

Tapping Into The Value Of Water

By educating key stakeholders on the true value of water, utilities can better position themselves to secure much-needed and long-overdue funding.

By Kevin Westerling

The value of water is a study in contrasts: It is both blatantly obvious (try living without it for a day) and easily overlooked. In the United States, potable water has been so cheap and readily available that few consumers consider the process that brings it to their spigot. The nation's crumbling distribution system, in particular, is out of sight/out of mind — until it's out of service.

Clearly, with respect to water, public perception is not reality. Those in the industry realize that high-quality water that adheres to today's strict regulatory standards is *not* easily produced and certainly not cheap. On the contrary, the cost is rising to the point of unsustainability. Cost drivers include the aforementioned failing infrastructure and regulations but also population growth and water scarcity.

In terms of dollars, you have probably heard reports in recent years about the massive investment needed to repair, replace, and expand America's water/wastewater system — or, more likely, you're living it. A 2012 study by the American Water Works Association (AWWA) estimated the cost to be \$1 trillion over the next 25 years¹, raising the question: "Where do we get the money?"

While financing initiatives such as public-private partnerships and loan programs, like the State Revolving Fund (SRF) and the Water Infrastructure Finance and Innovation Act (WIFIA), are viable solutions, the fact is that most capital improvements will ultimately be financed through water sales revenues. In other words, the same customer who takes water for granted — and

considers it a right — will need to pay more for it.

No one ever likes to pay more, and it's an especially hard sell in this economic climate. However, there are few things (one could argue *nothing*) more vital to a community and a society than clean water. When lobbying for the rate increases necessary to achieve sustainable operations into the future, utilities must reset the common (mis)understanding of the value of water so that it gets the attention — and money — it deserves. This article provides a two-phase approach to getting water its just due.

Phase 1: Win Over Decision-Makers Via Asset Management

A recent research study conducted by McGraw-Hill Construction and CH2M HILL analyzed the use and benefits of water infrastructure asset management, defined as "a set of practices and methods for delivering desired services to residents and businesses, at the lowest lifecycle costs (including environmental and social costs), while managing risk to an acceptable level."² The report looked at the rate of adoption and the effectiveness of asset management in the water

sector, broken down into three main categories: technology and data practices, strategy and performance measurement practices, and processes and methods for sound investment decisions.

A survey of 451 utilities across the U.S. and Canada revealed that the single greatest benefit to practicing water infrastructure asset management was the "improved ability to explain and defend budgets/investments to governing bodies," cited by



80% of practitioners. The next most popular answer, reported by 67%, was “better focus on priorities.” Taken together, these responses indicate that a clear understanding — and presentation — of a utility’s current assets and efficiencies, alongside data-driven projections of what will be needed in 5, 10, or 20 years, is essential to getting approval for the rate hikes necessary to maintain sustainable operations.

The study also revealed that heavier adopters of asset management practices were more likely to have higher planned rate increases (of more than 5%) by 2017, suggesting a higher cost assessment for future needs. To apply these findings conversely, non-practitioners would be more likely to forecast, request, and receive less funding than they actually need.

The report therefore confirmed that water infrastructure asset management lends itself to smarter

decisions — for utilities and, should they listen — administrative boards and elected officials. But elected officials are often motivated more by votes than by what is “right,” and raising water rates would not appear to be politically expedient. That’s where Phase 2 comes in.

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Phase 2: Win Over The Public Via Community Outreach

If the public truly understands and appreciates the value of water and, by extension, the role of the water provider, then they are more likely to support the investment required to adequately fund the repair, expansion, and upkeep of vital water systems. Once the public is won over, governing bodies can

grant approval on water rate or tax increases with less fear of political fallout. This is why community outreach is so important, to be conducted in concert with asset



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management as a lead-up to funding proposals.

An initial obstacle to asking for more is the fact that consumers have already been paying more. In 2012, *USA TODAY* reported survey results from 100 municipalities, finding that over 25% had at least doubled their rates over the past 12 years.³ This sharp increase reflects the rising costs of water treatment, but also illustrates the need to change the perception of the value of water.

According to the U.S. EPA report “Water On Tap,” published in 2009, Americans were paying an average of just \$2.00 per 1,000 gallons of tap water — less than almost any country in the developed world. In contrast to other services, even higher water rates won’t typically rise to the level of electricity and gas services and are decidedly less than nonessential services such as cable TV and Internet. And for the sizable portion of consumers who shun tap water for bottled water, the *New York Times* notes that 8 glasses

of water per day from the tap cost about 50 cents per year, while the same amount of bottled water costs up to \$1,400 dollars.⁴

Put in context, water is still a bargain, especially for all that it provides. Water not only sustains life but also is vital to our quality of life. Through its purveyor, the municipality, water also provides the community with disease protection, fire protection, basic sanitation, economic development, and countless other benefits. This is part of the message that needs to be conveyed to the public.

The other part is the fact that the collection, treatment, and distribution of water is a massive and expensive operation, and one that is at risk. Precisely by underpricing water for so long, while at the same

time neglecting the infrastructure put in place long ago (in some cases more than 100 years), the U.S. has accumulated a funding gap of \$540 billion. That estimate was reported by Steve Allbee, project director of Gap Analysis for the EPA, who derived the number by comparing current spending to the investment needs over the next 20 years.⁵

The good news is that the public may be receptive to the message. In a nationwide poll of consumers

conducted last year by water technology provider Xylem Inc., 88% of respondents felt that U.S. water infrastructure is in need of reform, and 61% said they are willing to pay more for water — \$7.70 per month more, on average. That slight crack in the door exposed, utilities would be wise to take advantage and walk through it.

While the outreach effort in “selling” these higher rates should focus mainly on the value of water — both of the product itself and the services associated with it

— the argument can also be made that higher short-term costs to the consumer can pay off in the long term, especially in water-scarce regions. Higher rates promote conservation, thus reducing the burden on infrastructure and lowering long-term operation and maintenance (O&M) costs. With populations and demand on the rise, water made available through conservation is much cheaper than alternatives such as desalination and imported water. Of course, the rate structure must be applied in such a way that the financial impact is a net positive for the utility, despite the decrease in consumption. This can be achieved through volumetric pricing that penalizes “heavy”

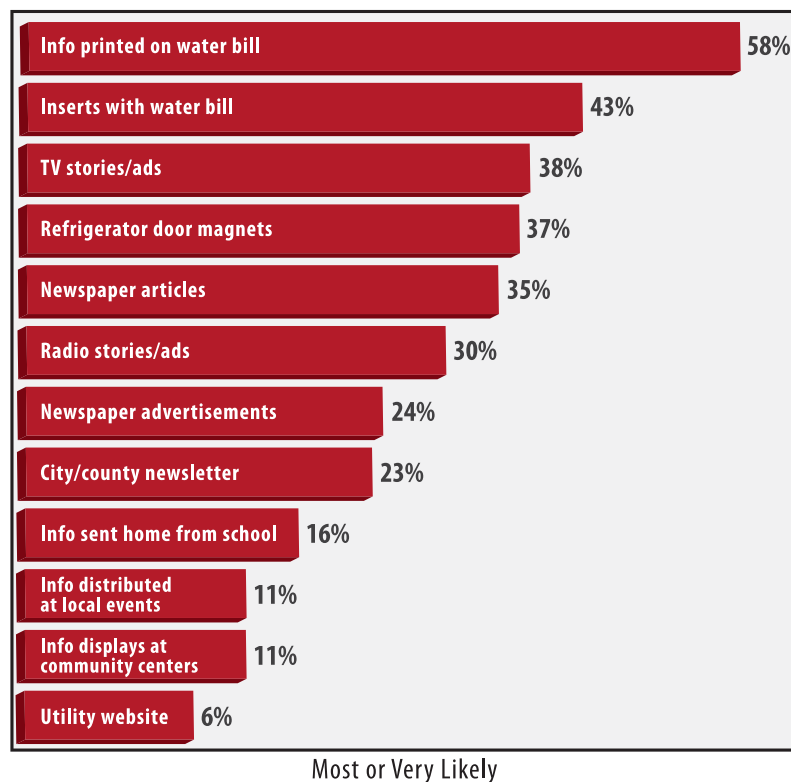


Figure 1. Likelihood of customers viewing information from various sources (Credit: Water Research Foundation/U.S. EPA)

“Higher rates promote conservation, thus reducing the burden on infrastructure and lowering long-term operation and maintenance (O&M) costs.”

users who exceed prescribed limits, or through marginal cost pricing, which simply sets the price of water at what it costs to supply it.

In practice, “brand building” — the term used for communicating public sector value — can be accomplished in a variety of ways, largely depending on the size of the utility and available resources. Small utilities may be restricted to flyers in water bills and Internet/social media campaigns, while large utilities can reach out through radio spots, television commercials, and professionally designed mailers.

In a survey conducted for a 2008 study on communicating the value of water, cosponsored by the Water Research Foundation and the U.S. EPA, water customers answered the question of “how their water utility should keep them informed” by citing water bills (58%) and water bill inserts (43%) most frequently. TV, radio, and newspaper ads were favored by 35%, 30%, and 24%, respectively, while refrigerator magnets snuck in at 37%. See Figure 1 on page 24 for more detail on the methods and responses represented in the study.⁶

The Importance Of Influence

Both initiatives described above — asset management for formal decision-makers and community outreach for the general public — have a common goal: to amplify the values that resonate with that audience. In the case of elected boards and officials, it is imperative to make a strong business case (one of the tenets of asset management) that clearly presents current and future needs of the utility, a plan for capital improvements, all risk factors, and the anticipated return on investment — not just economic return, but also social and environmental returns. This audience legitimately requires such data to make informed decisions, but they will also need the solace of public support. For the public, it is a matter of rewiring and reconsideration, to stop seeing water as a boundless, cheap commodity and start seeing it as a necessity worth

investing in. These are no small tasks, to be sure, but very important toward maintaining the level of service that has for too long been taken for granted. ■

¹ American Water Works Association: “Buried No Longer: Confronting America’s Water Infrastructure Challenge,” 2012.

² McGraw-Hill Construction: “Water Infrastructure Asset Management: Adopting Best Practices to Enable Better Investments,” 2013.

³ USA TODAY, “USA TODAY analysis: Water costs gush higher,” September 29, 2012.

⁴ New York Times, “In Praise of Tap Water,” August 1, 2007.

⁵ Pennsylvania State University, *Liquid Assets: The Story of Our Water Infrastructure*, 2008.

⁶ Water Research Foundation/U.S. EPA: “Communicating the Value of Water: An Introductory Guide for Water Utilities,” 2008.



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