



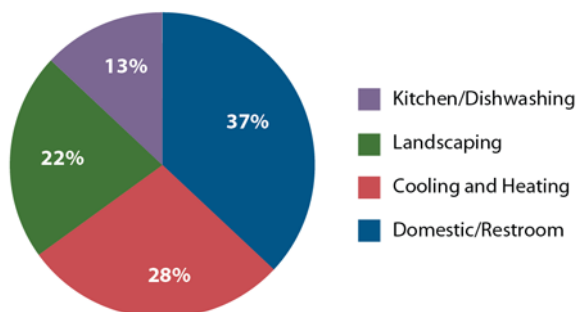
Saving Water in

# Office Buildings

Commercial and institutional buildings use a large portion of municipally supplied water in the United States. With so many businesses making up the commercial and institutional sector, there are great opportunities to conserve water. *WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities* promotes water-efficient techniques that can be applied across a wide range of facilities with varying water needs.

Water used in office buildings accounts for approximately 9 percent of the total water use in commercial and institutional facilities in the United States.<sup>1</sup> The three largest uses of water in office buildings are restrooms, heating and cooling, and landscaping.

## End Uses of Water in Office Buildings



Created by analyzing data from: New Mexico Office of the State Engineer, American Water Works Association (AWWA), AWWA Research Foundation, and East Bay Municipal Utility District.

## THE BUSINESS CASE FOR WATER EFFICIENCY

Over the past 10 years, the costs of water and wastewater services have risen at a rate well above the consumer price index. Office building managers can expect these and other utility costs to continue to increase in order to offset the costs of replacing aging water supply systems.

The business benefits of implementing water-efficiency measures in and around office buildings can include



reducing operating costs, as well as meeting sustainability goals. In addition to water savings, facilities will see a decrease in energy costs because of the significant amount of energy associated with heating water.

Energy saved from reducing the amount of water supplied will not only save money, but reduce the building's carbon footprint as well. Many commercial building managers are subject to sustainability goals, which can be met by decreasing water and energy use.

Likewise, water-efficient practices can assist with achieving green certifications and demonstrating leadership in environmental management.

Because bathroom plumbing fixtures account for a significant portion of water use in office buildings, it is smart to assess the age and functionality of existing fixtures.

### Putting Water Efficiency to Work

After upgrading its irrigation system, an office complex in Plano, Texas, reduced its outdoor water use by about 40 percent, saving nearly 12.5 million gallons of water in 2009. These retrofits helped the office complex earn water-efficiency credits toward LEED® Gold certification and saved more than \$47,000 in 2009. With these savings, the project paid for itself in less than a year and a half!

High-performing, WaterSense labeled fixtures are now available that use at least 20 percent less water than standard models. Upgrades or retrofits can save money and often have short payback periods.

*WaterSense at Work* provides guidance that can help office buildings operate more water efficiently, which is good for sustainability and the bottom line.

### USING WATERSENSE AT WORK

More information on operations, maintenance, and user education of equipment and processes within office buildings can be found in the following sections of

*WaterSense at Work: Best Management Practices for Commercial and Institutional Facilities:*

- Section 1: Getting Started
- Section 2: Water Use Monitoring and Education
- Section 3: Sanitary Fixtures and Equipment
- Section 4: Commercial Kitchen Equipment
- Section 5: Outdoor Water Use
- Section 6: Mechanical Systems
- Section 7: Laboratory and Medical Equipment
- Section 8: Onsite Alternative Water Sources

### Look for the Label



- Install WaterSense labeled showerheads, toilets, and flushing urinals where appropriate.
- WaterSense labeled products have been independently certified to be at least 20 percent more water-efficient and perform as well or better than standard models.
- Check automatic sensors on faucets, toilets, and urinals to ensure they are operating properly and avoid unnecessary water use.

### Water Landscapes Wisely



- Design water-smart landscapes that provide beautiful surroundings while reducing water needed for irrigation.
- Improve irrigation efficiency by hiring a professional certified through a WaterSense labeled program to audit an existing system or design and install a water-efficient system.
- Cut down on water loss from evaporation, wind, and runoff by replacing existing clock timers with WaterSense labeled irrigation controllers.

### Keep Cooling Towers Cool



- Implement energy-efficiency measures to reduce the need for building and equipment cooling and heating, which will reduce amount of water required by these systems.
- Keep indoor temperatures at a comfortable setting while increasing the efficiency of cooling towers, evaporative coolers, and boilers by using alternative sources of water, such as air handler condensate and captured rainwater.
- Monitor cooling tower and boiler water chemistry to minimize the mineral buildup in the system and maximize the number of times water can be recycled through the system.

For more information or to download a copy of *WaterSense at Work*, visit the WaterSense website at [www.epa.gov/watersense/commercial](http://www.epa.gov/watersense/commercial).

<sup>1</sup>Dziegielewski, et al. 2000. *Commercial and Institutional End Uses of Water*. American Water Works Association Research Foundation.

<sup>2</sup>2009. *Water Use in Buildings SmartMarket Report*. McGraw-Hill Construction.