

Priming the Pump: Investment for Water Infrastructure Expansion

By Jose Luis Vittor

No commodity is more essential for human life than water. Yet making water accessible and usable requires substantial infrastructure investment that too often has lagged far behind demand.

For example, the World Water Council estimates that some 1.1 billion people do not have access to safe drinking water, that another 2.6 billion lack basic sanitation and that, by 2025, some 3.5 billion people will live in places where water is scarce or becoming scarce. Such numbers primarily relate to less-developed global regions, where access to infrastructure investment capital is difficult.

Even in developed areas, however, water infrastructure expansion funding can be problematic. A contrasting look at the US and Latin America illustrates both the needs and the funding approaches that can be taken to prime the water-investment pump.

US investment needs

America's drinking water systems face an annual shortfall of at least \$11 billion (USD) to replace aging facilities that are near the end of their useful lives (leaking pipes alone lose an estimated seven billion gallons of clean drinking water each day), and to comply with existing and future federal water regulations. The physical condition of many of the nation's 16,000 wastewater treatment systems is poor, due to an ongoing lack of investment in plants, equipment and other capital improvements.

Further, this \$11 billion (USD) figure does not account for growth in the demand for drinking water over the next 20 years. Much of the country's drinking water infrastructure predates 1950; yet since that year, the US population has increased 160 percent, and the country's total water usage in terms of billions of gallons per day has increased more than 200 percent.

This poor investment picture, however, is changing. The *American Recovery and Reinvestment Act (ARRA)* of 2009 provides significant funding for states to finance high-priority infrastructure projects needed to ensure clean and safe drinking water. The *Clean Water State Revolving Fund (SRF)* program, for example, has been in place since 1987. It has received \$4 billion (USD), including funds for *Water Quality Management Planning Grants*.

The *Drinking Water State Revolving Fund* program, in place since 1997, received \$2 billion (USD). The Obama Administration

estimates that these programs, plus an additional \$4 billion (USD) allocated to the US EPA in the 2010 federal budget, will fund more than 1,000 clean water and nearly 700 drinking water projects annually, based on average project costs. The ARRA will also support more than 1,300 new wastewater projects.

Legislative boost

Another boost could come from the *Water Infrastructure Financing Act (S.1005)*, which authorizes \$39 billion (USD) to help pay for critical water infrastructure needs to reduce stormwater and wastewater pollution across the country, and also fund critical drinking water needs. The bill was approved by the Senate Environment and Public Works Committee in May 2009, after having passed the House of Representatives earlier in the year.

It increases water infrastructure spending by nearly \$35 billion (USD) over five years, and includes new financial incentives for states and municipalities to fund sustainable and cost-effective water efficiency programs. However, it has yet to be passed into law.

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Massive US and international funds were raised, representing hundreds of billions of dollars, in search of viable infrastructure deals. While a lack of political support has significantly constrained the growth of PPPs, rising investment needs and shrinking sources of funds may well erode this opposition.

One way to achieve PPP spending for water infrastructure is through private activity bonds (PABs). Unfortunately, current federal tax law imposes limits on the amount of PABs that can be issued in each state on an annual basis.

These caps have severely restricted the ability of local governments to use PABs as a funding alternative for water and wastewater infrastructure. Many groups support legislation to bring water and wastewater projects out from under the state volume cap on PABs, while the relatively minimal budget impact could be a small price to pay for greater PPP involvement in infrastructure construction.

Latin America investment

Central and South America offer an interesting contrast to the US in the development of water infrastructure. The Latin American region is one of the water-richest in the world, yet water infrastructure in many countries has not kept pace with growing population needs.

Prior to 1990, many Latin American countries (for example, Argentina, Chile, Colombia, Panama and Peru) organized their water industries as national monopolies under the direct control of the central government. State-owned water companies were more often being treated as part of the political apparatus than allowed to function as efficient service providers, leading to overstaffing, artificially depressed tariffs, political targeting of new investments and politicized contract awards.

State ownership often resulted in a high-cost, low-service infrastructure with a scarcity of resources for development. Growing dissatisfaction with the performance of the national monopolies, combined with wider political pressure for decentralization across all areas of government, created the conditions for a move toward decentralized control in the 1990s.

In countries such as Argentina, Colombia and Peru, this entailed a sudden fragmentation of the industry with an increase in smaller municipal providers. Even after reducing private sector participation, many of these countries have unsatisfied basic needs, and water and sewage infrastructure still seem to be lagging behind the needs of the population.

There has been significant private investment in Latin American water infrastructure. For example, Peru in 2007 sought to fund a \$4 billion (USD) overhaul of its aging water systems when water regulator Sunass offered bonds with 25- to 30-year maturities in which the country's private pension funds could invest.

Multilateral investment

Additional water infrastructure capital has also come from such multilateral organizations as the World Bank and the Inter-American Development Bank (IDB). For example, in 2008, the IDB made a \$200 million (USD) loan to expand potable water and sanitation services in Buenos Aires, Argentina. The project (part of a wider expansion program) is the first of a \$720 million (USD) conditional credit line for investment projects approved by the IDB.

However, Latin America's infrastructure investment pic-

ture could change as more capital comes from China, which is becoming an increasingly important player in the region. Much of China's current Latin American investment is aimed at energy infrastructure development, but Chinese companies also have a promising role to play in other basic, regional utilities and infrastructure projects.

There have already been Chinese investments in ports in Brazil and hydro-electric power in Ecuador. Moreover, now that China has joined the IDB and assumed a role in the IDB's socially conscious projects, the country will invest a further \$350 million (USD), including efforts to mitigate poverty and provide potable water and infrastructure improvements.

Several Chinese companies have ambitious investment plans in new ventures that will incentivize their banks to follow them. Also, Chinese central bank Governor Zhou Xiaochuan has stated that the availability of financing from the Bank of China and investments by the China Investment Corp. (the country's \$200 billion [USD] sovereign wealth fund) can deepen investment ties with the Latin American region. The combination of these funding sources could make China a viable alternative source of investment funds for water infrastructure projects in this decade.

Infrastructure spending options

There are both similarities and contrasts between US and Latin American water infrastructure spending options. In both regions, government spending has played, and will continue to play, a major role, although that role should be evaluated more substantially in the US.

Private water infrastructure spending should be substantial in both regions, although the United States has perhaps greater options for private investment growth. Latin America benefits more from both multilateral development agencies and foreign investment, with China a growing source of the latter.

China, of course, has also increased its investment presence in the US. It remains to be seen whether any of those investment dollars could ultimately flow to water infrastructure projects.

About the author

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