



The Clean Water and Drinking Water Infrastructure Gap Analysis

With the aging of the nation’s infrastructure, the clean water and drinking water industries face a significant challenge to sustain and advance their achievements in protecting public health and the environment. To gain a better understanding of the future challenges facing these industries, the U.S. Environmental Protection Agency (EPA) has conducted a study, *The Clean Water and Drinking Water Infrastructure Gap Analysis*, to identify whether a funding gap will develop between projected investment needs and projected spending. The study provides an important empirical basis for discussions addressing the critical needs of our water infrastructure.

What Does the Study Cover?

The Gap Analysis covers a 20–year period from 2000 to 2019 and includes estimates of the funding gap for both capital and operations and maintenance (O&M). The report discusses the methods for calculating the capital and O&M gaps, but does not address the policy implications of the results.

For clean water, the estimates of investment needs and spending used to calculate the gaps cover all of the approximately 16,000 publicly owned treatment works (POTWs). The drinking water analysis covers the approximately 54,000 community water systems and the 21,400 not-for-profit noncommunity water systems in the 50 states, U.S. Territories, and Tribal areas.

How was the Study Conducted?

EPA conducts surveys of the nation’s clean water and drinking water infrastructure needs every four years. These surveys formed the starting point for calculating the capital and O&M investment needs. EPA adjusted the surveys’ estimates to account for the under-reporting of needs, particularly for capital replacement. The Gap Analysis used several alternative assumptions to generate a number of scenarios for estimating the capital and O&M gaps. The estimates represent the average of these scenarios.

What Are the Findings?

The Gap Analysis presents the projected funding gap over the 20–year period in two ways: a “no revenue growth” scenario that compares the projected need to current spending levels; and a “revenue growth” scenario that assumes spending will increase by 3 percent per year. This annual increase represents a real rate of growth of 3

No Revenue Growth Scenario: 2000 - 2019	Total Payment Gap (20 years) <i>(Average in Billions of Dollars)</i>	
	Clean Water	Drinking Water
	Capital:	\$122
O&M:	\$148	\$161
Total:	\$271	\$263

Revenue Growth Scenario: 2000 - 2019	Total Payment Gap (20 years) <i>(Average in Billions of Dollars)</i>	
	Clean Water	Drinking Water
	Capital:	\$21
O&M:	\$10	\$0
Total:	\$31	\$45

percent over and above the rate of inflation—a projection which is consistent with long-term growth estimates of the economy.

The “no revenue growth” scenario is useful for understanding the extent to which spending might need to increase relative to the status quo. This analysis estimates a total capital payments gap of \$122 billion, or about \$6 billion per year, for clean water and \$102 billion, or about \$5 billion per year, for drinking water. The O&M gap is estimated at \$148 billion, or \$7 billion per year, for clean water and \$161 billion, or \$8 billion per year, for drinking water.

Under the “revenue growth” scenario, the capital gap is \$21 billion, or about \$1 billion per year for clean water and \$45 billion, or about \$2 billion per year, for drinking water. The O&M gap is estimated at \$10 billion, or \$0.5 billion per year, for clean water, while no O&M funding gap would occur for drinking water.

Each of these numbers represents an average within a range of estimates. Under the assumptions used to calculate the funding gaps, some of the models predict that total spending will exceed the total need over the next 20 years. Therefore, this range of estimates may include negative numbers. The full report provides a detailed explanation of the methods and the gap estimates.

How Credible Are the Findings?

A diverse panel of external peer reviewers drawn from academia, think tanks, consulting firms, and industry commented on the methods and data used in this study. Overall, the reviewers commended the report as a reasonable effort to quantify the gap, particularly given the limitations of the available data. EPA revised projections and approaches to incorporate the comments of the peer reviewers.

Is a Funding Gap Inevitable?

No. It is important to recognize that the funding gaps would occur only if capital and O&M spending do not increase from present levels. This assumption understates future spending and ignores other measures that can be taken. These can include, but are not limited to, asset management to reduce capital and O&M costs and rate structures that better reflect the cost of service. In reality, increasing needs will likely prompt increased spending and thus a smaller funding gap, as is captured by the “revenue growth” scenario. However, the analysis presents an indication of the funding gap that will result if we ignore the challenges posed by an aging infrastructure network—a significant portion of which is beginning to reach the end of its useful design life.

Where Can I Obtain More Information?

Copies of the Gap Analysis and the Needs Surveys are available from the Safe Drinking Water Hotline at 1(800) 426-4791, the Office of Water Resource Center at 1(800) 832-7828, and on the Internet at www.epa.gov/ow.