Californians are ready for recycled water

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The State Capitol in Sacramento, Calif. Credit: roamandshoot

According to the U.S. Drought Monitor, more than 60 percent of California is still suffering "extreme to exceptional drought" conditions. Californians are living through the state's worst drought in more than 150 years and now, in its fifth year, the reality of the situation is that long periods of drought might be the new normal.

Last year, Gov. Jerry Brown implemented mandatory cutbacks for the first time in the state's history. California residents were required to reduce water use by 25 percent. Reflecting the severity of the situation, the response was overwhelmingly positive. In June 2015, the first month in which the cutbacks were required, residential water use dropped more than 30 percent. But fast forward seven months, and conservation efforts are slipping—urban water users are coming up shy of their conservation targets. So while it's clear that Californians are doing their part, it's also evident that the state needs a portfolio of solutions in order to better balance its water resources management strategy.

At Xylem, they believe that water reuse plays a critical role in the suite of solutions that can help California—and the United States—achieve a resilient and sustainable water future. The facts are indisputable: Water reuse is a proven technology that can produce a drought-proof sustainable water supply. Yet historically, there has been some reluctance to adopt it here in the United States. In an effort to better understand Californians' perceptions about recycled water and their understanding of the technology used to produce it, they commissioned an independent private poll.

A farm in the San Joaquin Valley.

The findings were eye-opening.

Of the 3,000 California residents surveyed, 76 percent believe recycled water should be used as a long-term solution, regardless of whether or not the water shortage continues. But perhaps that should not be a surprise. Not only have California residents experienced cutbacks, according to a University of California, Davis study, the drought has caused a statewide revenue loss of $2.7 billion, with 18,600 lost jobs. While these losses hit the agriculture industry the hardest, the impact spread broadly to businesses and households.

Given this backdrop, it's hardly shocking that 87 percent of the state supports using recycled water as an additional local water supply, and 83 percent are willing to use recycled water in their everyday life.

The survey results revealed another important finding that can inform how to effectively introduce the idea of recycled water to a community. We learned that education is a key factor to gain increased support for recycled water. After reading a statement about the treatment processes that recycled wastewater undergoes to become safe and drinkable again, 89 percent of respondents were more willing to use the water in their daily lives. Not surprisingly, 88 percent agree that seeing a demonstration of the water purification process would make them more comfortable using and drinking recycled water.

According to Prof. Upmanu Lall, director of the Columbia Water Center and the Alan and Carol Silberstein Professor of Engineering at Columbia University, the survey demonstrates the importance of elevating awareness of existing potable reuse projects that are successfully delivering clean, safe water to people here in the United States and around the globe.

Operating under a Stage 5 drought last year, Texas became the first state in the U.S. to build a direct potable reuse facility, treating and recycling millions of gallons of wastewater. Both Wichita Falls and Big Springs, Texas, now use direct potable-reuse technology. The methods used at each plant vary to meet their unique needs. Both mix the treated wastewater with a local water source, and that water is then treated again with conventional drinking water treatment techniques to meet and/or exceed all drinking water standards before being delivered directly to consumers.

Israel, one of many countries struggling with water shortages, has been advocating for stronger water reuse policy since 2007, when they

established the Water Authority, an interministerial agency committed to increasing supply and reducing demand. Only a few years later, Israel is leading the world in the use of recycled water, effectively recycling 80 percent of household wastewater for agricultural use.

California is building reuse capacity. The state already has a number of water recycling projects that recycle water for industrial and agricultural projects. The Silicon Valley Advanced Water Purification Center provides recycled water to tech giants, the South Bay Water Recycling program delivers recycled water to the San Jose area, and Orange County Water District's Groundwater Replenishment System is the world's largest advanced water purification system for potable reuse.

But it's just a start. According to the EPA, of the 32 billion gallons of municipal wastewater produced annually in the United States, less than 10 percent is intentionally reused. This is a luxury we cannot afford and should not indulge. As we move forward into an increasingly unstable water future, we must be smarter about how we use and reuse this finite resource.

In California, lawmakers agree. A Feb. 5, 2016, report by the Legislative Analyst's Office, the California Legislature's nonpartisan fiscal and policy advisor, calls on the state Legislature to continue "identifying and enacting new policy changes that can help improve the state's response to droughts in the future."

Over the past several weeks, parts of California have been reeling from the torrential rainfall that the El Niño weather pattern has brought. As Lall has pointed out, concerns abound that the sudden deluge of water might allay concerns about the drought continuing. But the survey results suggest that Californians will not be so easily dissuaded.

Nearly 90 percent of surveyed Californians believe the state should

continue to invest in recycled water even if El Niño brings the expected rainfall. In fact, if that expected rainfall should materialize, only 12 percent of respondents indicated they would be less concerned about conserving water.

California has the opportunity to champion a flexible policy framework to enable and advance the adoption of water reuse. The state could lead the nation in this regard. With nearly 90 percent of the surveyed public agreeing that the California drought has made them more supportive of recycled water, the public and private sectors should feel emboldened to implement this technology more broadly. The impact would be enormous.

Purified wastewater could provide enough potable water to supply all municipal needs for more than eight million people, or roughly one-fifth of California's projected population in 2020, according to a report by the WateReuse Association. And unlike conservation efforts, which rely on individuals' day-to-day resolve, says Lall, this solution can have a long-lasting impact.

These survey findings present an opportunity to shift the tide for the nation. While recycled water is just one piece of the puzzle to address California's water challenges, it has the potential to address not only the current drought, but California's long-term water security.

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