



ENERGY SERIES: What about the Bathroom?

Did you know the U.S. Environmental Protection Agency (EPA) estimates that private homes account for more than 20 percent of the energy and about 55 percent of publicly supplied water consumed in the United States? We all know that we can save water if we just turn off the tap while brushing our teeth. We also know that when we reduce the amount of hot water used we also decrease the energy needed to heat the water. But, did you know there are products that can help you save water even when you have to use water?

What about the sink faucet?

Faucets contribute to more than 15 percent of indoor household water use. There are many faucets available today that use less water than the government standard of 2.5 gallons per minute (gpm). To check flow rate of your faucet, open the faucet to the normal pressure you use and allow water to flow into a container for 10 seconds. Multiply the amount of water collected in the container by six to determine the per-minute flowrate.

WaterSense, a program sponsored by EPA, can help you find high performance water-efficient bathroom sink faucets and related accessory products that can be easily attached to existing faucets to save water, and can help reduce water use in the home and preserve our water resources.



Figure 1. WaterSense label.

When purchasing a new faucet or faucet accessory look for the WaterSense label (Figure 1). Faucets and faucet accessories labeled WaterSense can reduce a sink's water flow by 30 percent. See

<https://www.epa.gov/watersense/bathroom-faucets> for more information.

What about the showerhead?

It is estimated that showering represents 17 percent of residential indoor water use in the U.S. There are many showerheads guaranteed against clogging with a flow rate below 2.5 gpm, which is the government's maximum designated flow rate at 80 pounds per square inch (psi) water pressure. Many older showerheads are rated for 4 gpm or more.

To test your showerhead, simply time how long it takes to fill a measured bucket to the one-gallon mark at the water pressure you normally use. If it takes less than 20 seconds, you could benefit from a low-flow showerhead. WaterSense has developed specifications for high-efficiency showerheads, more information at:

<https://www.epa.gov/watersense/showerheads>

. Your local water utility company may offer assistance as well.

An easy way to decrease water used for showering is to install a shut-off valve that allows someone in the shower to shut off the water while soaping, shampooing or shaving. These valves are designed to flow very slightly when closed, so water in the pipe stays at the selected temperature, there is no blast of cold water when turned back on. Some low-flow showerheads have built-in shut-off valves that utilize a push-button or twist lever. In case you are wondering, you generally use 15 to 25 gallons of hot water for a bath, but less than 10 gallons during a 5-minute shower.

What about toilets?

It is estimated that toilets are by far the main source of water use in the home, accounting for almost 30 percent of residential indoor water use. If your house was built after 1994, federal government standards require toilets to be a model that uses 1.6 gallon-per-flush (gpf) or less. This is less than half the water used by older models, which used 3.5 gallons or more per flush. WaterSense labeled toilets use 20 percent less water than the current federal standard. Complaints that low-flush toilets do not flush well are no longer valid. Models initially available often simply had a smaller tank, with no other adjustments to allow for the lower water flow. New low-volume toilets are completely re-engineered to clear the bowl better.

Shop around. Buying a toilet is just like buying a refrigerator or a car, there is a wide range of prices and models. Before purchasing, check for any available rebates or warranties and read the brand/model comparisons in consumer and builder magazines. Ask several plumbers which models they think work the best and have the least number of callbacks. Gallons per flush should be printed in the tank or behind the seat. Do not go by price alone. Many of the lower priced toilets will work just as well or better than the higher priced units. Also be aware that some toilets create a lot of noise when flushed. You may want to “test listen” before you buy. Look for the WaterSense label when selecting a new toilet, more information at: <https://www.epa.gov/watersense/residential-toilets>.)

HOW CAN I FIND OUT IF THE TOILET IS LEAKING?

Remove the lid from the toilet tank and take out any colored cleaning agent. Flush to clear the water in the bowl, wait until the tank refills, and then place about five drops of food coloring into the tank and wait 15 minutes. If colored water appears in the toilet bowl without additional flushing, there is a leak. **Note:** If you’re worried about possible staining, some people pour a little coffee into the tank instead of food coloring.

What about the exhaust fan?

If the bathroom does not have an exhaust fan—sometimes referred to as ventilating fan—consider installing one. Excess moisture can cause problems with mold and increase relative humidity, even in an air conditioned home. When purchasing an exhaust fan, select an ENERGY STAR qualified one as it will consume less energy than standard models, have a high performance motor, and operate quieter. For the most efficient use, make sure the exhaust fan is properly sized for the room, and the fan housing perimeter in the wall or ceiling is sealed so that there are no leaks from the conditioned areas to the outside or attic.

It’s also a good idea to be sure that all exhaust fans in your home vent to the outside and not into the attic. Excess humidity in the attic can lead to air quality problems and degradation of building materials.

Use the fan sparingly. A fan can exhaust a whole houseful of conditioned air to the outdoors in a surprisingly short time. For bathroom exhaust fans, a timer control independent of a light switch, with an automatic shut-off after about 15 minutes, is a wise investment, or use one attached to a humidistat.

References and Resources

- Energy Star. Ventilating Fans for Consumers.

https://www.energystar.gov/products/heating_cooling/fans_ventilating

- U.S. Environmental Protection Agency WaterSense®.
<http://www.epa.gov/watersense/>

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