

Industry Insights

ANALYSIS AND EXPERTISE

Consumer Education Is Key to Effective Conservation

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Trillions of gallons of water are wasted each year, despite the best efforts of water utilities to efficiently use water resources. There are numerous opportunities for utilities to educate their customers about ways to optimize consumption and reduce waste.

With survey data indicating high interest in rebate programs but low participation, there's a disconnect in the value proposition. People want to save money and help sustain water supplies, but they don't want to make a big investment in the process or endure renovation and installation hassles. So how do you get customers involved in a conservation program?

TOILETS

Every residential water outlet is a potential source for water-use reduction. Toilet bowls are the biggest culprit for wasting water. Although many water utilities have developed incentive programs to promote the purchase and installation of low-flow toilets, the idea is often met with mixed results.

1.6-Gal Toilets. In 1994, the US Environmental Protection Agency (USEPA) issued a mandate for residential use of 1.6-gal toilets, touting the savings these toilets provide over 3- and 3.5-gal tanks. Although projected savings were astronomical, the toilets were inefficient at clearing the bowl of debris and often required two to three flushes, substantially diminishing actual water savings.

Dual-Flush Systems. Dual-flush systems also were introduced, but this alternative was equally ineffective. Dual-flush units use half the amount of water to flush liquids compared with flushing solids. With a lighter flush using only about 0.8 gal, a complete flush rarely occurred. The water merely diluted fluids already in the bowl. Users usually used the full flush, regardless of what was in the bowl. With no appreciable

savings, investment in dual-flush systems wasn't realistic.

1.28-Gal Toilets. More recently, USEPA gave a WaterSense designation to the 1.28-gal toilet, which the agency claims uses 20 percent less water than the current federal standard of 1.6 gallons per flush. The WaterSense label is used on toilets that are independently certified to meet rigorous criteria for performance and efficiency, so only water-saving toilets that complete the certification process can earn the WaterSense label.

According to USEPA, by replacing old, inefficient toilets with WaterSense-labeled models, average families can reduce water used for toilets by 20 to 60 percent. They could also save more than \$110 per year in water costs and \$2,200 over the lifetime of the toilets. The agency reports that if all old, inefficient toilets in the United States were replaced with WaterSense-labeled models, the country could save 520 billion gallons of water per year.

WASHING MACHINES

The next largest potential savings comes from washing machines. Standard household machines use 40–45 gal/load with the average family running 300 loads/year. Installing a new, high-efficiency washing machine can reduce average annual water volume of 12,000 gal to about 6,000 gal. Unfortunately, the high cost of these machines (\$600–\$1,200) is a deterrent that can't be overcome with a rebate. Rather, a rebate would more likely subsidize a purchase the homeowner would be making anyway.

SHOWERHEADS

Another replacement product that can

reduce water usage is a low-flow showerhead. At a cost of \$15–\$150, these devices, many of which deliver a strong flow with less water, can reduce average annual usage of 40,000 gal by 20 percent—a savings of 8,000 gal/year. For less expensive showerhead models, the return on investment is more attractive.

FAUCETS

Faucets should also be considered when evaluating incentive programs. A leaky faucet wastes 150–700 gal/year. Using a low-flow faucet will save about 700 gal over a standard faucet. Replacing a leaky faucet with a low-flow faucet that costs \$60 will reduce water use by 1,400 gal/year.

CONSERVATION

Conserved water can be considered a reliable water source. Great strides have been made in recent years to evaluate and document the effectiveness of various water conservation programs.

For example, all of the aforementioned solutions contribute to reducing water consumption, but they don't address the most serious impediment to water conservation—leaks. Most toilets, including the new 1.28-gal unit, will leak, and an undetected leak dwarfs savings gained by all other efforts combined.

According to USEPA, a leaking toilet will waste an average 75,000 gal of water/year and possibly as much as 200,000 gal/year. With 20 percent or more of all toilets leaking, staggering amounts of water are being wasted every day. The market has responded by introducing a handful of products that prevent toilet leaks—inexpensive solutions that don't require toilet replacement and offer hassle-free installation.

Other indoor water leaks around the home can be traced to old and worn washers and gaskets that cause leaks in faucets.