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# How to Upgrade and Maintain Our Nation's Wastewater and Drinking-Water Infrastructure

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# Introduction and summary

Of all the elements of our public infrastructure, our water systems are the most essential for the daily lives of Americans. The average American family of four uses roughly 400 gallons of water a day for drinking, washing, cooking, cleaning, and more.<sup>1</sup> Businesses and industry throughout our nation also depend on clean water to keep their doors open and to manufacture thousands of goods we use or export every day. Indeed, commercial and institutional water-use amounts to roughly 17 percent of the total fresh water used in the United States.<sup>2</sup> To put these figures in context, producing a single slice of bread requires some 10 gallons of water; producing a gallon of milk requires 1,000 gallons of water; and manufacturing a car uses more than 39,000 gallons of water.<sup>3</sup>

But despite how critical clean drinking-water and sanitation systems are to both the U.S. economy and to public health, many of our drinking-water and clean-water (also called wastewater) systems have been allowed to fall into a state of disrepair. Due to decades of insufficient or misdirected investment, a significant portion of water distribution and sewer systems are reaching or have already reached the end of their intended operational life and are beginning to fail. Every year thousands of aging water pipes burst, costing millions of dollars in repairs and economic losses, while outdated wastewater systems dump billions of gallons of untreated sewage into our rivers, lakes, and streams. These all-too-commonplace incidents endanger both the environment and public health, while also undermining economic growth.

These problems persist throughout the country, with residents in almost every major city feeling the effects. In Baltimore aging pipes now burst approximately 1,000 times per year, and every day an incredible 20 percent of the water drawn from nearby reservoirs is simply lost in transmission before ever making it to homes and businesses.<sup>4</sup> In Houston an estimated 40 percent of the city's water pipes have already reached the end of their intended operational lives, and last summer's heat wave and drought conditions caused the city's aging water system to sprout an overwhelming 11,000 leaks, resulting in a quarter of the city's water being lost or unaccounted for in September and October 2011.<sup>5</sup> Meanwhile, the

dilapidated sewer system that serves Miami was recently found to have ruptured some 65 times in just the past two years, discharging more than 47 million gallons of untreated sewage into waterways and streets.<sup>6</sup>

Federal assistance—in the form of grants to drinking-water and clean-water state revolving loan funds—certainly helps many communities across our country finance thousands of projects that might not have been completed otherwise. But this source of funding alone will not be sufficient to meet projected needs and may become less so, given the proposed 36 percent budget cut in fiscal year 2013 for federal grants to state revolving loan funds for drinking water and wastewater recently approved by the House Appropriations Subcommittee on Interior, Environment and Related Agencies. To address America’s deteriorating drinking-water and wastewater systems, significant additional public and private investment will be required, along with the political will to put in place reforms that make better use of the money already being invested.

In this report, we will detail the current state of our water infrastructure problems, explain the authority structure for these systems, and argue why projected funding levels are insufficient. We then propose commonsense reforms to help address the systems’ failures, including:

- Immediately increasing allocations to state revolving loan funds
- Encouraging the funds to adopt smarter investment strategies to stretch every dollar further
- Promoting the adoption of more energy-efficient technologies and practices at drinking-water and wastewater facilities
- Pushing for lower-cost solutions for water-quality and treatment challenges

If these policies are adopted and supported with sufficient political will at the local, state, and federal levels, we could make significant progress toward ensuring that America’s water systems are brought into a state of repair befitting of the world’s largest economy.

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