

Toilets, Showers & Faucets

Overview

You can get big savings through easy, small improvements to your home's water fixtures. Whether you are dealing with a constantly running toilet, a barely-there leak in the background, or an older showerhead – you might be surprised at how much water these seemingly small culprits consume. Simple water conservation measures incorporated into individual projects are easy to do, have little to no cost premium, and can save you money on your energy bill while also stretching our region's water resources.

Definitions

Gallons per Minute (gpm), Gallons per Flush (gpf) – The unit for measurement of water use by different fixture types. Faucets and showers are measured in gallons per minute, toilets and urinals in gallons per flush.

Potable Water – Water safe enough to be consumed by humans.

Aerator – A flow restrictor device that can be screwed into the tip of modern indoor water faucets, delivering a mixture of water and air to reduce water use but maintain performance.

When is This Applicable?

You can crack down on high water using fixtures as an individual side project or as part of a remodel, as well as make water-smart choices on new fixtures and appliances for new construction projects. Code requires flow rates that are set by the Energy Policy Act (EPAct92), yet there are

Worldwide, only 3 percent of all water is freshwater—but most of it is frozen or underground and difficult to harvest. In fact, only about 0.3 percent of the water on the planet is freshwater that we can actually access and use. Researchers have found that, since 1900, U.S. water use has increased six times while the population has only doubled. Clearly, our limited water reserves are an important resource to protect, but how can your project help?

- Efficient water fixtures can significantly reduce the amount of potable water used and lessen the stress on the local water table.
- More efficient toilets have a big impact: toilet flushing is the largest single use of water (consuming up to 40 percent of residential water use).

many cost-neutral or cost-effective choices for even more efficient options. Out of date water fixtures are usually relatively easy to replace with new and more efficient options, so any chance a project has to update fixtures is a great opportunity for both water and septic savings. Most fixtures which comply with code do not cost more and do not require costly design considerations. It's easy!

What Makes it Green?

The average metered household in the U.S. spends \$1,100 per year in water costs, but can save \$350 from retrofitting with WaterSense labeled fixtures and ENERGY STAR® qualified appliances. According to the U.S. EPA, if all U.S. households installed water-efficient fixtures and appliances, the



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country would save more than 3 trillion gallons of water. Saving water also saves a significant amount of pumping energy (whether on wells or municipal water) and treatment energy (municipal water). The following additional benefits make the case for choosing high efficiency water fixtures:




- Reducing water use reduces wastewater and thus prolongs the life of septic fields and tanks;
- Water efficient fixtures help lower household energy use, such as reducing the amount of water heated for showers; and
- Choosing high efficiency water fixtures can help you obtain Northwest ENERGYSTAR

Homes, LEED for Homes, and Built Green certification


- WaterSense New Home certification

Best Practices

- Consider using non-potable water, such as rainwater (see the Rainwater Card) or greywater for toilet flushing.
- Prioritize fixtures with the WaterSense logo, which are independently certified to help save water, energy, and money without sacrificing performance. The table below shows WaterSense savings beyond code, along with other fixture-specific considerations:

 <p>For all water fixtures, look for the WaterSense Logo</p>	<p>Maximum Flow Rate to meet code (as determined by the Energy Policy Act)</p>	<p>WaterSense Flow Rate</p>	<p>Other considerations</p>
<p>Toilets</p>  <p>Close up of a dual-flush mechanism:</p> 	<p>1.6 gallons per flush (gpf)</p>	<p>1.28 gpf</p> <p>Or</p> <p>1.6 / 1.1 gpf for dual-flush models</p>	<p>Toilets comprise at least 30 percent of daily household water use, making it the main source of water use.</p> <p>Dual flush toilets can significantly reduce water use by providing a low-flush option for liquid waste (between .8 gpf and 1.1gpf), and a full flush option for solid waste (between 1.28gpf and 1.6gpf). Use the MaP Test to find an effective and efficient toilet.</p> <p>If interested in using non-potable water, such as rainwater or greywater, for toilets, contact the Department of Public Health.</p>



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<p><u>Showerheads</u></p> 	<p>2.5 gallons per minute (gpm)</p>	<p>1.75 gpm</p>	<p>There are showerheads that are effective at even lower flow rates (1.25 – 1.5 gpm), and reducing shower times also effectively save a lot of water.</p>
<p><u>Faucets</u></p>  	<p>Bathroom Faucet: 2.2 gallons per minute (gpm)</p> <p>Kitchen Faucet: 2.2 gallons per minute (gpm)</p>	<p>Bathroom Faucet: 1.0 gpm</p> <p>Kitchen Faucets are not rated by WaterSense</p>	<p>Consider retrofitting existing fixtures with aerators. Choose aerators for bathroom faucets (< 1.0 gpm) and kitchen faucets (< 1.75 gpm) to provide a steady stream of water pressure while reducing water flow.</p>

Resources

For the complete King County Green Building Handbook and individual Green Sheet PDF files, please visit our website at: <http://kingcounty.gov/property/permits/publications/greenbuild.aspx>. For additional information, please email dperwebinquiries@kingcounty.gov or call 206-296-6600.

See these related DPER Green Sheets (GS):

- Rainwater Harvesting for Outdoor Uses, GS Number 2
- High Efficiency Appliances, GS Number 12

Saving Water Partnership: This partnership of local water utilities in King County and Seattle works together to help customers save water and money. Look for Toilet Rebates, water use calculators, and helpful tips for your home, garden, and landscaping.

WaterSense: Information on water use reduction and appliance and fixture certification.

Doing Our Business: This one-page brochure discusses septic systems dos and don'ts and discusses greywater use both inside and outside the house.

