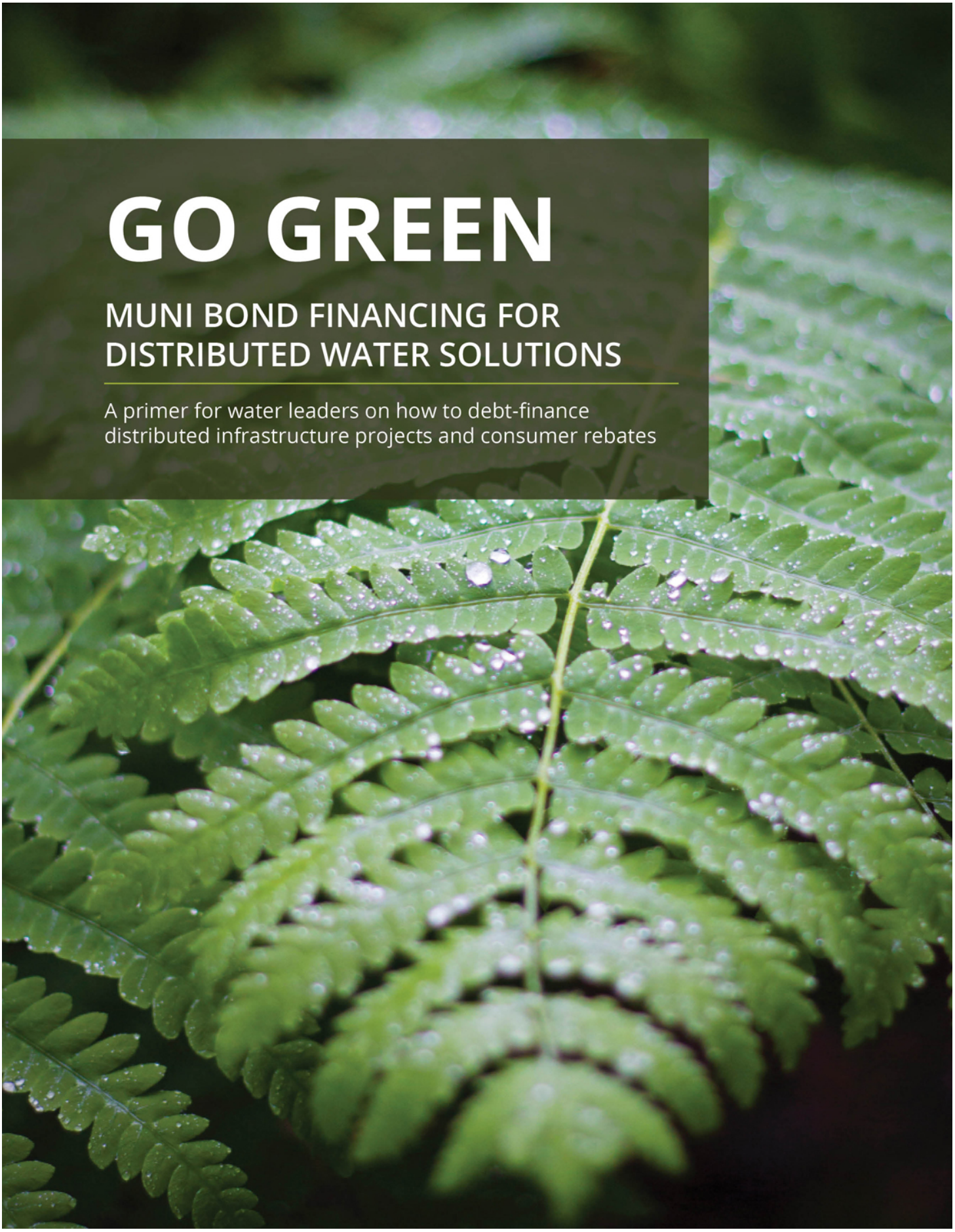

GO GREEN

MUNI BOND FINANCING FOR DISTRIBUTED WATER SOLUTIONS

A primer for water leaders on how to debt-finance distributed infrastructure projects and consumer rebates

Foreword

Dear Water Leader,

We all know that we have to do more to conserve and reuse water, avoid stormwater flooding, prepare for sea level rise, mitigate drought, and restore the environment. And we have to do it all within the constraints of keeping water accessible and consumer rates affordable. To meet these challenges, we will have to be innovative and explore creative solutions that go beyond the current standards of building more pipes, pumps, reservoirs, and treatment facilities. Research shows that "distributed" infrastructure (DI) can be a significant part of the solution as a complement to the traditional, centralized infrastructure that people are more familiar with.

Distributed infrastructure refers to technologies and practices that are decentralized and thus distributed across many locations, like businesses, homes, streets, and parks. In contrast to centralized infrastructure, which generally refers to large, built assets and facilities that are owned and operated by a utility (like a treatment plant), DI is often not under the direct control of utilities, because it resides on private property or property that is owned by other public entities. DI can include business or residential efficiency and water quality measures, reuse systems, consumer information technology, and various types of green infrastructure.

Many, if not most, water utilities nationwide have implemented various rebate and financial incentive programs to encourage consumer adoption of DI measures, but these represent only a small part of utility investment, far below the level of potential benefit these DI programs can offer in terms of local water resource resilience and reliability. A primary barrier to significant investment has been whether and to what extent public water resource agencies can access their traditional, robust capital financing tools – primarily tax-exempt municipal bonds – to scale up funding for DI programs.[1] For the most part, this comes down to how these DI programs and their resulting assets are treated in accounting rules.

This publication is the culmination of years of work to investigate how accounting rules can support utility investment in distributed and green infrastructure at the scale required to achieve meaningful results. In 2010, Earth Economics began working with a group of drinking water utilities and found that accounting standards do not adequately address natural assets such as forested watersheds and aquifers. This presents a clear barrier to debt-financing this critical infrastructure[2]. Earth Economics' ongoing research and awareness-raising activities for the GASB, including technical inquiries and presentations to both the GASB and their Advisory Council (GASAC) in and 2014 and 2016, led to the report "Natural Resources Accounting: A Path Forward for the GASB," with short- and long-term recommendations for how the GASB can better address natural resources in accounting standards.[3,4,5] In the meantime, Ceres had further articulated the importance of bond-financing distributed infrastructure in their 2014 report, confirming the importance of accounting treatment.[6]

In 2016, Earth Economics and the WaterNow Alliance joined efforts to focus on what could be done in the near term. We found accounting standards currently in place that allow utilities to debt-finance these investments if they choose to do so. The Governmental Accounting Standards Board (GASB)[7] has established rules that permit rate-setting public entities to create an "asset" under the condition that they set rates to cover the cost of a program over time—even if those programs do not result in traditional assets that are owned and operated by those agencies. These are referred to as "regulatory assets." Once you have an asset, you can typically issue revenue bonds to pay for it. That means you can

use a funding mechanism that is well known to your agencies to invest in new and innovative water strategies at a much broader scale. In using this funding stream, you can rethink these distributed systems and make them part of your long-term, comprehensive capital planning and budgeting.

This approach has been permitted since at least 2010, but there was some uncertainty as to whether it could be used for distributed infrastructure. In May, as a result of joint efforts by Earth Economics, WaterNow Alliance, and our valuable partners, GASB issued its 2018 Implementation Guide to clarify that distributed infrastructure could indeed be funded through the "regulated operations" approach.

This primer was designed to walk you through the process of how you can use GASB standards to support new and non-traditional programs and projects. We hope that you find this material helpful, and we look forward to partnering with you as we work toward a more sustainable and resilient water future.

Sincerely,

Cynthia Koehler
Executive Director
WaterNow Alliance

Rowan Schmidt
Program Director
Earth Economics

A note to governing board members of water, stormwater, and wastewater agencies:

This primer is intended to provide you with the information you need to effectively advocate for distributed infrastructure solutions to your water challenges. It also includes the detailed information your management and finance staff may need to move forward on this initiative.
Because it has this dual purpose, you might find that the latter chapters of this primer are more detailed than is necessary for your use. We suggest it would be worthwhile for you to read Chapters 1-2. We trust the entire booklet will be of use to your staff.

A note to our valued partners: auditors, bond counsel, and financial advisors:

This primer is directed at the leadership and staff of water, stormwater, and wastewater agencies. But we believe it will also be helpful for those we depend on for advice and direction—our financial advisors, bond counsel, and external auditors. You might be particularly interested in Chapter 2, which describes the mechanics and accounting rules for the GASB Statement 62 Regulated Operations approach. Chapter 3 and 4 may also be of interest, because they are directed at the agency staff who will be working with you on accounting and bond issuance processes.

Acknowledgements

The primary author is Ed Harrington, the former General Manager of the San Francisco Public Utilities Commission. Major guidance, editing and more was provided by Rowan Schmidt of Earth Economics and Cynthia Koehler of WaterNow Alliance. Significant research for this report was conducted by Jordan Wildish of Earth Economics. Sections were reviewed by Clifford Gerber, Partner, and Mary Kimura, Senior Associate of Norton Rose Fulbright US LLP; Julie Desimone, Partner, National Practice Leader, Moss Adams; Stephen Spitz, Partner, Orrick Herrington & Sutcliffe LLP; Gerry Horak, Mayor Pro Tem of Fort Collins, CO; Steve Elie, President of Inland Empire Water Agency; Mike Kasperzak, former Mayor of Mountain View, CA and Director of Bay Area Water Supply and Conservation Agency; and Sam Mamet of Colorado Municipal League.

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Chapter 1. What is distributed infrastructure, and how can it help my agency?

Distributed infrastructure (DI) refers to technologies and practices that are decentralized and thus distributed across many locations, like businesses, homes, streets, and parks. In contrast to centralized infrastructure, which generally refers to large, built assets and facilities that are owned and operated by a utility (like a treatment plant), DI is often not under the direct control of utilities, because it resides on private property or property that is owned by other public entities. DI can include business or residential efficiency and water quality measures, reuse systems, consumer information technology, and various types of green infrastructure.

As we all work toward more resilient and efficient water systems, distributed infrastructure (DI) programs and the green infrastructure assets that fall under them will play a critical role in how your agency meets current and future needs in more effective and efficient ways. Examples of DI include – but are not limited to – permeable pavement, indoor water efficient appliances, rebate or direct install programs for service line replacements, turf buyback programs, graywater reuse systems, rain cisterns, smart irrigation controllers, bioswales, and green roofs. Smaller scale, localized projects like these are often easier to implement and significantly less expensive than large scale projects, but they perform the same functions and can help you meet the same service delivery targets. Table 1 provides some more detailed examples of DI.

> **Moulton Nigel Water District in Southern California**
> found that by working with local institutions with large landscapes to adjust watering times, they were able to avoid constructing a planned water reuse reservoir, saving about $5 million in capital costs and avoiding significant ongoing operational expenses.

DI projects can reduce or eliminate the need for your agency to build larger, costlier transmission and treatment systems. Because these projects tend to be smaller, they can be accomplished much more quickly than traditional, centralized water infrastructure projects, providing you with increased flexibility to meet new challenges. And because they frequently employ the use of natural elements and nature-based systems, they increase resilience for your community's water, stormwater, and wastewater systems. They can also provide secondary benefits, like keeping water and wastewater in local aquifers, which enhances or restores local ecosystems that in turn support a more sustainable water supply.

Permeable pavement programs have multiple benefits.

They can mitigate the need for larger pumping and transmission systems by reducing flooding, reduce treatment costs by keeping stormwater out of combined wastewater systems, and curb overall system losses by recharging aquifers.

Table 1. Examples of Distributed Infrastructure

Efficiency Investment Programs

- *Rebates* - payments to ratepayers for high-efficiency appliances [8] and/or leak detection devices
- *Giveaways* – free devices (low-flow devices, irrigation controllers, rainwater collection vessels*)* or appliances provided for residential customers to encourage efficient use[9]
- *Buybacks* – utility payments to customers to replace grass turf with drought-tolerant landscaping[10]
- *Incentives*- for commercial, industrial, and institutional water efficiency retrofits/upgrades (cooling towers, air conditioning, commercial kitchens and laundries, etc.)

Recycling and Water Reuse Programs

- *Graywater Reuse Systems* – to utilize captured stormwater or wastewater for appropriate uses, like landscape irrigation
- *Onsite Potable Reuse Systems* - to treat reuse water generated by large buildings or new community developments

Green Infrastructure and Nature-Based Solutions

- *Permeable Pavement* – includes permeable pavers and porous concrete, allowing water to penetrate and be retained by the ground rather than runoff into the city stormwater system[11]
- *Green Roofs* – vegetated roof with a layer of soil atop a drainage layer to retain stormwater, lower energy bills, reduce heat island effects, and improve air quality[12]
- *Blue Roofs* – non-vegetated roof intended to detain stormwater in temporary ponds that store and gradually release stormwater[13]
- *Green Streets* – integration of vegetated areas into street design to facilitate storage, infiltration, and evapotranspiration of stormwater[14]
- *Urban Tree Canopy* – installation of trees to absorb stormwater and reduce heat island effects
- *Residential Retrofitting* – utility-provided incentives (rebates, upfront payments, or rate discounts) for residential or commercial installation of green infrastructure assets, open space preservation, and other low impact development activities[15]
- *Constructed Wetlands* – installed wetland areas that mimic the stormwater capture and nutrient load reduction benefits of natural wetlands[16]
- *Land Conservation* – Conservation of riparian areas, wetlands, steep hillsides, and other open space areas that provide natural storm water retention[17]

New challenges require new solutions.[18]

A century ago, the United States was a nation of dirt tracks. We did not enjoy the level of infrastructure or economic goods and services that we do today, but natural resources like timber, minerals, water, and fertile land were plentiful. In order to progress, society required more human-made goods and services like transportation, public education, drinking water, and electricity to improve their quality of life and drive economic growth. In response to this need, financing mechanisms were developed to construct roads, schools, levees, pipes, and other critical infrastructure. These necessary services were delivered efficiently – and at the scale required to meet the challenge. Progress in accounting further helped to support these financing mechanisms and secure economic progress.

Today in the United States, we face a much different reality. For the most part, we are no longer short of human-made infrastructure (though its maintenance remains a challenge), and natural resources have become scarcer – especially in cities. Public and private organizations are increasingly aware of the economic and financial benefits of a healthy natural environment and are thus considering these benefits in the development of economic and financial policies. In addition, natural resources are fast becoming a material issue from the perspective of investors and credit ratings agencies.

Our accounting systems must also keep up with this rapidly changing context, and while they should not be expected to solve all of the world's environmental challenges, they should not be a barrier.

State and local government agencies interact with the natural environment in a number of ways. In some cases, impacts on natural resources can result in significant liabilities. On the other hand, many agencies depend on natural resource assets or "green infrastructure" to support their service capacity, including forested watersheds to filter drinking water, raingardens to capture stormwater, and wetlands to treat wastewater. Natural resources such as water and land are often among governments' most important assets, providing the basis for their annual revenue.

However, accounting standards do not yet provide guidance for most natural resources, and this lack of guidance can lead to contradictory practices. For example, the FASB has issued accounting rules that help companies manage major oil fields shared by different owners/producers. Each company discloses the value of their portion of the reserves in financial reports. This accounting clarity, even when physical reserves are difficult to estimate, is an important element for enabling lending and investment at scale.

Aquifers - shared resources that are similar to oil fields in that they are also underground, liquid reserves - are treated very differently. Across the U.S., aquifers such as the Edwards, Trinity, Gulf Coast, San Joaquin, Ogallala, New York Sandstone, and Pennsylvanian are public assests that are not reflected on any balance sheets. No accounting requirement or guidance exists. Accounting is not the cause of aquifer depletion, but the absence of an accounting approach makes a difficult problem even more difficult to solve. In some cases, it can even render such problems invisible to decision makers. In addition, this lack of accounting guidance can have indirect consequences, such as limiting or preventing large-scale financing of natural resource assets, even when those assets provide service capacity more cost-effectively than their "grey" infrastructure alternatives (e.g. protecting the Catskills for clean water supply vs. building a new filtration plant).

Accurate accounting continues to be essential for sound financial decision making by public agencies, private companies, and investors. Accounting standards help governments or companies decide where to invest capital and provide the basis for financial reporting, asset management, master planning, bond disclosure, and understanding an organization's financial and economic condition. As the Financial Accounting Foundation (FAF) states on its website:

- High-quality financial reporting standards are essential to the efficient functioning of our capital markets.
- Better financial information brings greater transparency to the economics of an organization.
- Greater transparency results in better capital allocation decisions—investors and lenders make wiser decisions about where to put their money.

We understand that many preparers object to adding more standards on topics that they do not feel are useful. At the same time, many water agencies and other state and local agencies have noted that not valuing assets like water or watersheds results in an understatement of their asset values, is incomplete disclosure, and may lead to a lower credit rating than is appropriate. In this case, well-crafted guidance should help these agencies.

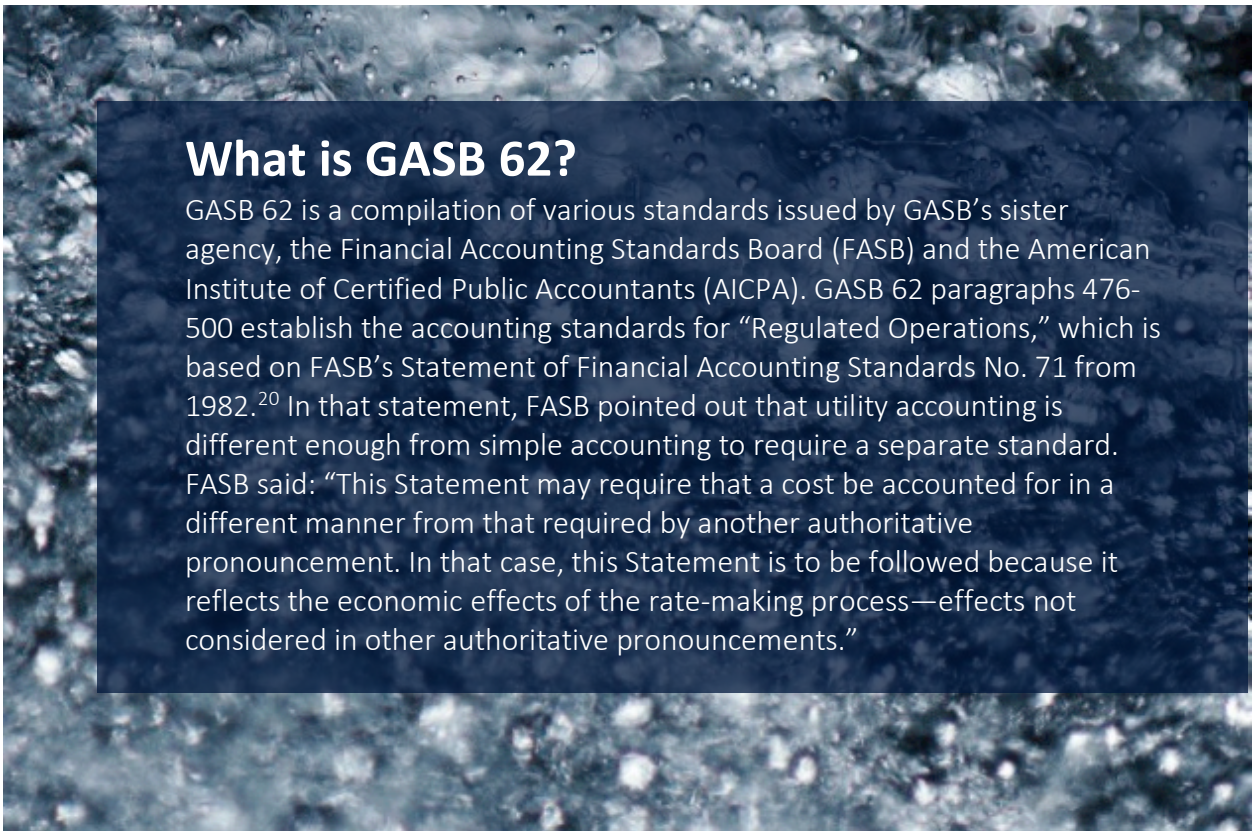
At the same time, there are a number of natural resource accounting issues that can be effectively managed using existing GASB guidance and standards, and the Regulated Operations approach is one example.

Chapter 2. How does the Regulated Operations approach work?

The Regulated Operations rule

When you consider the potential role of various DI programs, one of your first question is probably how to pay for them. Since many distributed infrastructure solutions do not result in traditional assets for water agencies, it has been common practice for water utilities to pursue only the solutions that can be paid for with operating cash generated by current rates. However, current rates often do not generate enough revenue to allow public entities to invest in DI projects and programs at a meaningful scale. Some accountants incorrectly believe that you can't use revenue bonds – as you would for other large projects, amortizing the cost over many years – for programs that do not create assets that your utility subsequently owns and controls.

This is where accounting standards come into play. In December 2010,[19] GASB issued Statement No. 62 (GASB 62) which included guidance on "Regulated Operations." In brief, Regulated Operations is an accounting convention that allows public agencies to book as assets certain "business type activities" that would normally be treated as annual expenses. In other words, Regulated Operations is a clear-cut alternative to typical accounting conventions for determining what is and is not an asset for balance sheet purposes. The purpose of the Regulated Operations rule was to provide public agencies with accounting flexibility, recognizing that not all long-term investment results in fixed assets.



What is GASB 62?

GASB 62 is a compilation of various standards issued by GASB's sister agency, the Financial Accounting Standards Board (FASB) and the American Institute of Certified Public Accountants (AICPA). GASB 62 paragraphs 476-500 establish the accounting standards for "Regulated Operations," which is based on FASB's Statement of Financial Accounting Standards No. 71 from 1982.[20] In that statement, FASB pointed out that utility accounting is different enough from simple accounting to require a separate standard. FASB said: "This Statement may require that a cost be accounted for in a different manner from that required by another authoritative pronouncement. In that case, this Statement is to be followed because it reflects the economic effects of the rate-making process—effects not considered in other authoritative pronouncements."

It's all about scale.

If you can only pay for DI with annual operating funds, you will likely never consider it as a real alternative—or even a supplemental option—in long-term infrastructure planning. That's because raising rates to generate enough revenue in a single year for projects at the programmatic scale would result in "rate shock." But, if DI is instead considered as a capital project, then the spending can be bond-financed to recover the costs over 20 or 30 years rather than collecting it all in a single year. In that case, the impact to rates would be minimal, because it is spread over such a long time span.

Is my agency eligible to take this approach?

Any public entity can take advantage of the Regulated Operations framework under GASB 62 if it meets these three criteria:[21]

1. The agency's rates for the particular services must be established by its own governing board (or an independent, third-party regulator).
2. The rates must be designed to recover the specific business-type activity's costs of providing the "regulated" services.
3. The rates must be set at levels that will recover the costs and can be charged to and collected from customers.

Most water agencies, whether they are standalone or are part of city, county, or other governments, fit into these criteria, because their governing boards usually set the rates for their customers.

Note that GASB 62 uses the term "regulated" somewhat differently than water agencies generally do. "Regulated" operations in the GASB 62 context refers to operations governed by the utility's own governing board and not necessarily by an outside regulator.[22]

If your agency meets these qualifications, GASB 62, paragraph 480 states:

"Rate actions of a regulator [or governing board] can provide a business-type activity with reasonable assurance of the existence of an asset. A regulated business-type activity should capitalize all or part of an incurred cost that otherwise would be charged to expense if both of the following criteria are met:

a. It is probable that future revenue in an amount at least equal to the capitalized cost will result from inclusion of that cost in allowable costs for rate-making purposes.

b. Based on available evidence, the future revenue will be provided to permit recovery of the previously incurred cost rather than to provide for expected levels of similar future costs. If the revenue will be provided through an automatic rate-adjustment clause, this criterion requires that the regulator's intent clearly be to permit recovery of previously incurred cost."

This basically means that if you promise to have rates in place to pay for the costs of a program or project over future years, you can account for the cost of the program as an asset.

Public water utilities governed by city councils or elected or appointed boards or commissions with the authority to set rates generally meet all three criteria and may therefore apply GASB 62 where relevant.[23] The key advantage is that where conventional accounting would otherwise require accountants to expense certain costs, GASB 62 allows incurred costs to instead be capitalized as assets if they are "probabl[y]" recoverable from a utility's ratepayers.[24] The rationale behind this provision arises from the financial and regulatory certainty that rate recovery provides. Use of the GASB 62 accounting mechanism by utilities can lower the overall cost by moving investments—including potentially those in distributed infrastructure—to the balance sheet, which in turn allows them to be bond-financed.

GASB 62 and distributed infrastructure

In May of 2018, GASB issued their 2018 Implementation Guide with questions and answers that specifically address DI. The guide confirms that the GASB 62 approach can be used for "…conservation program costs of providing assets, such as low-flow shower heads, to customers or reimbursing customers for part or all of the costs of installing conservation assets, such as efficient washing machines…that are proposed for recovery in future rates."

Does my agency qualify to use this approach?

1. Do you have the legal authority to set rates?
2. Will you set your rates at a sufficient level to pay for these costs over time?

If you can answer "yes" to both questions your agency should qualify.

Note: Water utilities already have to meet virtually identical requirements to issue debt for capital assets, so these are not new barriers and actually put distributed and conventional infrastructure on a level playing field.

Does my spending qualify?

Are you spending funds currently that are not covered by current rates, but can commit to having rates in place in the future to pay for these costs?

If you can answer "yes," your spending should qualify.

Chapter 3. Guidance for finance staff

The process of planning, budgeting, and funding DI under GASB 62 should be very similar to the process of doing so for other capital projects and programs that benefit your agency. However, because these rules are likely new for many finance staff members, it is important to clarify and understand key differences. After they have been successfully applied to a project or program, the approach should become relatively routine for finance staff.

1. **Capital planning:** The planning for distributed infrastructure projects and programs should be the same as for any other capital planning project. You should view DI programs as long-term investments, and they should become standard elements of your long-term capital programs.

2. **Rate covenants:** When issuing debt, you must covenant to have future rates in place to cover the debt service. This GASB 62 requirement is basically the same requirement of any debt-funded capital program. You will be making the statement to your auditor that you will have rates in place in the future to cover the costs of the regulatory assets you have added. The GASB 62 Regulated Operations approach assumes that you do not intend to pay for these programs from current operating funds but do plan to set future rates at a sufficient level to pay for these costs.

3. **Rate compliance with GASB 62:** You will need to track your rates to be able to show your auditors that you are complying with the requirement of GASB 62 that your rates have been set appropriately to recover the costs of your DI regulatory assets. If you have an explicit rate structure in place where you show breakdowns of the components of the rates, this should be one of the components. If you have a simple rate plan that increases by inflation or some judgmental amount, you should track the cash flows, so your auditor can see that your rates covered the costs of the relevant DI program.

4. **Amortization period:** Remember that under GASB 62 **your asset is your ability to recover such spending through your rates —** not the physical property that is being used by your customers or other recipients of the funds. Thus, the amortization of the cost of your DI spending should coincide with the amortization of the principal amount you're borrowing, which may differ from the useful (depreciable) life of the physical asset distributed to your customers or other recipients.

5. **Financial statement presentation:** When you prepare your financial statements for the year, if the costs of your DI program funded through the GASB 62 approach are material, you should break them out on your balance sheet as "Regulatory Assets, net of amortization." You should also provide details for these costs in your footnotes—either in Footnote 1 (Summary of significant accounting policies) or as a standalone footnote. See examples in Chapter 5.

Chapter 4. Guidance for working with auditors, bond counsel, and financial advisors

Assuming that your agency has identified a DI program that would provide community benefits and wants to explore using the Regulated Operations approach to finance the program with municipal bonds (or another debt instrument), your legal and financial teams, (your CFO, outside financial advisors, bond counsel and auditors) will be key players. They will need a description of the program or project - what is it that you propose to do? For example, you may want to establish a new "cash for grass" program, or provide commercial rebates for irrigation controllers, or provide incentives for lead-free service line installations, etc. You will want to detail the benefits of the specific expenditures for the overall utility system, recognizing that the spending will not result in a fixed asset that the utility will own or control.

In addition to this baseline information, there are specific questions you should discuss with different members of your financial team, several of which are suggested below.

Questions for bond counsel

1. Are there any state or local laws that may be an impediment to using the Regulated Operations approach?

For example, your utility may be subject to a state or local charter requirement or bond authorization statute that says you must **own** or **control** an asset or acquire or improve a facility to enable you to bond for it. Or, there may be words like "fixed assets" or "structures" in the legal authorization for your debt financing, which may potentially limit the scope of the project. While impediments will be rare, it is a good idea to have bond counsel review the specific projects or programs you are trying to fund to ensure that DI projects or programs meet all the legal requirements of your particular jurisdiction.

2. Are there existing bond covenants that might present a problem?

Most public utilities have existing debt outstanding, and most bond issuance documents have additional bonds tests or covenants that might include limitations and/or wording that could be problematic. For example, certain covenants may provide that any additional bonds will be for facilities owned by the entity. Bond counsel will need to review any existing agreements that contain such covenants and suggest how they might be updated to allow for DI.

Will bond counsel look at bond financing for DI programs differently from your accountants?

Yes. Bond counsel will likely want to be assured that your spending creates an asset for accounting purposes. Assuming that your utility wants to issue tax-free municipal bonds, they will look to where the funds are actually spent and make sure that spending complies with IRS rules on the use of bond proceeds. Bond counsel will also consider the useful lives of the items involved in recommending bond maturity. This should not be a problem for many bond issuances, but attention will need to be paid to the nature of the recipients of the distributed infrastructure (as described further in this section).

3. If we include distributed infrastructure programs in a new bond issue, would we be running the risk of creating a "Private Activity Bond?" If so, how do we deal with that?

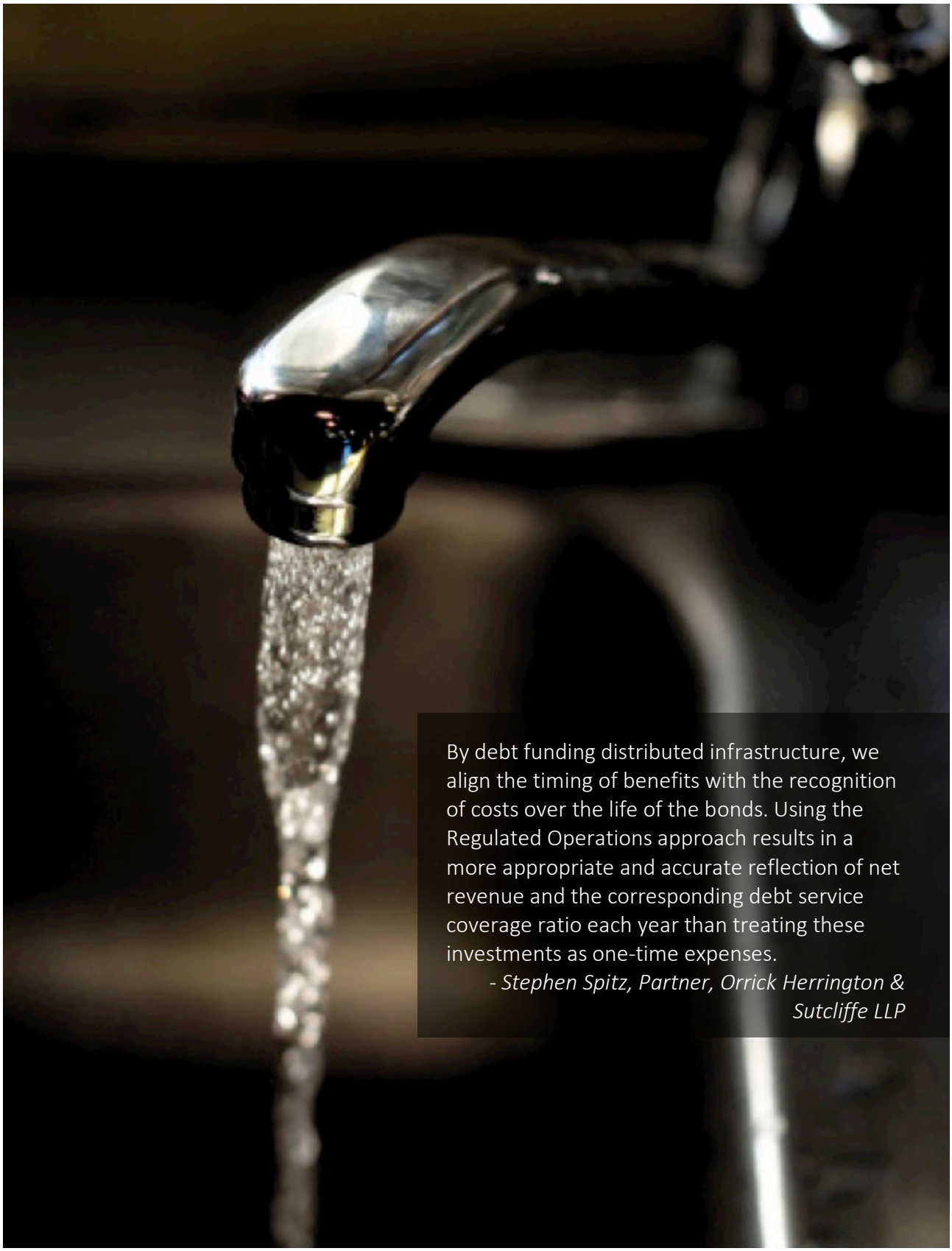
The Internal Revenue Code and IRS regulations say, generally, that a bond is a "private activity bond" if more than 10% of the proceeds will be used for a private business use. Private activity bonds cannot be tax-exempt.

If your program is directed to residential customers who own their residences (i.e., single-family homes), this should generally not be an issue. However, if the DI program is designed such that substantial sums (more than 10%) could be spent on projects that will "benefit" private businesses, including multi-family residential projects, you should discuss your options carefully with your bond counsel in order to steer clear of private activity bond status. Private activity bond status can also be avoided by combining DI financing with large-scale financing of traditional assets.

If your bonds do not pass the test to issue tax-exempt governmental bonds because of the private activity limits, you would still have the alternative of issuing taxable bonds instead (or, in some cases, tax-exempt private activity bonds subject to the tax law's alternative minimum tax). Taxable bonds typically cost more in borrowing costs, but the added cost of taxable over tax-exempt debt in the recent past has been less than 1%.

Your bond counsel will likely ask a lot of questions the first time you use the Regulated Operations approach, particularly because DI is often located on property not owned by your agency, which raises private business use concerns, and also because of the variation between the asset life used for tax purposes vs. that used for regulatory accounting purposes. Such questions are intended to protect you by staying within federal tax law's limitations. Once the bond counsel is familiar with this approach, they should treat it just like any other bond spending.

- Clifford Gerber, Partner, Norton Rose Fulbright US LLP and Immediate Past President, National Association of Bond Lawyers



By debt funding distributed infrastructure, we align the timing of benefits with the recognition of costs over the life of the bonds. Using the Regulated Operations approach results in a more appropriate and accurate reflection of net revenue and the corresponding debt service coverage ratio each year than treating these investments as one-time expenses.

- Stephen Spitz, Partner, Orrick Herrington & Sutcliffe LLP

Questions for financial advisors

1. I'm planning to do a new bond issue to raise revenue for a new or scaled-up investment in distributed infrastructure, and I think these bonds might qualify as "green" bonds. What are those? Is it worth making our bond issue qualify as "green?"

   Green bonds are typically a marketing tool rather than a specific type of borrowing. That said, there are a growing number of monied interests that want to invest "green" and may pay a premium for your DI bonds if they can be sold as "green" bonds. Depending on your market, "green" status may also be useful messaging to customers.

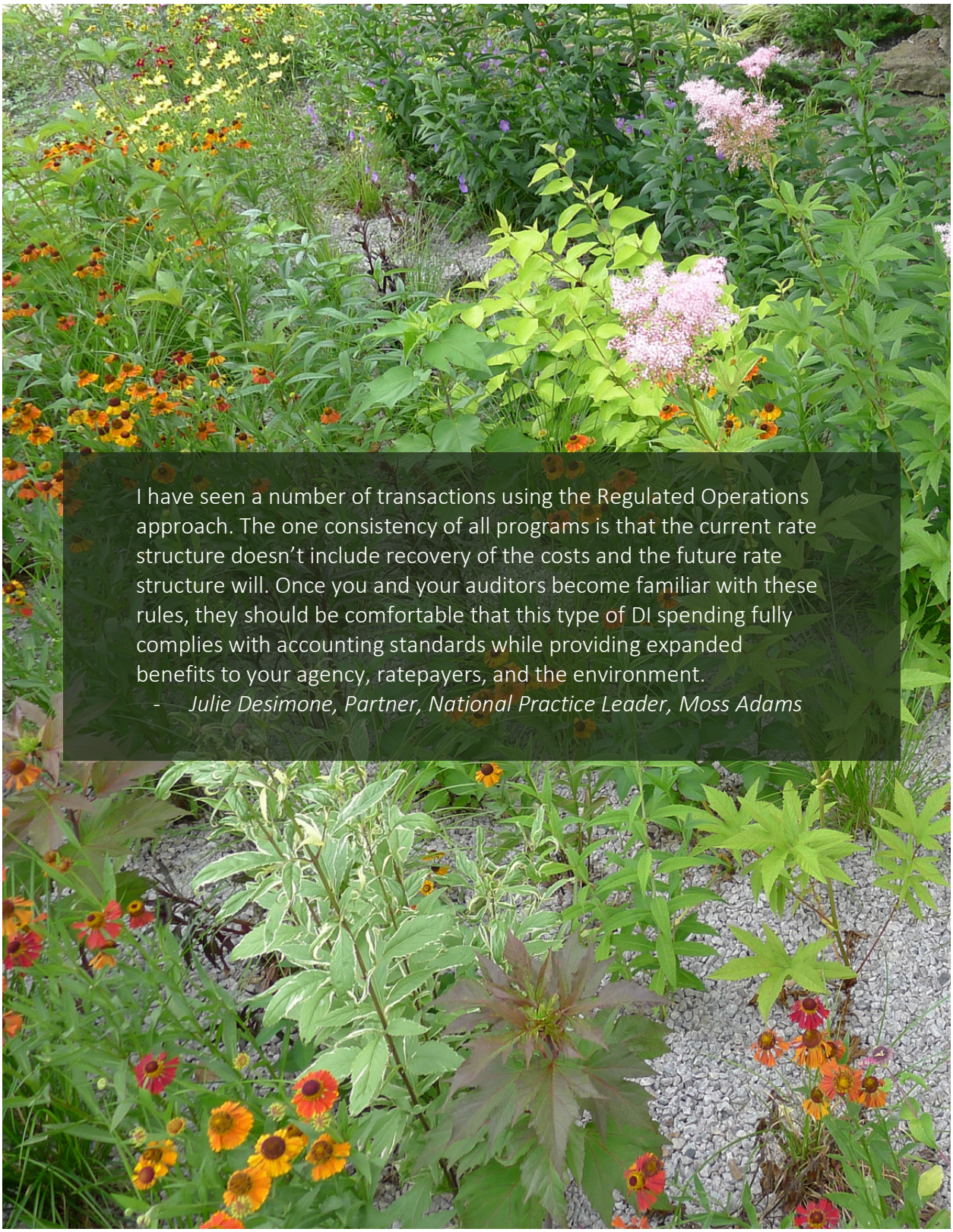
2. Are there other marketing pluses or minuses that I should be aware of as I build this package?

   There might be issues that your financial advisor will want you to consider as you prepare your package. For example, DI bonds may be attractive to small investors and you might want to issue "baby bonds" or other small denominations, or bonds with a shorter maturity than more standard 20-30-year bonds.

Questions for auditors

1. Are you comfortable with these plans generally?
2. Do you agree with my decisions around proposed book entries, amortization, balance sheet appearance and footnote disclosure?

   Using GASB 62 to book regulatory assets may be unfamiliar to your auditors, particularly with regard to distributed water infrastructure. So, it is good practice to make sure they are aware of and comfortable with your proposal early in the process rather than waiting until your annual audit (see Chapter 5 for help with your planning).



I have seen a number of transactions using the Regulated Operations approach. The one consistency of all programs is that the current rate structure doesn't include recovery of the costs and the future rate structure will. Once you and your auditors become familiar with these rules, they should be comfortable that this type of DI spending fully complies with accounting standards while providing expanded benefits to your agency, ratepayers, and the environment.

- *Julie Desimone, Partner, National Practice Leader, Moss Adams*

Chapter 5. How do these projects actually work?

The GASB 62 Regulated Operations approach has already been used by several public water utilities to support distributed water programs. Two examples are detailed below.

King County Council and Seattle Public Utilities – RainWise Program

The RainWise program was developed in 2010 as a joint venture between the King County Council and Seattle Public Utilities to reduce stormwater pollutant runoff. The program provides rebates for residential customers to cover up to 100% of the cost to install rain barrels and rain gardens that mitigate stormwater runoff and reduce the volume of combined sewer overflows. The RainWise program is part of a City of Seattle and King County goal to manage 700 million gallons of polluted runoff per year by 2025. RainWise rebates have already been given to over 1,000 customers for green infrastructure installations.

The program was so successful that King County decided to expand it in 2013. In order to avoid incurring upfront expenses, the County decided to treat RainWise as a regulatory asset, and the costs of this program were incorporated in the water department's rate setting. The program is fully debt-financed. King County has partnered with Seattle Public Utilities to fund more than $4 million in stormwater investments.

RainWise program disclosure statement in King County's financial statement footnote

Regulatory Accounting

The King County Council has taken various regulatory actions resulting in differences between the recognition of revenues for rate-making purposes in the Water Quality Enterprise Fund and their treatment under generally accepted accounting principles for non-regulated entities. Currently, the Water Quality Enterprise is authorized to apply the accounting treatment of costs under the GASB Statement No. 62 "Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements" criteria because the rates for its services are regulated by the King County Council, and the regulated rates chargeable to its customers are designed to recover the enterprises allowable costs of operations.

Regulatory assets – GASB Statement No. 62 is used by the Water Quality Enterprise to treat pollution remediation obligations as regulatory assets to allow for cost recovery through future rate increase. The portion of regulatory asset costs that have been accrued is being amortized over a recovery period of 30 years.

Los Angeles Department of Water and Power

The Los Angeles Department of Water and Power (LADWP) finances a variety of conservation-focused DI programs as regulatory assets, including rebates for water-efficient installations, low-flow showerheads, high-efficiency washing machines, and replacement of turf with low-water landscaping. These programs are amortized over a period of 5 to 20 years. In addition, LADWP provides funding for stormwater specific green infrastructure owned by other agencies intended to recharge the Los Angeles groundwater system and improve groundwater quality. For example, LADWP has partially funded a variety of programs along the Upper LA River, including green street installations and open space preservation This program is largely used to finance large-scale investments in water collection amenities on land owned by other public agencies. These infrastructure investments are amortized over a 30-year period. LADWP has more than $140 million in distributed water conservation and stormwater assets on their balance sheet.

Regulated Operations programs as shown in the LADWP balance sheet

CITY OF LOS ANGELES
DEPARTMENT OF WATER AND POWER
WATER SYSTEM

Statements of Net Position

June 30, 2017 and 2016

(Amounts in thousands)

Assets and Deferred Outflows		2017	2016
Noncurrent assets:			
Utility plant:			
Source of water supply	$	1,975,048	1,939,935
Pumping		290,584	284,509
Purification		818,277	804,492
Distribution		5,069,620	4,815,614
General		760,627	721,050
Total		8,914,156	8,565,600
Accumulated depreciation		(2,762,711)	(2,613,961)
Total		6,151,445	5,951,639
Construction work in progress		1,402,561	1,061,382
Total		7,554,006	7,013,021
Investments		50,011	33,706
Cash and cash equivalents – restricted		406,237	456,859
Regulatory assets – other		176,800	158,984
Regulatory asset – pension		293,212	320,481
Net other postemployment benefit asset		318,205	320,463
Total noncurrent assets		8,798,471	8,303,514
Current assets:			
Cash and cash equivalents – unrestricted		317,198	312,009
Cash and cash equivalents – restricted		161,302	137,252
Cash collateral received from securities lending transactions		3,779	7,486
Customer and other accounts receivable, net of $61,200 and $50,283 allowance for losses for 2017 and 2016, respectively		81,721	80,458
Under recovered costs		266,231	233,730
Accrued unbilled revenue		96,632	92,248
Materials and supplies		24,053	19,784
Prepayments and other current assets		21,861	20,447
Total current assets		972,777	903,414
Total assets		9,771,248	9,206,928
Deferred outflows – debt refunding		26,335	28,420
Deferred outflows – pension		373,459	112,511
Deferred outflows – pension contributions made after measurement date		127,470	118,425
Total deferred outflows		527,264	259,356
Total assets and deferred outflows	$	10,298,512	9,466,284

LADWP's regulatory asset footnote

CITY OF LOS ANGELES DEPARTMENT OF WATER AND POWER WATER SYSTEM

Notes to Financial Statements June 30, 2017 and 2016

(a) Regulatory Assets – Water Conservation Rebates

Water conservation is an integral part of the water resources management efforts and is a key element of maintaining a sustainable supply of water for the City. The Water System provides customers with 26 water conservation programs that are designed to reduce indoor and outdoor water usage. Initially the programs included low-flow showerheads and incentives to customers who purchase the high-efficiency toilets and high-efficiency clothes washing machines in an effort to reduce water use. In 2015, the program was expanded to include outdoor water savings through a turf reduction program to encourage replacing water-guzzling grass with low-water use shrubs and permeable walkways.

As provided in the Water System's rate structure, beginning June 2011, customers' bills include a charge, related to water conservation program payments to be collected over the useful life of the program, which ranges from 5 to 20 years. As rates are established at a level sufficient to recover all such costs, the Water System recorded as a regulatory asset. The balance of the Water Conservation costs at June 30, 2017 and 2016 is $113,498 and $105,525 net of annual amortization of $9,258 and $6,445, respectively.

(b) Regulatory Assets – Watershed Management Stormwater Capture Program

The goal of the Stormwater Capture Program is to capture stormwater for recharging the basin with water that would otherwise run off to the ocean and, thus, be lost as a usable source to customers. Regulatory assets related to the Watershed Management Programs include investing in dams, reservoirs, and spreading grounds owned by other agencies, but the water collected benefits Water System customers.

As provided in the Water System's rate structure, beginning August 2013, customers' bills include a charge, related to payments made related to the Stormwater Capture Program to be collected over a period of at least 30 years. As rates are established at a level sufficient to recover all such costs, the Water System recorded these costs as a regulatory asset. The balance of the Stormwater Capture Program costs at June 30, 2017 and 2016 is $35,489 and $37,143, net of annual amortization of $1,654 and $1,959 respectively.

Chapter 6. Checklist

___ Will your agency benefit from spending on DI? If so, go to the next step.

___ Check with your attorneys or bond counsel to make sure there are no legal impediments to using the Regulated Operations approach and issuing debt for DI programs and projects.

___ Work with the WaterNow Alliance, Earth Economics and/or other resources to help educate your enterprise leadership and advisors about DI opportunities that could benefit your community, and how GASB 62 could apply to your agency's potential investments for these options. Ensure that you have communicated with:

__Agency management and staff
__Governing Board
__Any other oversight group or rate advisory boards
__Financial Advisor
__Auditors

___ Create your capital program, highlighting any DI projects or programs that could be financed using the Regulatory Operations approach.

___ Prepare a more detailed description of each project and its benefits to the enterprise. Calculate the costs along with what future rates need to be over what period of time in order to recover those costs. Ascertain whether your rate structure and other plans can cover these costs.

___ Meet with your financial advisor to see how to describe and package the project to have maximum attractiveness through green bonds or other opportunities.

___ Meet with your auditors and explain your plans. Make sure you establish what recordkeeping they will want to see to confirm you are in compliance with GASB 62.

___ Sell bonds.

___ Implement the project or program.

___ Record regulatory asset and prepare amortization schedule.

___ At year end, prepare closing entries (amortization), financial statements, and footnote disclosures.

___ Set rates in the future to recover costs and track those revenues in accordance with your agreement with your auditors.

WaterNow Alliance

The WaterNow Alliance is a network of and forum for urban water leaders who want to champion sustainable, affordable, and climate resilient water strategies. Our mission is to achieve high-impact, widespread adoption of sustainable water solutions in communities compatible with a healthy environment for the future.

The WaterNow Alliance catalyzes action by:

- **Engaging** our network of decision makers and connecting them to ideas, resources and one another.
- **Advocating** for a sustainable water future by eliminating barriers and advancing solutions through our policy work.
- **Demonstrating** success by showcasing strategies that communities can replicate and scale.

www.waternow.org

Earth Economics

Earth Economics works to quantify and value the benefits nature provides. As a global leader in science-based economics, we offer pragmatic, collaborative support for investment and policy decisions that mitigate risk, add value, and increase resilience. Our work drives effective decisions and systemic change through a combination of education, natural capital analysis, and policy recommendations.

We envision a future in which industry, communities, and nature thrive together.

www.eartheconomics.org

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