



**Building a 21st -Century Infrastructure for America: The Role of Federal Agencies in  
Water Infrastructure**

**Subcommittee on Water Resources and Environment  
Committee on Transportation and Infrastructure  
U.S. House of Representatives**

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Thank you, Chairman Graves, Ranking Member Napolitano, and members of the committee for inviting me to testify on the role of federal agencies in building 21st-century water infrastructure. It is an honor and a privilege to contribute to this committee's work.

Water is an essential element of our daily lives, and it plays a foundational role in the economy in everything from commercial navigation and recreation to industrial and agricultural production. Congress and federal agencies share a fundamental responsibility to ensure the ongoing protection and sustainable development of U.S. water resources.

The start of 115th Congress presents members with the opportunity to review the investments and policies needed to move the country forward in the coming years. And while the elections on November 8th produced a change in leadership in Washington, one thing remains clear above all else: No one walked into the voting booth demanding dirtier water, lower wages, and higher profits for Wall Street. And yet, weakening the Clean Water Act, eliminating Davis-Bacon prevailing wage standards, and pushing high-cost equity capital through public-private partnerships would do all those things. Rather than undoing the environmental progress of recent decades, this Congress has a clear mandate to build a stronger, cleaner future for our communities by providing direct funding to improve water quality and reliability, flood control, and navigation in a sustainable way.

State and local governments, as well as drinking and wastewater authorities, face enormous infrastructure challenges. Many legacy facilities have come to the end of their useful lives, requiring major rehabilitation or outright replacement. At the same time, population growth, source water pollution, and increasingly extreme weather patterns brought on by climate change have added to the complexity and cost of providing safe and reliable water and protecting against the ravages of flooding, drought, and sea level rise. The Environmental Protection Agency, or EPA, estimates that the nation needs nearly \$655 billion to maintain existing health and environmental standards: \$271 billion<sup>1</sup> for sewage systems and stormwater and \$384 billion<sup>2</sup> for drinking water. In addition, the nation's water infrastructure needs could increase by an additional \$448 billion to \$944 billion by 2050 because of climate change and the additional stress that the increasing number of droughts, floods, and powerful storms and sea level rise will put on these systems.<sup>3</sup>

While no one weather event is dispositive, the recent winter storms that have lashed Northern California offer a powerful lesson in how rapid swings from intense drought to intense precipitation can overwhelm



critical facilities that were designed using more stable climactic assumptions. More than 180,000 residents in the Oroville region had to be evacuated on short notice due to damage to both the main and emergency spillways at the Oroville Dam complex—highlighting the fragility of older facilities and the essential role that water infrastructure plays in supporting public health and safety and California’s overall economy.<sup>4</sup>

California is not alone in facing water infrastructure challenges from climate change. For instance, South Florida must modernize a host of drinking and wastewater facilities to deal with rising seas. For these communities, adapting to climate change is not merely a line item in the budget of a local drinking or stormwater management agency. Rather, upgrading facilities to become more resilient is an issue of basic economic viability. Based on detailed technical work from Swiss Re—a major company in the reinsurance industry—the Miami-Dade Sea Level Rise Task Force determined that major improvements to local facilities would be need to “avoid or postpone wholesale abandonment due to non-insurability or the high cost of premiums.”<sup>5</sup> The stress that climate change places on the built environment will only grow over time. The nation already spends billions of dollars to repair and rebuild water facilities damaged in flood disasters. An analysis by the Natural Resources Defense Council found that the Federal Emergency Management Agency, or FEMA, has spent \$10.3 billion since 1998 to repair and rebuild public utilities in the aftermath of declared flood disasters through that agency’s Public Assistance grant program.<sup>6</sup> We have a choice: invest and adapt or pay an even higher price down the road.

In the Cleveland area, the Northeast Ohio Regional Sewer District faces significant challenges meeting Clean Water Act standards. Like many older communities, Cleveland has a combined sewer system that discharges untreated wastewater into the Cuyahoga River and Lake Erie during heavy rain storms. On average, the district discharges more than 4 billion gallons of untreated sewage each year.<sup>7</sup> As a result, the district has been unable to meet the effluent limitations required under the Clean Water Act. In 2011, the district entered into a consent decree with the Environmental Protection Agency to make approximately \$3 billion dollars in upgrades to its system, including a combination of gray and green infrastructure investments.<sup>8</sup> When completed, these upgrades will ensure that 98 percent of all wet weather flows receive treatment.<sup>9</sup>

Pollution is not only an issue with surface waters. In Southern California, millions of residents rely on groundwater from the San Fernando Basin. In the past, the basin has been able to provide as much as 25 percent of all local drinking water. Today, the Los Angeles Department of Water and Power, or LADWP, must contend with a host of toxic pollutants, including perchlorate and hexavalent chromium, among others. Groundwater pollution has caused the LADWP to deactivate approximately half of all basin wells.<sup>10</sup> This has pushed the share of drinking water that comes from the ground down to approximately 12 percent, making it difficult for the city of Los Angeles to achieve its goal of receiving half of its water from local sources by 2035.<sup>11</sup> In response, the LADWP has undertaken a costly effort to restore more of the basin to beneficial use.

### Project financing

The public agencies responsible for managing the water infrastructure highlighted by these examples share one key characteristic: They do not need another credit card from Washington or to saddle taxpayers with expensive equity capital through a public-private partnership. Instead, these jurisdictions need a strong federal partner ready to provide direct funding.



Proponents of public-private partnerships often state that there are billions of dollars of private capital waiting on the sidelines. Implicit in this statement is that water agencies and other project sponsors face a lack of liquidity, and if only they would tap into this pool of equity capital, the infrastructure backlog would be solved. This is simply not the case. Investors view U.S. public debt as attractive and overwhelmingly safe. Moreover, the favorable tax treatment afforded to municipal bond investors means the public sector faces borrowing costs that are three to five times less than equity capital. As a result, the municipal bond market is active and robust with more than \$3.7 trillion in outstanding issuances at this time.<sup>12</sup>

A review of municipal bond market activity during the past 15 years reveals that the controlling factor limiting infrastructure investment is not access to credit but rather insufficient tax and user fee revenues needed to support additional project debts. From 2000 to 2008, total municipal debt increased by 138 percent or more than \$2 trillion.<sup>13</sup> This amount is notable as the increase in total municipal debt outpaced overall economic growth.<sup>14</sup> This demonstrates the imprudent tendency of governments to tap capital markets and raise overall indebtedness when tax revenues show even modest growth.

This tendency is so strong, in fact, that the short-lived recession in 2001, which caused the economy to lose 0.6 percent<sup>15</sup> of overall economic output, did not slow the pace of public borrowing.<sup>16</sup> In other words, because the downturn was modest, state and local governments anticipated that tax revenues would rebound quickly enough to cover new debts.

By comparison, when state and local governments faced a rapid decline in tax revenues as a result of the Great Recession—with the expectation that the recession would endure for an extended period of time—they dramatically reduced their borrowing. According to data collected by the Pew Charitable Trusts, state tax revenues declined by 13 percent from the second quarter of 2008 to the fourth quarter of 2009.<sup>17</sup> Another way to quantify the magnitude of the decline is that the Great Recession resulted in a drop in GDP that was more than seven times greater than the 2001 downturn. Between 2008 and 2015, total municipal debt increased by only 6 percent, or \$198 billion.<sup>18</sup>

Today, state and local governments and water authorities have access to municipal financing, as well as federal credit facilities and federally supported state revolving funds at historically low rates. Simply stated, for many cities and water utilities, access to affordable credit is not the binding constraint. Instead, there is a shortage of local revenue to support new project debts. Many communities often do not take full advantage of their capacity to generate additional revenue through taxes and user fees, but even when they do, there are real limits on the total amount of additional revenue they can reasonably generate from these sources, which often fall short of total need for infrastructure investment.

Increased federal funding is needed to ensure timely compliance with water quality mandates, as well as to deal with the challenges presented by climate change to both physical assets and natural systems. These resources should be used to leverage additional state and local dollars where possible and to target the communities facing the greatest need. Additionally, federal funds should focus on the categories of projects that all too often take a backseat to traditional gray infrastructure, including energy efficiency upgrades, watershed restoration, and nonpoint-source pollution mitigation.

President Donald Trump has repeatedly talked about the need to invest in infrastructure. Unfortunately, the only plan on the table envisions offering tax credits to equity investors rather than direct federal funding.<sup>19</sup> While tax credits help to lower the tax liability of wealthy Wall Street equity investors, they are of little value to project sponsors. First, even with tax credits, equity capital is significantly more



expensive than traditional municipal bonds. Second, in addition to being more expensive, securing equity capital through a public-private partnership entails substantial transactional costs. And third, many smaller systems do not have infrastructure needs that fit well with the public-private partnership model.

### Public-private partnerships

The Bayonne, New Jersey, public-private partnership between the Bayonne Municipal Utilities Authority, or BMUA, and the joint venture of Kohlberg Kravis Roberts, or KKR, and United Water is often held up as an innovative model for future water investment. A review of the concession reveals that the only real innovations in this deal were layoffs affecting 37 percent of BMUA staff, 38 years of guaranteed rate increases, and no meaningful risk transference.<sup>20</sup>

Unlike many utilities, the BMUA is characterized as a distribution-only system, meaning that the utility is responsible for the distribution of drinking water and collection and conveyance of wastewater. The BMUA pays two regional utilities to provide drinking water and wastewater treatment. In other words, the deal involved the most basic elements of system maintenance over the 40-year life of the concession.

In order to garner political support for the agreement, city officials negotiated an initial rate increase of 8.5 percent followed by two years without any increases. After this brief moratorium, KKR has the right to increase rates using a formula that includes a base increase plus a measure of both macroeconomic and labor cost inflation.<sup>21</sup> In exchange for receiving revenues from ratepayers, KKR agreed to make system upgrades each year, as well as provide the BMUA with an upfront payment of \$125 million to allow the utility to repay its outstanding debts. This resulted in Moody's modestly upgrading Bayonne's municipal bond rating from Baa1 with a negative outlook to Baa1 with a stable outlook.<sup>22</sup> This upgrade, while meaningful, is—from a broader policy perspective—a change in accounting more than a change in substance. While the debt no longer counts against Bayonne's books in the form of a contingent liability, the obligation has not been removed from ratepayers. The only difference is that water fees now flow to investors who purchased private, fixed-rate bonds from the KKR/United Water joint venture as opposed to investors who purchased the prior municipal bonds.

Proponents of public-private partnerships frequently talk about the ability of the public sector to transfer substantial construction or operational risk to the private sector. Yet in the Bayonne deal, the public retains a substantial amount of risk. Specifically, KKR is able to pass through to ratepayers any capital costs in excess of \$2.5 million per year, cost increases from the regional utilities for water or wastewater services in excess of 2 percent per year, and regulatory changes that increase costs in other ways.<sup>23</sup>

Nothing about this deal points toward a realistic path forward to address the billions of dollars in drinking and wastewater needs that exist across the country.<sup>24</sup>

### Clean Water Act

In 1972, Congress passed the Clean Water Act. This landmark legislation established a framework to “restore and maintain the chemical, physical, and biological integrity of the Nation's waters.”<sup>25</sup> To this end, Congress set the bold goal of eliminating all discharges of pollutants into our waters by 1985. While we have fallen short of this goal, we must not relinquish the mantle of environmental protection established by this law.

Implementation of the Clean Water Act has often required states and local communities to raise additional revenues to finance the construction and improvement of treatment works and other facilities. For some residents, higher water rates represent a real and substantial economic hardship. The appropriate response



to this situation is not to roll back environmental protections but rather to increase direct federal funding and technical assistance to the communities most in need—in combination with sustainable local rate structures and comprehensive asset management plans. In short, the problem is not the regulations that the EPA is asked to enforce but our political commitment to implementing the vision set out by Congress more than four decades ago.

Make no mistake: If we follow the logic of economic hardship to its conclusions, clean water would become the exclusive domain of wealthy communities. Allowing pollution to impair our source waters in the name of economic hardship simply passes the buck by creating additional burdens on local agencies charged with delivering safe, clean drinking water. Clean water is a basic human right. We cannot and should not allow a two-tiered approach to water quality.

Thank you again for the opportunity to address the committee.



## Endnotes

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- <sup>1</sup> U.S. Environmental Protection Agency, *2012 Clean Watersheds Needs Survey* (2016), available at <https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-report-congress-2012>.
- <sup>2</sup> U.S. Environmental Protection Agency, *Drinking Water Infrastructure Needs Survey and Assessment: Fifth Report to Congress* (2013), available at <https://www.epa.gov/sites/production/files/2015-07/documents/epa816r13006.pdf>.
- <sup>3</sup> National Association of Clean Water Agencies and Association of Metropolitan Water Agencies, “Confronting Climate Change: An Early Analysis of Water and Wastewater Adaptation Costs” (2009), available at <http://www.amwa.net/galleries/climate-change/ConfrontingClimateChangeOct09.pdf>.
- <sup>4</sup> Eric Kurhi, *The Mercury News*, February 12, 2017, “Oroville Dam: Crisis eases but more than 180,000 evacuated,” available at <http://www.mercurynews.com/2017/02/12/oroville-residents-told-to-evacuate-spillway-failure-imminent/>.
- <sup>5</sup> Miami-Dade Sea Level Rise Task Force, “Miami-Dade Sea Level Rise Task Force Report and Recommendations” (2014), available at <http://www.miamidade.gov/planning/library/reports/sea-level-rise-report-recommendations.pdf>.
- <sup>6</sup> Rob Moore, “The Need for Flood Protection Standards,” Natural Resource Defense Council, November 30, 2015, available at <https://www.nrdc.org/resources/need-flood-protection-standards>.
- <sup>7</sup> Northeast Ohio Regional Sewer District, “Project Clean Lake,” available at [http://www.neorsd.org/l\\_library.php?a=download\\_file&LIBRARY\\_RECORD\\_ID=4939](http://www.neorsd.org/l_library.php?a=download_file&LIBRARY_RECORD_ID=4939) (last accessed March 2017).
- <sup>8</sup> Northeast Ohio Regional Sewer District, “CSO Consent Decree Briefing Document” (2010), available at [http://www.neorsd.org/l\\_library.php?SOURCE=library/CSO-consent-decree-brief\\_2010-1112.pdf&a=download\\_file&LIBRARY\\_RECORD\\_ID=4916](http://www.neorsd.org/l_library.php?SOURCE=library/CSO-consent-decree-brief_2010-1112.pdf&a=download_file&LIBRARY_RECORD_ID=4916).
- <sup>9</sup> *Ibid.*
- <sup>10</sup> Los Angeles Department of Water and Power, “Program Summary: San Fernando Groundwater Basin Remediation Program” (2017), available at [https://www.ladwp.com/cs/idcplg?IdcService=GET\\_FILE&dDocName=OPLADWPCCB550407&RevisionSelectionMethod=LatestReleased](https://www.ladwp.com/cs/idcplg?IdcService=GET_FILE&dDocName=OPLADWPCCB550407&RevisionSelectionMethod=LatestReleased).
- <sup>11</sup> *Ibid.*
- <sup>12</sup> Securities Industry and Financial Markets Association, “Statistics: U.S. Bond Market Issuance and Outstanding,” available at <http://www.sifma.org/uploadedFiles/Research/Statistics/StatisticsFiles/CM-US-Bond-Market-SIFMA.xls?n=77344> (last accessed February 2017).
- <sup>13</sup> *Ibid.*
- <sup>14</sup> Result based on author’s calculation from Office of Management and Budget, “Table 10.1—Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2021.”
- <sup>15</sup> Kevin L. Kliesen, “The 2001 Recession: How Was It Different and What Developments May Have Caused It?,” *Federal Reserve Bank of St. Louis Review* (September/October 2003), available at <https://files.stlouisfed.org/files/htdocs/publications/review/03/09/Kliesen.pdf>.
- <sup>16</sup> *Op. cit.* 12
- <sup>17</sup> The Pew Charitable Trusts, “Fiscal 50: State Trends and Analysis,” available at <http://www.pewtrusts.org/~media/data-visualizations/interactives/2016/fiscal-50/docs/2013/TaxRevenueData.xlsx> (last accessed February 2017).
- <sup>18</sup> *Op. cit.* 12
- <sup>19</sup> Wilbur Ross and Peter Navarro, “Trump Versus Clinton on Infrastructure,” (2016), available at <http://peternavarro.com/sitebuildercontent/sitebuilderfiles/infrastructurereport.pdf>
- <sup>20</sup> NW Financial Group LLC, “Why the Bayonne Water/Wastewater Public-Private Partnership Succeeded” (2013), available at <http://www.nwfinancial.com/pdf/NW-BMUA-Report.pdf>.
- <sup>21</sup> *Ibid.*
- <sup>22</sup> The Wharton School of the University of Pennsylvania, “A Tale of Two Public-private Partnership Cities,” June 10, 2015, available at <http://knowledge.wharton.upenn.edu/article/a-tale-of-two-public-private-partnership-cities/>.
- <sup>23</sup> *Op. cit.* 20



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<sup>24</sup> U.S. Environmental Protection Agency, *2012 Clean Watersheds Needs Survey*; U.S. Environmental Protection Agency, *Drinking Water Infrastructure Needs Survey and Assessment: Fifth Report to Congress*.

<sup>25</sup> *Federal Water Pollution Control Act Amendments of 1972*, Public Law 92-500, 92nd Cong., 2nd sess. (October 18, 1972), available at <https://www.govinfo.gov/content/pkg/STATUTE-86/pdf/STATUTE-86-Pg816.pdf>.