

FOOD

ENGINEERING

Wastewater Treatment

Why you may want to think seriously about wastewater treatment

With services and capabilities from POTWs decreasing, food and beverage processors will have to pick up the slack, but at what cost?



One example of water reuse and reclamation is this potato washing flume where wash water is collected to be cleaned and used again or for another purpose. Source: Kurita America

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Wayne Labs

KEYWORDS [wastewater treatment](#)
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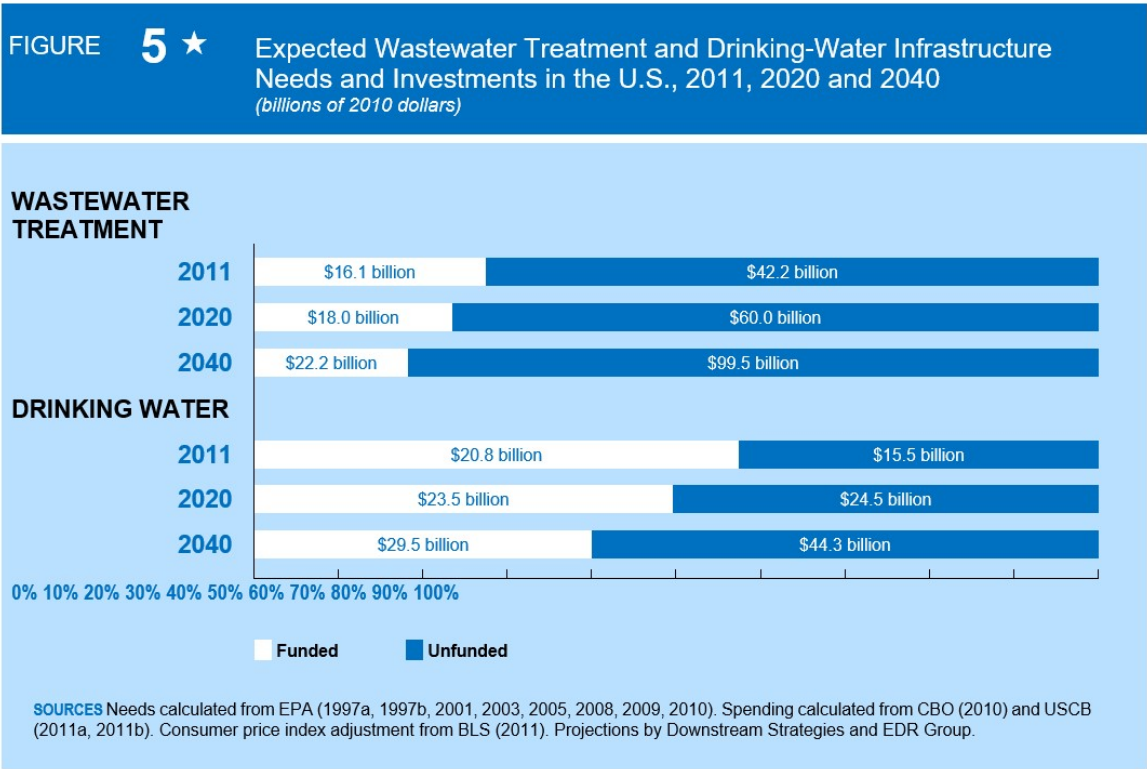
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The year 1972 saw the passage of the Clean Water Act (CWA), an act that provided incentives, penalties, as well as funding for communities to clean their water. The Environmental Protection Agency (EPA) at the time estimated that over two-thirds of the waters in America were unfit for fishing or swimming; a number that was cut in half after the CWA was established. Almost 50 years later the early success of the program has declined. A combination of funding cuts, aging infrastructure, and new pollutants has pushed the responsibility for water treatment back upstream to the facilities that produce the wastewater. This means food and beverage processors and other manufacturers that generate copious amounts of wastewater.

Historically, large centralized publicly owned treatment works (POTWs) were the beneficiaries of the CWA, says Daryl Mandoza, product manager for wastewater treatment solutions at Kurita America.* (Kurita, formerly U.S. Water, treats both incoming water and wastewater.) Funding and regulatory changes made investment in these POTWs beneficial for the communities and production facilities that used their services.

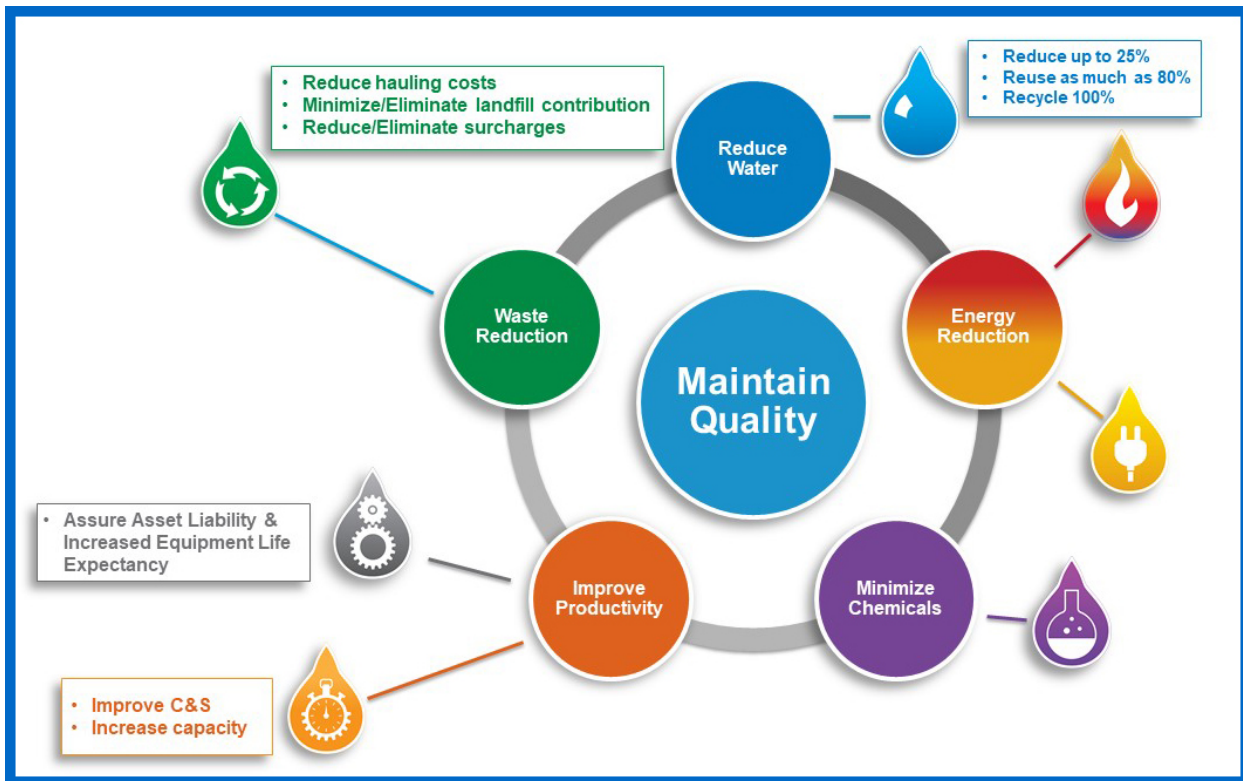
“The American Society of Civil Engineers issued a D+ grade to our nation’s POTWs in 2017,” says Mandoza. “Our POTWs throughout the country continue to fail. Production facilities will be required to manage their water use and discharge more efficiently and effectively because the local POTW cannot handle the water flow and/or the contaminant loading.”



Source: [American Society of Civil Engineers \(ASCE\)](#)

The onus is on processors to pre-clean their wastewater

The reality today, says Mandoza, is that the burden of water treatment is moving away from the centralized POTW and further upstream to production facilities. While food and beverage processors have always focused on optimizing their operations to maximize profits, they now have added a water treatment cost center. This adds operational costs, and it doesn't improve profits. But there are several reasons driving an on-site treatment facility as shown in the immediate diagram below.



Problem is, water treatment is not typically a facility's core competency, says Mandoza. Yet, the same business considerations that a facility considers for their operations and stakeholders are the same considerations that impact their water treatment:

- Quality and brand protection
- Food safety and regulatory compliance
- Environmental compliance
- Sustainable development goals
- Profitability and productivity
- Asset protection
- Work safety and liability

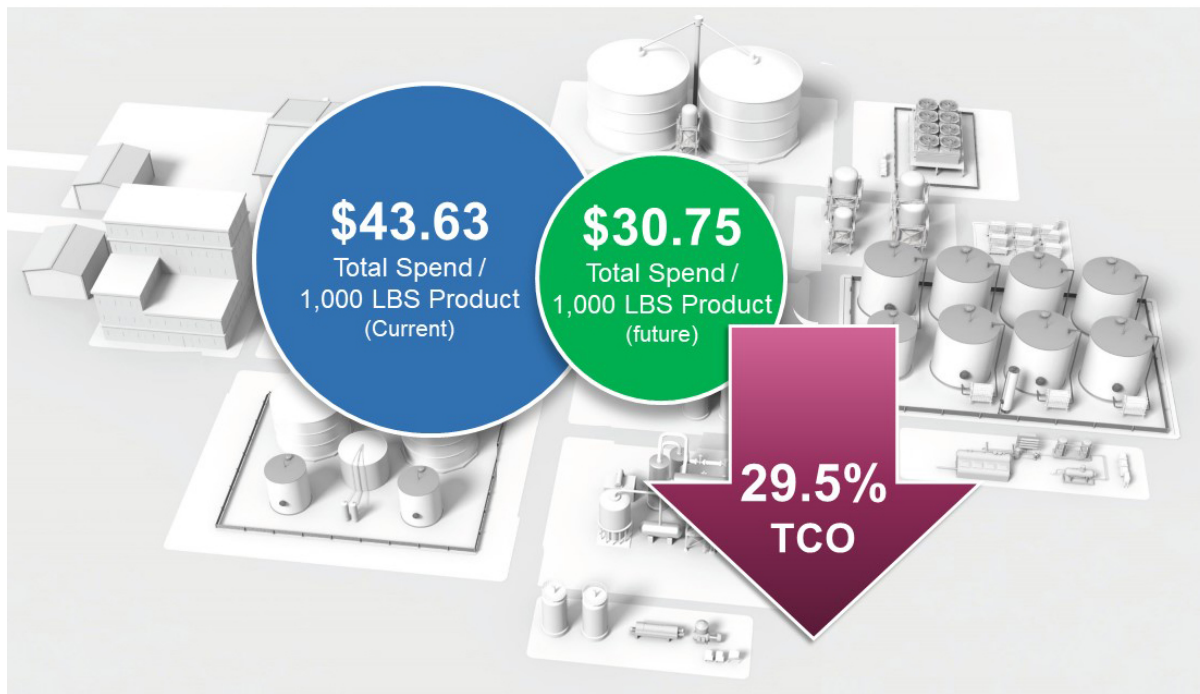
Develop a holistic roadmap to a wastewater solution

“Commoditized water treatment chemicals and services is no longer a model that works effectively,” says Mandoza. Gone are the days where a buyer at a manufacturing facility makes decisions based on cost per pound or cost per month for water treatment. Corporations are looking for an experienced business partner in their water treatment approach. This would be an approach that includes working with on-site engineering, EHS (environmental, health & safety), maintenance, management, procurement, and executives, adds Mandoza.

The development of the roadmap to a wastewater solution should start with a comprehensive site assessment (CSA). This includes discussion with your company’s stakeholders to determine local and corporate key performance indicators (KPI’s), a facility assessment, evaluation, and ways to implement, says Mandoza. The assessment should result in sharing sustainable best practices and opportunities for integrated solutions specific to your facility and generally applicable to your organization. The assessment combines local facility expertise and insight with the assessment team’s water business expertise. In many instances, the CSA improves communication between departments and organizationally—effectively breaking down operational silos. For example, when the sanitation manager can be shown the impact a change in the cleaning and sanitation process has on the liquid solids separation operation, it helps facilitate change, says Mandoza.

The CSA establishes the roadmap. The recommendations and implementation of items from the CSA become specific directions to achieve operational excellence, adds Mandoza. “That is why developing a holistic roadmap to your water treatment matters.” It results in the following:

1. A comprehensive facility approach to water treatment versus department by department. For organizations with multiple facilities, it allows the facility to meet corporate goals and KPIs and prioritize capital funding and operational budgets.
2. Specific solutions to meet desired goals that can be adjusted to meet production, scheduling, or business changes at your facility.
3. A standardized approach that improves internal communication and goal setting.



POTWs will continue to struggle to meet their community needs and will require additional household/consumer and public funding to make necessary upgrades and repairs to their infrastructure. This will likely increase the financial burden on food and beverage processors, says Mandoza. "Getting a head start on establishing a holistic roadmap to your water treatment is the prudent thing to do."

About Daryl Mandoza



Daryl Mandoza is a product manager for wastewater treatment solutions at Kurita America, specializing in liquid solids separation. For more information about how Kurita America's integrated water solutions help you maximize productivity and profitability visit www.kuritaamerica.com.

*Recent news about Kurita America

Kurita Water Industries completed the merger of its consolidated subsidiaries in the U.S., including U.S. Water Services Inc., Kurita America Inc., Fremont Industries and Global Water Services Holding Company Inc. The newly combined company is known as [Kurita America Inc.](http://www.kuritaamerica.com) and is headquartered in St. Michael, Minnesota; Phone: 866-663-7633. A new Kurita America headquarters building is currently under development in Brooklyn Park, Minnesota.