

Multi-Benefits of Adopting the Risk-based Framework for Onsite Non-potable Water Systems

The [Risk-Based Framework for the Development of Public Health Guidance for Decentralized Non-Potable Water Systems](#) defines pathogen reduction targets for a variety of different onsite waters and municipal wastewater, too, based on the risk to human health. This water quality framework is more protective of public health than current municipal drinking water standards.

Public Health Benefits

The proposed risk-based framework for onsite water systems is more protective than our current regulations. By using this internationally accepted methodology, **agencies can reduce their exposure to risk associated with meeting their public health and environmental regulatory requirements.**

Regulatory Benefits

Developers are permitting systems under a wide variety of permitting pathways, some of which may not be as good at protecting public health or the environment. Adopting a program now **allows city and state agencies to implement regulations with time to discover local challenges and adjust as necessary.** As water becomes scarcer, **a voluntary water reuse program that has already been piloted can be more easily scaled up to meet new challenges.**

Environmental Benefits

Even in water-rich places before development, the watershed is already using almost all its water to maintain ecological health and provide people with environmental services. When we draw water from the watershed, plants and animals are impacted. **Water reuse is a form of deep conservation that keeps more water in the watershed, creates healthier environments for fish and wildlife, and results in better air and water quality.** According to a 2014 report¹ “Improved efficiency, stormwater capture, and greater water reuse [of the current water use levels] can... supply all of urban Southern California and have water remaining to help restore ecosystems and recharge aquifers”.

Energy Benefits

Hydroelectric power is directly connected to the volume of water that drives it. Water conservation in the form of reuse returns more potential energy to the power grid and lowers overall costs. On a local level, utilities see a lower demand for water and reduce the need for utility expansion or expensive well operations.

¹ *The Untapped Potential of California's Water Supply.* Pacific Institute and National Resource Defense Council, 2014. Retrieved from: <http://bit.ly/2LjgKsb>

Environmental Justice Benefits

Even with existing massive infrastructure systems and well-meaning subsidy programs, water is inequitably distributed in the United States and becoming less and less affordable for more and more people. (e.g. In the Central Valley of California has an environmental justice crisis in the Central Valley, where a mostly Latinx population is suffering from lack of access to suitable drinking water due to groundwater contamination.) As *We the People of Detroit*² have discovered, distributed community-scale systems are an opportunity for communities in Detroit and Flint to control their own source and quality of water and generate income from byproducts for their community.

Financial Benefits

Implementing a deep water conservation program such as water reuse or diversified water treatment infrastructure directly affects the affordability of water by reducing the financial burden for expansion of wastewater treatment plants, first-response infrastructure development and integration of multiple utilities and jurisdictions. Developers and small utility operators are already profiting from onsite water reuse systems by providing on-site water conservation savings back into their development portfolio.

Resilient Communities

Onsite water reuse can diversify a city or state's water portfolio, and with climate change and natural disasters regularly threatening large-scale centralized systems, this is a critical path issue that needs to be addressed immediately. Earthquakes damage pipes and interrupt service for years. As we lose forests to fire, landslides can impact large reservoirs by damaging structures like dams or polluting the water. In addition to eliminating a singular failure point, a diversified water infrastructure spreads its water supply out in smaller volumes and reduces the amount of piping and failure points, therefore reducing the risk of failure. These diversified systems also have the ability to respond better and faster following a disaster than conventional systems.

About Recode

Recode works to provide equitable and sustainable solutions through water conservation measures in preparation for climate change, an ongoing lack of water infrastructure investment, and energy limitations. We understand water infrastructure through a "One Watershed" lens, which inspires us to live within an equitable water budget. This includes the food we produce and discard, the energy we use to move and clean water, and the efforts we take to return this precious resource to the environment. We call this interdependent cycle of Nutrients, Energy and Water the "NEW Nexus".

Applying a One Watershed Approach to onsite NEW Nexus systems can be used to optimize a variety of community benefits as these smaller systems are integrated into existing, centralized infrastructure.

² *Going Local: How a Resilient Approach to Wastewater Could Help Communities Prosper.* Rebecca Wodder, Jul 25, 2018. Retrieved from: <http://bit.ly/2LSm8Jy>