

# BOMA W<sup>2</sup> Water & Waste CHALLENGE

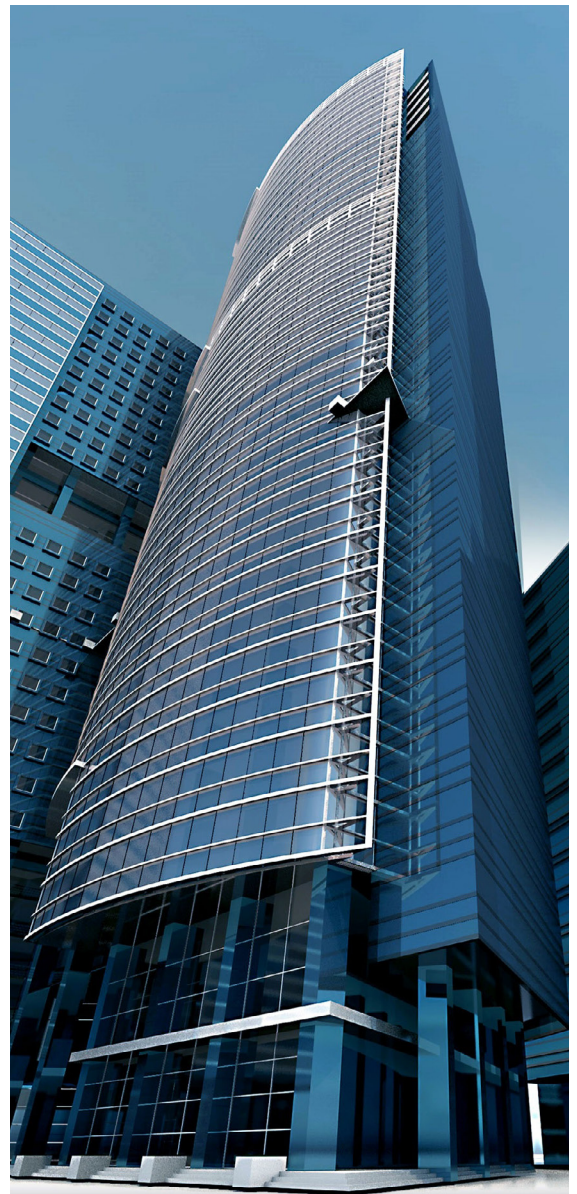
The W<sup>2</sup> Challenge is a ground-breaking, two-year initiative to support real estate practitioners and local BOMA associations in benchmarking water consumption and waste output, and implementing best practices to improve performance. Thanks to generous support received from Yardi, this project of BOMA International aims to take the industry's sustainability efforts to the next level. Participants are asked to benchmark water and waste in ENERGY STAR® Portfolio Manager®, and in return receive progress reports, helpful tips and additional resources and recognition opportunities.

## Water Conservation Improvement Guide

The commercial and institutional sector is the second largest consumer of publicly supplied water in the United States. Typical savings of 10% to 30% are available by using off-the-shelf technology and industry best practices.

**By implementing water-efficient best management practices, property teams have an opportunity to:**

- Achieve cost savings – Improving water efficiency can help lower variable costs associated with the operation and maintenance of equipment and extend equipment the useful life of equipment. There are additional cost savings associated with the energy consumed in the treatment, storage, heating and movement of water throughout the facility.
- Ensure regulatory compliance – Developing a water management plan can help insulate your property against water restrictions, which is especially important in water-scarce regions like California, who imposed mandatory 25% cutbacks on water use during a drought in 2014.
- Expand marketing & leadership – Implementing and communicating water efficiency efforts demonstrates commitment to environmental stewardship by enhancing public perception and differentiating properties/ organizations from competitors.
- Champion resiliency – By reducing dependence on limited local water resources, water-efficient properties are less vulnerable to fluctuations in water supply from weather-related disasters. Reducing water consumption also ensures a more sustainable water supply for your surrounding community.



- Enhance corporate social responsibility (CSR) objectives – Appropriately managing water consumption helps organizations with CSR or environmental, social, and governance (ESG) objectives achieve their goals by reducing impact on their communities and environments. This benefit can also help attract tenants or residents with similar goals.

## A Roadmap to Help You Navigate

The following checklist provides action-oriented recommendations on water conservation and industry best practices that have been successfully undertaken by facilities and property managers from all sectors. It is intended to be used as a guide to help facilitate conversations, identify what your property is already doing and address areas for water reduction. Some action items are directed as short-term reduction efforts, while others are for long-term commitments.

- ✓ **STEP 1:** Make Commitment
- ✓ **STEP 2:** Assess Performance
- ✓ **STEP 3:** Set Goals
- ✓ **STEP 4:** Create Action Plan
- ✓ **STEP 5:** Implement Action Plan
- ✓ **STEP 6:** Evaluate Progress
- ✓ **STEP 7:** Recognize Achievements

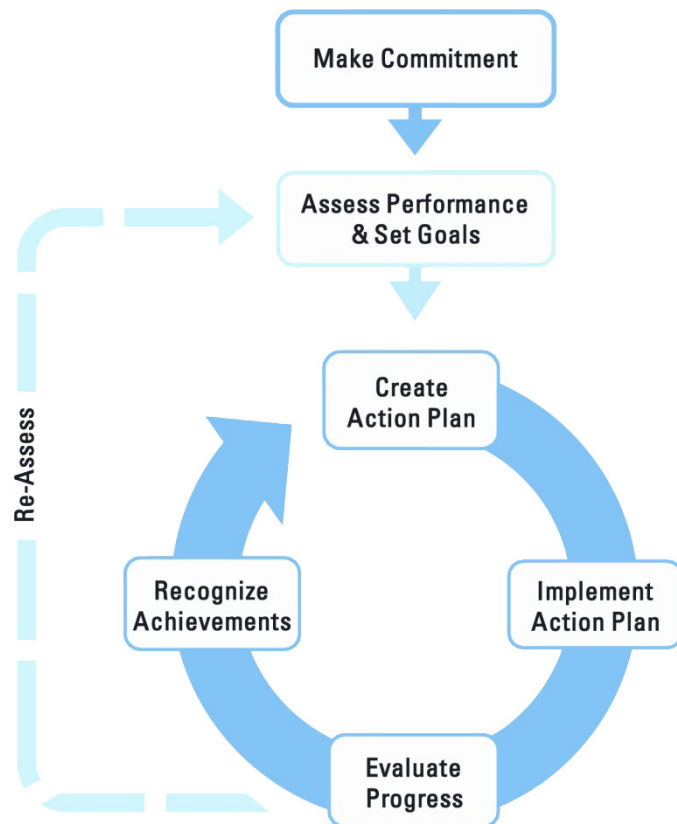


IMAGE SOURCE: <https://www.energystar.gov/buildings/reference/guidelines>

Checklist for Water Conservation Best Practices	Estimated cost (\$, \$\$, \$\$\$)	Opportunity Exists?	Target Reduction	Who Is Responsible?	Target Date to Complete	Actual Date Completed	Notes
<b>Meter/Measure/Manage/Educate</b>							
Perform a <a href="#">facility audit</a> to understand water use							
Read water meters and record monthly water use							
Verify that all meters and submeters are installed properly							
Track water in <a href="#">ENERGY STAR's Portfolio Manager</a>							
Install submeters on all major water-using equipment (Cooling towers, tenant spaces, irrigation systems, single-pass cooling, and HVAC systems)							
Include leak detection methodology in all operation and maintenance programs							
Educate facility staff, building occupants, employees, and visitors on water management program goals and initiatives							
Form a green team to disseminate water saving <a href="#">resources</a>							
Compare water use to industry benchmarks where available							

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<b>Replace/Upgrade/Install Fixtures</b>							
Install faucet aerators							
Install new toilets with flow rates of 1.1, 1.28 or 1.6gpf – <a href="#">Toilet Fixture Introduction</a>							
Install <a href="#">WaterSense</a> labeled urinals flushing at 0.125gpf or less. Consider waterless or hybrid waterless urinals							
Operate <a href="#">laundry equipment</a> with full loads only. Encourage tenants to do the same							
Replace traditional commercial clothes washers with <a href="#">high-efficiency washers</a> , which can save as much as two-thirds of the energy and water used by traditional models							
Install a computer-controlled rise water reclamation system							
Install automatic shutoff valves							
Evaluate if your facility is located close to an existing municipal reclaimed water system ('purple pipe'). Get an estimate on a connection							

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<b>Kitchen</b>							
Use a broom or mop instead of a water broom or high-pressure hose to clean floors							
Install water coolers and limit the use of single use water bottles							
Replace equipment that discharges water continuously							
Switch to connectionless combination ovens, steam cookers and steam kettles							
Install in-line flow restrictor to reduce dipper well flow rate at 0.3 gpm							
Educate users on proper dishware prep and loading techniques to reduce the overall water used							
Replace existing pre-rinse spray valves with models that use 1.3 gpm or less							

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<b>Cleaning</b>							
Sweep floors instead of hosing with water							
Vacuum or sweep dry material spills instead of using water							
<b>Mechanical Systems/Cooling</b>							
Regularly check and maintain boilers, steam liners and steam traps							
Inspect chillers and air handler coils regularly and remove dirt and scale buildup							
Eliminate single-pass cooling							
Professionally monitor cooling tower and boiler chemistry and maximize cycles of concentration							
Install cooling tower meters and control systems to control chemical feed and blowdown based on conductivity							

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<b>Outdoor Water Use</b>							
Incorporate water, chemical and energy-efficient requirements/ performance standards into all landscaping and irrigation services and maintenance agreements							
Hire landscape professionals trained and certified in water-efficient or climate appropriate landscaping							
Plant additional trees and shrubbery to increase the amount of shaded areas							
Maintain proper pool chemistry to limit pool cleaning and drainage events							
Use pool covers to control evaporation loss – <a href="#">Click here</a> for more pool water management advice							
Check the position and location of spray heads to ensure that they are working properly, and water is not being directed onto non-landscaped areas, such as sidewalks							

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Use friction washing in vehicle washes and consider installing a water reclamation and reuse system							
Recover rainwater in cisterns for use in irrigation or toilet flushing, (or both)							
Limit power washing and the use of additional water for exterior cleaning.							
<b>Laboratory and Medical Equipment</b>							
Use water purification only when necessary							
Turn off pumps when not in use							
Replace old fume hoods with a filtration system that does not require water (e.g. activated carbon) – <a href="#">NREL Guide</a> ; <a href="#">Green Labs UNC</a>							

## Water Management Resources

- EPA WaterSense guide for the commercial sector - [https://www.epa.gov/sites/production/files/2017-02/documents/watersense-at-work\\_final\\_508c3.pdf](https://www.epa.gov/sites/production/files/2017-02/documents/watersense-at-work_final_508c3.pdf)
- North Carolina Save Water Program: Helpful factsheets broken down by sector - <http://savewaternc.org/busresources.php#IndustrySpecific>, [Water Efficiency Manuel - http://infhouse.p2ric.org/ref/01/00692.pdf](http://infhouse.p2ric.org/ref/01/00692.pdf)
- Water Conservation Guide for Commercial, Institutional and Industrial Users (New Mexico) - <http://www.ose.state.nm.us/WUC/PDF/cii-users-guide.pdf>
- Food Service Technology Center - Promoting energy efficiency in foodservice - <https://fishnick.com/>
- Texas Water Development Board - <http://www.twdb.texas.gov/conservation/BMPs/CI/index.asp>