



2018
Private Participation
in Infrastructure (PPI)
Annual Report



THE WORLD BANK
IBRD • IDA



Acknowledgement & Disclaimer

This report was prepared by a team comprising Deblina Saha (Task Team Leader), Seong Ho Hong and Teshura Nair, with editorial inputs by Luba Vangelova and design by Jeanine Delay. The team is very grateful for the support and guidance received from Jordan Schwartz (Director, IPG Group) and Jason Lu (Head, Global Infrastructure Facility). The team is thankful to Helen Mary Martin (Senior PPP Specialist, IPG Group), Patrice Claude (Senior Infrastructure Finance Specialist, IPG Group), Darwin Marcelo (Senior Infrastructure Economist, IPG Group) and Fernanda Ruiz-Nuñez (Senior Economist, IPG Group) for providing valuable comments which helped shape the report.

This report describes Private Participation in Infrastructure (PPI) as indicated in the Private Participation in Infrastructure Database. The database records investment information for infrastructure projects in low- and middle-income countries globally.

The PPI Database represents the best efforts of a research team to compile publicly available information, 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 database staff.

Note: All tables sourced from the PPI Database, World Bank, as of February 2019.

Index

Key Highlights	1
Executive Summary	3
1. Overview	6
2. Geographic Spread	9
3. Investment in IDA Countries	14
4. Sector Trends	17
5. DFI Support	14
5.1 Development Finance Institution (DFI) Support	23
5.2 Sources of Financing	24
Annex A. DFI Agencies that Supported Projects in 2018	28
List of Abbreviations	29



Key Highlights

- In 2018, private investment commitments in energy; transport; information and communications technology (ICT) backbone; and water infrastructure in low- and middle-income countries totaled \$90 billion across 335 projects in 41 countries.
- Although this represents a slight decline of three percent compared to 2017 levels, the total investment for 2018 nevertheless shows a recovery from the 10-year low of \$71 billion in 2016.
- There was a regional shift in investment levels, with Europe and Central Asia (ECA), Sub-Saharan Africa (SSA), and South Asia Region (SAR) together seeing a cumulative increase of \$14.2 billion, or 72 percent, compared to 2017. This partly offset a decline in investment volumes in East Asia and Pacific (EAP) and Latin America and the Caribbean (LAC), which nonetheless remain the regions with the largest investment shares.
- Forty-one countries received investments, with 67 percent of the global total concentrated in the top five countries (China, India, Turkey, Indonesia and Brazil).
- IDA (International Development Association) countries¹ recorded their lowest level of private investment in the past 10 years, with \$2.5 billion invested across 15 projects in 11 countries.
- Transport increased its share by 49 percent, garnering 60 percent of total PPI investments, whereas energy recorded its lowest investment share in the past 10 years. As a result, transport emerged as the largest PPI sector in 2018. Water-sector investments doubled, and ICT investments saw a sharp decline.
- Of 155 private electricity-generation projects, 146 involved renewable energy, accounting for 70 percent of total electricity-generation investments and 63 percent of capacity (14.3 out of 22.8 gigawatts). Solar was the dominant technology for power generation.
- Of the investments for which financing information was available², private sources financed 64 percent of the total amount, public sources financed 17 percent, and development finance institutions (DFIs)—which are both multilateral and bilateral³—financed 19 percent. Seventy-four percent of total investment was debt-financed, of which commercial debt providers accounted for the highest share (54 percent), followed by public banks (19 percent). Domestic sources financed 52 percent of the total debt, up from 25 percent in 2017.

¹ "IDA countries" refers to countries that are eligible for support from the IDA, the part of the World Bank that helps the world's poorest countries (<http://ida.worldbank.org/>).

² Financing information was available for 198 projects, with investments totaling \$45.7 billion. Information was unavailable for most projects in China, including the megaprojects.

³ Includes export credit agencies.



Executive Summary

PPI investment⁴ in 2018 stood at \$90 billion across 335 projects, marking a slight decline of three percent from 2017 levels. Although this is the second-lowest level of PPI investment in the last 10 years, it shows a sustained recovery from the 10-year low of \$71 billion in 2016. The marginal dip from 2017 was mainly due to reduced energy investments, particularly in Indonesia, Pakistan and Mexico, which were among the top five investment destinations in 2017.

The year 2018 was characterized by an increased number of projects and fewer megaprojects. The number of projects increased from 309 in 2017 to 335 in 2018, driven primarily by an increase in the number of projects in South Africa, India, Brazil and Vietnam. This was offset by a decrease in average project size. The proportion of smaller and mid-sized projects was higher in 2018—for example, there was a 37-percent increase (compared to 2017) in investment commitment in projects in the \$100 to 500 million range. On the other hand, there were fewer very large projects—the largest single investment in 2018 was \$3.8 billion, compared to \$6.9 billion in 2017 and the most recent five-year average of \$12.7 billion.

Investments in ECA and SAR experienced a revival, and investment commitments in SSA tripled, but there was a slowdown in EAP and LAC (the dominant PPI regions). EAP continued to dominate, accounting for almost half (46 percent) of total PPI investments, even though the absolute value of investment in the region fell. Although LAC has historically dominated PPI investments, its share in 2018 was only 16 percent, a significant drop from its peak of 57 percent in 2014. ECA investments doubled, led by Turkey. SAR investments are increasing (71 percent higher than the most recent five-year average), led by a revival of investments in India. Investments in SSA almost tripled, driven by South Africa and Cameroon.

China was the top investment destination; India and Turkey reappeared on the top-five list; and Indonesia and Brazil remained on the top-five list, despite a fall in investments. China accounted for 31 percent of the global total in 2018, mainly due to a surge of road investments. India, with investments totalling \$11.7 billion, mostly in transport, made it back to the top-five list of investment destinations. Turkey's total investment of \$7.9 billion across 10 projects is dominated by transport projects. Indonesia (\$6.9 billion) remains in the top five, despite investment levels dropping to less than half of 2017 levels, as does Brazil (\$6.0 billion), which had its lowest investment levels in the last 10 years.

IDA countries recorded their lowest level of private investment in the past 10 years. Investments in IDA countries totaled \$2.5 billion across 15 projects in 11 countries—a steep drop from the 2017 level of \$8.3 billion, and 47 percent lower than the average over the past five years. IDA countries' share of global PPI investments fell significantly, to 2.7 percent, down from the most recent five-year average of five percent. This drop reflects investments in fewer IDA countries, and lower or no investments in several IDA countries that had received investments in recent years—notably Ghana and

⁴ "Investment" refers to private investment commitments at the time of financial closure in energy, transport, water and ICT-backbone projects serving the public in low- and middle-income countries, including natural-gas transmission and distribution, but excluding oil and gas extraction. This is the first time reported investments include ICT-backbone infrastructure—such as fiber-optic cables, mobile towers and other hard assets—with an active government component—i.e., where the role of the government is not just limited to regulation and licensing, but where the government is involved either through being a contracting authority (i.e., a party to a concession agreement), the owner of the assets, or some other form of government support.

Honduras, which had accounted for 36 percent of PPI investments in IDA countries in the previous five years.

Transport investments increased 1.5-fold, and water investments doubled, but energy and ICT investments decreased. The transport sector outpaced the energy sector for the first time in 10 years (except in 2015, when there was a \$36.4 billion airport project in Turkey). Transport projects accounted for 60 percent of global PPI investments, driven by a surge of road projects in China and India. The energy sector recorded its lowest investment in the past 10 years, as a result of a sharp decrease in China and Brazil, and to some extent Mexico and Indonesia. In the case of China, the drop reflects a cessation of subsidies and government support to solar projects, due to excess capacity in some regions. Water investments increased, led by China and India, but Brazil, which had been the top country for water investments in the past five years, saw its lowest-ever water-investment level. ICT projects received only \$297 million in 2018, a significant drop from the sector's 2017 peak—which was an exceptional year for ICT investments—and a 36-percent drop from the five-year average ending in 2016.

Renewable energy saw remarkable success. In most countries, the significant majority of private investment in energy went to renewable-energy projects; the exceptions were Pakistan, Bangladesh, Thailand and Indonesia. Ninety-four percent of all new private power projects utilize renewable energy sources to generate electricity, accounting for 63 percent of new capacity added through PPI. In terms of investment volume, almost 70 percent of electricity-generation investments are in renewables. This is a significant increase over 2017 levels, and over the most recent five-year average of 56 percent. Solar was the most dominant technology for power generation in terms of capacity addition; in terms of investment, it was at the same level as wind.

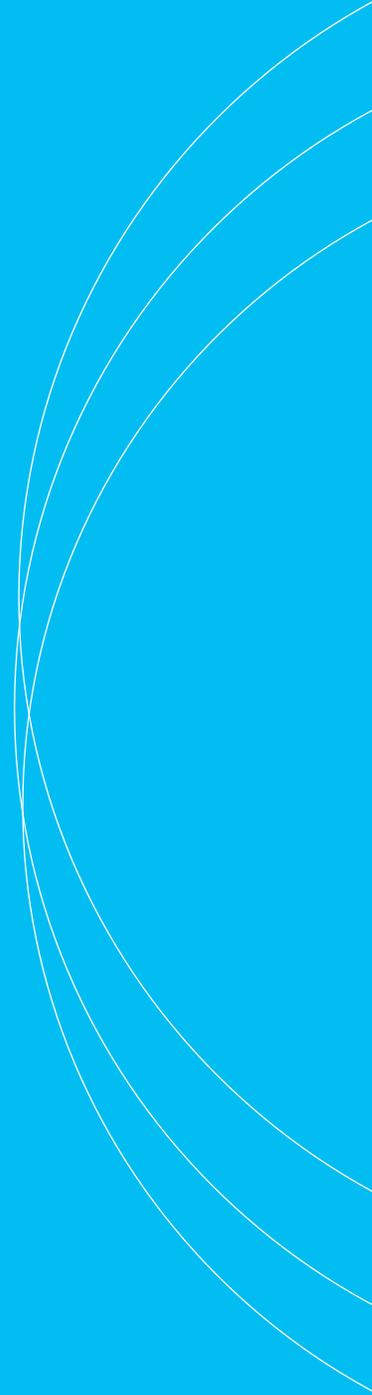
DFIs⁵ supported a fifth of the PPI projects in 2018, though this share was lower than in 2017. Sixty-six projects received some form of DFI support (refer to Annex A for a list of DFIs), accounting for 20 percent of all PPI projects, which is the second-highest share in the past five years. In terms of projects, LAC had the highest number of projects with DFI support, whereas in terms of financing volume, EAP had the highest amount of DFI debt (\$3.0billion). In addition to financing projects, the role of DFIs expanded to also include enabling private investment through syndication support, transaction advisory, guarantees and other risk-mitigation facilities. In 2018, 17 projects received other such non-financing support from DFIs. Guarantees helped projects worth \$8.6 billion reach financial closure in 2018. This represents about 10 percent of total investment, which is the highest level in the last five years.

There was more reliance on commercial debt in all regions, and more local financing. Commercial debt accounted for almost 40 percent of total investment in 2018, up from 22 percent in 2017. The commercial debt financing in ECA accounted for 31 percent of total commercial debt raised globally. South Africa accounted for 13 percent of the global commercial debt, with all projects in the renewable-energy sector. Local debt providers played a more active role in 2018, accounting for more than half (52 percent) of the total debt raised, up from 25 percent in 2017.

⁵ For the purposes of this report, DFI refers to multilateral institutions and bilateral agencies with a development mandate, as well as export credit agencies with a mandate to support domestic businesses in pursuing investments abroad.

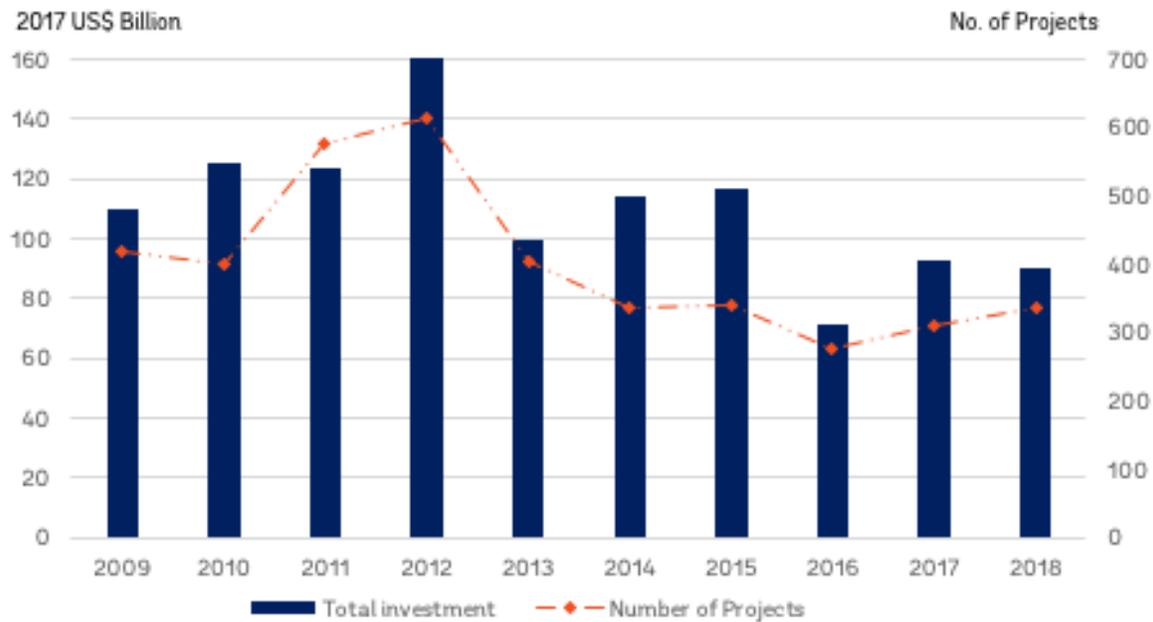
1

Overview



PPI investment in 2018 totaled \$90 billion across 335 projects. Although this was three percent lower than the 2017 levels of \$92.9 billion⁶, and nine percent below the previous five-year average, it nevertheless represented a sustained recovery from the 10-year low of \$71 billion in 2016.

Figure 1: Investment Commitments in Infrastructure Projects with Private Participation in EMDEs, 2009-2018



Despite investment levels being slightly lower, 2018 saw **an increase in the number of projects**, from 309 in 2017 to 335 in 2018 (an eight-percent increase), and a 20 percent increase over 2016 levels. The increased number of projects came principally from South Africa, India, Brazil and Vietnam. South Africa had 21 projects in 2018, compared to no projects in 2017, and Brazil and India both saw an increase of 18 projects per country compared to 2017. Whereas the increased numbers for Brazil and South Africa can be attributed to renewable-energy projects, the surge in India is attributable to road projects. Ukraine saw an increase from three projects in 2017 to 10 projects in 2018. Conversely, Egypt—which in 2017 had significant PPI activity with 25 projects, mostly due to BenBan Solar Park—had no PPI projects in 2018.

Project Size:

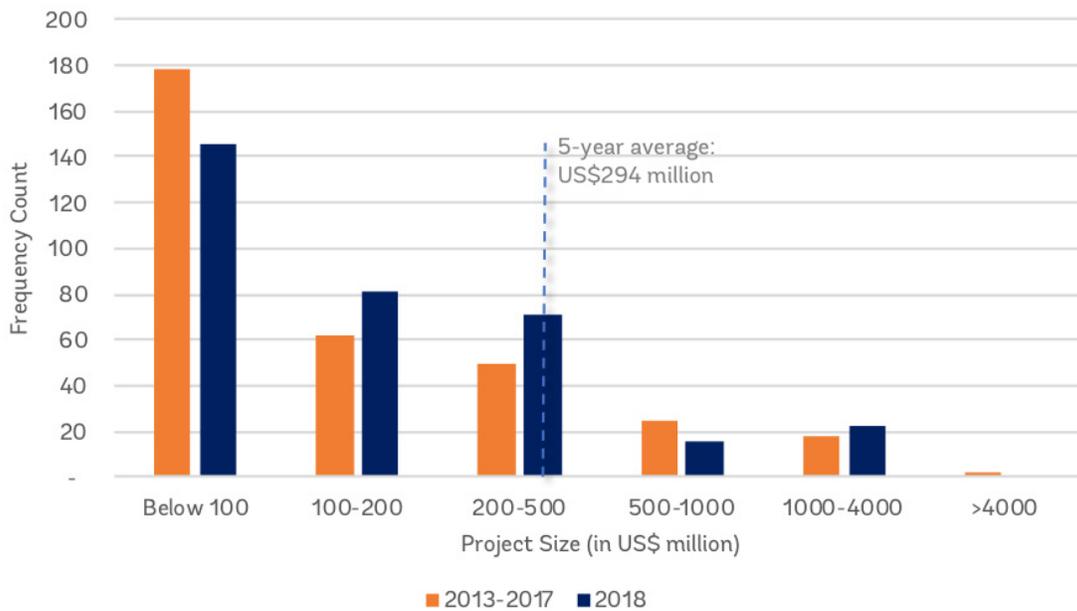
In 2018 there were fewer investments in megaprojects, but there was a 37 percent increase in investment commitments (compared to 2017 levels) in mid-sized projects in the \$100 to 500 million range (Figure 2). The largest project in 2018 was \$3.8 billion, compared to \$6.9 billion in 2017 and the previous five-year average of \$12.7 billion (Table 1).

⁶ Countries such as Argentina and Panama that have graduated to high-income status aren't reported anymore, hence this figure is lower than the figure reported in the 2017 PPI annual report.

**TABLE 1:
FREQUENCY DISTRIBUTION OF PROJECT SIZES VS. THE PREVIOUS FIVE-YEAR PERIOD**

Year	No. of Projects	Mean	Median	Maximum (2017 \$ MILLION)
2013	405	258	101	3,800
2014	337	356	89	10,880
2015	339	349	89	36,803
2016	276	272	96	5,301
2017	309	302	95	6,882
2018	335	268	119	3,804

Figure 2: Frequency Distribution in Sizes of Infrastructure Projects with Private Participation in EMDEs, 2013-2017



Project Type:

In 2018, 81 percent of all PPI projects were greenfield projects, and most of the greenfield projects (58 percent) were in the energy sector. There was an increase in the number of brownfield transport projects, driven largely by India, where 82 percent of all brownfield projects in the transport sector took place. In 2018, only seven transactions were recorded as management contracts, and there was one divestiture (Privatisation of Tekirdag Port in Turkey).

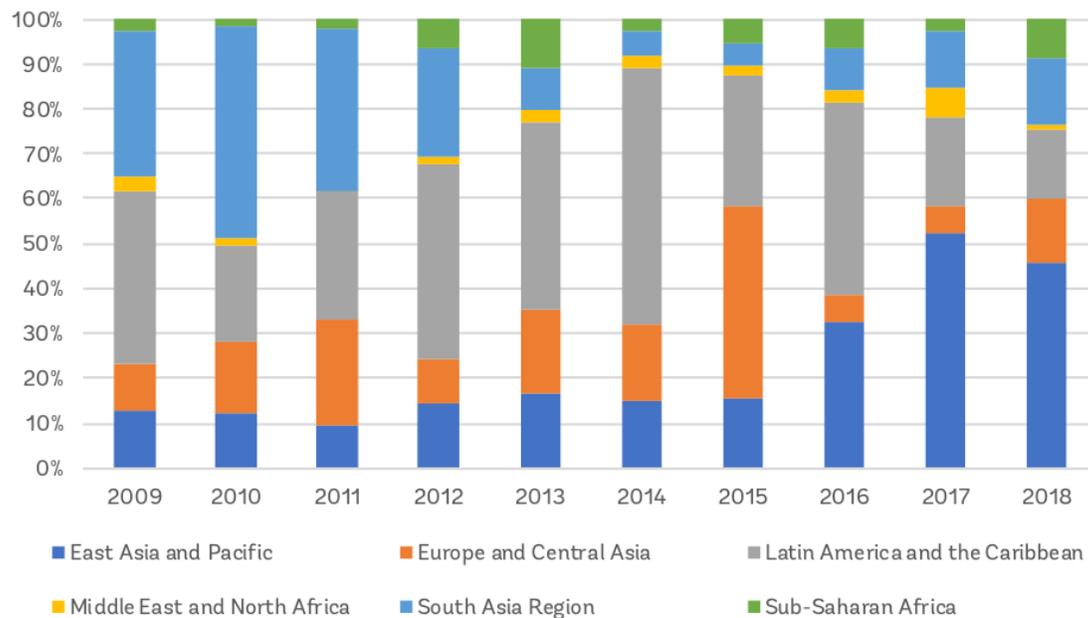


2

Geographic
Spread

EAP continues to dominate global investments, accounting for almost half (46 percent) of total PPI investments in 2018, even though the absolute value of investment in the region fell compared to 2017 levels. Although LAC has dominated PPI investment historically, its share dropped significantly, from a peak of 57 percent in 2014 to 16 percent in 2018. The drop in absolute investment numbers in EAP and LAC was offset by increases in other regions, namely ECA, SSA and SAR (in order of increased volume). Investments in SAR continue to recover after their lowest level in 2015 (see Figure 3).

Figure 3: Regional Share of Investment Commitments in Infrastructure Projects with Private Participation in EMDEs, 2009-2018



EAP

In 2018, there were investments in 41 countries. This is equal to the five-year average, but it is a drop from 2017, which saw investment in 54 countries. The five countries with the highest levels of investment in 2018 were: China, with \$27.6 billion across 74 projects; India, with \$11.7 billion across 62 projects; Turkey, with \$7.9 billion across 10 projects; Indonesia, with \$6.9 billion across 12 projects; and Brazil, with \$6 billion across 42 projects. In 2018, these five countries together attracted \$60.2 billion and captured 67 percent of global investment.

In 2018, at \$41 billion, EAP accounted for 46 percent of the global total (Figure 4). This was led mainly by **China**, which accounted for \$27.6 billion, a 60-percent increase over 2017 levels. This significant increase is explained by the Chinese government's efforts to expedite infrastructure projects as its economy showed signs of cooling—a series of policy-easing measures allowed capital to flow into the infrastructure sector, and China's National Development and Reform Commission (NDRC) approved a number of infrastructure projects in the pipeline. However, PPI investment in China as a share of its GDP is still low compared to other countries (ninth lowest out of 41 countries that had investments in 2018)

In 2018, China's investment commitment is highly concentrated in the transport sector, comprising 94 percent of China's total investment, across more than 50 small and large road projects. Although investments in transport had been rising since 2016 at an exponential rate, investments in energy were at their lowest point since 2010. This sudden drop is partly explained by China's effort to cope with the problem of energy oversupply in some areas. In 2018, NDRC, the Ministry of Finance and the National Energy Board halted all subsidies for solar projects. This resulted in reduced private-sector interest in solar projects, which had historically accounted for more than half of the electricity-generation investments in China.

Figure 4: Investment Commitments in Infrastructure Projects with Private Participation in EMDEs by Region and Country



Within EAP, **Indonesia** received the second-highest level of investment in 2018, with \$6.9 billion across 12 projects, thus making it to the top-five PPI destinations list three years in a row. **Vietnam**, with \$3.6 billion worth of investments, is the third-highest investment destination in the region. Timor-Leste had its first PPI transaction in the past five years—the Tibar Bay port project.

LAC

Although LAC, with \$14.3 billion, was the region with the second-highest investment level in 2018, its investment volume has declined gradually since 2014. The level recorded in 2018 was the lowest in the past 10 years. The country with the largest investment commitment in this region was **Brazil**, with \$6 billion; however, this was Brazil's lowest level in the past 10 years. **Mexico**, with \$4.7 billion, received the second-largest investment commitment in the region, mostly focused on energy. In fact, Mexico had the largest electricity-generation capacity expansion (3.3 GW) among all PPI countries in 2018. Most of the investments in LAC countries were geared towards energy, except for Colombia, which had some road projects.

SAR

SAR attracted \$13.6 billion in investments in 2018, marking an increase of 17 percent over 2017 levels and 71 percent over the previous five-year average. **India**, with investments totalling \$11.7 billion, made it back to the top-five list of investment destinations. The majority of investments in India were in the transport sector (mostly roads and an airport megaproject), accounting for 81 percent of all investment commitments in the country. This boom in the transport sector can be explained by the government's effort to revive the highway sector, which was reeling under stress and lack of private investment. The current road ministry took a variety of measures, including terminating projects, de-risking them, and introducing a new model, in which the government provides a significant amount of the project cost to the developer to start work. In 2018, **Pakistan** received only a moderate level of investment compared to 2017, when it received the highest investment level ever. All of Pakistan's \$1.2 billion investment commitments in 2018 were in the power sector; \$1.1 billion of that was channeled to a coal power plant. Other countries with PPI transactions in the region were Bangladesh, Nepal and Sri Lanka.

ECA

ECA, with \$12.8 billion, saw a doubling of investments from 2017 levels, with **Turkey** as the main driver. Turkey's total investment of \$7.9 billion is dominated by transport projects, to the tune of \$6.9 billion across four roads and one port project. **Russia** received \$2.3 billion worth of investment, with more than half accounted for by a \$1.4-billion dry-bulk terminal. Other countries with PPI transactions in the region include Kazakhstan, Serbia and Ukraine.

SSA

With \$7.7 billion, investment in SSA almost tripled from its 2017 level, recording the largest investment since 2014, and driven largely by a surge of renewable-energy projects in South Africa. **South Africa**, which had no projects recorded in 2017, received the largest investment commitment in the region, across 21 projects. **Cameroon** had the second-largest investment commitment in this region, mainly on account of a \$1.4-billion hydropower plant. This project is noteworthy in that it receives different forms of support from various multilateral and bilateral DFIs. For example, the IFC has committed to provide a loan to the project in addition to the guarantees issued by the Multilateral Investment Guarantee Agency (MIGA) and International Bank for Reconstruction and Development (IBRD). These different types of support from DFIs have contributed to the financial closure of the first megaproject in Cameroon since 2012. Other countries with PPI transactions in the region include Ghana, Guinea, Kenya, Mali, Namibia, Senegal, Sierra Leone, Somalia and Zambia.

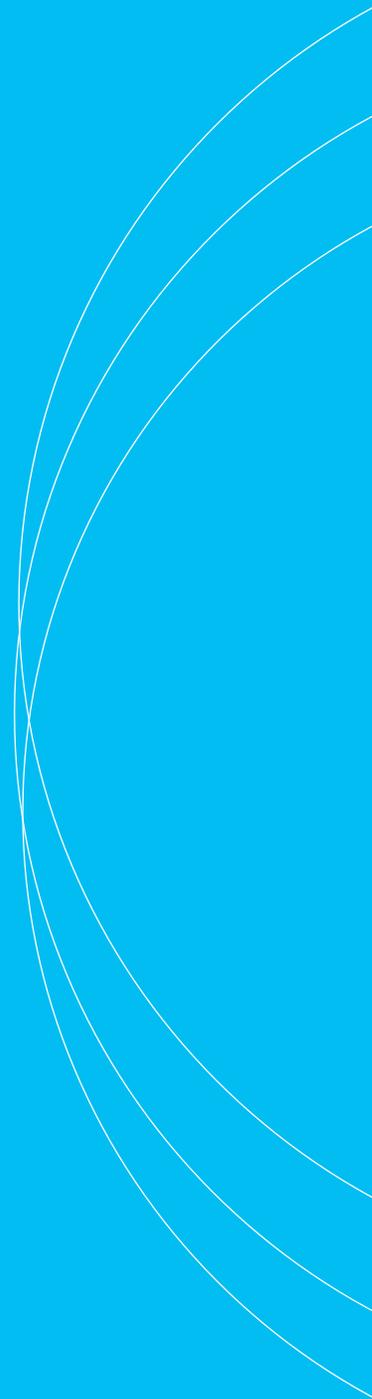
MENA

The investment in MENA (\$0.7 billion) decreased significantly from \$6 billion in 2017 and is the lowest level recorded since 2011. Only two countries received investment commitments in the region: Morocco, with \$500 million for a desalination plant and a wind-farm project, and Jordan, with \$ 165 million across three renewable-power plants.

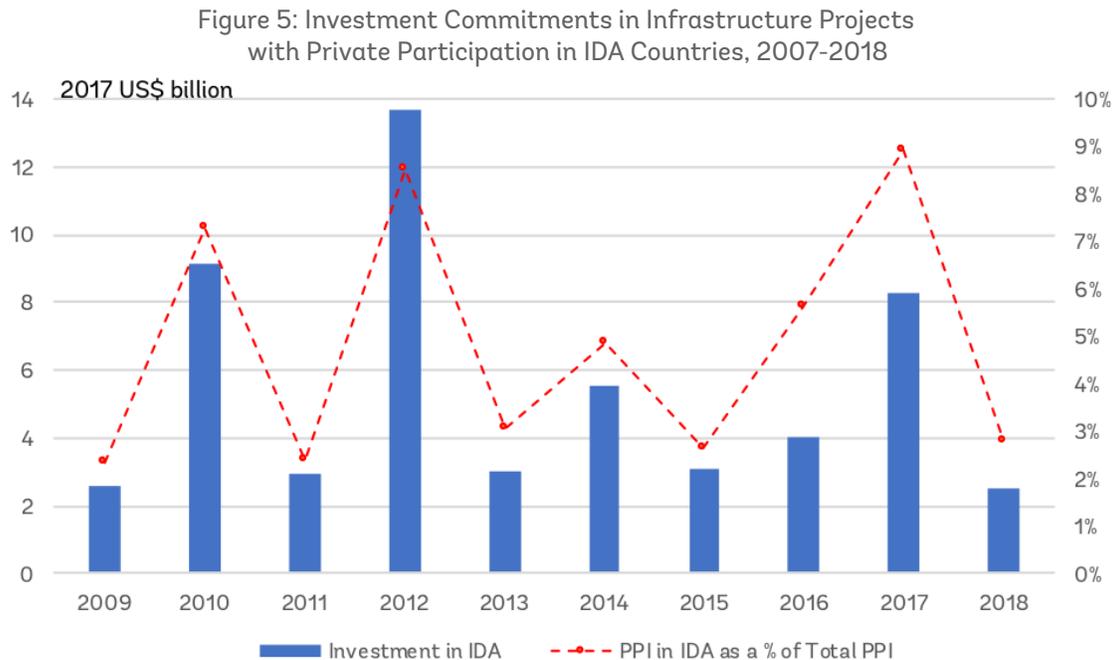


3

Investment in IDA Countries



Investment commitments in IDA countries in 2018 totaled \$2.5 billion across 15 projects in 11 countries. This was a steep drop from the 2017 levels of \$8.3 billion, and it was also the lowest level recorded in the past 10 years (Figure 5).



In 2017, which was a strong year for IDA countries, \$8.3 billion was invested across 36 projects in 18 countries, mainly driven by a group of megaprojects in Cambodia, Myanmar and Lao PDR. In 2018, fewer IDA countries saw any PPI investment. Some consistent investment destinations saw lower or no investment—notably Ghana and Honduras, which together had accounted for 36 percent of PPI investment in IDA countries in the previous five years. Other countries managed to sustain PPI investment commitments—for example, Bangladesh, Nepal and Senegal, which have received PPI investment commitments every year since 2014.

In line with previous years, projects in IDA countries receive a higher-than-average level of DFI support. Of 15 new IDA projects, 10 received some type of DFI support—i.e. ,67 percent of all IDA projects received DFI support, whereas the share for non-IDA projects is less than 20 percent.

TABLE 3: INVESTMENT COMMITMENTS AND NUMBER OF INFRASTRUCTURE PROJECTS WITH PRIVATE PARTICIPATION IN IDA COUNTRIES

Country	Total Investment (\$ million)	Number of Projects
Bangladesh	598	2
Myanmar	516	4
Senegal	494	1
Somalia	442	1
Guinea	121	1
Mali	105	1
Cambodia	100	1
Zambia	45	1
Ghana	42	1
Sierra Leone	40	1
Nepal	21	1
IDA Total	\$7,927	35





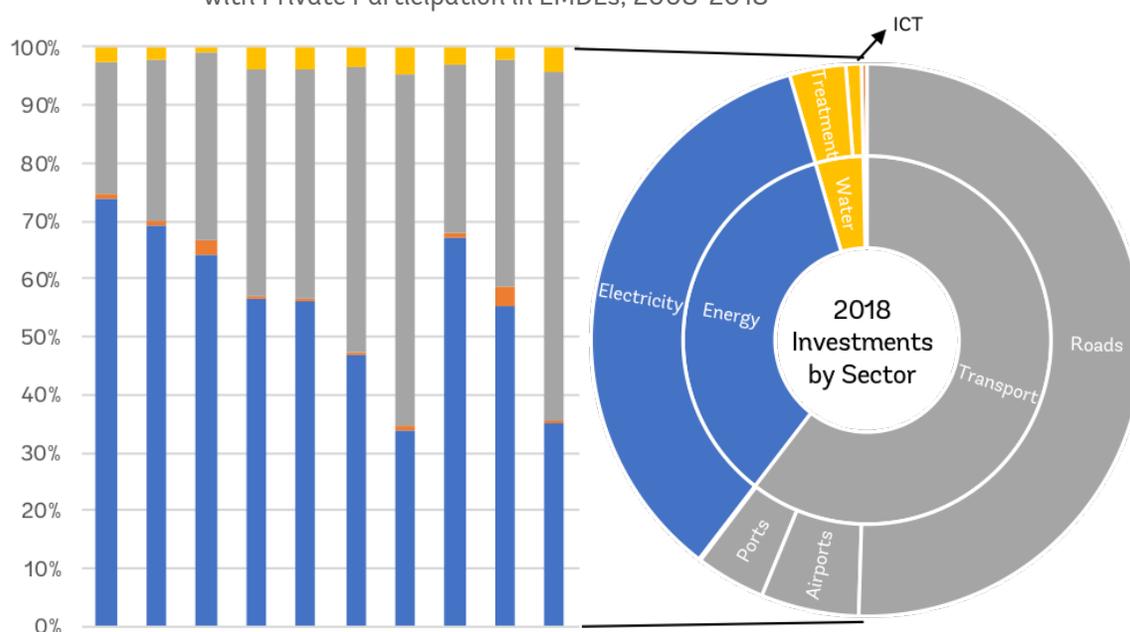
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Sector Trends

Transport

In 2018, the transport sector outpaced the energy sector for the first time in 10 years (except for 2015, when there was a \$36.4 billion airport project in Turkey), attracting \$54.4 billion across 139 projects. This accounts for 60 percent of global PPI investment. The energy sector received \$31.6 billion across 164 projects, accounting for 35 percent of investment commitments in 2018. The water sector attracted \$3.8 billion over 29 projects, while ICT received \$297 million across four projects.

Figure 6: Share of Sectoral Investment Commitments in Infrastructure Projects with Private Participation in EMDEs, 2008-2018

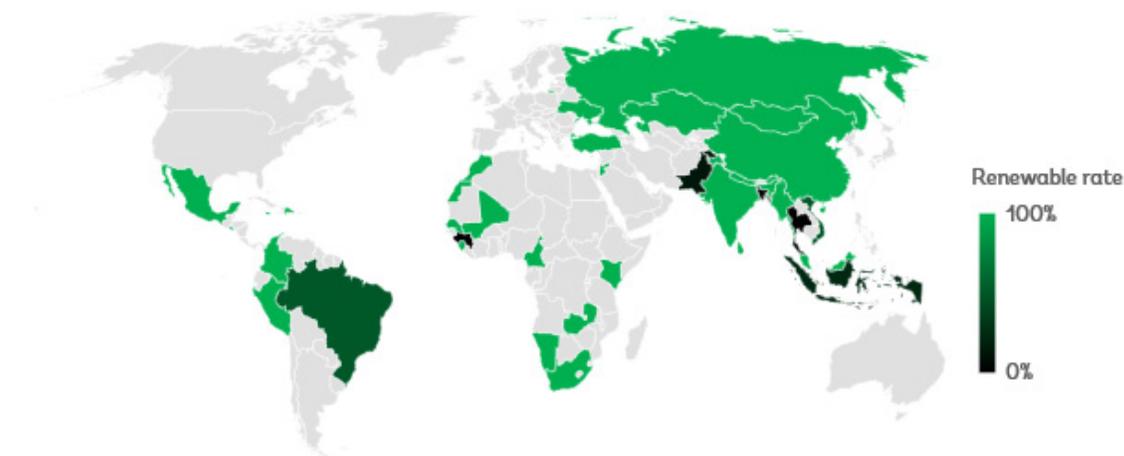


The \$54.4 billion invested in the transport sector reflects a 49-percent increase compared to the previous year's commitment of \$36.6 billion. This surge is mainly driven by significant increases in China, India and Turkey. Road projects received the highest-ever investment (\$45.5 billion), comprising 84 percent of all investment in the transport sector, driven by China and India. Both countries had recent policy/regulation changes that encouraged the private sector to invest in infrastructure projects in the transport sector. The airport subsector had the second-highest investment commitment in transport. It received \$5.2 billion across six projects, mainly on account of megaprojects in China, India and Serbia. Finally, the port subsector received \$3.7 billion in 2018 across 10 projects, and there was only one railway investment, in China.

Energy

The energy sector recorded the lowest investment levels in the last 10 years, at \$31.6 billion, with the private sector adding 22.8 GW of new electricity generation capacity to emerging markets and developing economies (EMDEs). The decline is due to a sharp drop in investments in China and Brazil, which recorded their lowest energy investments ever. For China, the drop reflects a cessation of subsidies and government support for solar projects, due to excess capacity in some regions; the

Figure 7: Newly Added Electricity Generation Capacity in EMDEs with Private Investment Commitment



drop in Brazil was due to governance issues. Turkey, and to some extent Mexico and Indonesia, also contributed to the decline, as they saw lower investment levels in the sector.

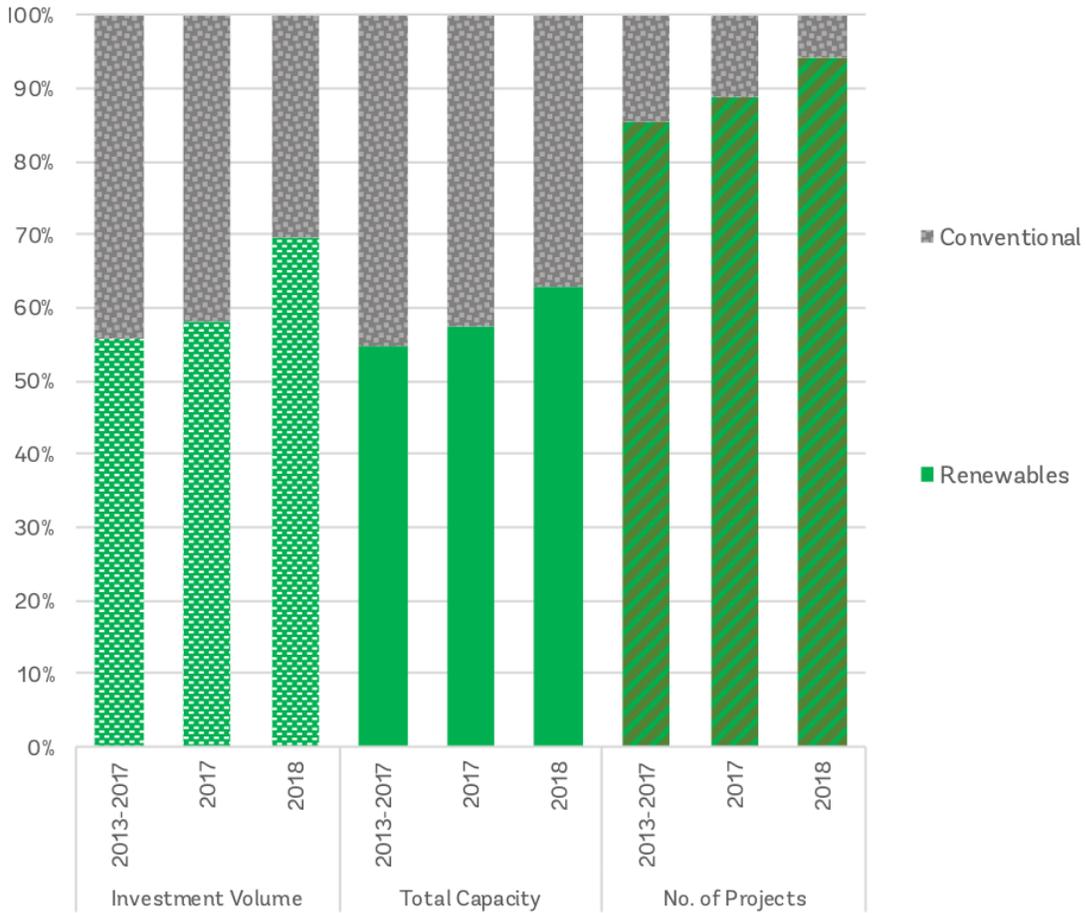
On the brighter side, 2018 was a year of great success for renewable energy. In most countries, the large majority of private investment in energy was in renewable-energy projects, with the exceptions of Pakistan, Bangladesh, Thailand and Indonesia (Figure 8). Ninety-four percent of all new power projects use renewable-energy sources to generate electricity. In terms of investment volume, almost 70 percent of electricity-generation investments are in renewables. This is a significant increase over the previous five-year average share (56 percent), as well as the 2017 share (Figure 8). Also, 63 percent of new capacity added will be based on renewable-energy sources.

In terms of the number of projects, the most popular technology for electricity generation is solar—with 76 projects accounting for 52 percent of all renewable-power projects—followed by wind, with 56 projects. Hydropower, whose share of renewable-power plants for the previous five years stands at 16 percent, had only a five-percent share in 2018.

In terms of capacity, **solar** added the most (7.4 GW) to EMDEs. This represents about 33 percent of all new capacity added using private investment in 2018; over the previous five-year period as a whole, on the other hand, solar accounted for only eight percent of all capacity added. Following solar are natural gas and wind, with 6.3 GW and 4.6 GW respectively, accounting for 28 percent and 21 percent of the total capacity addition in 2018, respectively. Looking at the data from 2013 to 2017, the technologies that added the largest generation capacity to EMDEs are hydropower and coal. It is also noteworthy that coal's share in terms of capacity was only eight percent in 2018, versus 25 percent in 2017 and 16 percent over the past five years as a whole.

In terms of private investment volume, the most dominant forms of technology in 2018 were solar and wind, each accounting for 28 percent of total energy-generation projects (Figure 9). Solar-energy projects were recorded in 24 countries; Mexico and India led with 11 and 10 projects, respectively.

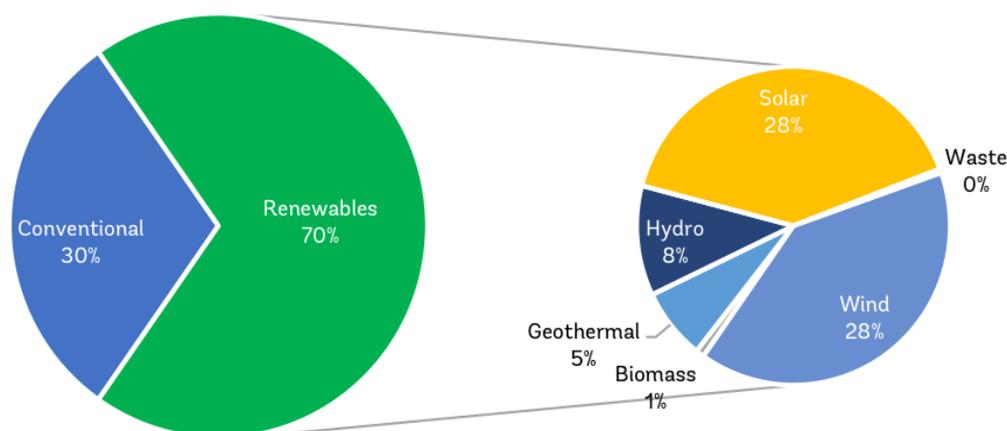
Figure 8: Electricity Generation Projects in EMDEs (Renewable and Conventional Resources) by Investment Volume, Capacity and Number of Projects, 5-year average, 2017 and 2019



Wind projects were recorded in 13 countries; Brazil and South Africa led with 21 and 11 projects, respectively.

Figure 9: Investment Commitments in Infrastructure Projects with Private Participation in the Energy Sector in EMDEs by Technology

N=US\$29.5 billion



However, it is worth noting that PPI represents only about 25 percent of the entire electricity-generation market—most of the larger power plants that burn fossil fuels to generate power are still funded by public entities, including state-owned enterprises (SOEs)⁷. In many countries, growth in PPI in renewables reflects government support designed to incentivize investments in renewables, and shifts in these policies clearly impact investment decisions. In 2018, China announced its decision to greatly reduce its subsidies in favor of a competitive bidding process. Following this announcement, China experienced the lowest PPI investment commitment in renewable-power plants in its history.

In energy transmission, \$1.6 billion was committed across seven projects. Of these, Brazil had the majority, with five projects amounting to \$1.3 billion. Cambodia and India had one transmission project each in 2018. In energy distribution, \$531 million was committed across two projects, one each in Turkey and Peru.

Water and sewerage

The water and sewerage sector performed well, with investments of \$3.8 billion, and contributed to four percent of total investments in 2018; this was the highest share garnered by the water sector in the past 10 years. The 2018 water-sector investments were almost double the 2017 levels. This increase was due to increased investments in China and India. China accounted for almost half of the investments in the water sector in 2018, with \$1.6 billion across 16 projects. India received \$0.6 billion worth of investments, which is much higher than the cumulative investments in both of these countries in the previous 10 years. However, Brazil, which has had consistent investments in water, had its lowest-ever water investment level (\$1.4 million). There were 10 countries in which water

⁷ *Who Sponsors Infrastructure? Contribution of public and private in 2017.*

projects reached financial closure in 2018. Ecuador and Bangladesh saw their first-ever water-sector PPI projects.

ICT backbone

The ICT sector received only \$297 million in 2018, a significant drop from its 2017 peak, and a 36-percent drop from the preceding five-year average (2012 to 2016). In 2018, four countries received investments in ICT; the largest transaction was in Myanmar, as was the case in 2017. The fiber-optic project there—the second phase of the 2017 project—is guaranteed by MIGA. Other countries with ICT projects include Brazil, Cameroon and Ghana.





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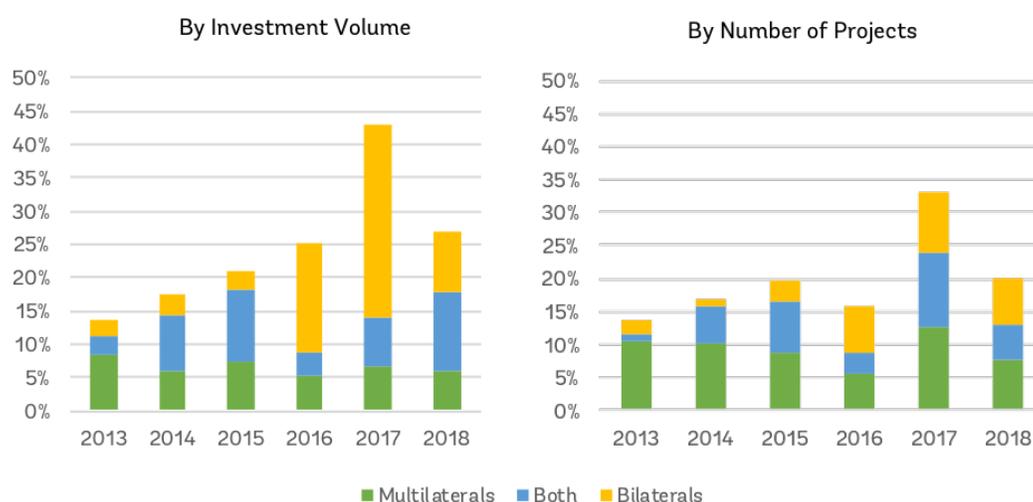
DFI Support

5.1 Development Finance Institution (DFI) Support

DFI Support

In 2018, 66 projects received some form of DFI support. This accounted for 20 percent of all PPI projects, which is the second-highest share in the past five years (Figure 10). DFI support tends to be more focused in the energy sector, with 70 percent of DFI support going to energy projects. In terms of projects, LAC had the most projects with DFI support, whereas EAP had the highest amount of DFI debt (\$3 billion).

Figure 10: Share of Infrastructure Commitments with Private Participation in EMDEs that Received Support from Multilateral/Bilateral DFIs, 2013-2018



The DFIs provided direct debt support of \$7.9 billion in 2018; of this, 51 percent (\$4 billion) was provided by bilateral institutions. The multilateral institutions provided \$3.8 billion in direct loans to 36 projects, and syndication support of \$316 million to four projects. The International Finance Corporation (IFC), the Asian Development Bank (ADB) and the Inter-American Development Bank (IADB) provided the majority of multilateral support (61 percent), with a total of \$2.3 billion given in loans. In addition to financing projects, the role of DFIs expanded to also enabling private investment through syndication support, transaction advisory, guarantees and other risk-mitigation facilities. In 2018, 17 projects received other such non-financing support from DFIs.

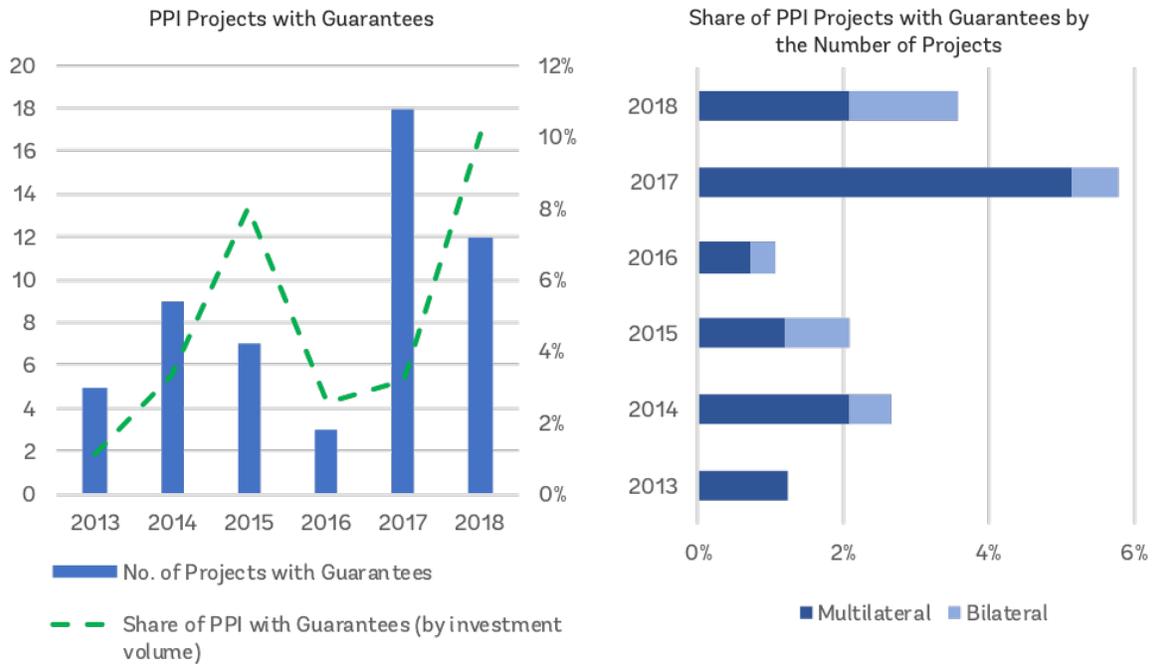
Guarantees⁸:

In 2018, 12 projects in 11 countries received guarantee support from DFIs. Although the share of projects receiving guarantee support is lower than in 2017, it is still higher than all other years in the past five years (Figure 11). In fact, the investment volume that guarantees brought to fruition in 2018 is the highest in the past five years—projects supported by guarantees garnered 10 percent of total PPI investment volumes. Seven projects received guarantees from multilateral institutions (MIGA and IBRD); interestingly, the other five guarantees that were extended by bilaterals came from export

⁸ At this stage, the PPI Database only describes which projects received guarantees from which entities, without details about scopes or amounts. Hence, for projects receiving guarantee support, the debt is listed as per the debt-provider classification.

credit agencies. Six of the 12 projects supported by guarantees are in SSA. In EAP, the Japanese export agency is a main guarantee provider, covering two projects, one each in Vietnam and Indonesia. In Myanmar, MIGA issued a guarantee product to an ICT project. One project received guarantee support in LAC—this \$1.8 billion combined cycle project in Brazil is covered by a Swiss bilateral agency.

Figure 11: Projects with private investment commitment with guarantees in EMDE, 2013-2018



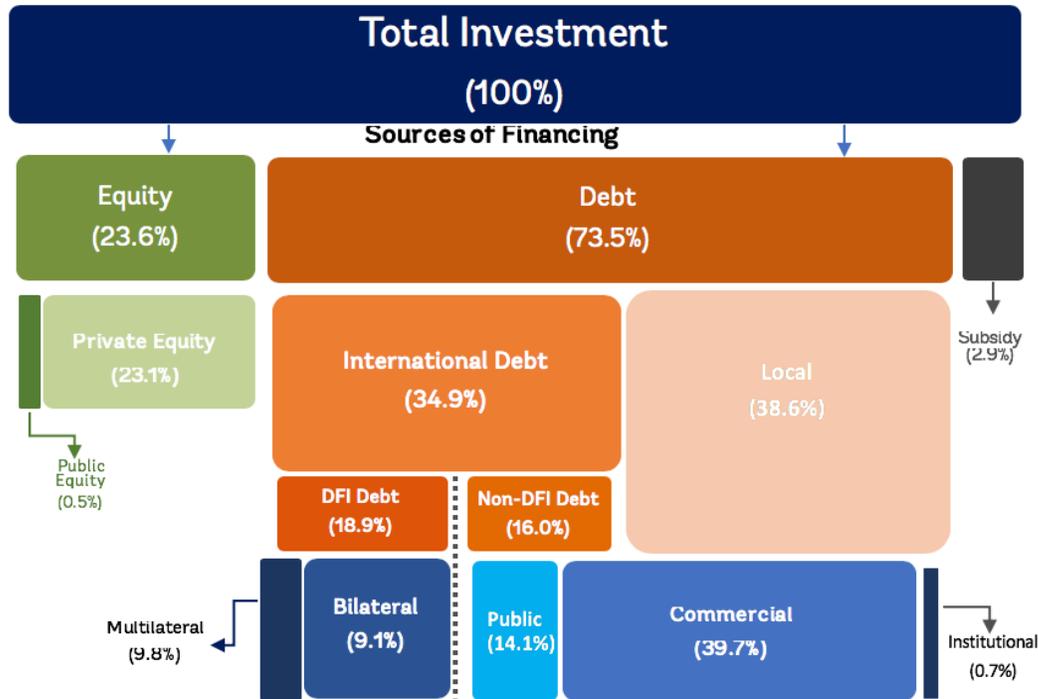
Finally, in ECA, a Danish bilateral institution covered two wind projects.

5.2. Financing Mix

In 2018, detailed financing information was available for approximately 80 percent of PPI projects (198 of 262 projects). Financing information was not available for China's 74 projects. For the 198 projects, which have a combined investment commitment of \$45.7 billion, the investments went mostly towards building physical assets. There was a total of \$692 million earmarked for government fees in India, Serbia and Turkey.

With respect to the financing provided, of the total investment of \$45.7 billion across the 198 projects mentioned above, approximately 17 percent (\$8 billion) came from public sources, 64 percent (\$29.1 billion) came from private sources, and 19 percent (\$8.7 billion) came from DFI sources. Figure 12 provides a detailed breakdown of the sources for this investment.

Figure 12: Sources of Financing for Infrastructure Projects with Private Participation in EMDEs in 2018*

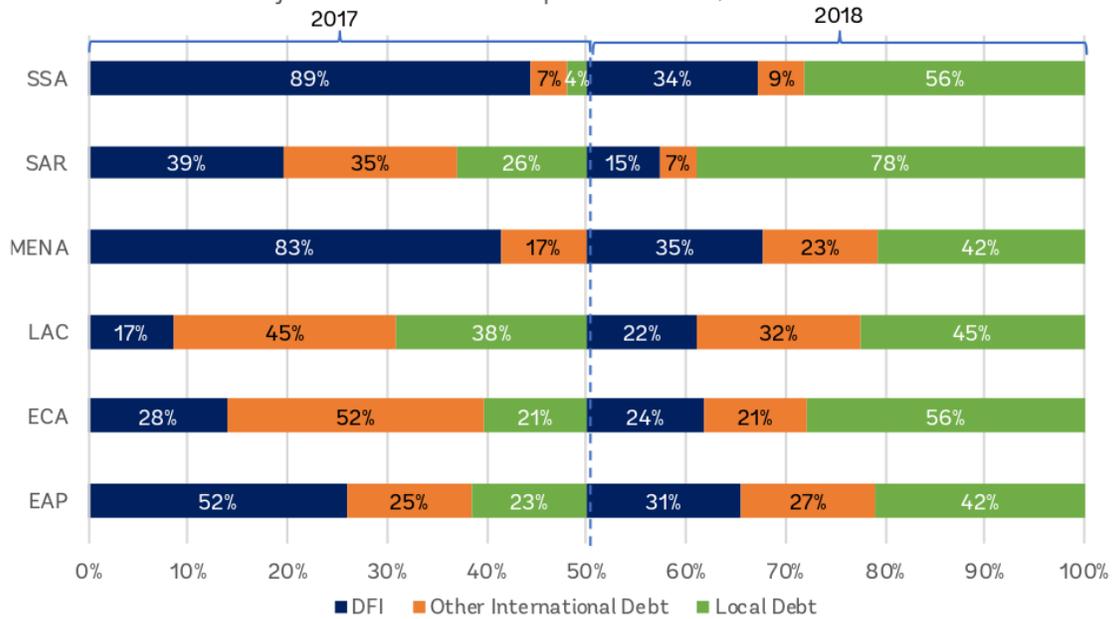


* All figures as a percentage of total investment

Of the \$10.8 billion in total equity provided in 2018 for 198 projects, financing largely came from private sources. These accounted for 98 percent of total equity, or \$10.6 billion. The remaining two percent of equity, or \$213 million, was financed by state-owned enterprises or governments that participated in joint-venture projects. Twenty-eight projects recorded direct government support via capital subsidies and revenue subsidies. Detailed information was available for 21 of the 28 projects, which received \$1.3 billion via up-front capital grants.

The average debt-to-equity ratio for PPI projects in 2018 was 74 percent, with a total of \$33.6 billion raised in debt. **Local debt providers played a more active role in 2018, accounting for more than half (52 percent) of the total debt raised, up from 25 percent in 2017.** The increasing proportion of local debt is attributable mostly to local Turkish, Indonesia and Indian banks playing an active role in financing road projects. South African banks played a significant role in financing electricity-generation projects using renewable energy. Incidentally, even as Indonesia and Turkey saw active participation from local state-owned banks, they also saw a sizeable portion of public debt (31 percent and 17 percent respectively). Local debt was also a popular choice in SAR, SSA and ECA (Figure 13). Ten institutional debt providers were recorded in 2018, with investments averaging at \$33 million per project.

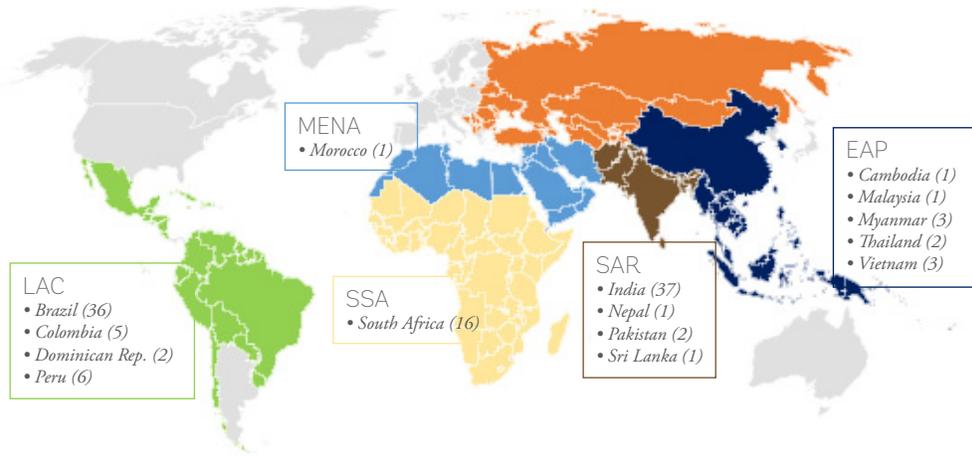
Figure 13: Share of International and Local Debt by Region for Infrastructure Projects with Private Participation in EMDEs, 2017 and 2018



In 2018, there was a **high reliance on commercial debt⁹ in all regions**, with commercial debt at twice the level of DFI debt. The commercial debt financing in ECA (\$5.7 billion) was most significant, accounting for 31 percent of the total commercial debt raised globally, and 64 percent of total debt in the region. Commercial debt in ECA was concentrated in Turkey, where the greenfield road megaprojects secured most of the commercial financing in the country. South Africa accounted for 13 percent of global commercial debt, with all projects in the renewable-energy sector. Indonesia, Brazil, India and Vietnam had commercial debts exceeding a billion dollars, most of which went to the energy sector. In Cambodia, Malaysia, Morocco and Nepal, all debt was financed through commercial sources; there were also other countries where debt raised from commercial sources accounted for more than half of total debt raised in those countries (Figure 14).

⁹ Commercial debt is only the debt raised from commercial banks, and not necessarily all debt raised on commercial terms. Multilateral and bilateral agencies such as the IFC and the Asian Development Bank, and export credit agencies or state-owned banks lending overseas may also in some cases extend debt on commercial terms, but they are classified here as multilaterals, bilaterals or public, reflecting their government ownership (and development mandate in the case of multilaterals and bilaterals).

Figure 14: Countries that Received a Significant Share of Commercial Financing for Infrastructure Projects with Private Participation in Each Region, from Highest to Lowest



Annex A:

DFI Agencies that Supported Projects in 2018

Multilateral	Bilateral	
	Development Institutions	Export Credit Agencies
<ul style="list-style-type: none"> • IFC • Inter-American Development Bank (IDB) • Asian Development Bank (ADB) • Agence Française de Développement (AFD) • African Development Bank (AfDB) • European Investment Bank (EIB) • Emerging Africa Infrastructure Fund (EAIF) • MIGA • IBRD • European Bank for Reconstruction and Development (EBRD) • Asian Infrastructure Investment Bank (AIIB) • Inter-American Development Bank (IADB) • Clean Technology Fund • North American Development Bank (NADB) • CAF • Eurasia Development Bank • West African Development Bank • Green Africa Power (GAP) • ECO Trade and Development Bank • Black Sea Trade and Development Bank (BSTDB) 	<ul style="list-style-type: none"> • Japan Bank for International Cooperation (JBIC) • Commonwealth Development Corporation • DEG • FMO • KfW (DEG) • Agence Française de Développement (Proparco) • Financiera de Desarrollo Nacional (FDN) • Overseas Private Investment Corporation (OPIC) • Chinese Fund for the Cofinancing of the Americas • Korea Development Bank • Fondo para la Internacionalización de la Empresa • Corporación Interamericana para el Financiamiento de Infraestructura (CIFI) 	<ul style="list-style-type: none"> • China EXIM Bank • EKF Denmark • Nippon Export and Investment Insurance • SERV Swiss Export Risk Insurance • Export-Import Bank of Korea • Euler Hermes • Export Development Canada • Korea Trade Insurance Corporation (K-SURE)

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