US Water Alliance

ONE WATER BIG IDEA 4.

Blend public and private expertise and investment to address water infrastructure needs.

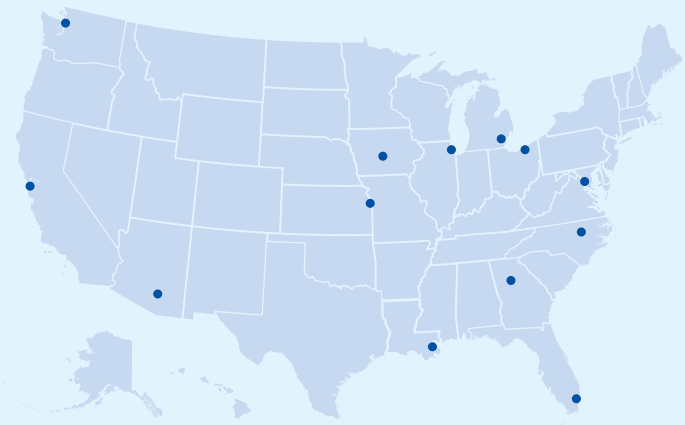
This is one in a series of policy briefs that comprise the One Water for America Policy Framework.

To download an Executive Summary, additional policy briefs, or learn how you can get involved, please visit: **www.uswateralliance.org/initiatives/listening-sessions**.

America's water supplies and services are at risk. Climate change, growing income disparities, and the threats posed by our aging water infrastructure call into question the continued availability of safe water supplies and reliable, affordable water service. In light of these challenges, we must come together and create a new era of water management in America—one that secures economic, environmental, and community wellbeing.

To that end, the US Water Alliance worked with more than 40 partner organizations to host 15 One Water for America Listening Sessions across the country. These discussions engaged more than 500 leaders, including water utility managers, public officials, business executives, farmers, environmental and watershed advocates, community leaders, philanthropic organizations, planners, and researchers.

One Water for America
Listening Sessions



What we heard from these stakeholders was truly inspiring. Across the nation, people from all walks of life are collaborating and innovating to advance sustainable water management solutions. Now is the time to spread and scale up these successes to benefit more communities across the country. In these seven policy briefs, we have compiled the strongest, most consistent themes from the One Water for America Listening Sessions into **seven big ideas for the sustainable management of water in the United States**:

1. **Advance regional collaboration on water management**
2. **Accelerate agriculture-utility partnerships to improve water quality**
3. **Sustain adequate funding for water infrastructure**
4. **Blend public and private expertise and investment to address water infrastructure needs**
5. **Redefine affordability for the 21st century**
6. **Reduce lead risks, and embrace the mission of protecting public health**
7. **Accelerate technology adoption to build efficiency and improve water service**

Each of these policy briefs digs further into one of these big ideas—exploring the key issues behind it; presenting policy solutions that are working at the local, regional, state, and national levels; and providing real world examples of how these solutions *are* being implemented and *do* produce positive results.

The One Water for America Policy Framework is a clarion call to action to accelerate solutions for the water management problems of our age. In doing so, we secure a brighter future for all.

ONE WATER BIG IDEA 4.

Blend public and private expertise and investment to address water infrastructure needs.

Context

The US water utility sector is both public and private. Public-private partnerships (P3s), in one form or another, have been in practice for generations, with many publicly owned utilities utilizing private companies to assist in planning, engineering, technology application, project delivery, operations, maintenance, and management. In addition to the blending of public and private expertise in water delivery, privately owned water utilities account for about 15 percent of the US water market.[1]

Given the critical needs facing the water utility sector today, many participants in our One Water for America Listening Sessions expressed the importance of having more robust engagement of private providers to help solve our water challenges. Other participants expressed concerns about engaging private entities in the water utility sector. It was clear from the Listening Sessions that greater national understanding is needed on how to best blend public and private expertise to achieve positive outcomes. Private expertise and investment can hold promise, especially for communities that find meeting their water infrastructure needs challenging. Ultimately, these decisions are made locally, and each community must decide what path will provide the best results in its unique context. For the nation at large, to attract more investment and innovation to water management, we need to address barriers to putting private money and expertise to work, while making sure that communities' needs are met and all partners benefit.

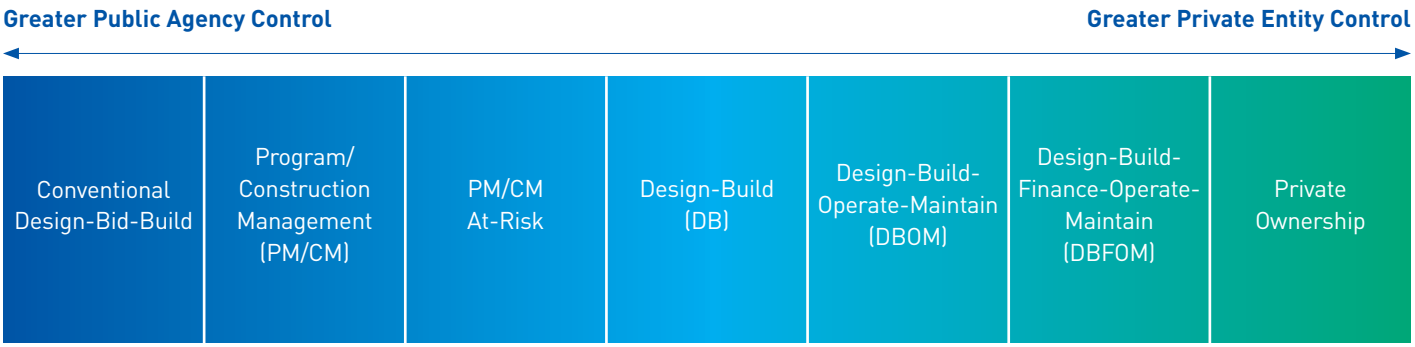
Below is a discussion of some of the key issues influencing private sector expertise and investment in water, followed by recommended policy solutions and case studies at the local, regional and state, and national levels.

Key issue:

Developing a common understanding of public-private project delivery models

A P3 is a contractual arrangement between a public agency and a private entity. Under P3s, the skills and assets of both public and private parties can be shared in delivering a service, project, or facility for public use. Communities can use many forms of P3s to design and build, finance, and/or operate a water project, program, or entire utility system. Different delivery alternatives provide varying levels of public versus private control, as shown in the P3 "spectrum" graphic below. While public agencies retain ownership of utility assets under many P3s, one end of the P3 spectrum involves private ownership, or transfer of assets to a private entity. Successful P3s have the potential to provide benefits in terms of expediting project delivery, improving service quality, and controlling costs. But P3s can be complex, and their potential risks and benefits must be understood so that communities can make the right decisions about the best delivery models for local water needs. These decisions should be open and transparent, incorporating the concerns of all stakeholders. P3 contracts should specify desired outcomes, and they should link compensation to the achievement of those outcomes.

"Spectrum" of Project Delivery Alternatives



Key issue:

Understanding newer models for private investment in water infrastructure

There is already considerable private investment in our drinking water, wastewater, and stormwater systems through municipal bonds—which are funded largely through institutional investors like mutual funds or private pension funds. At the local and regional levels, private money can be invested directly in improving local infrastructure. Private investment is increasingly common in transportation and other sectors, but it has been constrained in the water utility sector for many reasons: limits on tax exemption, uncertainty about returns on investment, complex water laws and regulations, and the long lead times and high cost of closing deals. Private investors look for viable, repeatable projects with reasonably balanced risks and returns. Water capital projects are unique from one to the next, because water sources, systems, technical requirements, and communities are unique, and permitting and approval processes can be complex.

Limits on tax-exempt borrowing are a critical barrier to private investment in water. Private activity bonds (PABs) are a form of tax-exempt financing that state and municipal governments can use in partnering with private entities for public needs—not just water and sewer infrastructure, but also roads, highways, airports, hazardous waste facilities, and other infrastructure assets.[2] But the federal government caps the annual volume of PABs each state can use, which limits private financing for water systems.

Another emerging approach is the community-based P3 (CBP3), which is similar to other P3 models for financing, delivery, operation, and maintenance of water systems, but the contractual requirements include measures to boost local economic growth and quality of life in urban and underserved communities—in particular, by including local workforce and small business contracting requirements in the contract. To date, this model has been used primarily for green infrastructure, but it can be applied to other investments as well.

Key Issue:

Integrating social impact investing into the menu of financing options

Social impact investing is an investment model that aims to create measurable social or environmental impacts in addition to financial returns. Institutions and foundations are increasingly turning to this model as a way to build community benefits into infrastructure projects. Several communities are employing "green bond" financing and Environmental Impact Bonds to upgrade water infrastructure. Communities generally have a local payback mechanism for these investments, like a stormwater utility fee charged to customers. Funding and payback to private investors is linked to specific environmentally sustainable approaches, such as green infrastructure for effective stormwater management.

Policy Solutions

Local Level	Regional & State Level	National Level
• Evaluate strategic partnerships as a way to boost project delivery performance • Explore the feasibility of private investment to address utility challenges • Utilize social impact investing	• Support the establishment of infrastructure accelerators for water programs	• Use federal policy to address constraints on private investment in water infrastructure • Increase overall funding for the SRF program and expand eligibility to privately owned water systems • Increase regulatory flexibility to address barriers to investment

Solutions: Local Level

Solution:
Evaluate strategic partnerships as a way to boost project delivery performance

For delivering capital projects, the most commonly used P3s are program management at-risk, design-build, and design-build-operate. Others are pay-for-success models, with structured payments based on the achievement of contractually agreed-upon goals. With these models, the private provider takes on more project delivery responsibility and risk, along with a higher potential return on investment—often realized by reducing the delivery cost or through incentives for meeting goals. Under P3s, projects sometimes can be completed more quickly than in a traditional design-bid-build environment, particularly if early completion is incentivized (or late completion penalized) in contract terms.

In Action:

- **Pima County.** Situated in the arid Southwest, Pima County, AZ has been reclaiming water for decades. The county partnered with engineering firm CH2M on its newest reuse facility, the 32 million gallon per day Agua Nueva Water Reclamation Facility, built to comply with regulatory deadlines to improve treated effluent and protect water quality in the Santa Cruz River. Because regulatory deadlines would not be met with traditional delivery methods, the county decided to use a design-build-operate P3 for this facility, with built-in incentives for technology innovation. The facility was built eight months ahead of schedule and cost $77 million less than the $240 million design-build budget. Technology innovations will save another $2 million in annual operating costs.

Solution:
Explore the feasibility of private investment to address utility challenges

For utilities struggling with regulatory compliance, system investment needs, pension obligations, or other financial or operational challenges, a range of P3 options with direct private investment may offer solutions. Contract operations and system acquisition have been active models for decades, but emerging P3s engage private investment to help fund long-term capital plans and pension programs. Under one model, a private entity makes an up-front cash payment to a community in return for a long-term lease or concession agreement to operate, manage, and make capital investments in the water utility. The private entity works to create operating efficiencies that can control costs and free up capital for system improvements.

With any of these models, water rates and charges are still the ultimate source of funding for utility operation and capital improvements. And in any utility—whether publicly or privately managed or owned—rates generally must rise over time to recover the costs of providing service. With any P3, care must be taken to manage near- and long-term impacts on rates, affordability, and quality of service.

In Action:

- **Prince George's County.** In 2014, Prince George's County, Maryland faced a major challenge in meeting its stormwater regulatory requirements: retrofitting up to 2,000 impervious acres with green infrastructure, at an estimated cost of $100 million. The county's elected leaders and regulatory agencies collaborated to develop an alternative solution: a community-based P3, or CBP3. The Clean Water Partnership is a 30-year agreement for design, construction, and maintenance of up to 2,000 impervious acres in the initial phase, with an option of an additional 2,000 acres if key performance goals are met. The partnership includes the execution and performance of design and construction for up to 2,000 acres of green infrastructure, along with additional requirements for community outreach and socioeconomic development programs to create opportunities for small, local, minority-owned, and disadvantaged businesses, with defined performance goals. For example, a major performance goal is to utilize local, small, and minority-owned businesses to deliver 30 to 40 percent of the total project scope, connecting people with training and work experience that can help them build viable businesses and jobs in green infrastructure and related fields.
- **Pennsylvania American Water and City of Scranton.** In 2016, Pennsylvania American Water completed the acquisition of the wastewater system assets of the Scranton Sewer Authority (SSA). The newly acquired system provides wastewater service to approximately 31,000 customers in Scranton and Dunmore. Pennsylvania American Water already provided water service to residents and businesses in both communities, providing an opportunity to leverage its scale and size. The wastewater system was under an EPA consent decree that mandated significant upgrades, totaling an estimated $140 million, to bring the system into environmental compliance. As the system's new owner, Pennsylvania American Water will continue the projects started by the SSA and assume the SSA's obligations under the consent decree. The purchase of the sewer system also enables the SSA to pay off its existing debt. Pennsylvania American Water has also committed to bringing 100 new jobs to Scranton by 2020.

Solution:
Utilize social impact investing

With social impact investing, communities can attract private investment to water projects in ways that achieve measurable social and/or environmental benefits. To date, social impact investing has focused largely on green infrastructure projects, which can add public green space to an underserved community while also improving stormwater drainage. But impact investing also can be applied to other types of projects or on a larger scale, like a collection of land management projects aimed at improving water quality throughout a watershed. As one example, investors may buy a stake in under-utilized ranch lands and invest in land management practices that will increase yields, while reducing water quality impacts.[3] Solutions like these recognize the value of ecosystem services to support economies and communities and reward investments that produce healthier ecosystems.

In Action:

- **DC Water.** DC Water recently pioneered an environmental impact bond/pay-for-performance approach to add to its portfolio of funding options for green infrastructure projects. This model reduces the risks in adopting green infrastructure approaches as alternatives (or complements) to gray infrastructure, while also generating additional economic and community benefits.[4]

Under this approach, private investors finance the green infrastructure solution, and they receive a range of repayment rates based on the relative performance of the infrastructure against agreed-upon performance metrics.

- **Fresh Coast Capital.** Fresh Coast is a mission-driven, for-profit project developer of green infrastructure for integrated stormwater management. A certified B Corp, Fresh Coast partners with both private landowners and public agencies to finance, implement, and manage green infrastructure projects that create positive environmental, social, and economic impacts. The company integrates green infrastructure with other revenue-generating business models to make projects more impactful and more cost-effective, while also encouraging smart uses of land in communities facing vacancy and blight. In Peoria, IL, Fresh Coast is implementing a green infrastructure project with $1 million in funds from a USDA Natural Resources Conservation Service (NRCS) Conservation Innovation Grant and $1 million in matching resources, helping the community deal with the problems of aging sewer systems and increasing precipitation. To create as many community benefits as possible, the project integrates community engagement, engineered stormwater management, and a microenterprise urban agriculture program, where raised bed community gardens and floral crops are planted alongside more traditional green infrastructure installations.

Solutions: Regional & State Level

Solution:
Support the establishment of infrastructure accelerators for water programs

For US water systems, one of the biggest barriers to adopting alternative delivery and private investment models is a general lack of understanding about what the options are, how they can be used, and the pros and cons of each. At a state or regional level, an infrastructure accelerator can function as a clearinghouse of information on different delivery models, provide case studies describing how and where they have (or haven't) worked, and help communities navigate the process of exploring, evaluating, and implementing different models. These accelerators can encourage public/private or public/public collaboration on water and wastewater solutions, and they also can offer technical capacity to help smaller utilities pursue solutions.

In Action:

- **West Coast Infrastructure Exchange**. In 2014, the states of California, Oregon, and Washington and British Columbia partnered to launch the West Coast Infrastructure Exchange (WCX), intended as a translation point between the public and private sectors on partnership models for water, transportation, and social infrastructure. WCX provides unbiased information on Performance-Based Infrastructure (PBI), a pay-for-performance model for delivering public infrastructure. The PBI model keeps infrastructure in public ownership and consolidates responsibility for the key phases of a project's full life cycle—design, construction, and maintenance—into a performance-based contract with a private partner, which can also include elements of private finance and operation. The WCX provided predevelopment assistance to the Pacific Forest Trust in its successful efforts to have source watersheds in California—such as those that feed the Shasta and Oroville reservoirs—recognized as water infrastructure, and it has assisted the Roza Irrigation District in Washington in exploring its options for performance-based infrastructure procurement.

Solutions: National Level

- **Use federal policy to address constraints on private investment in water infrastructure.** The federal government can substantially increase private sector investment in water infrastructure by removing public-purpose water projects from the state-by-state cap on private activity bonds (PABs).

- **Increase overall funding for the SRF program and expand eligibility to privately owned water systems.** EPA interprets the Clean Water State Revolving Fund (SRF) to apply only to publicly owned water systems. Although EPA has long held that private water systems are eligible for Drinking Water SRF loans, numerous states disallow the use of these funds for private entities. Overall funding for the SRF program should be increased, and the eligibility can be expanded to include privately owned systems to the benefit of the communities and ratepayers they serve.

- **Increase regulatory flexibility to address barriers to investment.** The federal government can increase regulatory flexibility to encourage public-private collaboration on infrastructure delivery solutions. Regulatory policy should not discourage public or private partners from collaborating with communities that are struggling with water compliance issues.

Conclusion

In order to bridge the water infrastructure investment gap in the 21st century, all stakeholders need to be engaged and all options for funding and financing need to be on the table. As this policy brief demonstrates, there are successful examples of blending public and private expertise to achieve positive outcomes. Private expertise and investment can hold promise, especially for communities that are challenged to meet their water infrastructure needs. Each community must ultimately decide what mix of investment and expertise, from both the public and private sector, is needed to meet their water infrastructure and management needs.

Endnotes

1 "U.S. Private Water Utilities: Market Trends, Strategies, and Opportunities," *Bluefield Research*, 2016, http://www.bluefieldresearch.com/research/us-private-water-utilities-2016/

2 "Publication 4078, Tax-Exempt Private Activity Bonds." *Internal Revenue Service*, accessed 2017, https://www.irs.gov/pub/irs-pdf/p4078.pdf

3 "Liquid Assets: Investing for Impact in the Colorado River Basin," *Squire Patton Boggs and Encourage Capital,* accessed 2017, http://encouragecapital.com/wp-content/uploads/docs/water-in-the-west-exec-summary-final_web.pdf

4 "DC Water, Goldman Sachs and Calvert Foundation pioneer environmental impact bond," *DC Water,* 2016, https://www.dcwater.com/whats-going-on/news/dc-water-goldman-sachs-and-calvert-foundation-pioneer-environmental-impact-bond

Thank you to the One Water for America Collaborating Partners

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