

## ECONOMIC



# Affordability



In the next 10 to 20 years, disruptive challenges related to affordability are likely to continue to impact the ability of water utilities to meet their required levels of service for their changing service areas. How can utilities continue to provide capital-intensive and critical services in the face of increased costs, limited resources, and economic uncertainty?

## CRITICAL FUTURE DISRUPTORS

For the purposes of this effort, a disruptor is defined as something that interrupts an event, activity, or process by causing a disturbance, problem, or opportunity. Disruptors can arise as barriers to normal operations or may present opportunities to do things differently/innovate.

The following items were chosen by a diverse group of water leaders and experts as the most significant future disruptors that water utilities must anticipate and plan for.



### INFRASTRUCTURE & WORKFORCE

Utilities will continue to face challenges due to deteriorating infrastructure; however, new technologies could become available that improve infrastructure longevity. At the same time, as a large segment of the water workforce retires, utilities must attract and retain new staff and train them on the operation of existing assets as well as implementation of emerging technologies.



### CLIMATE CHANGE

Utilities will increasingly be challenged by extreme weather events like drought, wildfires, other natural disasters, and sea level rise.



### REGULATORY

Utilities must be prepared for regulatory changes, e.g., revisions and expansions to the Clean Water Act and Safe Drinking Water Act addressing issues including post Long-Term Control Plan compliance, regulation of emerging contaminants in drinking water, significant infrastructure upgrades, and water availability challenges. These regulatory changes will only exacerbate existing affordability challenges.



### FUNDING

Utilities' funding strategies for operations and customer assistance will be significantly challenged by aging infrastructure and external economic forces such as inflation and a shortage of well-trained staff.



## PUBLIC AND POLITICAL

A variety of public and political trends will impact utilities; including demographic shifts; growing income disparity; shifts in industrial, energy, and agricultural operations; different/new types of waste to be treated; and changing populations and demand trends.



## RESEARCH OPPORTUNITIES

Based on these critical future disruptors, experts prioritized the following targeted research areas:



### INNOVATIVE RATE STRUCTURE

Research is needed to support the development of innovative and more equitable rate structures (e.g., tying water rates to property value or occupancy instead of usage). More research is also needed to better understand how shutoffs and delinquencies impact utility revenues and the cost of service.



### REGIONALIZED APPROACH

Research is needed on whether there are additional opportunities to support a regionalized approach to water operations and service, particularly in rural areas—can O&M costs be pooled across a larger region to drive down costs?



### PUBLIC-FOCUSED SOLUTIONS

Research is needed on whether water rights can be reimagined to better align with the “best” use of a particular water supply. As the public increasingly focuses on the concept of a human right to clean and safe water, there will need to be additional research on innovative funding approaches for affordability programs, and how to address acute water quality challenges in small systems and disadvantaged communities.



### QUANTIFYING THE ECONOMIC VALUE OF WATER

Research is needed to better quantify the value of water as a crucial component of public health, and to quantify the value of reliable water supplies. From a social perspective, research is needed on how to focus the public recognition of the true cost of water while also accounting for the very real affordability challenges that will increasingly be experienced in multiple communities.



### ADAPTIVE ORGANIZATIONS/INFRASTRUCTURE

Research is needed on how utilities can become more adaptive organizations, in terms of adopting innovative technologies, developing a workforce of the future, and generally fostering a culture willing to try new approaches.



### CSO AFFORDABILITY INNOVATIONS

Research is needed on innovative solutions to decrease costs related to managing combined sewer overflows. Can implementation of reuse be expanded as part of water quality improvements for long-term control plans?