Bathroom Revamp: Savings by the Gallon

There's a reason Europeans call them water closets. From our toilets to our tubs, roughly 60 percent of a home's water consumption takes place in the bathroom, according to the California Urban Water Conservation Council. After this past summer's droughts and floods, which wreaked havoc on water quality making it either unavailable or unuseable, any renovations or improvements you make in your bathroom should be done with an eye on the aquatic, especially in older homes. Past manipulations to your existing fixtures may be luring you into a false sense of security about how much water you're actually using.

Efficient Toilets?

Guzzling 27 percent of your household supply every year, your toilet is by far your home's largest water user. At that rate, you want to be sure that the federally mandated, 1.6-gallon-per-flush (gpf) model sitting in your loo really only uses 1.6 gpf—it may use more.

A 2000 study commissioned by the city of Tucson revealed that then-new 1.6-gpf toilets actually used 1.98 gpf on average, due to double flushing caused by poor performance or to malfunctioning parts. Leaking "early-close flappers," devices that prevent a 3.5-gallon tank from releasing more than 1.6 gallons, had been replaced with standard 3.5-gpf flappers, the study found, and removable toilet dams, which also prevent a 3.5-gallon tank from releasing more than 1.6 gallons, had broken or were intentionally removed.

If you've purchased a home with a pre-installed 1.6-gpf model, there's no way of knowing whether the previous owner made any such inefficient modifications. As the parts wear out—they generally last around five years—be sure to ask the hardware store specifically for 1.6-gpf replacements. Also, be wary of toilet-tank retrofits, kits designed to convert old 3.5-gpf models into 1.6-gpf toilets, says Gary Woodard, co-author of the Tucson study. "You're doing something to the toilet that it isn't really designed for," he says. "It's really best to get a low-flow toilet."

Bathroom renovators on a budget will be happy to know that a fair number of WaterSense toilets, such as the dual-flush **Sterling** Rockton 402027 ($230; www.sterlingplumbing.com, 888-783-7546), fall in the low-to-middle price range. Also, keep in mind that some water-strapped municipalities will provide rebates for water-efficient appliances, dropping that price even lower.

If you're really starved for water, you might consider shelling out big bucks for a composting toilet, which breaks down human waste into a nutrient-rich material that can be spread around trees and non-edible plants: **Envirolet** waterless, non-electric composting toilet ($1,400; www.envirolet.com, 800-387-5126).

Wasteful Showers

Although toilets use the most water in your bathroom, showers are rife with opportunities for waste, thanks to easy manipulation of low-flow showerheads and the rise in popularity of multi-head shower systems, some of which spew an astonishing 80 gallons per minute (gpm).

The bane of water conservationists everywhere, these systems are legal, thanks to a loophole in the federal standard that requires showerheads to pump out no more than 2.5 gpm. Since that only applies to single units, these multi-head systems can utilize a dozen or more.

"What used to be exclusive of really super-high-end homes is now becoming more commonplace," says Al Dietemann, water conservation lead for Seattle Public Utilities. Sixty-two percent of residential architects reported an increase in demand for these systems, according to a recent survey by the American Institute of Architects. "A lot of us are watching the trend and becoming more and more disgruntled about it," Dietemann adds.

Another issue with showerheads is that they achieve a 2.5-gpm rate with small water-restrictor discs. Annoyance leads many a homeowner to remove them, resulting in a flow of nearly 5 gpm, says Alex Wilson, editor of Environmental Building News. "Some manufacturers that sell these showerheads go so far as to describe in the product brochure how to remove it," he adds.

To measure the water consumption of your showerhead, pour 2.5 gallons into a bucket and mark the water level. Then, take a stopwatch and fill the bucket for a minute in your shower. If your showerhead sprays more than 2.5 gpm, get a new one. **Delta**'s new H20Kinetics showerhead uses a frugal 1.6 gpm and is designed so that the water droplets are larger, holding on to heat and offering the feel of a 2.5-gpm shower ($55; www.deltafaucet.com, 800-345-3358 for retailers). Or save a little more money with a cheaper alternative; see the checklist below for more.

Finally, if major purchases are in your budget, consider a tankless, on-demand water heater. Households waste 6.35 gallons of water per day waiting for it to heat up, according to the Lawrence Berkeley National Laboratory, and 3.48 gallons of that is for showers alone. Tankless systems heat water when you need it, cutting wait times down to about 30 seconds (see Resources).

Faucets

Last but not least, your bathroom sink faucet, also subject to government standards, must use 2.2 gpm or less. Taps aren't prone to modifications of the bad sort, but you can increase their efficiency with a 1.5-gpm aerator, available at any local hardware store.

Retaining Water

If you've cut your water consumption down to near zero and are still looking for newfangled ways to save, here are a few aquatic marvels:

SinkPositive Tank Lid Sink ($99; www.sinkpositive.com): Designed for hand washing only, you replace your toilet tank's lid with this mini-sink, which is connected to the toilet's intake hose. Every time you flush, water comes out of the faucet and then drains into the tank. Let us know if you can overcome the awkwardness of turning on a faucet by flushing a toilet....

WaterSaver Technologies Aqus system ($295 plus shipping; www.watersavertech.com): The system's under-counter 5.5-gallon tank stores all the water used in your bathroom sink, whether from hand washing, brushing your teeth or shaving, and then feeds it into your toilet's tank. Because toilets use more water than faucets, it's doubtful that the Aqus would supply 100 percent of your toilet's water, but it could cut consumption by about 40 percent (Aqus reverts back to freshwater supplies if the storage tank is empty).

Faucet Foot Valve FFV-2000 ($119.95; www.faucetfootvalve.com, 928-254-1083): Foot-valve-operated faucets can make it easier to stick to the "turn off the water while brushing your teeth" rule. While these systems haven't been widely reviewed or tested, the manufacturer claims that it can save you up to 50 percent of faucet water.

Seven Green Items No Bathroom Should Be Without
1. Recycled, processed-chlorine-free toilet paper and tissues. Look for **Seventh Generation** (www.seventhgeneration.com), **Marcal** (www.marcalpaper.com), **Planet** (www.planetinc.com) and **EcoSoft** brands (www.ecoproducts.com).

2. PVC-free shower curtain. Your cheapest alternative to conventional PVC curtains are polyethylene vinyl acetate (PEVA) liners, as durable as PVC without the hormone-disrupting, asthma-inducing phthalates. Or you can splurge on the eco gold standard, hemp, which also resists mildew. **Ikea**'s remarkably cheap Näckten PEVA shower curtain ($1.79; www.ikea.com); **Vita Futura** PEVA curtains in various styles and widths ($24.99 and up; www.vitafutura.com); hemp shower curtain ($84.95; www.greenfeet.com)

3. Low-Flow showerhead. If the Delta H2OKinetics 1.6-gpm showerhead is out of your price range, you can still get a remarkably affordable, ultra-efficient 1.75-gpm model, such as the **Niagara** Chrome Earth massage showerhead ($5.25; www.energyfederation.org).

4. Petrochemical-free personal care products. Read ingredients lists diligently and watch out for the chemicals listed in The Dirty Dozen Chemicals in Cosmetics.

5. Organic cotton bath linens. These can be pricey, but you can build your collection slowly. Fortunately, national retailers like **West Elm** ($6-$19; www.westelm.com), **Pottery Barn** ($8-$26; www.potterybarn.com) and **Bed, Bath & Beyond** ($7.99-$14.99; www.bedbathandbeyond.com) are selling them in brick-and-mortar stores, so there's no need to pay for shipping.

6. CFL vanity bulbs. Repeated on-and-off use of compact fluorescent bulbs and the humidity of bathrooms will reduce their lifespans by a few months, but switching to CFLs still cuts energy use considerably; **Philips** 16W A-Shape low-mercury Alto bulb ($10.50; www.blackenergy.com).

7. Green Cleaners. If you don't want to make your own cleaners using baking soda (a non-abrasive scouring powder), vinegar (a natural disinfectant) and tea tree oil (an effective mildew killer), choose least-toxic alternatives. See the "Household Cleaning Supplies" category in our new Products A-Z at www.thegreenguide.com/products.