



2014 Water Sector Update

- Private Participation in Infrastructure (PPI)¹ in water increased 14% from US\$3.6 billion in 2013 to US\$4.1 billion in 2014
- LAC dominates share of water investment for fifth straight year, capturing 90% of total
- Top three projects account for 69% of total investment

This note is a product of the Public-Private Partnership Group of the World Bank, and the Private Participation in Infrastructure Database (PPI Database), written by Henry Kasper and edited by Jenny J. Chao.

1 WATER SECTOR OVERVIEW

In 2014, total investment² in water projects in developing countries was US\$4.1 billion, 14% higher than the US\$3.6 billion captured in 2013. The increase in water investment is concentrated in Latin America and the Caribbean (LAC), which captured US\$3.7 billion of the US\$4.1 billion, or 90% of the total. Behind LAC was East Asia and Pacific (EAP) with 7% and the Middle East and North Africa (MNA) with 3% (Figure 1). Notably, US\$3.2 billion of the US\$4.1 billion were BOT greenfield projects, the highest ever amount in a single year. Much of the gain came at the expense of brownfield concessions, which fell below its five- and 10-year average by roughly 50%.

Not only was the US\$4.1 billion mostly in-line with the 20-year average of US\$4.3 billion, but the number of new projects at 33 was also perfectly in-line with the five-year average of 33. It was, however, below the 10-year average of 50 projects per year. The falloff is attributable to China—where the average annual number of projects dropped from 44 during 2004-2008 to 22 from 2009-2013. Nonetheless, the average size of each project has continued to grow since 2000, reaching US\$124 million—second highest historically behind 2013's average of US\$129 million per deal.

2 SUBSECTOR OVERVIEW

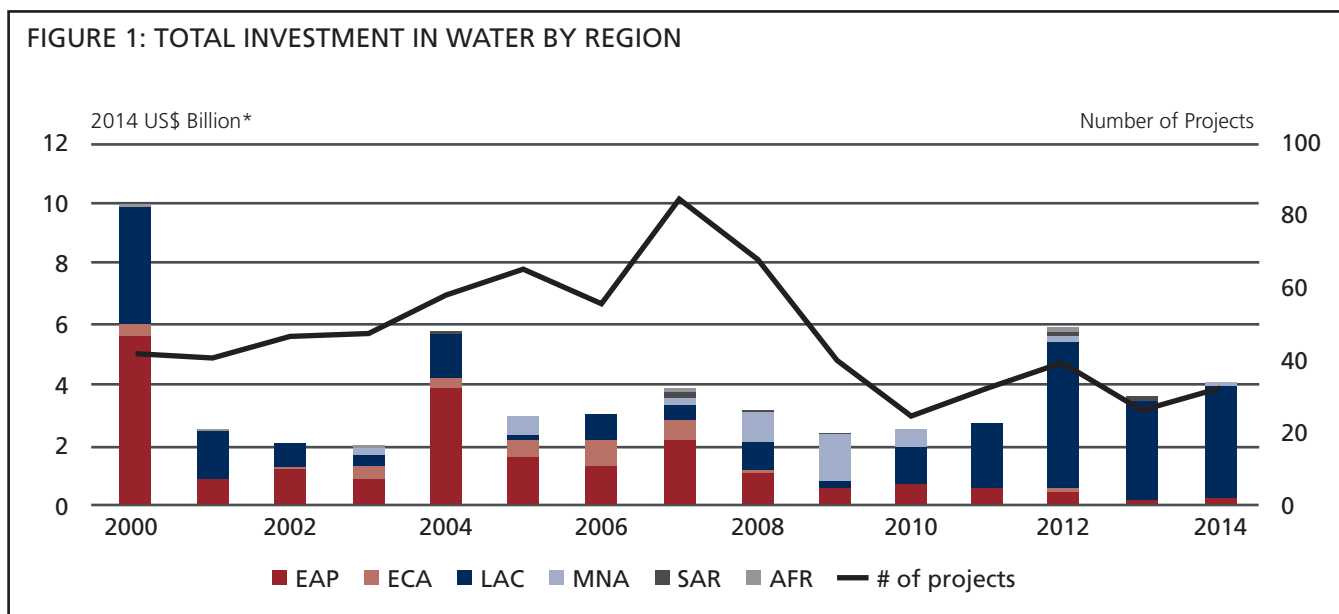
Water Transfer System. 2014 was rather unique in that three Water Transfer Systems (Aqueducts) attracted the most investment among all subsectors. Totalling US\$1.7 billion, it is the first time since 1996 that the segment attracted more investment than utilities or water treatment plants.³ This also marks a complete reversal from no investment in the subsector in the previous three years, and a marked departure from the five-year average investment of US\$64 million (2009-2013). The three aqueducts in China, Mexico and Peru (one in each) totaled US\$1.7 billion and captured roughly 42% of global water investment. It should be noted, however, that the largest project—Mexico's El Zapotillo Aqueduct—was a combination water

¹ Private Participation in Infrastructure (PPI) as defined by the Private Participation in Infrastructure Database http://ppi.worldbank.org/resources/ppi_methodology.aspx

² "Investment" refers to investment commitments at the time of financial closure or in the case of brownfield concessions, contract signing.

³ The PPI Database does not capture "captive" treatment plants exclusively used for industrial facilities.

FIGURE 1: TOTAL INVESTMENT IN WATER BY REGION



transfer system and utility. Because the project includes 139 kilometers of large diameter pipes, it is being categorized as a water transfer system. The next largest aqueduct was in Peru for US\$715 million, followed by one in China for US\$26 million. The two projects in Mexico and Peru were 25-year greenfield BOT's, while the one in China was a 50-year concession.

Treatment Plants. Treatment plants captured the second highest investment totals with US\$1.5 billion committed in 21 new projects. This compares to US\$547 million for all of 2013, representing a nearly three-fold increase year-over-year. In addition, the US\$1.5 billion in commitments was roughly 63% higher than the five-year average of US\$929 million. However, when stripping out the largest project in the subsector—Brazil's Sao Lourenco Water Supply System for US\$1.1 billion—total investment would fall to US\$406 million, or experience a 73% decline year-over-year. The next two largest projects were a pair of desalination plants in Morocco and Mexico—Agadir and El Salitral for US\$114 million and US\$48 million, respectively. Both were BOT concessions and, more notably, both were sponsored exclusively (100%) by Spanish companies. The El Salitral Desalination Plant was sponsored by Spanish-based Obrascon Huarte Lain, while Agadir was sponsored by Abengoa. Although 18 of the 21 treatment plants were in China, deals were small in scope, typically less than US\$40 million. All 18 projects were sponsored exclusively by Chinese companies. Half were management and lease contracts.

Utility. The US\$855 million of investment commitments in new projects was the smallest investment in utilities since 2010 when the database recorded US\$849 million. The amount is also 63% below the five-year average of US\$2.28 billion and 64% below the 10-year average of US\$2.25 billion. Eight of the nine projects were in Brazil, and all eight were 30-year BROT concessions. The remaining project was in China and was a 30-year ROT concession valued at US\$18 million.

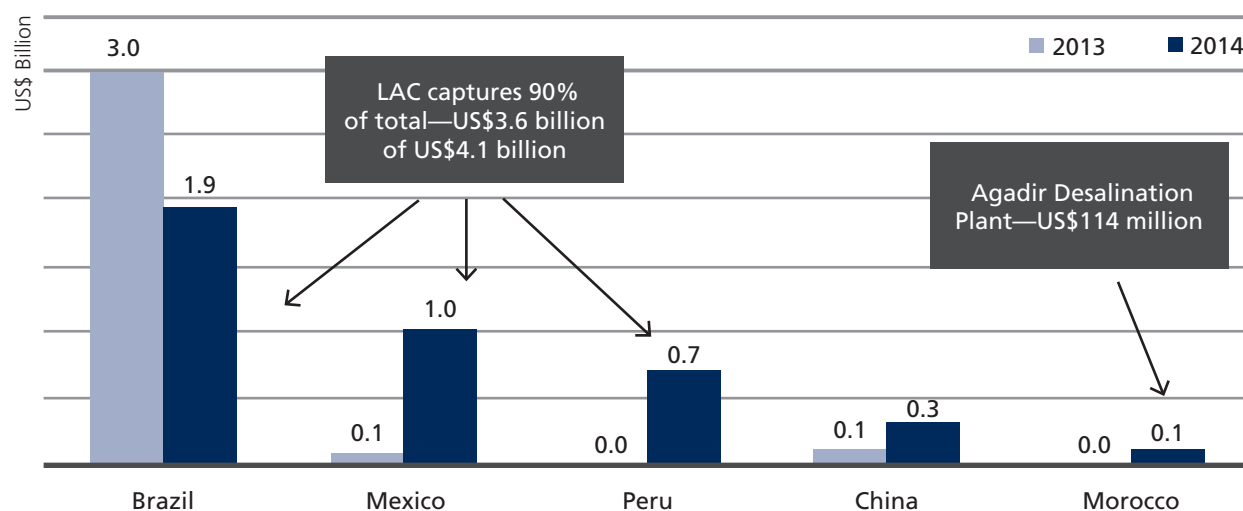
3 TOP COUNTRIES

In 2014, only five countries had private participation in water: (1) Brazil, (2) Mexico, (3) Peru, (4) China, and (5) Morocco (Figure 2). Of these five countries, Brazil, Mexico and Peru comprised 90% of total investment. In addition, the top three projects accounted for 69% of the US\$4.1 billion in commitments. Remarkably, 2014 marks the first time since 1992 that only five countries received investment commitments in water.

Brazil again was the largest market for water PPI's in 2014, capturing 48% of total investment in nine projects. Activity was led by the Sao Lourenco Water Treatment Plant which accounted for more than US\$1.1 billion of Brazil's US\$1.9 billion total. The greenfield BOT was awarded to help increase water supply to municipalities surrounding Sao Paulo, Brazil. The Sao Paulo Government awarded the contract to Camargo

Correa and Andrade Gutierrez—a pair of Brazilian construction companies that would carry out the project. The deal reached financial closure in December, 2014, and construction is expected to be completed in 2018. Of the remaining eight projects, all were in the utility subsector and granted by local municipalities through competitive bidding. Brazil-based Grupo Equipav solely sponsored five of the eight projects.

FIGURE 2: TOTAL INVESTMENT IN WATER BY COUNTRY



Mexico's two deals were enough to make it the second largest destination for water PPI's in 2014. The US\$1 billion total was driven by a single project—the US\$987 million El Zapotillo Aqueduct. In 2011, Mexico's Water Commission awarded the greenfield BOT to provide water distribution services from the El Zapotillo Dam to the city of Leon and other nearby municipalities. The project will consist of 139 kilometers of pipes, pumping stations with a total installed capacity of 24,000 kilowatts, a water treatment plant with a 3,800 liter/second capacity, a 100,000 cubic meter storage tank, and a 40 kilometer distribution circuit in the city of Leon. The project was sponsored exclusively (100%) by Spain's Abengoa.

Peru, with a single project, made the top three in 2014. The US\$715 million Chavimochic III Water Project was one of several aqueducts located in the La Libertad region, Peru. The 25-year BOT concession is the third phase of a project which is being built to irrigate 111,000 hectares of farmland in hopes of boosting agricultural production and exports. Peru's Federal Government awarded the project through competitive bidding and the investments are expected to benefit nearly a quarter million people. The main sponsor (Brazilian-based Odebrecht—73.5%) was awarded the contract by offering the lowest required government funding. Of the US\$715 million total investment, US\$374 million will be funded by the government.

TABLE 1: TOTAL INVESTMENT IN WATER BY COUNTRY (US\$ MILLION)

	Average Investment	Total Investment	% Total Investment
Brazil	\$217	\$1,949	48%
Mexico	\$518	\$1,035	25%
Peru	\$715	\$715	17%
China	\$14	\$287	7%
Morocco	\$114	\$114	3%
Total	\$124	\$4,100	100%

China was able to secure the fourth highest investment volume of US\$287 million in 20 new water projects. However, as in previous years, the average deal size in 2014 was relatively small at just US\$14 million. This amount is roughly 33% below China's five-year average project size of US\$22 million. Of the 20 water deals, nine were management and lease contracts in the treatment plant segment. The nine management and lease contracts compares to seven in 2013 and two in 2012. All 20 water deals were granted by local municipalities. Although the 20 projects were mostly in-line with China's five-year average of 22 projects per year, it was well below the 10-year average of 33 projects. In addition, investment totals were below the five- and 10-year averages. The US\$287 million invested in 2014 compares to US\$457 million average over the past five years (2009-2013), and US\$821 million average over the past 10 years (2004-2013).

Morocco captured the fifth spot with a single project—the US\$114 million Agadir Desalination Plant. Located on Morocco's Atlantic Coast, the plant is expected to produce 100,000 cubic meters/day of drinking water⁴ for the inhabitants of Greater Agadir. The 20-year PPP is backed by availability payments provided by the Moroccan National Electricity and Drinking Water Office. Of the US\$114 million project cost, local Moroccan bank BMCE is the sole lender for US\$86 million in construction financing, which has a tenor of 18 years. The sponsors, Abengoa and investment fund InfraMaroc, provided the remaining funding as equity. Notably, the Agadir Desalination Plant is Morocco's only water project ever received.

4 REGIONAL OVERVIEW

The top region by investment volume was LAC (Table 2). The driving factor behind Latin America and the Caribbean in 2014 was Brazil, Mexico, and Peru.

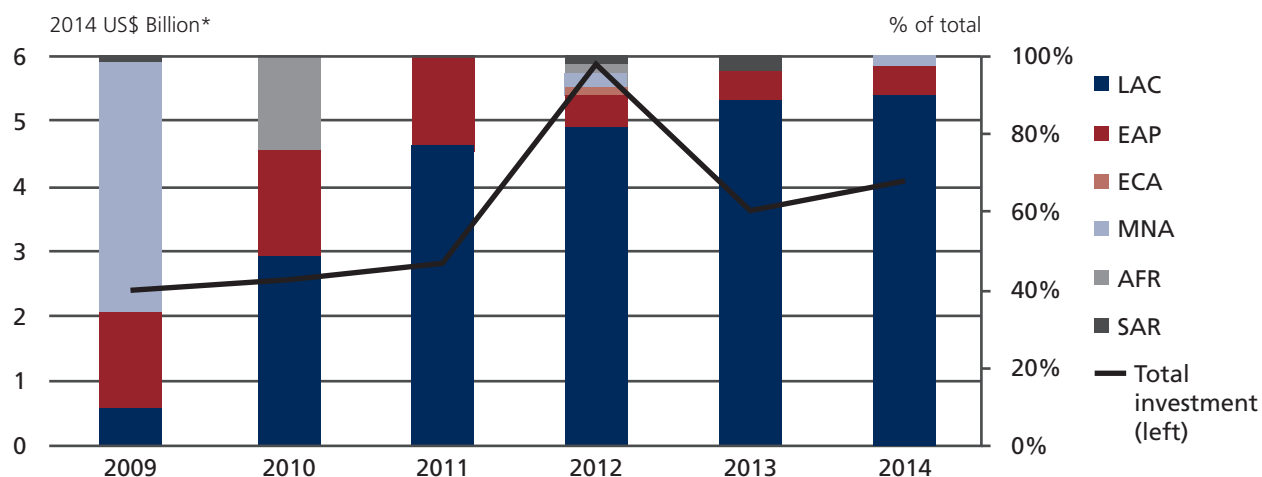
TABLE 2: INVESTMENT IN WATER BY REGION, 2014 (US\$ MILLION)

	# of Projects	Average Investment	Total Investment	% of Total	% Change from 5-year Average
LAC	12	\$308	\$3,699	90%	+59%
EAP	20	\$14	\$287	7%	-46%
MNA	1	\$114	\$114	3%	-81%
Total	33	\$124	\$4,100	100%	+25%

Latin America and the Caribbean. Latin America and the Caribbean attracted investments of US\$3.7 billion, comprising a robust 90% of global investment totals, by far the greatest share of any region. The US\$3.7 billion invested is 59% higher than the five-year average of US\$2.6 billion. In addition, LAC has shown a strong upward trend since 2009 when it captured only 10% of the global total, rising consistently to the 2014 level of 90% (Figure 3). Resoundingly, much of this share gain was at the expense of East Asia and Pacific and the Middle East and North Africa—two regions that historically have captured a significant portion of global water investment. While investment in LAC rose 16-fold from 2009 to 2014 (US\$230 million to US\$3.7 billion), investment in the other five regions declined by 82% over the same six-year period (US\$2.2 billion to US\$401 million).

⁴ United Nations Economic Commission for Europe. Available at http://www.unece.org/fileadmin/DAM/ceci/documents/2014/water_and_sanitation_October/Morocco_the_Agadir_desalination_project.pdf

FIGURE 3: TOTAL INVESTMENT & LAC'S RISING SHARE OF WATER AMONG REGIONS



Overall, there were 12 projects in LAC which is slightly above the 10-year average of nine projects per year. Of the 12 projects, nine were in Brazil, two were in Mexico and one was in Peru.

LATIN AMERICA AND THE CARIBBEAN (LAC), TOP DEALS

Country	Project	US\$ Million	Sponsors
Brazil	Sao Lourenco Water Treatment	\$1,112	Construtora Andrade Gutierrez (50% / Brazil), Camargo Correa Group (50% / Brazil)
Mexico	El Zapotillo Aqueduct	\$987	Abengoa (100% / Spain)
Peru	Chavimochic III Water Project	\$715	Odebrecht SA (20% / Brazil), Construtora Queiroz Galvao (20% / Brazil), UTC Participacoes S/A (14% / Brazil)
Brazil	Serra Wastewater Utilities	\$267	Maua Empresa Brasileira de Participacoes Societarias Estruturadas Ltda (33% / Brazil)
Brazil	Odebrecht Ambiental Sumare	\$188	Odebrecht SA (100% / Brazil)

East Asia and Pacific. East Asia and Pacific was the second largest destination for water PPIs, attracting US\$287 million in 20 projects. This total is mostly in-line with 2013's investment amount of US\$261 million; however, it is 46% below the five-year average of US\$531 million and 78% below the 10-year average of US\$1.28 billion. The 20 projects received in 2014 was in-line with the 18 received in 2013 and the five-year average of 22 per year, but it is 41% below the 10-year average of 34. Again, this is attributable to a falloff in deals in China.

⁷ Excluding India, Pakistan, Bangladesh, Sri Lanka and Maldives, South Asia's five-year average telecom investment from 2009-2013 is US\$50.4 million.

EAST ASIA AND PACIFIC (EAP), TOP DEALS

Country	Project	US\$ Million	Sponsors
China	Chongqing Kangda's Acquisition of 4 wastewater treatment plants in Shandong	\$44	Chongqing Kangda Environmental Protection Co. Ltd. (90% / China)
China	Xishui County Township Wastewater Treatment Plants	\$42	Beijing Sound Environment Industry Group (100% / China)
China	Fuyang City Yingzhou Wastewater Treatment Plant	\$39	Beijing Sound Environment Industry Group (100% / China)
China	Yining City No. 3 Wastewater Treatment Plant Phase I	\$37	Beijing Sound Environment Industry Group (100% / China)
China	Kaifeng New District Majiahe Wastewater Treatment Plant	\$33	Haitian Group (100% / China)

Middle East and North Africa. MNA had just one project but managed to comprise 3% of global water investment. The single project is mostly in-line with historical figures: the five-year annual average for number of projects from 2009-2013 was 1.75, despite not closing a single deal in 2013. Notably, the 10-year average in investment commitments is US\$604 million. However, much of that total is a result of two banner years—2008 and 2009—when US\$1 billion and US\$1.6 billion of investments were received.

MIDDLE EAST AND NORTH AFRICA (MNA), TOP DEAL

Country	Project	US\$ Million	Sponsors
Morocco	Agadir Desalination Plant	\$114	Abengoa (100% / Spain)

About the Private Participation in Infrastructure Projects Database:

The Private Participation in Infrastructure Database is a product of the World Bank's Public-Private Partnerships Group. Its purpose is to identify and disseminate information on private participation in infrastructure projects in low- and middle-income countries. The database highlights the contractual arrangements used to attract private investment, the sources and destination of investment flows, and information on the main investors. The site currently provides information on more than 6,000 infrastructure projects dating from 1984 to 2014 and is updated with last year's data six months after year-end (July 2015). It contains over 30 fields per project record, including country, financial closure year, infrastructure services provided, type of private participation, technology, capacity, project location, contract duration, private sponsors, and development bank support. This project represents the best efforts of a research team to compile publicly available information on those projects, and should not be seen as a fully comprehensive resource. Some projects—particularly those involving local and small-scale operators—tend to be omitted because they are usually not reported by major news sources, databases, government websites, and other sources used by the PPI Projects database staff. For more information, please visit: <http://ppi.worldbank.org/>.

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