



2015 Water Sector Global PPI¹ Update

- Total investment² in infrastructure with private participation in the water sector in emerging economies was US\$4.1 billion in 2015, 8 percent above the five-year average of US\$3.8 billion.
- Latin America and the Caribbean continued to gain a majority share of water investment for the sixth consecutive year, capturing 58 percent of the total.
- The top three projects accounted for 60 percent of the 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 Jinsuk Park and edited by Jenny Chao.

1 SECTOR OVERVIEW

In 2015, total investment in water projects in developing countries was US\$4.1 billion, 8 percent higher than the five-year average of US\$3.8 billion (2010-2014). The increase in water investment was concentrated in Latin America and the Caribbean (LAC), capturing US\$2.4 billion of the US\$4.1 billion, or 58 percent of the total. Thanks to one big project in the Russian Federation, Europe and Central Asia (ECA) came in second at 29 percent. Following ECA was East Asia and Pacific (EAP) with 9 percent and the Middle East and North Africa (MNA) with 3 percent (Figure 1). Notably, US\$2.4 billion of the US\$4.1 billion were for brownfield rehabilitate-operate-transfer projects; whereas, in 2014, 80 percent of total investment was from build-operate-transfer greenfield projects.

Not only was the US\$4.1 billion investment mostly aligned with the 20-year average of US\$4.4 billion, but the number of new projects at 40 was parallel with the five-year average of 38. However, the number of projects were below the 10-year average of 55 per year. This trend of fewer but larger deals corresponds to the fact that the average project size has been increasing over the past decade.

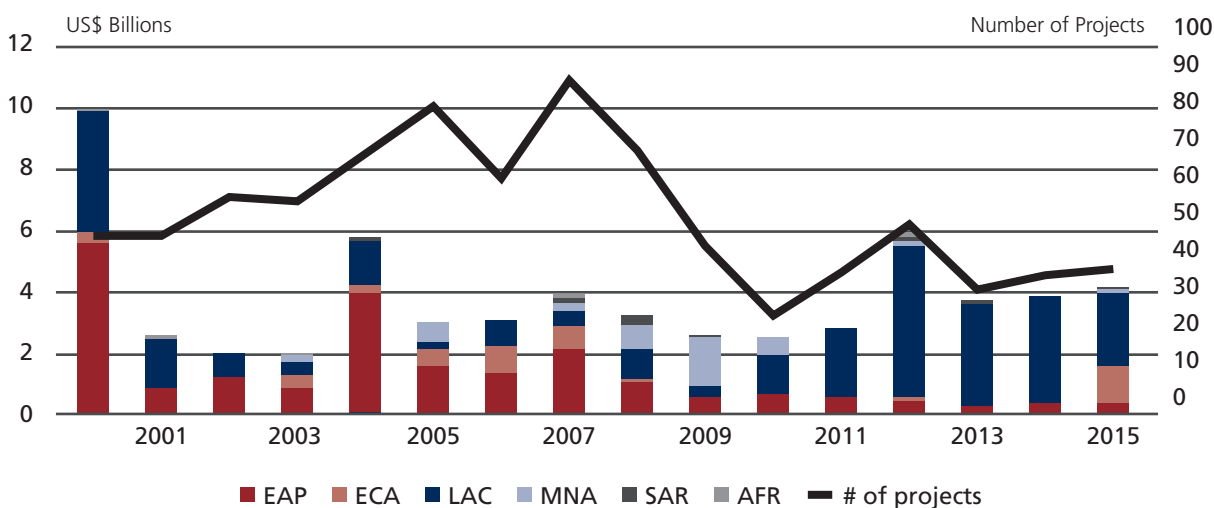
2 SUBSECTOR OVERVIEW

Water Utility. 2015 was significant in the water utility subsector, regaining an upward trend after a three-year decline (2012-2014). The total investment of US\$3.5 billion in 19 new projects was 29 percent above the five-year average of US\$2.7 billion. The year also saw a large single investment in Russia for US\$1.2 billion. Of the 19 projects, 15 were in Brazil, all of which were build-rehabilitate-operate-transfer (BROT) projects for more than a 25-year period. The remaining projects were in Mexico, Egypt, Russia, and Chile—one project in each country. The three largest projects in Russia, Mexico, and Brazil totaled US\$2.4 billion,

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

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

FIGURE 1: TOTAL INVESTMENT IN WATER BY REGION



Source: World Bank, PPI Project Database.

* Adjusted by 2014 US CPI

capturing around 70 percent of the global water utility investment in 2015. The largest project, Russia's Volgograd Water Communal Infrastructure Concession, included the development of a 193-kilometer water supply network and 42-kilometer sewer network and the reconstruction of 72 water supply pump stations and 41 water disposal pump stations. The next largest project was in Mexico for US\$730 million, followed by one in Brazil for US\$511 million.

Treatment Plants. With only US\$560 million in commitments for 21 new projects in 2015, investment in treatment plants at 62 percent, with fewer projects at 13 percent, fell considerably below commitments the previous year. In fact, investment was 47 percent lower than the rolling five-year average of US\$1.1 billion. The largest investment was China's Hefei City Qingxi Wastewater Treatment Plant, which entailed the developing of a sewage treatment plant, with a capacity of 200,000 tons per day. The next two largest plants were both potable water treatment plants, one in Morocco for US\$114 million and one in Mexico for US\$48 million. These top three deals were all greenfield build-operate-transfer projects. Though 17 of the 21 treatment plants were in China, the projects were smaller in scope, typically less than US\$30 million.

3 TOP COUNTRIES

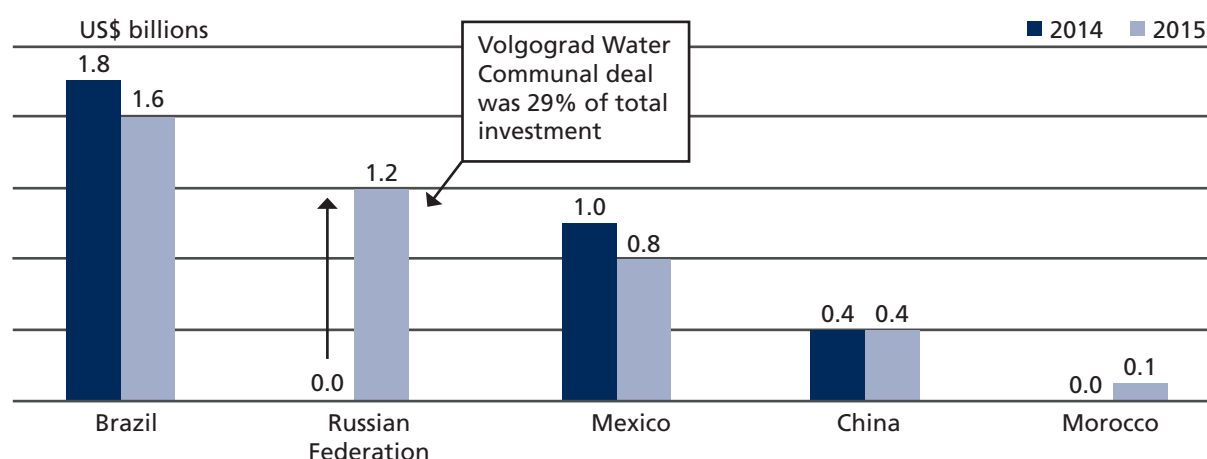
The top countries with the highest water investment in 2015, respectively, were Brazil, Russia, Mexico, China, and Morocco. These countries amassed US\$4.1 billion, representing 99 percent of investment in the water sector in the developing world. In addition, the top three projects accounted for 60 percent of the US\$4.1 billion (Figure 2).

Brazil continued its four-year trend as the largest market for water PPIs in 2015, with 15 projects and 40 percent of the total investment. Activity was led by Guarulhos Sewerage Services, accounting for over US\$511 million of Brazil's total investment of \$1.8 billion. For this deal, in May 2014, the Brazilian company OAS Solucoes Ambientais, a subsidiary of OAS Group, was awarded a 30-year public-private partnership (PPP) contract to expand, rehabilitate, and operate the sewerage facilities in Guarulhos, a municipality in the Brazilian state of Sao Paulo. The remaining 14 projects comprised brownfield BROT contracts in the water utility subsector, which were awarded by the respective municipalities or state-owned companies.

Russia's one project was the largest deal in the water sector in 2015: the US\$1.2 billion Volgograd Water Communal Infrastructure Concession—enough to make Russia the second largest market for water PPIs in 2015. The project involves developing the Volgograd water and wastewater treatment plant. The deal also includes developing and constructing a 193-kilometer water supply network and 42-kilometer sewer net-

work as well as reconstructing 72 water supply pump stations and 41 water disposal pump stations. Water Supply Concessions LLC won the concession for the project from the city of Volgograd and entered into a DFBMO 30-year concession agreement with the city to build and rehabilitate its water infrastructure in June 2015.

FIGURE 2: TOTAL INVESTMENT IN WATER BY COUNTRY



Mexico, with two single projects, ranked among the top three countries in 2015. The US\$778 million investment was mainly driven by a single project: the US\$730 million Veracruz and Medellin Water and Sewerage Services. The project was awarded a 30-year concession contract, signed in June 2015, to expand, rehabilitate, maintain, and operate the existing water and sewerage infrastructure in the Mexican cities of Veracruz and Medellin. Awarded a 20-year build-operate-transfer contract by the Mexican government, the second project was the Ensenada Desalination Plant, with a capacity of 250 liters per second.

TABLE 1: TOTAL INVESTMENT IN WATER BY COUNTRY IN 2015

| | Average Investment (US\$ millions) | Total Investment (US\$ millions) | % of Total Investment |
|--------------------|------------------------------------|----------------------------------|-----------------------|
| Brazil | \$106 | \$1,591 | 39% |
| Russian Federation | \$1,200 | \$1,200 | 29% |
| Mexico | \$389 | \$778 | 19% |
| China | \$22 | \$380 | 9% |
| Morocco | \$114 | \$114 | 3% |
| India | \$9 | \$19 | 0% |
| Total | \$102 | \$4,081 | 100% |

China had the fourth largest investment volume at US\$380 million for 17 new water projects. Although the average project size in 2015 was relatively small at US\$22 million, the average deal rebounded in 2015 by about 32 percent above China's five-year average of US\$17 million. Of the 17 water deals, 11 were green-field build-operate-transfer projects, four were brownfield rehabilitate-operate-transfers and the remaining two were management and lease contracts. All 17 water contracts were granted by local municipalities. The 17 projects per year dropped below both the five- and 10-year averages of 21 and 33 projects per year, respectively. By the same token, the investment of US\$380 million in 2015 was below both the five-year average of US\$425 million and ten-year average of US\$786 million.

Morocco captured the fifth spot with a single project: the US\$114 million Agadir Desalinization Plant. Located on Morocco's Atlantic coast, the plant is expected to produce 100,000 cubic meters per day of drinking water³ for the population 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, local Moroccan bank BMCE is the sole lender for construction financing of US\$86 million, with an 18-year tenor. The project's two sponsors, Abengoa and InfraMaroc, a CDG Capital Infrastructures investment fund, provided the remaining financing as equity.

4 REGIONAL OVERVIEW

Latin America and the Caribbean (LAC) ranked as the top region in 2015 not only by investment totals but also by the largest number of new projects at 18. The driving factor was Brazil and Mexico. Among the six regions, only Europe and Central Asia (ECA) experienced gains over the five-year average, fueled by the US\$1.2 billion Volgograd Water Concession in Russia. However, the other five regions experienced declining investments at 30 percent below their five-year average of US\$3.7 billion, enough to offset the increase in ECA. Africa (AFR) recorded no new water investments in 2015. Overall, because of the large increase in ECA, the total investment in the water sector climbed 8 percent above the five-year average of US\$3.8 billion.

TABLE 2: INVESTMENT IN TRANSPORT BY REGION IN 2015

| | Number of Projects | Average Investment (US\$ millions) | Total Investment (US\$ millions) | % of Total |
|--------------|--------------------|------------------------------------|----------------------------------|-------------|
| LAC | 18 | \$132 | \$2,368 | 58% |
| ECA | 1 | \$1,200 | \$1,200 | 29% |
| EAP | 17 | \$22 | \$380 | 9% |
| MNA | 2 | \$57 | \$114 | 3% |
| SAR | 2 | \$9 | \$19 | <1% |
| AFR | 0 | \$0 | 0% | -100% |
| Total | 40 | \$102 | \$4,081 | 100% |

Latin America and the Caribbean. LAC attracted investments of US\$2.4 billion, comprising 58 percent of global investment totals, which was the greatest share of any region. The US\$2.4 billion invested was 21 percent lower than the five-year average of US\$3.0 billion. Although LAC had shown a strong upward trend between 2009 and 2014, the region shrank in both investment amount and proportion of total investment in water sector (Figure 3).

Overall, there were 17 projects in LAC, which was above the 10-year average of 12 per year. Of the 17 projects, 14 were in Brazil, two in Mexico, and one in Chile.

³ United Nations Economic Commission for Europe. Available at http://www.unece.org/fileadmin/DAM/ceci/documents/2014/water_and_sanitation_October/Morocco_the_Agadir_desanilisation_project.pdf

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

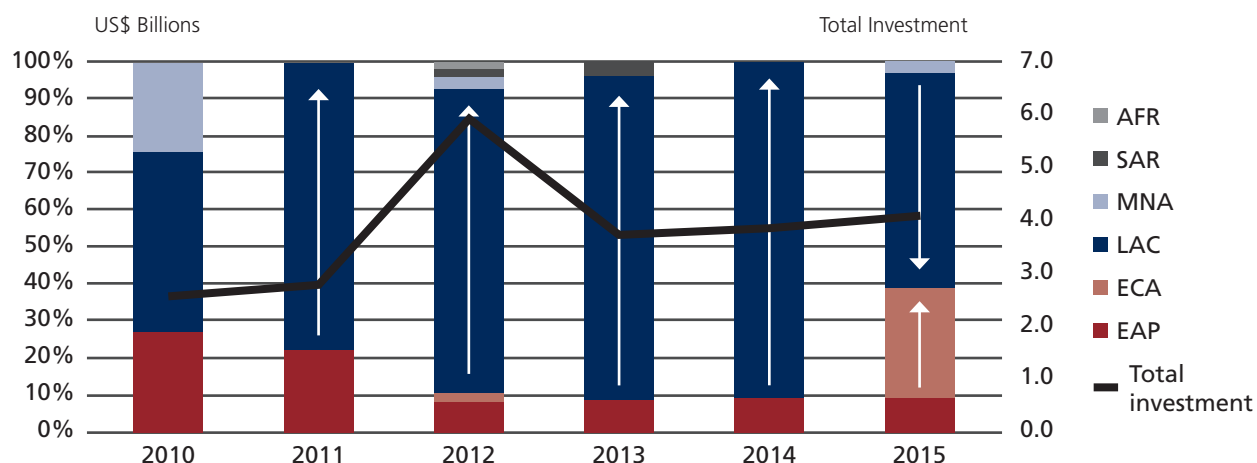


TABLE 3: TOP 5 DEALS IN THE LAC REGION IN 2015

| Country | Project | Total Amount (US\$ million) | Sponsors (% Ownership/Sponsor Country) |
|---------|---|-----------------------------|--|
| Mexico | Veracruz and Medellin Water and Sewerage Services | \$730 | Odebrecht SA (64%/Brazil); Aguas de Barcelona (16%/Spain) |
| Brazil | Guarulhos Sewerage Services | \$511 | Construtora OAS (100%/Brazil) |
| Brazil | Odebrecht Ambiental Sumare | \$188 | Odebrecht SA (100%/Brazil) |
| Brazil | Odebrecht Ambiental Maranhao | \$151 | Odebrecht SA (100%/Brazil) |
| Brazil | Divinopolis Sewerage Services | \$126 | Acciona (... %/Spain); Goetze Lobato Engenharia (... %/Brazil); Grupo JBS (... %/Brazil) |

Europe and Central Asia. ECA was the second largest destination for water PPIs, taking in US\$1.2 billion in one massive historic project—the largest in the last decade in Russia.

TABLE 4: TOP DEAL IN THE ECA REGION IN 2015

| Country | Project | Total Amount (US\$ million) | Sponsors (% Ownership/Sponsor Country) |
|--------------------|--|-----------------------------|---|
| Russian Federation | Volgograd Water Communal Infrastructure Concession | \$1,200 | Water Supply Concession LLC (100%/Russian Federation) |

East Asia and Pacific. EAP ranked as the third largest destination for water PPIs, with investment of US\$380 million for 17 projects. This total is mostly in line with 2014's investment amount of US\$353 million, but 30 percent below the five-year average (US\$542 million) and 60 percent below the 10-year average (US\$929 million). The 17 projects reaching financial closure in 2015 fell below both the 23 deals closing in 2014 and the five-year average of 22 per year. This trend can be attributed to a continuous falloff in investment in China.

TABLE 5: TOP 5 DEALS IN THE EAP REGION IN 2015

| Country | Project | Amount (US\$ millions) | Sponsors: % Ownership/Sponsor Country |
|---------|--|------------------------|---|
| China | Hefei City Qingxi Wastewater Treatment Plant | \$169 | Anhui Guozhen Environmental Protection Science & Technology Co. Ltd. (100%/China) |
| China | Chongqing Fengdu County Township Wastewater Treatment Plant Portfolio | \$32 | Beijing Sound Environment Industry Group (100%/China) |
| China | Tonglu Fuchun Wastewater Treatment Plant Phase I and II Rehabilitation Project | \$31 | Jiangsu WELLE Environmental Protection Technology Co., Ltd. (100%/China) |
| China | Zunyi City Tongzi County 13 Wastewater Treatment Plants | \$28 | Beijing Sound Environment Industry Group (56%/China) |
| China | Huoqiu County 5 Township Wastewater Treatment Plants | \$27 | Beijing Sound Environment Industry Group (100%/China) |

Middle East and North Africa. MNA had just two projects but managed to comprise 3 percent of global water investment. The two projects were mostly compatible with historical figures, as the five-year annual average for number of projects from 2010-2014 was one, despite not closing a single deal in 2013 and 2014. Notably, the 10-year average in investment commitments is US\$423 million. However, much of this results from two banner years, 2008 and 2009, when investments of US\$1.0 billion and US\$1.6 billion, respectively, were received.

TABLE 5: TOP DEALS IN THE MNA REGION IN 2015

| Country | Project | Amount (US\$ millions) | Sponsors: % Ownership/Sponsor Country |
|------------------|--|------------------------|---------------------------------------|
| Morocco | Agadir Desalination Plant | \$114 | Abengoa (100%/Spain) |
| Egypt, Arab Rep. | Gabal El Asfar Water Treatment Plant Phase 1 | \$0 | GDF SUEZ (Not available/France) |

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 8,000 infrastructure projects dating from 1984 to 2015. It contains over 50 fields per project record, including country, financial closure year, infrastructure services provided, type of private participation, technology, capacity, project location, contract duration, private sponsors, debt providers, 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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