrigation
- Tab 11: Pools and Spas

Instructions | 1 Facility Info | 2 Metering & Billing | 3 Guest Rooms | 4 Public Restrooms | 5 Guest Ice & Laundry | 6 Linen Laundry | 7 Commercial Kitc ...

Tool asks series of questions about the current inventory of products in the facility

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WaterSense WaterUSE Tool

Hide Instructions | Reset Form

Guest Rooms Water Use

Water Use and Fixture Assessment

1. Does your hotel have any shared bathrooms for your guest rooms? No << Note: This may be common in hostels and bed & breakfasts.

2. What type of toilets are installed in your guest rooms?

Toilet Type	Number Installed	Existing Flush Volume (gpf)
Tank-Type	100	3.5
Tank-Type	50	1.6

<<< Use Default Flush Volumes

3. What is the flow rate of the lavatory faucets in guest rooms?

Number Installed	Existing Flow Rate (gpm)
150	2.2

<<< Use Default Flow Rates

4. What is the flow rate for the showerheads installed in guest rooms?

Number Installed	Existing Flow Rate (gpm)
150	2.5

<<< Use Default Flow Rates

Tool calculates estimated water usage from the fixtures and potential water/energy/cost savings & payback period if fixtures are replaced

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Current Water Use

Your existing water use for your overnight guest restrooms is approximately 2,467,000 gallons of water per year. The following table provides your estimated water use for each fixture type.

	Estimated Annual Water Use (gal)
Tank-Type Toilets	676,000
Flushometer-Valve Toilets	0
Faucets	833,000
Showerheads	958,000
TOTAL	**2,467,000**

Potential Water Savings and Payback Period

- **By retrofitting your existing, inefficient fixtures in your guest rooms with WaterSense labeled and/or high-efficiency models, you can save approximately 831,000 gallons of water and $9,560 in water and energy costs annually. The following table provides estimated water, energy, and cost savings, and an estimated simple payback for each potential replacement project.**

	Estimated Project Cost ($)	Potential Annual Water Savings (gal)	Potential Annual Water Cost Savings ($)	Potential Annual Energy Savings (Mcf)	Potential Annual Energy Cost Savings ($)	Total Annual Cost Savings ($)	Potential Payback Period (years)
Tank-Type Toilets	$45,000	374,000	$3,240	—	—	$3,240	13.9
Flushometer-Valve Toilets	N/A	N/A	N/A	—	—	N/A	N/A
Faucets	$1,500	265,000	$2,300	170	$1,380	$3,680	0.4
Showerheads	$3,000	192,000	$1,660	120	$980	$2,640	1.1
Complete Project	**$49,500**	**831,000**	**$7,200**	**290**	**$2,360**	**$9,560**	**5.2**

- **Check with your local water and energy utilities to determine if a rebate program is available for implementing water-saving projects.**

- **For additional information on how to reduce water use in your guest rooms, see:** ***WaterSense at Work Section 3: Sanitary Fixtures and Equipment***

If don't want to replace all fixtures, can make the adjustment and estimated savings/payback period will be adjusted.

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Potential Water Savings and Payback Period

» By retrofitting your existing, inefficient fixtures in your guest rooms with WaterSense labeled and/or high-efficiency models, you can save approximately 831,000 gallons of water and $9,560 in water and energy costs annually. The following table provides estimated water, energy, and cost savings, and an estimated simple payback for each potential replacement project.

	Estimated Project Cost ($)	Potential Annual Water Savings (gal)	Potential Annual Water Cost Savings ($)	Potential Annual Energy Savings (Mcf)	Potential Annual Energy Cost Savings ($)	Total Annual Cost Savings ($)	Potential Payback Period (years)
Tank-Type Toilets	$15,000	374,000	$3,240	—	—	$3,240	4.6
Flushometer-Valve Toilets	N/A	N/A	N/A	—	—	N/A	N/A
Faucets	$500	265,000	$2,300	170	$1,380	$3,680	0.1
Showerheads	$1,000	192,000	$1,660	120	$980	$2,640	0.4
Complete Project	**$16,500**	**831,000**	**$7,200**	**290**	**$2,360**	**$9,560**	**1.7**

» Check with your local water and energy utilities to determine if a rebate program is available for implementing water-saving projects.

» For additional information on how to reduce water use in your guest rooms, see: *WaterSense at Work Section 3: Sanitary Fixtures and Equipment*

Product Replacement Details and Costs

Update the following table to reflect your planned fixture replacement. Your changes will automatically update the table above.

	Potential Replacements	Number of Fixtures to Replace	Flush Volume/ Flow Rate	Total Cost per Fixture (installed)	Total Rebate per Fixture
WaterSense Labeled Tank-Type Toilet	150	50	1.28	$300	
High-Efficiency Flushometer-Valve Toilet*	0		1.28	$1,000	
WaterSense Labeled Faucet Aerator or Faucet	150	50	1.5	$10	
WaterSense Labeled Showerhead	150	50	2	$20	

<<< Restore Defaults

* - WaterSense is in the process of developing a specification to label high-efficiency flushometer-valve toilets.

What's Next?

- About 800 hotels have pledged to date – including batches from Marriott and Wyndham chains
- Additional webinars scheduled for 2014 and working on more case studies
- We hope utilities can use the Challenge as a way to interact with hotels in their service area
- The online pledge are can be taken anytime - both hotels and hotel chains can pledge to join as participants

Beyond Hotels

- Currently considering how to broaden outreach to other sectors, expand WaterUSE tool to other building types/water uses
- Working to advance water efficiency in federal facilities
- Working with ENERGY STAR to leverage outreach with their partners/sectors
- Collaborating with ENERGY STAR on National Building Competition

EPA will Recognize:	Criteria:
Overall Top Team	Percentage-based reduction in energy or water use from 2013 to 2014
Overall Top Building	
Top Building by Category	
20% Team Reduction	20 percent or more reduction in energy or water use from 2013 to 2014
20% Building Reduction	

www.energystar.gov/BattleOfTheBuildings

WaterSense Information

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Questions?

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