

Rehydrating the U.S.

WHY INITIATIVES TO PRESERVE THE WORLD'S WATER SUPPLY ARE MORE IMPORTANT THAN EVER.

>> BY TOMMY LINSTROTH, LEED AP

From Governor Schwarzenegger on 60 Minutes recently to the ongoing lawsuits and legislation emerging between Georgia, Florida and Alabama, the importance of wisely using our water resources has never been more in the spotlight.

Nationwide we have a water deficit of nearly 3,700 billion gallons annually — meaning we are taking out 3,700 billion gallons more water than we are returning to our rivers, reservoirs and aquifers — and that is not a sustainable path for secure water supplies in the future.

Agriculture and power production are the two largest consumers of water in the U.S. — but the buildings we work and live in are responsible for nearly one-fifth of that. Flushing toilets, running cooling towers, clothes washing, irrigating and cooking are all factors in the built environment's contribution to the annual water deficit.

I can't do anything in my 9 to 5 about how much water is used for crop production or for electricity production. What I can control, however, is how much water is used in my home, office and the rest of my real estate portfolio. And that is why I created the RehydrateUS Initiative. The RehydrateUS Initiative calls on individual change to reduce the built environment's contribution to our nation's water deficit by 50 percent in our homes, offices, malls, restaurants and sports venues to reduce our national water deficit and rehydrate our country's water supply. The goal of the RehydrateUS Initiative is to reduce water consumption in buildings by 1 billion gallons per day by 2015, which can be accomplished by three simple, affordable solutions: replace standard toilets, showerheads and faucet aerators with highly efficient, readily available in the marketplace versions.

While buildings are only responsible for 20 percent of the nation's water use, we have the ability to rapidly and effectively increase the water efficiency of our buildings overnight — an opportunity not readily available in other sectors. It's that easy — a simple, affordable mechanism to reduce water consumption in the U.S. by 1 billion gallons per day.

Let's look at how we can achieve this with just toilets, showerheads and faucets.

Whether it is at home, the office, out shopping or anywhere in between, there are 360 million people in this country flushing toilets multiple times a day, every day. How much water is that? Well, any toilet installed after 1992 uses 1.6 gallons every time they flush (and are allowed to be called low-flow). Pre-1992 toilets use between 3.5 and 5 gallons per flush (GPF) and it's safe to say the mix is around 50/50. A good number of folks use urinals, which today use 1 GPF, but older versions can use more than double that.

The good news is that every toilet manufacturer makes tank-type toilets that use on average 1 gallon per flush — a 40 percent reduction versus current standards and 70 percent less than the millions of older toilets in the country. Whether they are dual-flush or pressure-assisted, 1 GPF toilets are readily available and can immediately produce a water savings ranging from 40 to 70 percent. Those of us in the commercial world are likely stuck with

flush valves. The good news is you can switch to 1.28 GPF flush valves that give a 20 to 40 percent reduction versus what's currently sitting in your office bathrooms. And for urinals, you have the option of going waterless (and reducing water use by 100 percent) or putting in a new 0.125 GPF flush valve, which will give you an 88 percent reduction.

While not realistic, if everyone used the ultra-low flow versions available rather than what's currently installed, we would see about 2 billion gallons per day saved immediately — every day, from here on out, just from toilets.

Next are showers. A shower installed after 1992 can only use 2.5 gallons per minute (GPM). Older showerheads use double that amount. Let's assume (or hope) half the country showers daily and that we switch to the new showerheads (available from all major manufacturers) that use on average 1.6 gallons per minute. Based on an average shower length of 8 minutes, we would see additional savings of 1 billion gallons per day.

Third are faucets, which hopefully people are using after going to the bathroom but also while shaving, brushing teeth and washing faces. Current code requires commercial bathrooms to have 0.5 GPM aerators, but that is not the norm. Especially in older fixtures, 2.2 GPM is standard (definitely in every residential fixture). Every commercial fixture should be switched to 0.5 GPM and residential lavatories to 1.0 or 1.5 GPM, reducing water use from faucets by 70 percent and saving another half billion gallons at least. This is also the 30-second solution since all you need to do is unscrew the old aerator and screw in the new one.

That's 3.5 billion gallons of water (and nearly one-third of the annual water deficit) saved every day just from switching to higher efficiency toilets, showerheads and faucet aerators — a change that I did in my own house in less than an hour, and I'm no plumber.

The RehydrateUS Initiative is looking to push these changes across the country, in your homes, offices shopping centers, sports arenas and anywhere else there are plumbing fixtures.

Go to www.rehydrateus.org and make your commitment to help us reduce water consumption by 1 billion gallons of water per year.

Step one: require toilets that use on average 1 gallon. Step two: 1.75 GPM or less showerheads. Step three: 0.5 and 1.0 GPM faucets. Results: 1 billion gallons per day saved, every day, from here on out. It's not rocket science.

One billion gallons is a lofty goal, but we need to stop wasting water when it is so easy to not do so. Check out the website and join the initiative to help us maintain a safe, sustainable water supply for our nation. **SF**



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