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**Bond Financing Distributed Water Systems:
How to Make Better Use of Our Most Liquid Market
for Financing Water Infrastructure**

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BOND FINANCING DISTRIBUTED WATER SYSTEMS:

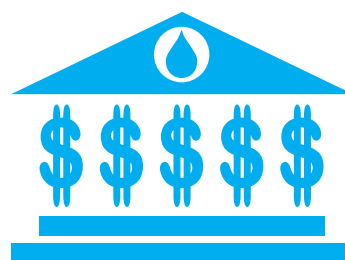
How to Make Better Use of Our Most Liquid Market for Financing Water Infrastructure

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Executive Summary

Water utilities are at a crossroads. In the years ahead, they will have to invest billions in their infrastructure simply to catch up on backlogged repairs—and billions more to accommodate growing demands and changing hydrologic conditions.

Across the country, communities are experiencing more extreme hydrology. In some places, this takes the form of deepening drought that necessitates stronger commitments to conservation. In others, it takes the form of more frequent flooding that overwhelms water infrastructure, sending raw sewage into urban rivers or even into city streets. Some places are experiencing both intensifying drought and flood.

As a growing number of water planners across the country are recognizing, these challenges cannot be solved solely by building new reservoirs, pipelines and treatment plants. Given current financial and ecological constraints, utilities will have to embrace a new form of infrastructure if they intend to provide reliable, reasonably priced water services.

This new type of infrastructure exists and represents an increasingly important strategy in water resource management plans, from Philadelphia to Phoenix. It includes the many improvements, practices, and devices that conserve water and retain stormwater onsite. Unlike conventional infrastructure that is centralized and owned by utilities, this new infrastructure is often distributed across many properties, some of them privately owned. It could come in endless forms: drought-resistant landscaping, permeable parking lots, water-efficient appliances, building and manufacturing systems and even point-of-use water catchment and treatment systems. In the aggregate, this distributed infrastructure serves the same purposes as conventional infrastructure: extending the life of water supplies and preventing pollutants from entering waterways.

Yet while the acceptance of this new expanded definition of water infrastructure grows, the statutory definitions governing our nation's water systems as they seek to finance this infrastructure remain grounded in the past.

For many water utilities, these distributed approaches to managing water demand and mitigating strain on taxed stormwater and wastewater systems are less expensive than entirely centralized solutions requiring construction of new infrastructure. Numerous cities have already concluded that decentralized approaches to water management are economically competitive. Philadelphia, for instance, found that a \$1.2 billion investment in green infrastructure could achieve the same pollution control benefits as a \$6 billion investment in traditional gray infrastructure. Similarly, Los Angeles plans to add 50,000 acre-feet of water each year until 2030 with water saved through conservation and reuse, and to use distributed infrastructure to redirect up to 280,000 acre-feet of stormwater into its local aquifer. Columbus, Ohio plans to defer construction of a sanitary sewer overflow tunnel in favor of redirecting stormwater flows on private properties through pipe retrofits and improvements on vacant lots. Yet while the acceptance of this new expanded definition of water infrastructure grows, the statutory definitions governing our nation's water systems as they seek to finance this infrastructure remain grounded in the past.

In the United States, water utilities are primarily public entities, and municipal bonds are their financing instrument of choice. But public finance laws were written with conventional rather than distributed infrastructure in mind, and many public finance professionals still view the laws as though they only apply to 20th century concepts of water infrastructure: centralized pipes and pumps owned outright by the utility funding them. As a result, most water

utilities continue to rely exclusively on cash financing of water conservation and green stormwater infrastructure programs, reserving debt financing only for conventional water infrastructure. With limited cash available for innovative programs, it is no surprise that investments for innovative infrastructure programs struggle to keep pace with debt-financed centralized infrastructure.

In some places, utilities are looking at other mechanisms for putting capital to work on distributed infrastructure models. Philadelphia, for example, has examined attracting private equity to fund the reduction in impervious surface area on hundreds of land parcels across the city, as part of its Green City, Clean Waters initiative. Yet without a sufficient number of projects to attract institutional capital, there is not yet a liquid market to readily fund this 21st century water management approach.

Whether utilities can use bonds to finance distributed infrastructure on private property remains something of an open question, which this report attempts to answer. In doing so, we examine the legal authority to apply enterprise revenue bond proceeds toward distributed infrastructure on private property in seven representative states: California, Georgia, New York, Ohio, Oregon, Texas and Wisconsin. While legal frameworks vary across these states, specific key themes emerge:

1 First, utilities must have the legal authority to issue bonds for distributed infrastructure on private property.

In the seven target states, Ceres found that public finance laws did not expressly address the topic but could be interpreted as granting the requisite authority. As reasonable as such interpretations are, however, they are not conclusive. An element of uncertainty remains. In some states, the uncertainty is greater than in others. Overcoming that uncertainty will require committed utilities, creative bond counsel, and perhaps, in some cases, legislative clarifications.

2 Second, to use enterprise revenue bonds to finance distributed infrastructure on private property, utilities must not be legally constrained from exercising this authority.

There are two principal sources of constraints. The first is covenants in existing financial documents that restrict utilities from acquiring certain additional debts until existing debts are repaid. Ceres has identified common covenants that could pose obstacles, but each utility will be bound by its own sets of documents.

The second is state constitutional clauses that prohibit states and their political subdivisions from using public funds or credit for private benefit; these prohibitions, commonly known as “gift clauses,” exist in virtually every state. In certain states, such as Georgia, the prohibitions are stronger than in others, such as Oregon. States could amend their gift clauses to clarify that they do not prohibit the financing of distributed infrastructure. Washington did just that by adding a new clause that expressly allows utilities to use operating revenues “to assist the owners of structures or equipment in financing the acquisition and installation of materials and equipment for the conservation or more efficient use of water, energy, or stormwater or sewer services in such structures or equipment.”¹ Additionally, legislatures could expressly declare that bond-financing distributed infrastructure serves a public purpose. Utilities themselves could reduce the risk of violating gift clauses by structuring financings that preserve some sort of ownership interest or at least contractual control over distributed infrastructure investments.

3 Third, utilities must take care when structuring distributed infrastructure bonds to maintain federal income tax exemption. This report explains the relevant tests, which, in brief, limit the amount of assistance that utilities may provide to private businesses.

4 Fourth, utilities must take care to establish control of the asset being financed in order to conform to Generally Accepted Accounting Principles.

In each of the seven states we evaluated, statutory amendments could clarify authority and facilitate financing of distributed infrastructure. But this statutory revision is not necessarily required for utilities to proceed.

In fact, numerous U.S. cities have already made use of bonds for water conservation and green stormwater infrastructure on private property (see **Figure 1**). Other utilities that are committed to expanding investments in customer-side water solutions can use the analysis provided in this report to determine whether to consider bond financing for distributed infrastructure. Utilities that do move forward with such financing can establish an important precedent for their peers that will help generate more projects utilizing critical bond financing for financing can help us put the liquidity of the municipal bond market to work for our next generation of water infrastructure.

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