

Water—Let's Use This Precious Resource Wisely!

Water is an increasingly scarce resource. Many parts of the U.S. already face serious water shortages and even drought. Population growth and the changing climate are putting additional stress on water supplies. Even in areas where water seems to be abundant, careful management of this precious resource is essential if we are to ensure a reliable supply for future generations.

Moreover, using water efficiently also saves energy. The biggest use of electricity for most municipalities is supplying water and cleaning it up after it has been used.

Water conservation is clearly an important component of sustainability. How can we as individual consumers help?

Saving Water Indoors

Indoor water usage in a typical single family home in the U.S. is about 70 gallons per person per day. But fixing leaks, installing water-efficient plumbing fixtures, and changing some everyday habits can reduce water usage significantly, to around 45 gallons/person/day.

Fix those leaks

- Leaks account for about 13 percent of the water used in a typical home. A slowly dripping faucet or a toilet that keeps "running" can waste thousands of gallons of water a year. To check for leaks, read the water meter before and after a two-hour period in which no water is being used.

After the test period, if the meter has a higher reading, there is probably a leak.

Buy Water-Saving Fixtures, Appliances

- Toilets are typically the greatest water user in the house, accounting for more than one-quarter of the total used in a home each day. Replacing an older 3.5-gallons-per-flush (gpf) toilet with a 1.6-gpf, low-flush model will save at least 10 gallons of water/per person/day. New lower-flow dual-flush toilets will cut usage even further. By reducing water bills, newer toilets pay for themselves in just a few years.*

- Replacing older showerheads with low-flow fixtures and installing low-flow aerators in existing faucets are both low-cost ways to save water. And by cutting the demand for hot water, this step will result in energy savings as well.

- Water-efficient dishwashers and clothes washers also help save water—and energy.

Turn Off the Tap

- A few small changes in everyday habits can result in significant water savings. Turn off the tap while brushing teeth and save well over 1000 gallons/person/year. Take a five-minute shower (12.5 gallons of water with a new showerhead) instead of a bath and save 20-30 gallons each time.

Look for more water saving tips from online resources such as *Water: Use It Wisely* (www.wateruseitwisely.com/index.shtml).

* The U.S. Environmental Protection Agency is launching a new program, WaterSense (www.epa.gov/watersense/), to help consumers identify products and programs that meet tough water-efficiency and performance criteria. High-efficiency toilets will be the first product to display the new WaterSense label, signaling that the fixture has been independently certified by a third party to confirm that it meets the EPA criteria.

Conserving Water Outside

In urbanized areas, roads, rooftops and parking lots cover much of the landscape and prevent rainwater from soaking into the ground and replenishing groundwater. Rainwater runoff flows instead into the storm sewer system, picking up pesticides, fertilizers, oil, and other pollutants as it makes its way to local rivers, lakes and bays.

An additional problem confronts older municipalities with combined sewer systems. In these systems, stormwater and sanitary wastes are collected in the same pipe and then treated together before being discharged. During periods of heavy rainfall or snowmelt, the volume of water can exceed the capacity of the system, and the excess wastewater is discharged directly into nearby waterways.

Green Infrastructure

A new approach to stormwater management uses natural systems to absorb and filter rainwater and make use of it where it falls. It treats rainwater as an asset rather than a waste product.

- Using permeable paving for driveways and parking areas allows rainwater to seep into the ground, thus recharging groundwater and reducing stormwater runoff.
- Rainwater can be "harvested"—collected as it runs off the roof and stored in rain barrels or a cistern for future landscape irrigation. Benefits include lower water bills, less waste of precious drinking water, reduced demand on the municipal water system, and increased groundwater recharge.
- Replacing lawn areas with natural landscaping will save water and energy as well as benefit the natural environment. Lawn maintenance is water intensive—some 30 percent of our water is used to irrigate lawns—and lawnmowers cause five percent of the nation's air pollution. Native plants, on the other hand, help reduce runoff and minimize the need for watering. They do not need fertilizers, herbicides or pesticides. And they provide food and shelter for birds, butterflies and beneficial insects.

Online Resources for Additional Information

The California Urban Water Conservation Council's H₂OUSE tour (www.h2ouse.org/index.cfm) provides detailed advice to help consumers save water at home, both indoors and outside.

The EPA's green infrastructure website (cfpub.epa.gov/npdes/home.cfm?program_id=298) discusses a variety of water management techniques, including porous pavement, rain gardens, green roofs, rain barrels and cisterns, and much more.

The Green Infrastructure Project of the Chicago-based Center for Neighborhood Technology promotes green solutions to stormwater management. Its Green Values Stormwater Toolbox (greenvalues.cnt.org/) includes a stormwater calculator to help users assess the impact of various green interventions for their property.