Reforming the Water Utility Business Model to Respond to and Incentivize Demand Reduction

Project Summary: April 2024

Project Rationale

Water utilities across the United States are facing mounting pressures on water resources. Climate change is causing more frequent and severe droughts and less predictable precipitation. Groundwater aquifers are drying up because of overuse. Likewise, major rivers, including the Colorado River and more recently the Mississippi River, are unable to meet current water demands. Further, PFAs and other contaminants threaten water resources and will likely require more expensive treatment technologies. Finally, rising energy, material, and labor costs are increasing water costs, far above the rate of inflation.

In response, many utilities are looking to develop new options for augmenting and diversifying their water supply portfolio, including water-use efficiency. Water efficiency and conservation can typically save water more quickly and cost-effectively than supply-side strategies, and studies show that there remain significant opportunities for additional water efficiency improvements. Moreover, water efficiency delivers other benefits, including reducing energy use and greenhouse gas emissions; making more water available to support healthy stream flows and lake levels; and limiting surface water contamination from run-off caused by over-irrigation.

Research from the Alliance for Water Efficiency (AWE) and others has demonstrated that water utilities can reduce their long-term costs and/or customer water bills by investing in water efficiency. Yet, in the near-term, reductions in water use also reduce water utility revenue, creating challenges for utilities to secure sufficient revenue to cover their typically large, fixed costs. This revenue structure may contribute to revenue instability as demand continues to decrease systemically in many communities. It can also be a major barrier to increased investments in water efficiency measures, whether in response to water scarcity or to leverage the multiple benefits associated with saving water.

While there is growing recognition of the "conservation conundrum," as it has been described, there are few resources for how to address it. Some resources that are available include:

- A 2014 research report (*Defining a Resilient Business Model for Water Utilities)* from the Water Research Foundation and the US Environmental Protection Agency, which documented declining per capita water use and recommended alternative rate models and other strategies for addressing the conservation conundrum;
- A 2013 report, *Energizing Water Efficiency*, from the Pacific Institute (PI), which evaluated the applicability of energy efficiency programs and policies to water efficiency; and

- AWE's *Financing Sustainable Water* resources outlined financial mechanisms for helping water utilities generate sufficient revenues amidst declining water use, such as Tiered Rates, Adaptive/Adjusted Rate Design Methods, Rate Stabilization Funds, and Drought Surcharges.

The proposed project will build on these resources and others, including resources from the energy sector, to provide practical guidance on effective response strategies.

Project Objectives/Design

Through a literature review, interviews and surveys of key stakeholders, and input from an assembled working group of experts, AWE and PI will address the project's four major objectives:

1. Evaluate whether current utility business models, rate structures, planning strategies and programs align with the goals of revenue stability, supply reliability, and water-use efficiency. This evaluation will build on approaches recommended in the 2014 WRF/EPA report and in AWE's *Financing Sustainable Water* resources.
2. Identify new or updated business models and strategies that better align revenue stability, supply reliability, and water-use efficiency.
3. Produce recommendations for strategies to better address the conservation conundrum.
4. Leverage the networks of AWE, PI, and working group members to share the findings with target audiences through a comprehensive outreach effort.

Working Group Role and Schedule

The Alliance for Water Efficiency and Pacific Institute will convene a working group of leaders from water and energy utilities, state and federal government, NGOs, and other experts to explore strategies and make recommendations for better aligning the water utility business model with efforts to manage demand reduction and expand water-efficiency investments. It will meet six times between June 2024 and May 2025. These meetings would be virtual with the possibility of one in-person meeting.

AWE and PI will staff the project, with Working Group members serving in an advisory capacity. Members are asked to attend the meetings (90 minutes max) and review materials periodically. Members will also be interviewed for 30 minutes before the first meeting to inform the Working Group meeting agendas.