

## GOT water? Keeping it Flowing could get Expensive

Mark Koba, CNBC

America's water system—its treatment plants and pipes—is in need of very serious repair if the country is to have safe drinking water, experts say. And it won't come cheap.

"This is serious, and if it's not fixed, we could see a breakout of diseases from unsafe water," said Shafiqul Islam, a professor and director of the Water Diplomacy Initiative at Tufts University.

"Every two minutes there's a water pipe breaking in the U.S.," he said. "We've been putting band aids on this, but we can't do that anymore."

[The Environmental Protection Agency released a report in April](#) saying the U.S. water infrastructure would need \$384 billion in upgrades from 2011 through 2030. That's up from the \$335 billion the EPA projected in 2007 for the same time period.

An even higher amount for repairs—over a longer period of time—is estimated by the non-profit American Water Works Association. The scientific and educational group says that it will take more than \$1.7 trillion for water system improvement between 2011 and 2050.

*(Read more: [Texas Governor Signs Key Water-Financing Bill](#))*

What needs to be fixed are some 73,000 drinking water systems across the U.S., according to the EPA—some of which date back to the late 1800s.

That includes spending \$319 billion on replacing or refurbishing aging or deteriorating pipelines, as well as upgrading or constructing new treatment plants to reduce water contamination.

Funds will also be required to reconstruct storage reservoirs, water-intake structures and wells.

"A lot of these systems have passed their shelf life," said Cindy Wallis-Lage, president of Black & Veatch, an infrastructure consulting firm.

"They may still be adequate, but we definitely need more reliable systems going forward," she said. "We see pipes breaking every day in places like New York, San Francisco. Businesses have had to close because of this."

*(Read More: [Drop in US Underground Water Levels Accelerates](#))*

"Besides the dangerous threat of disease from contaminated water, the economic impact from not upgrading the system is serious," said Islam.

"The American Civil Engineers said that gross domestic product losses from not upgrading could be \$416 billion by 2020 from the constant system breakdowns and constant repairs instead of doing it right," he said. "We lose about 1.7 trillion gallons of water a year from pipe breaks."

Adding to the problems is that the nation's water supplies are running low. [Between 2000 and 2008, levels in aquifers—the vast underground storage areas tapped for agriculture](#), energy and human consumption—dropped at a rate three times as great as any time during the 20th century.

Most of the drop is due to growing human consumption, coupled with drought conditions, the U.S. Geological Survey said last month.

"The main issue moving forward is not generally scarcity of water, but how to have fresh water for human consumption and clean water for manufacturing processes," said Jose Lopez, assistant professor of physics at Seton Hall University.

Islam said some parts of the country are moving ahead with fixing their water problems, most notably Las Vegas.

"They're showing a good way to do this," Islam added. "They are not waiting, but moving ahead."

City officials said they have an advantage over places like New York and Boston. "A lot of our infrastructure is younger than the rest of the country, but we have begun repairing reservoirs and other parts of our water system," said Scott Huntley, a spokesman for the Las Vegas Water Valley District, a public entity of Nevada.

"We had leaks, so we decided to get a jump on this by fixing them," Huntley said. "It's a conscious effort on our part not to fall behind."

Funding for the local upgrades—and an ongoing \$900 million project to tunnel under Lake Mead to access more water—primarily came from selling bonds. (*Read more:* [Fight Over Vegas Water Pipeline](#))

"We didn't really have any trouble selling them," said Huntley. "A lot of our prior financing came from connection fees from new customers, but growth in Las Vegas has slowed dramatically so the bonds have become important." But Huntley said consumers are and will see higher prices to keep the water flowing.

"The bonds have to be paid off when they mature," Huntley said. "Residents here saw a \$5-a-month increase in their water bills last year. More increases will be coming. There's not much we can do about it."

"American consumers need to be educated that water prices will be going up," said Wallis-Lage at Black & Veatch. "In [comparison] to other bills, like their cellphones or computer, the cost of water is still very small."

"Water prices in Australia have gone up 3 to 4 times from what they were 10 years ago because of the drought," she said. "We have the drought conditions and the repair problems, so prices will go up."

The federal government is taking small steps to help with financing for repairs. Last month, the Senate passed legislation that would create a Water Infrastructure Finance and Innovation Authority—designed specifically to

**address the repair problems. A key part of the measure provides low interest loans to water utilities. The bill still has to pass the House.**

**"The government can help but it's naive to think it can fix this especially in today's mood for cost-cutting," Wallis-Lage said. "We're going to have to depend more on private funding."**

**"I think bonds for this type of infrastructure repair would sell quite well," said Bob Baur, chief global economist at Principal Global Investors.**

**"Bond holders can have a constant source of revenue over the life of the bonds so it would be very attractive to investors," Baur added.**

**Whether it's through bond sales or higher water prices—or more likely a combination of the two—something needs to be done to fix America's water system sooner rather than later.**

**"We've done a terrific job literally and figuratively of hiding our water infrastructure," said Wallis-Lage. "We have to bring it out into the open and reinvest in the system if we want the same service,"**

**"We've known about this problem for some time, so it's not new," Islam said.**

**"But every day we don't fix this, it will cost more and we run the serious risk of having contaminated water."**

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