MAKING THE FINANCIAL CASE FOR

SAVING WATER

BY RUBEN MEJIA

As private schools and universities look for ways to reduce costs and become more fiscally responsible, one area that seems to get overlooked is water usage. However, if administrators really want to save money, water usage should not be ignored. Additionally, today's students appreciate their university's efforts to go green.

The Environmental Protection Agency (EPA) has reported that for the past decade, the costs associated with water and wastewater services (taking water away from a facility or campus) have increased "at a rate well above the consumer price index (CPI)." This finding was confirmed by a 2014 posting on the Environmental Finance Blog, written by the staff of the Environmental Finance Center (EFC) at the University of North Carolina at Chapel Hill. It indicated that according to the university's research, "Water rates have been rising faster than CPI inflation in the past few years for hundreds of utilities."

Additionally, USA Today reported back in 2012 that according to their research, "residential water bills in at least one in four places [in the US] have doubled in the past twelve years."

- Regarding how these price increases apply to commercial facilities such as private schools, utilities typically have three choices:
- Pass on the same rate increases to all water consumers across the board
- Increase water charges for commercial facilities but not as much as for residential consumers
- Increase water charges for commercial facilities more than for other users

Sewer charges are escalating around the country as well. In many cases, utility companies are increasing these charges to address sewer repair, replacement, and expansion. As has been long reported, water infrastructure in many parts of the United States is in dire condition. We can expect these charges to escalate even faster than water charges in coming years as the need to address this issue becomes paramount.

The amount schools will be paying for water and sewer services five or ten years from now will likely be significantly higher than they are currently. The more emphasis colleges put on reducing water consumption today, the more likely these costs will be minimized and easier to manage tomorrow.

Benefits beyond Cost Savings

The business case for reducing water consumption ranges far beyond saving some dollars, and it relies on a long-term commitment to water reduction. Whereas water conservation refers to reducing consumption for a short time, such as during a drought, water efficiency takes a longer view. Water efficiency means making permanent changes in water use habits. Only through increased water efficiency can the full savings and benefits of reduced water consumption can be achieved. Using water efficiently is a sign of fiscal responsibility in all sectors of a university's operations. According to an EPA booklet, The Lean and Environmental Toolkit: Identifying and Eliminating Waste, excessive environmental waste, including water waste, is "a sign of inefficient production" and management.

If water is not being used efficiently, it often indicates other areas of a facility's operation are not efficient either. Fuel and energy consumption may not be properly managed or monitored, or the facility may not be properly cleaned in order to control costs. Private universities that have reduced their water consumption are also on the path to becoming much more sustainable overall. Fiscal responsibility and sustainability are at the top of the agenda in many private universities. Studies released in 2014 by the Pew Research Center indicate that millennials are the most sustainability-focused generation in American history. As a result, a university's efforts to become more sustainable could be used to promote the school.

How to Start

Most likely, a larger private school or university is going to need to consult with water engineers who specialize in helping facilities use water as much as 75% efficiently. However, the more administrators know about the process and the steps they can take on their own, the easier the water efficiency journey will be. The first step is simply to measure and monitor water consumption. Planners should go through two or three years of past water utility bills to see how much water the school uses and what it pays on a month-by-month basis, then average the consumption along with the charges to find what can and should be reduced.

Once those calculations are made, planners can set goals to reduce water consumption by a certain percentage over a defined amount of time. Having a goal helps keep the journey focused. At this point, planners have two options: conducting a water audit to determine exactly where water is being used on the campus or taking steps to reduce consumption in general. The water audit should be conducted at some point so that planners can determine where water is being wasted. The audit, however, does not have to be the first step. Instead, administrators can focus on two primary categories of water use: landscaping and restrooms. More water is used in these two areas than any other part of the campus.

The business case for reducing water consumption ranges far beyond saving some dollars, and it relies on a long-term commitment to water reduction. Whereas water conservation refers to reducing consumption for a short time, such as during a drought, water efficiency takes a longer view.

Landscaping

Water usage in landscaped areas can be reduced quickly when designers take these steps:

- Minimize vegetation irrigation needs. At one time, the campus of the University of New Mexico looked like it was somewhere in water-rich New England instead of in the middle of the desert.
- Establish smaller lawns, turn to native vegetation, and make sure plants are clustered. Making these changes usually helps minimize water needs.
- Reduce mowing frequencies and set mower blades higher to help keep the soil below the surface moister.
- If sprinklers are installed, make sure they are not also irrigating sidewalks and streets; and reduce water time and frequency overall. Overwatering is not only wasteful; it can also lead to fungi growth and disease in some plants.

Restrooms

A few initiatives with toilets and urinals can bring big results. Newer toilets are mandated to use 1.6 gallons per flush or less. However, as toilets age and undergo repairs, they may be using more than these amounts. Administrators should have an ongoing policy to replace toilets every six to seven years. Not only will this rotation help lower consumption, but the reality is many manufacturers are now making toilets that surpass the 1.6 gallons of water per flush mandate. With more frequent replacement, schools can take advantage of the latest technologies. As to urinals, in California, all new urinals installed in a facility must use no more than 0.5 gallon of water per flush—a standard half of the federal mandate.

Due to cost factors, however, many facilities are now taking the next step toward water efficiency and installing no-water urinals. No-water systems come with financial benefits beyond water savings. For example, even if a new urinal uses less water than a traditional urinal, it still needs to be plumbed and piped; it still needs a flush valve and likely a sensor system; and the urinal itself is likely more costly than a no-water system. None of these costs applies to a waterless urinal system.

The Learning Experience

Here in the United States, we have been given time to prepare, to adjust, and to develop the technologies that will help us lower consumption, use water more responsibly, and, along with it, become much more fiscally responsible in our operations.

ABOUT THE AUTHOR: Klaus Reichardt is CEO of Waterless Co. Inc. in Vista, California. Reichardt founded the company in 1991 with the goal to establish a new market segment in the plumbing fixture industry with water conservation in mind. Reichardt is a frequent writer and presenter, discussing water conservation issues. He can be reached at klaus@waterless.com.

DON'T LET AN AUXILIARY DRAIN SINK YOUR SUPPLY CHAIN

YOUR PARKING GARAGE, SELF-STORAGE, AIRPORT, STADIUM, LOADING DOCK, GARDEN CENTER, ...

AGF

FLOODELIMINATOR

- Stops Flooding due to Frozen, Vandalized, or Improperly Maintained Fire Sprinkler System Auxiliary Drains
- For Dry and Pre-Action Fire Sprinkler Systems
- Compatible with Compressed Air and Nitrogen Systems
- No Power Required
- Automatically Resets
- Allows Condensation to be Drained Normally
- Retrofit onto Existing Auxiliary Drains
- Made in the USA

SCAN FOR MORE INFO

www.agfmfg.com