

COMMUNITY ENGAGEMENT



Expanded Expectations of Utilities



In the next 10 to 20 years, challenges like changing expectations for the role of water utilities may impact their ability to meet committed levels of service for their ever-changing service areas. As customer expectations expand, how can utilities best meet the needs of their communities?

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.



TECHNOLOGY

As technology advances, the public will expect utilities to implement new technologies in an appropriate and responsible way. When implementing online real-time monitoring, artificial intelligence, virtual reality, digital twins, and more, utilities will have to grapple with increased cybersecurity issues and find ways to educate and train their workforce on these technologies.



WATER AND PEOPLE

Water utilities must proactively manage their relationships with customers and other stakeholders to overcome the continuing trend of public mistrust in institutions and government. A proactive public engagement approach is critical for utilities to build goodwill and trust with stakeholders during the “good times.” When utilities encounter a future crisis, they can draw on this stored goodwill. Internally, effective engagement will be just as critical to water utilities, as the current water workforce retires and new employees are recruited.



TREATMENT AND MONITORING

In the future, customers may want more control over their water—both its quality and how much they pay for it. Tiered water quality approaches (e.g., point-of-entry treatment systems), where water treatment equipment is installed on the incoming water line at a property, may become of greater interest to customers, along with sensors and data feedback giving customers additional tools to manage their water use.



VALUE OF WATER

As water supplies become more scarce, various entities (utilities, municipalities, etc.) will be competing for available water supplies, which could lead to protracted water rights disputes. Water supply challenges will likely increase demand for new approaches and technologies to improve water efficiency, from both water providers and customers at the tap.



CIRCULAR ECONOMY

With climate change adaptation as the main driver, water utilities will need to take a central role in implementing a circular economy to minimize waste through a closed-loop system. More utilities may expand their services to include green product manufacturing and food production.



RESEARCH OPPORTUNITIES

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



DATA

Research is needed to determine the best approaches to provide real time water data to customers and environmental regulators, and promote open data-sharing between utility services on customer experiences.



WATER-ENERGY NEXUS

Research is needed to further investigate how utilities can take advantage of renewable energy. What are the fuels of the future? Treatment plants for all water types need research on how best to evolve into energy generation and storage facilities.



WORKFORCE

Research is needed to develop technical education for continuous training of water professionals. Increased outreach on job opportunities and formal education for jobs in the water and wastewater industry is needed, along with development of interdisciplinary water workforce task forces across utilities in a city.



POLICIES

Research is needed on ways to effectively implement federal support for customer assistance programs. What are the current expectations for these programs and how might they inform our approach across key research areas? Can water shutoffs be targeted to address those customers that are choosing not to pay rather than those that are unable to pay their water bills? Research is needed to identify effective strategies to select appropriate vendors (i.e., beyond low bid). Research is needed to promote broader acceptance of best practices for economic regulation, as well as ways to better link the value of water to enhanced security of supply in an equitable fashion through new and improved rate structures.



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Research is needed on innovative strategies for utilities to engage with communities and stakeholders. This research could include potential roles for citizen panels for water utility planning, systems to help utilities explore alternative scenarios to better manage and understand stakeholder expectations, enhance utilities' social media content to become more science-based, and developing updated educational materials on holistic water cycles.



RESILIENCE AND SUSTAINABILITY

Research is needed on how utilities can best manage a mix of centralized and decentralized service systems to improve resilience and redundancy, including through the implementation of new networks and connections between plants.