



# Private Participation in Infrastructure (PPI)

# 2020

## HALF YEAR REPORT



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## Acknowledgement & Disclaimer

This report was prepared by a team comprising Darwin Marcelo (Task Team Leader), Seong Ho Hong, Teshura Nair and Apala Bhattacharya, with editorial inputs by Luba Vangelova and design inputs by Pablo Alfaro Chavez. The team is very grateful for the support and guidance received from Fatouma Toure Ibrahima (Manager of, PPP Group, IPG Department). The team is thankful to Helen Mary Martin (Senior PPP Specialist, IPG Department), Patrice Caporossi (Senior Infrastructure Finance Specialist, IPG Department) and Fernanda Ruiz-Núñez (Senior Economist, IPG Department) for providing valuable comments which helped shape the report. Cover photo © Gwydion M. Williams/Creative Commons. 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 Projects database staff.

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## Foreword

This year's Private Participation in Infrastructure report is unprecedented. COVID-19 has brought many sectors, including infrastructure, to a near standstill. Since the beginning of 2020, existing infrastructure projects were delayed or cancelled due to supply chain disruptions, travel and shipping restrictions, and other obstacles. Decreased demand or required renegotiations also either prevented or delayed many projects already in pipelines from achieving financial closure.

In emerging markets and developing economies, governments have redirected funds to the healthcare and social protection sectors, significantly diminishing the financing available for infrastructure. Private sponsors and financiers, observing increased macroeconomic turbulence and a negative economic outlook, have been reluctant to invest in the sector. The pandemic's fallout has caused concerns about credit quality, borrowers' liquidity, and counterparties' financial robustness, especially in developing countries. These concerns will linger and hinder investment commitments for the foreseeable future.

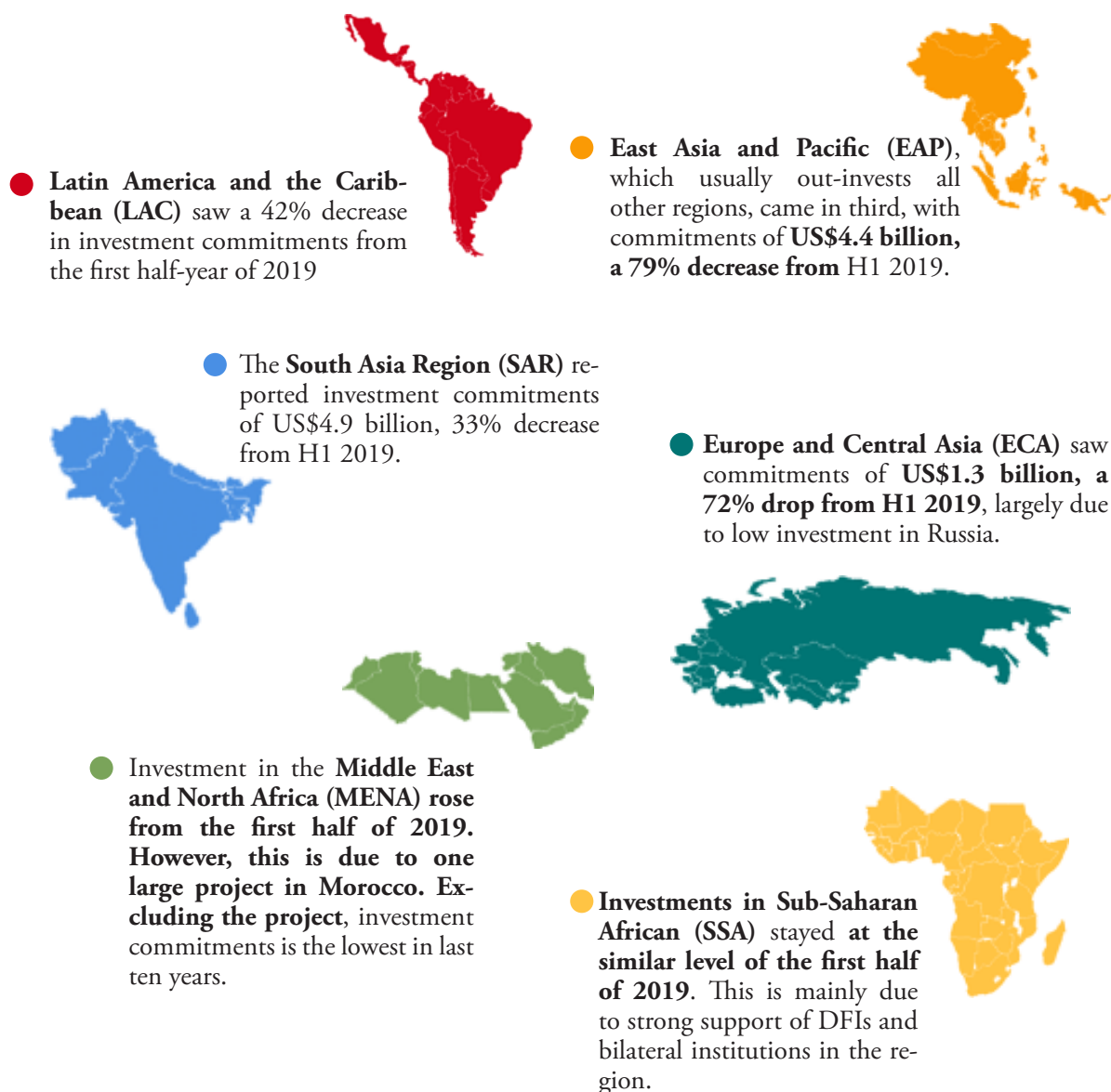
At the same time, the need for infrastructure is greater than ever. Digital connectivity, water and municipal solid waste management (especially clinical waste) are key to fighting the pandemic and its impact. More traditional infrastructure sectors, such as energy and transport, are also essential to ensure critical supplies reach the areas where they are most needed. And longer-term concerns—such as rapid urbanization and climate change—loom on the horizon. The PPI database team will continue to monitor the pandemic's impact on private infrastructure investment commitments.

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

# Key Highlights

Investment commitments of **US\$21.9 billion in 128 projects** in the first half of 2020 **↓ 56% from the first half of 2019**



## Key Highlights



The energy sector outpaced the transport sector in the first half 2020, attracting US\$15.1 billion across 73 projects, accounting for 69% of global PPI investments.



Renewable energy continued to dominate; of electricity generation projects, 67% were in renewables. The most popular form of renewable technology was solar.



Investment commitments in the transport sector totaled US\$4.5 billion across 17 projects, an 82% decrease from the first half of 2019.



The roads subsector, which dominated transport sector investments in the first half of 2020, fell by 79% and accounted for US\$4.1 billion.



**Development and Export Finance Institution (DEFI)** investments were critical in International Development Association (IDA) **countries**.

**11 out of 13 IDA projects** received some form of DEFI support.



Of investments with financing information, investment was largely **debt driven**, accounting for **83% of the total**.

**28% of total investment** came from **institutional sources**, higher than in previous years.

# Executive Summary

- **Investment<sup>2</sup> commitments in the first half of 2020 stood at US\$21.9 billion across 128 projects, a decline of 56 percent from the same period in 2019.** COVID-19 has significantly decreased financial closures of investment projects across the globe, particularly in the East Asia and Pacific (EAP) region. Only two megaprojects achieved financial closure in the first half of 2020, a sign of the market uncertainties and financial duress private investors are facing.
- **Private investment commitments occurred in 34 countries, down from 39 in the first half of 2019.** In light of the global pandemic, this is an unexpectedly small drop because of continuing investments in several Sub-Saharan Africa (SSA) countries.
- **The Latin America and the Caribbean (LAC) region dominated global investments, accounting for 39 percent of total PPI investments in the first half of 2020.** The region saw a 42 percent decrease in investment commitments from the first half-year of 2019 regardless of the relative increase in global share. This is the first time LAC has dominated half-year global investments in the last five years. Typically, EAP has the most investments, but the region received only US\$4.4 billion, its lowest level in the last five years. EAP's total investments accounted for only 20 percent of the global total. The Middle East and North Africa (MENA) is the only region with a significant increase compared with the same period last year but it is due to one large project.
- **International Development Association (IDA) countries<sup>3</sup> private investment commitments in infrastructure remained high, despite the COVID-19 crisis.** Investment commitments in IDA countries in the first half of 2020 totaled US\$2.4 billion across 13 projects in nine countries. This compares to US\$2.5 billion across nine projects in seven countries in the first half of 2019, and US\$1.7 billion for the five-year H1 average. Development and export finance institutions (DEFI) played a critical role in high private investment commitments in IDA countries because 11 out of 13 IDA projects received some form of DEFI support.
- **In the first half of 2020, the energy sector outpaced the transport sector, attracting US\$15.1 billion across 73 projects.** This accounted for 69 percent of global PPI investments. The transport sector received US\$4.5 billion across 17 projects, accounting for 20 percent of investment commitments in the first half of 2020. The water sector attracted US\$1.3 billion over 21 projects, and the municipal solid waste sector received US\$889 million across 17 projects. No information and communication technology (ICT) projects were recorded.

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2 "Investment" refers to private investment commitments at the time of financial close in energy, transport, water, and information and communication technology (ICT) backbone projects serving the public in low- and middle-income countries, including natural-gas transmission and distribution, but excluding oil and gas extraction. ICT-backbone infrastructure includes fiber-optic cables, mobile towers, and other hard assets with an active government component, as well as municipal solid waste, including collection and transport services, treatment and disposal plants, and integrated municipal solid waste (MSW) projects.

3 IDA countries are 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/>).



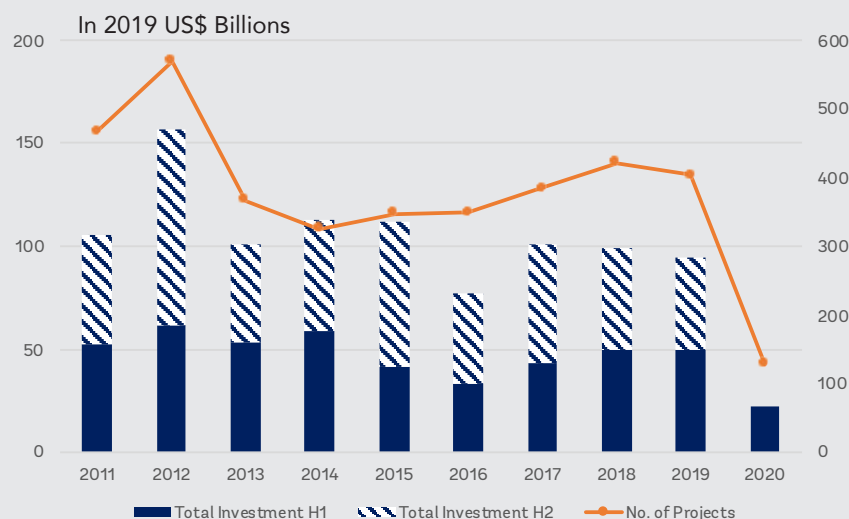
- **Renewable energy continued to play a significant role in new energy-generation projects.** Of US\$9.3 billion worth of electricity-generation projects, 67 percent (US\$6.2 billion) of investments were in renewables. The most popular renewable technology in the first half of 2020 was solar, thanks to a strong renewable-energy program in Vietnam. Next most popular was onshore wind technology, mainly due to high investments in Brazil.
- **Investment appeared to be largely debt driven, based on available financing information.** Interestingly, institutional investors played a large role, with 28 percent of total investment coming from institutional sources, especially in a natural gas project in Mexico.

## Overview

PPI investment in the first half-year (H1) of 2020 accounted for US\$21.9 billion across 128 projects, a 56 percent decrease from investment levels in the first half-year 2019 (Figure 1). Investment levels in the first half-year have not been as low since the first half-year of 2005, when investment totaled US\$21.5 billion. By comparison, during the period of the great financial crisis, investment levels dropped 14 percent from the first half-year of 2009 to the first half-year of 2010, and then dropped again by 13 percent in the first half-year of 2011, before rising by 19 percent in the first half-year of 2012. The current downward trend is expected to continue into the second half-year of 2020. There is a chance of slight investment increases as the situation slowly improves in some regions, but that improvement might be offset by one or more subsequent waves of coronavirus infections in EMDEs.

**FIGURE 1**

Investment commitments in Infrastructure Projects with Private Participation in EMDEs, 2011–H1 2020



The first half-year of 2020 saw investment commitments in 34 countries, a drop from the first half year of 2019's high of investment commitments in 39 countries. Nevertheless, it is not a significant drop from the previous five-year average (2015-2019) of 36 countries when considering the overall impact of the pandemic. The large number of countries is explained by investment commitments in seven Sub-Saharan African (SSA) countries (US\$1.8 billion), which beat out investment commitments in nine countries in Europe and Central Asia (ECA; US\$1.3 billion) for the first time since 2003. Latin America and the Caribbean (LAC) accounted for 39 percent of total investment levels with commitments of US\$8.5 billion. The region led investment commitments in the first half-year of 2020 but marked a 42 percent decrease from investment levels in the first half-year of 2019. The South Asia region (SAR) posted private investment commitments of US\$4.9 billion, marking a 33 percent decrease from previous year first half-year levels. The East Asia and the Pacific region accounted for US\$4.4 billion of investment commitments. Usually a regional leader, in the first half-year of 2020 EAP had the third highest investment levels. This

is to be expected because the East Asia and the Pacific region—especially China—faced the brunt of the pandemic in the first half of 2020, with mandatory lockdowns in place as early as January in some countries.

China still retained its spot in the top five investment commitments but fell from first to third place, with investment commitments of US\$2.9 billion, accounting for 0.02 percent of gross domestic product (GDP; Table 1). This is a drop from the first half year of 2019, when PPI investment levels accounted for 0.13 percent of GDP. The highest investment commitments were in Mexico, which was not in the top five countries in the first half-year of 2019. It accounted for US\$4.1 billion in investment, equivalent to 0.32 percent of its GDP. The increased investment level can be attributed to the financial closure of the New Burgos, Cactus, and Isthmus Corridor Pipelines, worth US\$4 billion. Brazil followed Mexico, with investment commitments of US\$3.5 billion, accounting for 0.19 percent of GDP. Pakistan had the fourth highest investment commitments—a new entrant to the top five countries this year—with US\$1.9 billion of investment commitments, accounting for 0.69 percent of GDP. This can be attributed to the financial closure of the Thar Block-I Coal-Fired Power Plant, which was the only project to reach financial closure in the country during this time period. The Thar power plant and the pipeline in Mexico were the only two megaprojects to reach financial closure in the first half-year of 2020. Lastly, India had the fifth highest investment commitments, at US\$1.1 billion, accounting for 0.06 percent of GDP. In the first half-year of 2020, these five countries together attracted US\$14.1 billion, representing 64 percent of PPI investments in EMDEs.

Table 1: Top Five Countries with Investment Commitments in H1 2020				
Country	H1 2020 PPI (US\$ Millions)	H1 2020 PPI as a share of GDP	H1 2019 PPI as a Share of GDP	Number of Megaprojects in H1 2020
Mexico	4,015	0.32%	0.10%	1
Brazil	3,543	0.19%	0.62%	0
China	2,859	0.02%	0.13%	0
Pakistan	1,912	0.69%	0.60%	1
India	1,762	0.06%	0.16%	0

The country with the highest level of PPI investment as a percent of its GDP was Djibouti, with 3.7 percent. Multilateral Investment Guarantee Agency (of the World Bank Group) (MIGA) issued a guarantee that will support the design, development, construction, operation, and maintenance of Djibouti's first utility-scale wind project, which also represents the country's first independent power producer. The next highest levels of PPI investment in terms of national GDPs occurred in Guinea, with one percent; Serbia, with 0.8 percent; and Côte d'Ivoire, with 0.7 percent.

### Project Size

The average (mean) project size in the first half-year of 2020 (US\$173 million) was lower than the average project size for the first half-year of 2019 (US\$244 million), as was the median project size—US\$65 million in the first half-year of 2020, versus US\$105 million in the first half-year 2019. The first half-year

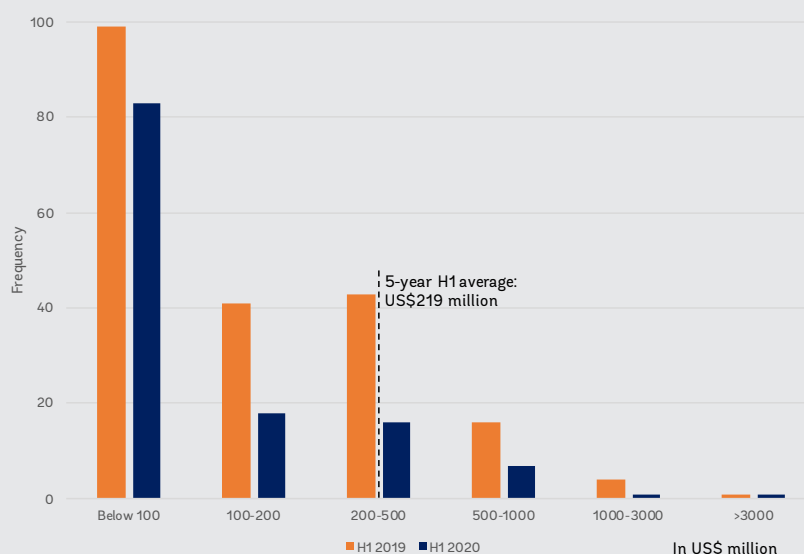


of 2020 saw a decrease in larger projects, as indicated by the considerably lower median; the average project size for the first half-year of 2019, however, was skewed upwards, due to the inclusion of the Brazilian megaproject (US\$8.6 billion).

Investments in each project size category decreased compared to the first half-year of 2019. However, small projects (<US\$100 million) made up a larger share of total projects, accounting for 66 percent compared to 49 percent in the first half-year of 2019. The share of medium-sized projects (US\$100 million to US\$500 million) decreased substantially, from 41 percent in the first half-year of 2019 to 27 percent in the first half-year of 2020 (Figure 2). The largest project in the first half-year of 2020 was worth US\$4 billion, compared with US\$8.6 billion in the first half-year of 2019.

**FIGURE 2**

Size Frequency Distribution of Infrastructure Projects with Private Participation in EMDEs, H1 2019 and H1 2020



### Project Type

Greenfield projects continued to dominate in the first half-year of 2020, accounting for 87 percent of all PPI investments, compared with the five-year H1 average of 75 percent. In first half-year of 2020—reflecting the trend—the majority of greenfield investments were directed to the energy sector (77 percent), whereas brownfield investments (73 percent) mostly occurred in the transport sector.

In the first half-year of 2020, 18 transactions were recorded as management contracts, attributed primarily to an increase in municipal solid waste projects; this was an increase from only five management contracts in the first half-year of 2019. There was only one divestiture. The transport sector in particular took a large hit in the first half-year of 2020, with only 17 projects reaching financial closure, amounting to US\$4.6 billion, of which greenfield investments accounted for 63 percent. COVID-19 led to decreased transport traffic, and therefore several transport projects that rely on user fees or tariffs took in less revenue while spending more on sanitization and implementation of social distancing protocols. These pandemic-related effects caused a decline in financial closures for new transport projects in the sector.

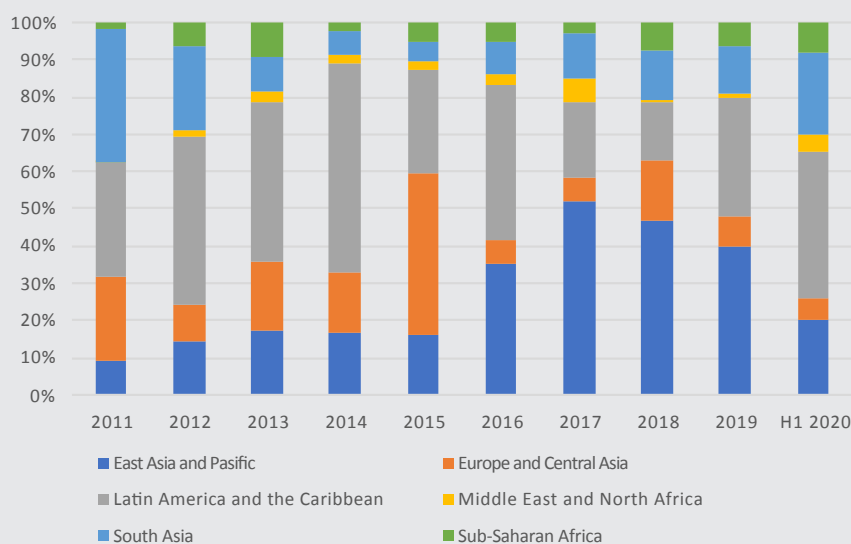
## Geographic Spread

For the first time in the last five years, Latin America and the Caribbean led investments in EMDEs, accounting for 39 percent of total PPI investments in the first half-year of 2020 but saw a 42 percent decline in investment levels from the first half-year of 2019. East Asia and the Pacific, more typically the region with the most half-year investments, received only US\$4.4 billion in the first half-year of 2020. These represented its lowest investments in the last five years and accounted for only 20 percent of the global total. The Middle East and North Africa (MENA) and Sub-Saharan Africa were the only regions with increased investments compared to the same period last year.

<b>Region (Low- to Mid-Income Only)</b>	<b>H1 2020 PPI (in US\$ Millions)</b>	<b>Regional GDP in 2019 (in US\$ Billions)</b>	<b>PPI as a Percentage of Regional GDP in 2019</b>
<b>LAC</b>	8,534	5,136	0.17%
<b>SAR</b>	4,875	3,598	0.14%
<b>SSA</b>	1,754	1,739	0.10%
<b>MENA</b>	966	1,429 <sup>4</sup>	0.07%
<b>ECA</b>	1,295	3,239	0.04%
<b>EAP</b>	4,430	17,214	0.03%

**FIGURE 3**

Regional Share of Investment Commitments in Infrastructure Projects with Private Participation in EM-DEs, 2011–H1 2020



<sup>4</sup> 2017 GDP has been used because aggregated regional GDP value is not available for MENA.

## LATIN AMERICA AND THE CARIBBEAN

In the first half-year of 2020, LAC received the highest level of PPI investment, both in absolute terms (US\$8.5 billion) and in terms of its regional GDP (0.17 percent), accounting for 39 percent of the global total. Mexico represented 47 percent of the regional investment (US\$4.0 billion). However, investment levels saw a marked decrease (42 percent) from the first half-year of 2019 levels.

**Mexico** had the highest level of PPI investments in the first half-year of 2020, mainly driven by the development of US\$4 billion in natural gas pipelines, underground natural gas storage, and the Isthmus Corridor Project. When fully developed, the natural gas facility will be the largest natural gas facility in North America. The storage facility and pipelines are expected to provide a faster, more economical means of delivering crude oil and refined products compared to the traditional route.

Other countries with investment commitments included **Argentina, Brazil, Colombia, El Salvador,** and **Peru.**

## SOUTH ASIA REGION

SAR was the region with the second highest H1 2020 investment level (US\$4.9 billion), driven by Pakistan (US\$1.9 billion), India (US\$1.8 billion), and Bangladesh (US\$1.2 billion). In the past few years, China has been an active infrastructure sponsor, speeding up slow progress on major infrastructure projects in South Asia, especially in Pakistan and Bangladesh. Nevertheless, investment levels saw a 33 percent dip from the first half-year of 2019 levels.

**Pakistan** became one of the five countries with the most investment in the first half-year of 2020, due to a US\$1.9 billion mega coal power project with 1,329-megawatt (MW) capacity. The coal power project was developed under the umbrella of the China-Pakistan Economic Corridor (CPEC). It is part of an effort by the Government of Pakistan to improve energy security and reduce the average cost of power generation by transitioning from oil to coal.

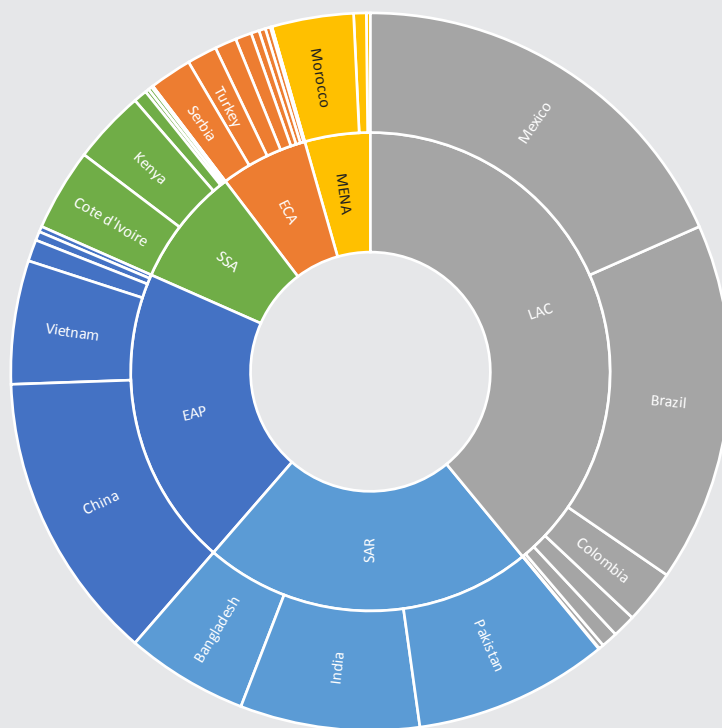
**Bangladesh** had US\$1.2 billion worth of investments across four projects. An elevated expressway project with financing provided by China Exim Bank, Industrial Commercial Bank of China (ICBC), and the Bangladesh government accounted for US\$800 million. China has tried to accelerate progress on major infrastructure projects in Bangladesh after an ambitious schedule was outlined in 2016.

Investment commitments in **India** dropped to US\$1.8 billion, a decrease of 62 percent from the first half-year of 2019 levels. Transport continued to dominate investments in the country despite the sector taking a hit this year due to the pandemic. There were three airport concessions in the country, representing the first round of airport privatizations slated for major cities nationwide. In the first half-year of 2020, however, investment details were only available for one of the three projects.



**FIGURE 4**

Investment Commitments in Infrastructure Projects with Private Participation In EMDEs, by Region and Country, H1 2020



## EAST ASIA AND PACIFIC

EAP attracted US\$4.4 billion in investments in the first half-year of 2020, a decrease of 79 percent from the first half-year of 2019 levels, and a decrease of 71 percent compared with the five-year H1 average (2015-2019). The low investment commitments in EAP can be explained by the fact that the countries in the region focused their resources on containing the coronavirus outbreak and its economic impact. Furthermore, large infrastructure projects funded by China have come to a standstill across Southeast Asia.<sup>5</sup> **China**, with investments totaling US\$2.9 billion, continued to be among the top five investment destinations, although its first half-year investment was the lowest in the last five years. This was mainly because China was a COVID-19 hotspot in the first half of 2020. Unlike in the first half-year of 2019, the majority of investments in China (38 percent) were in the water sector.

**Vietnam** attracted US\$1.2 billion in PPI investments in the first half-year of 2020, all of which were in the renewable power sector, mostly in solar. Despite the COVID-19 pandemic disrupting global clean-energy supply chains and construction, projects for solar energy remained strong in Vietnam. The country's pace of solar development is expected to continue because the government has set new feed-in tariff rates for

<sup>5</sup> Muramatsu, Yohei and Shunsuke Tabeta. 2020. "Southeast Asia rail projects stall as China focuses on recovery." Nikkei Asia, May 20, 2020. <https://asia.nikkei.com/Spotlight/Belt-and-Road/Southeast-Asia-rail-projects-stall-as-China-focuses-on-recovery>.

utility-scale, rooftop, and floating photovoltaic (PV) projects, an initiative that ended a long period of policy uncertainty.<sup>6</sup>

Other countries with investment commitments included **Cambodia, the Philippines, and Thailand.**

### **SUB-SAHARAN AFRICA**

SSA received US\$1.8 billion across seven projects, marking a three-percent increase in investment levels from the first half-year of 2019. In fact, investments in SSA stayed at the first half-year of 2019 levels despite COVID-19. This is mainly distributed to strong Development and Export Finance Institution (DEFI) support in the region; seven out of nine projects received some form of support from DEFI during this period in SSA.

**Côte d'Ivoire** had the largest investment in the region due to two gas-fired power plant projects, totaling US\$810 million. **Burundi** recorded its first PPI investment. The project is the first grid-connected solar project in the country to be developed by an independent power producer.

Other countries with investment commitments included **Burkina Faso, Guinea, Kenya, Tanzania, and Togo.**

### **EUROPE AND CENTRAL ASIA**

ECA, with US\$1.3 billion, saw a 72 percent drop from the first half-year of 2019 levels (US\$4.6 billion), as well as an 82 percent decrease from the five-year H1 average (US\$7.4 billion). This was mainly due to a significant decrease in Russia. In the first half-year of 2019, Russia alone had US\$2.6 billion worth of investments, primarily in the transport sector. However, in the first half-year of 2020, **Russia** saw only three solar project investments, representing a total of US\$80 million. **Uzbekistan**, which recorded its first PPI transaction in 2019, marked another PPI investment transaction in 2020. **Serbia** had the highest investments in the region for the period, with commitments of US\$416 million.

Other countries with PPI transactions in the region were **Armenia, Bulgaria, Kazakhstan, Romania, Turkey, and Ukraine.**

### **MIDDLE EAST AND NORTH AFRICA**

MENA's first half-year of 2020 investment level (US\$996 million) increased by almost 350 percent from the first half-year of 2019 level (US\$215 million), and it has already surpassed the region's 2019 full-year investment level. However, this is mainly due to one US\$800 million solar project in Morocco. Excluding this project, the first half-year investment commitments in MENA is the lowest in last ten years. Other countries with private investment commitments in the region include Djibouti, with US\$124 million for a wind power plant; and Tunisia, with a US\$40 million wind project.

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<sup>6</sup> Publicover, Brian. 2020. "Vietnam finally unveils new FITs for large-scale, rooftop, floating PV." PV magazine, April 7, 2020. <https://www.pv-magazine.com/2020/04/07/vietnam-finally-unveils-new-fits-for-large-scale-rooftop-floating-pv/>.

In **Morocco**, the Noor Midelt is a hybrid concentrated solar power (CSP) and photovoltaic (PV) solar power project. With 800 MW planned for phase one, it will be one of the world's biggest solar projects to combine CSP and PV technologies.

**Djibouti** recorded its first utility-scale wind project. MIGA issued a guarantee that will support the design, development, construction, operation, and maintenance of the project.

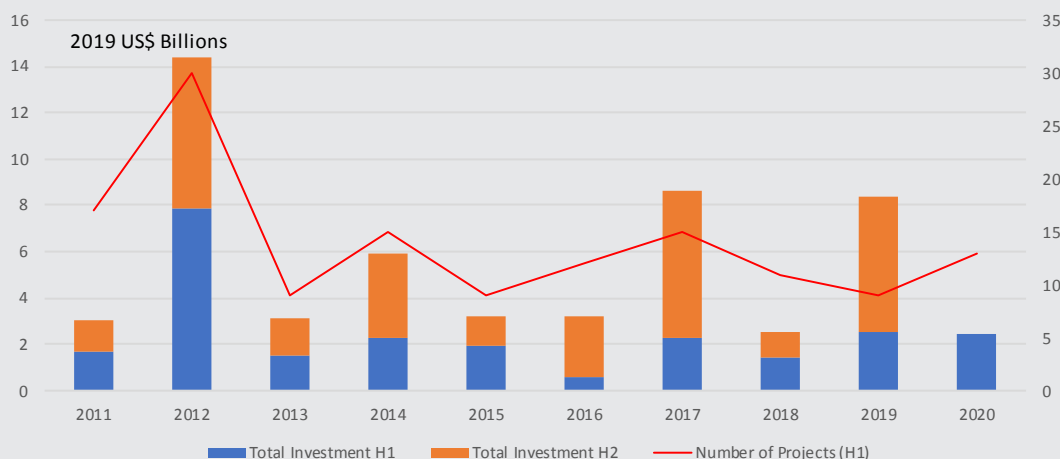
**Finally, Tunisia** also had a 30 MW wind farm project.

### Investments in IDA Countries

Private infrastructure investment in IDA<sup>7</sup> countries remained high despite the COVID-19 crisis. Investment commitments in IDA countries in the first half-year of 2020 totaled US\$2.4 billion across 13 projects in nine countries. This compares to US\$2.5 billion across nine projects in seven countries in the first half-year of 2019 and US\$1.7 billion for the five-year (2015-2019) H1 average.

**FIGURE 5**

Investment Commitments in Infrastructure Projects with Private Participation in IDA Countries, 2011 – H1 2020



<sup>7</sup> As currently defined by the World Bank for fiscal year 2020, IDA countries are those with gross net income (GNI) per capita below the threshold of US\$1,175. For this review, the authors focused on 59 countries that are eligible for IDA assistance and excluded blended countries. These 59 countries accounted for 3.5 percent of the gross domestic product and 17 percent of the population of emerging markets and developing economies (EMDEs).



This was mainly due to sizable investments in Bangladesh and Côte d'Ivoire. Bangladesh received investments of US\$1.2 billion across four projects, including an elevated expressway project (US\$800 million). Bangladesh has managed to sustain PPI investment commitments every year since 2005. Côte d'Ivoire had two gas-fired power plant projects, totaling US\$810 million. Burundi had its first PPI investment, for the country's first grid-connected solar project developed by an independent power producer. DEFI played a critical role in IDA countries' high private investment commitments: 11 out of 13 IDA projects received some form of DEFI support.

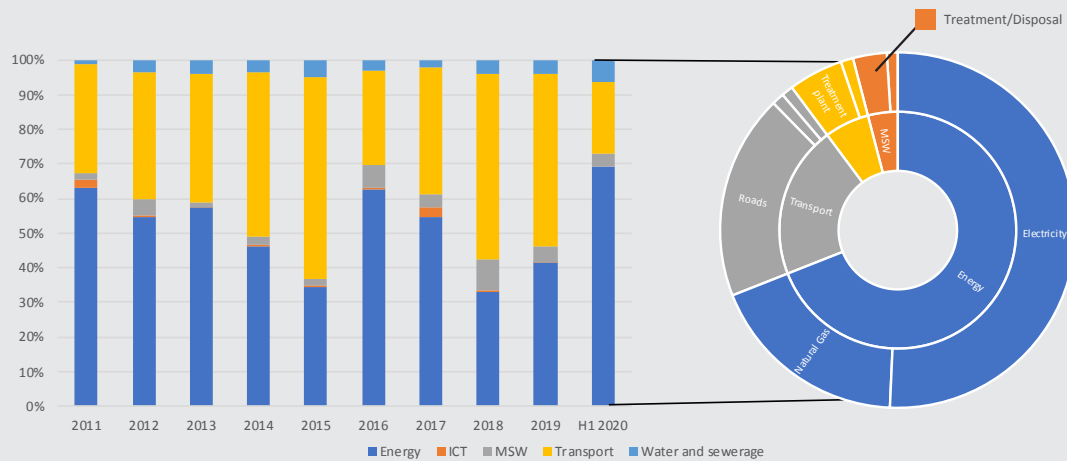
<b>Table 3: Investment Commitments and Number of Infrastructure Projects with Private Participation in IDA Countries</b>		
<b>Country</b>	<b>Total Investment (US\$ Millions)</b>	<b>Number of Projects</b>
Bangladesh	1,201	4
Côte d'Ivoire	810	2
Guinea	133	1
Djibouti	124	1
Cambodia	55	1
Togo	36	1
Burkina Faso	36	1
Burundi	16	1
Tanzania	1	1
Grand Total	2,412	13

## Sector Trends

In the first half-year of 2020, the energy sector outpaced the transport sector, attracting US\$15.1 billion across 73 projects. This accounted for 69 percent of PPI investments in EMDEs. The transport sector received US\$4.5 billion across 17 projects, accounting for 20 percent of investment commitments in the first half-year of 2020. The water sector attracted US\$1.3 billion over 21 projects, and the municipal solid waste sector received US\$889 million across 17 projects. In the first half-year of 2020, there was no ICT project recorded.

**FIGURE 6**

Share of Sectoral Investment Commitments in Infrastructure Projects with Private Participation in EM-DEs, 2011 – H1 2020



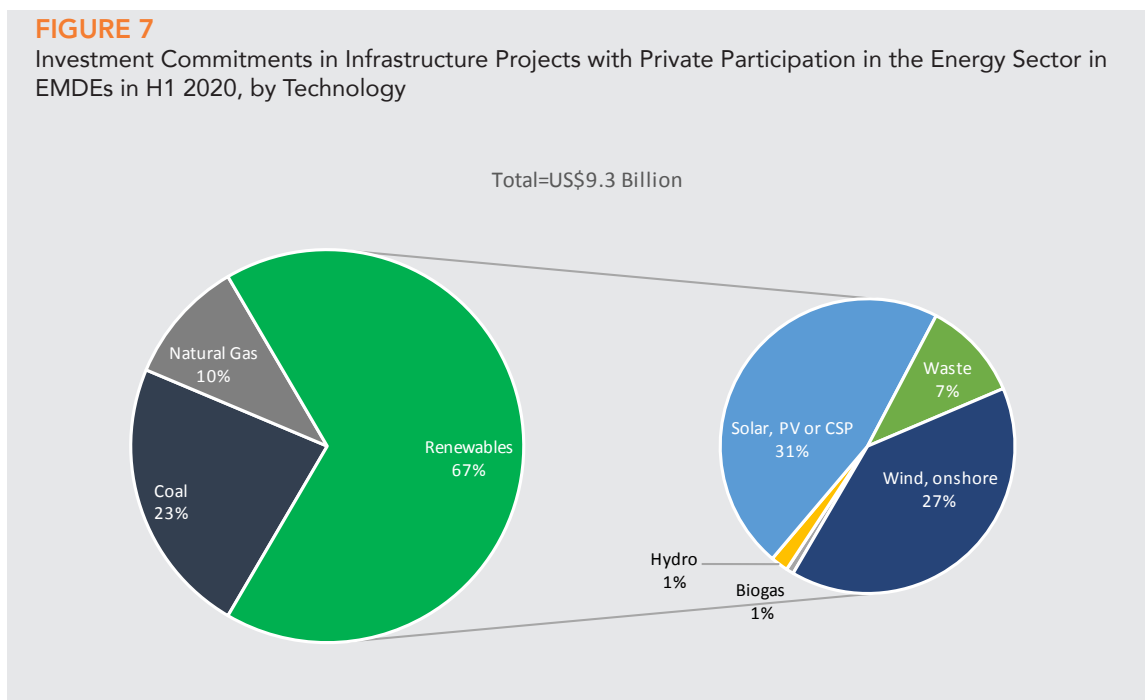
## Energy

With US\$15.1 billion across 73 projects, investment in the energy sector in the first half-year of 2020 dropped 23 percent from the first half-year of 2019 levels (US\$19.5 billion) and 35 percent from the five-year H1 average (US\$23.1 billion). Within energy, the electricity subsector received US\$11.1 billion across 72 projects, and natural gas had an investment of US\$4 billion for one project. This compares to US\$10.9 billion across 71 electricity projects, and US\$8.6 billion natural gas project in the first half-year of 2019. Mexico's natural gas pipeline, storage, and corridor project will be the largest natural gas storage facility in North America. The pipelines will provide a faster, more economical means of delivering natural gas to locations around the world.

Renewables continued to play a significant role in new energy-generation projects. Of US\$9.3 billion worth of electricity generation projects, 67 percent (US\$6.2 billion) were in renewables. This compares to 72 percent in the first half-year of 2019. The most popular renewable technology in 2020 was solar, due to a strong renewable program in Vietnam. Next most popular was onshore wind technology, mainly due to high investments in Brazil.

**FIGURE 7**

Investment Commitments in Infrastructure Projects with Private Participation in the Energy Sector in EMDEs in H1 2020, by Technology



EAP had the highest investment in renewable energy projects, with US\$2.3 billion. LAC, ECA, and MENA led renewable deployment, with no conventional energy investments. In LAC, US\$1.8 billion was invested in renewable power plants, whereas there was no investment in conventional power plants. Likewise, in ECA and MENA, US\$439 million and US\$966 million, respectively, were committed to renewable power plants, and there were no investments in conventional power plants. Conversely, SAR had the lowest amount of investment in renewables (18 percent), with only US\$456 million channeled to renewable energy plants versus US\$2.1 billion committed to coal power plants. The low rate in SAR was mainly due to the sizable coal project in Pakistan. This trend is expected to continue because the Government of Pakistan is trying to improve energy security and reduce the average cost of power generation by switching from oil to coal.

At a country level, with the exceptions of Bangladesh, Côte d'Ivoire, Pakistan, and Thailand, most of the private investments in energy were in renewable energy projects. Investment commitments in renewable technology were notably high in Vietnam despite the COVID-19 pandemic disrupting global clean-energy supply chains and construction. This can be explained by the recent move made by the Government of Vietnam, which has set new feed-in tariff rates for utility-scale, rooftop, and floating PV projects after a long period of policy uncertainty. This highlights the importance of a clear policy framework to promote renewable energy in a country.

## Transport

Transport-sector investment commitments totaled US\$4.5 billion across 17 projects in the first half-year of 2020, an 82 percent decrease from the first half-year of 2019 levels and a 75 percent decrease from the five-year H1 average. The number of projects (17) in the first half-year of 2020 was the lowest in the past 10 years.



Within the transport sector, India received the largest investment commitments (US\$1.2 billion), followed by Bangladesh (US\$861 million). Within transport, road investments dominated, accounting for more than 90 percent of the sector's investments (US\$4.1 billion across 11 projects). Of the remaining six transport projects, four were airport projects worth US\$231 million, and two were port investments totaling US\$244 million.

There was a large decrease in investment in transport projects this year, especially in the usual heavyweight countries: China, Turkey, India, Colombia, Russia, and Brazil. Because transport projects are typically based on user fees, the reduced travel, resulting from government-mandated lockdowns intended to combat the spread of COVID-19, led to a decrease in toll revenue. This has caused the viability of transport projects to decline, with significant numbers of sponsors now facing solvency issues. In addition, the fear of excessive debt has caused countries to reduce investments under China's Belt and Road Initiative, a strategy that spurred many developing countries' transport projects.<sup>8</sup>

### **Water and Sewerage**

At US\$1.3 billion across 21 projects, investment in the water sector in the first half-year of 2020 saw a 45 percent decrease from the first half-year of 2019 levels (US\$2.5 billion), and a 36 percent decrease from the five-year (2015-2019) H1 average. Water-treatment projects received investments of US\$1.1 billion across 19 projects. Investments in water-utility projects amounted to US\$246 million across two projects in the first half-year of 2020. The majority of investment commitments in the water sector came from China, which accounted for 75 percent of the sector's investments in the first half-year of 2020, with US\$994 million across 17 projects. Brazil, Uzbekistan, and Mexico received US\$165 million, US\$160 million, and US\$15 million worth of investments, respectively.

### **Municipal Solid Waste**

In the first half-year of 2020, a total of US\$889 million was invested across 17 projects in municipal solid waste (MSW) and accounted for 4 percent of all PPI investments. This marks a 58 percent decrease from the first half-year of 2019 levels (US\$2.1 billion), and a 63 percent decrease from the five-year (2015-2019) H1 average. Most investment commitments (US\$672 million) were channeled to treatment and disposal projects. Among such projects, incineration and waste-to-energy technology was the most popular mode, at US\$643 million. The second largest subsector for MSW was collection/transport, at US\$217 million. Serbia had the largest investment in MSW in the first half-year of 2020 at US\$416 million, marking the country's first MSW PPI project. Other countries with MSW investment transactions were China (which had the highest MSW investment level in the first half-year of 2019), Bulgaria, and Romania.

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<sup>8</sup> Chandran, Nyshka. 2019. "Fears of excessive debt drive more countries to cut down their Belt and Road investments." CNBC, January 17, 2019. <https://www.cnbc.com/2019/01/18/countries-are-reducing-belt-and-road-investments-over-financing-fears.html>.

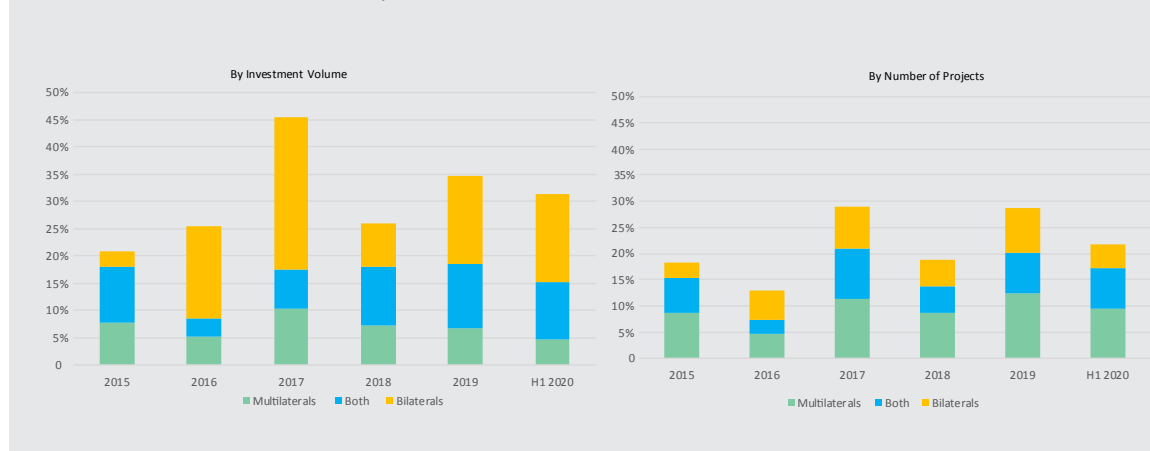
# Financing Trends

## SUPPORT BY DEVELOPMENT AND EXPORT FINANCE INSTITUTIONS (DEFIs)<sup>9</sup>

In the first half-year of 2020, 28 projects received some form of DEFI support. This accounted for 22 percent of all PPI projects, matching the previous five-year average level of DEFI involvement in EDMs (Figure 8). By investment value, projects with DEFI support accounted for 31 percent of total investment commitments. Even though only one megaproject received DEFI support in the first half-year of 2020, compared to seven in the previous year, the drop in such investments from 2019 was a mere 4 percent.

**FIGURE 8**

Share of Infrastructure Commitments with Private Participation in EMDEs That Received Support from Multilateral/Bilateral DEFIs, 2015 – H1 2020



DEFI support tended to be focused in the energy sector, representing 75 percent in the first half-year of 2020. Support tended to be directed to renewable energy projects, with 18 of these projects being either solar or wind energy projects, in line with the global push to reduce greenhouse gas emissions and combat climate change. Predictably, DEFIs tended to support low-income and lower middle-income countries (17 projects); this is because countries that have relatively low levels of financial sector development tend to rely heavily on DEFI debt or guarantees to encourage infrastructure investment.

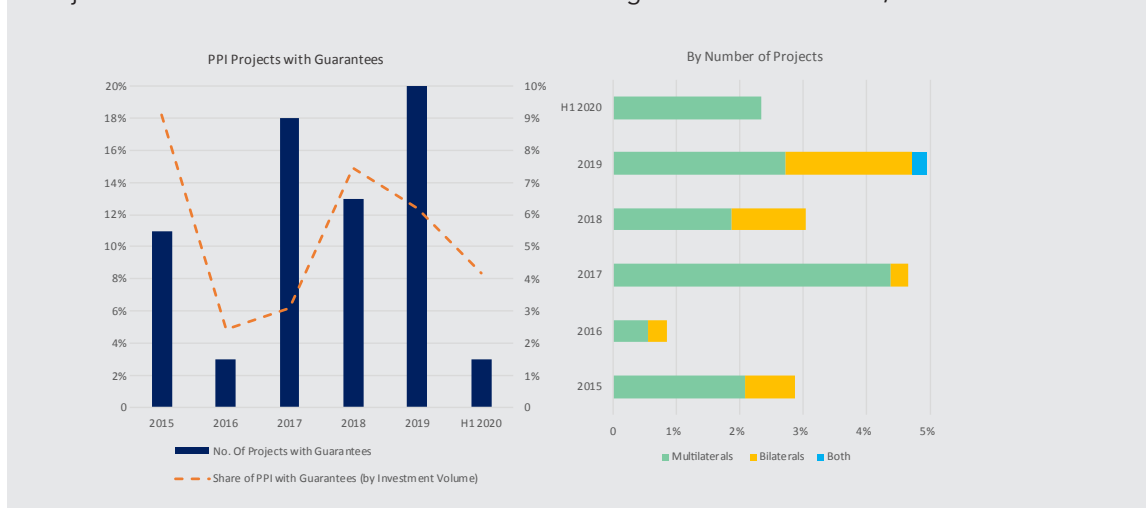
DEFIs provided direct debt support of US\$2.5 billion in the first half-year of 2020; of this, 58 percent, or US\$1.5 billion of direct loans, was provided by bilateral institutions to 16 projects. Multilateral institutions provided US\$1.1 billion in direct loans to 18 projects, as well as guarantees, interest rate swaps, equity, and transaction advisory service to seven projects. International Finance Corporation (IFC), the African Development Bank (AfDB), the European Bank for Reconstruction and Development (EBRD), and the Asian Development Bank (ADB) provided the majority of multilateral support (75 percent), with a total of US\$792 million in loans.

<sup>9</sup> DEFI, for the purposes of this report, 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. Henceforth in this report, the term bilaterals will include bilateral institutions as well as export credit agencies.

## DEFI Support Guarantees<sup>10</sup>

**FIGURE 9**

Projects with Private Investment Commitments Involving Guarantees in EMDEs, 2015 – H1 2020



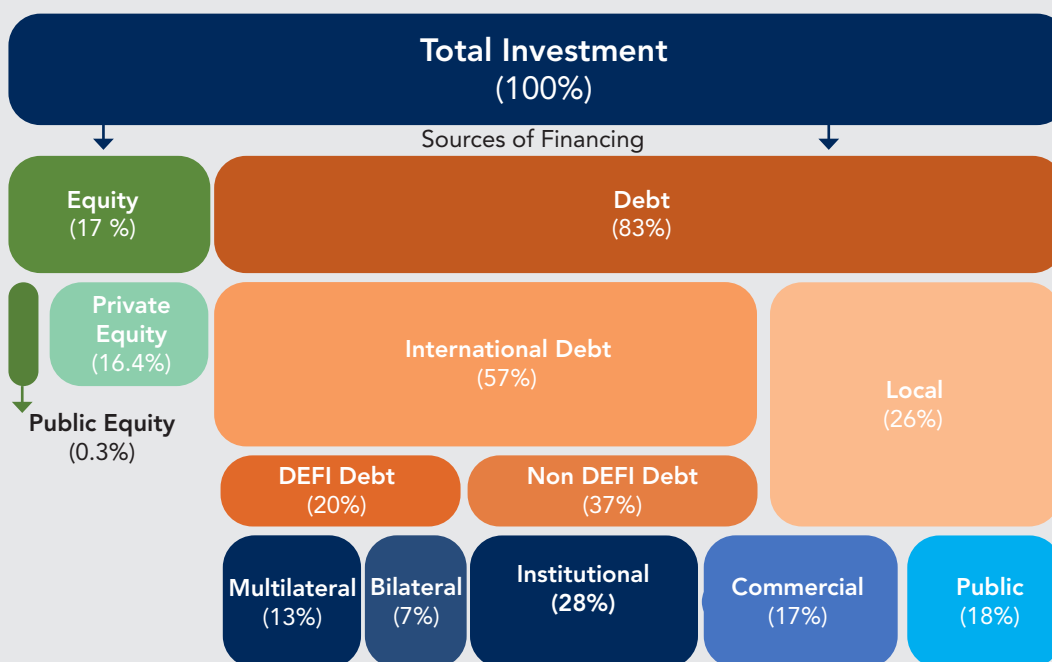
In the first half-year of 2020, three projects in three countries received guarantee support—Serbia, Côte d’Ivoire, and Djibouti. Although the share of total PPI investment volume receiving guarantee support was lower than in 2018 and 2019, it was higher than what was seen in 2016 and 2017 (Figure 9). The share of projects receiving guarantee support matched the past five-year average as well. Interestingly, all three projects, the Belgrade Municipal Solid Waste Treatment Plant, the Azito Gas-Fired Power Plant in Côte d’Ivoire, and the Ghoubet Wind Farm in Djibouti, received their guarantees from MIGA. The uncertain investment outlook due to the global pandemic could be a contributing factor to the decreased uptake of guarantees this year. Both energy projects originated from IDA countries, indicating its efforts to increase investment confidence and decrease risk.

<sup>10</sup> At this stage, the PPI Database only indicates which projects received guarantees from which entities and not any details on the guarantees covered or the guarantee amounts. Hence, for the projects receiving guarantee support, the debt to such projects is categorized according to the debt provider classification.

## FINANCING MIX

**FIGURE 10**

Sources of Financing for Infrastructure Projects with Private Participation in EMDEs in H1 2020\*



Note\* All figures as a percentage of total investment

In the first half-year of 2020, detailed financing information was available for 51 projects, amounting to approximately 81 percent of PPI projects by investment value (US\$15.5 billion of US\$19 billion). All information in this section is based on these projects, for which investments went solely towards building physical assets. Financing information was not available for China's 34 projects.

Of the US\$15.5 billion in financing mentioned above, approximately 18 percent (US\$2.9 billion) came from public sources, 62 percent (US\$9.6 billion) came from private sources, and 20 percent (US\$3.0 billion) came from DEFI sources. Figure 10 provides a detailed breakdown of the investment sources.

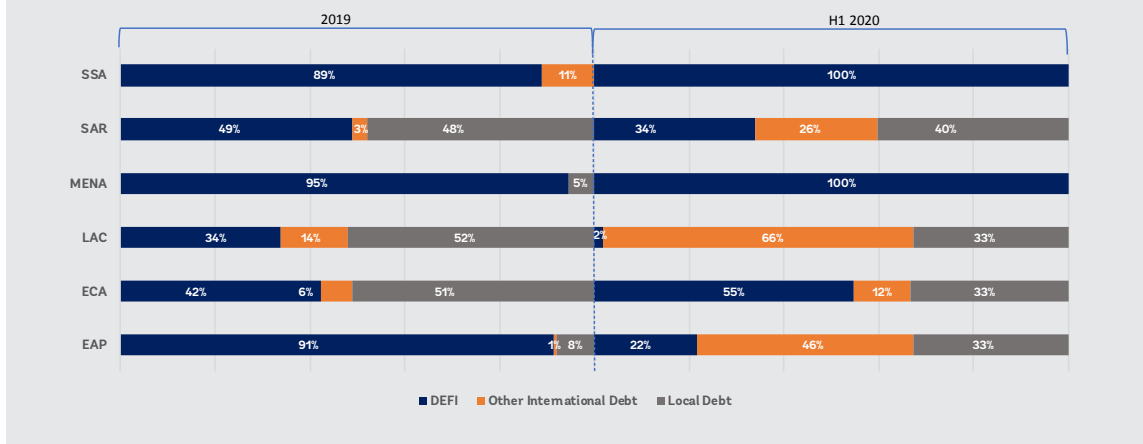
Of the US\$2.6 billion in total equity provided in the first half-year of 2020 for 51 projects, financing largely came from private sources. These accounted for 98 percent of total equity, with the remaining 2 percent of equity, or US\$52 million, financed by state-owned enterprises or governments that participated in joint-venture projects. Interestingly, no projects recorded direct government support, possibly due to government expenditure elsewhere in the economy related to the economic contraction and expenditures caused by the

11 OECD (Organisation for Economic Co-operation and Development). 2020. "COVID-19 and fiscal relations across levels of government." OECD Policy Responses to Coronavirus (COVID-19), OECD, Paris, July 31, 2020. <https://www.oecd.org/coronavirus/policy-responses/covid-19-and-fiscal-relations-across-levels-of-government-ab438b9f/>.

pandemic.<sup>11</sup> Countries have stepped up healthcare and social protection spending, and many have implemented stimulus and relief packages to help those affected by the pandemic and lockdown measures. India, for example, which historically had one of the highest government subsidies in infrastructure, has provided

**FIGURE 11**

Share of International and Local Debt by Region for Infrastructure Projects with Private Participation in EMDEs, 2019 and H1 2020



stimulus packages to help the people and businesses affected by COVID-19 to stabilize the economy.<sup>12 13</sup> Investment in the first half-year of 2020 was more debt reliant, with a total debt of US\$12.9 billion. International debt providers accounted for nearly 70 percent of this. Interestingly, there was an increase in the role of institutional investors, who contributed to a third of total debt, and 28 percent of total investment. The high levels of institutional debt involved in the New Burgos, Cactus, and Isthmus Corridor Pipelines in Mexico (US\$4.0 billion) increased the level of international and institutional funding and accounted for 45 percent of total international debt and 92 percent of institutional debt. Additionally, the Thar Block-I Coal-Fired Power Plant megaproject in Pakistan also had more than US\$1 billion dollars coming in via international funding, through both bilateral and commercial sources, thereby adding to the role of international lenders in the first half-year of 2020.

DEFI continued to play a dominant role in MENA and SSA, where all projects were funded by DEFIs. In fact, for the past five years, MENA and SSA have regularly relied more on international loans for projects (except for South Africa, where financial sector development is more advanced compared to the surrounding region). This highlights the importance of countries' financial sector development to encourage private sector investment in infrastructure, especially when the global macroeconomic environment is uncertain. DEFIs' role in promoting growth by improving infrastructure must not be underestimated. As infrastructure improves, the economic environment will likewise improve, and growth

12 Ahmed, Aftab. 2020. "India outlines \$23 billion stimulus to help poor hit by lockdown." Reuters, March 26, 2020. <https://www.reuters.com/article/us-health-coronavirus-india-stimulus/india-outlines-22-6-billion-economic-stimulus-to-help-poor-hit-by-lockdown-idUSKBN21D0YK>.

13 Ahmed, Aftab and Manoj Kumar. 2020. "Modi's stimulus package so far is all about liquidity, Indian officials say." Reuters, May 15, 2020. <https://www.reuters.com/article/us-health-coronavirus-india-stimulus/modis-stimulus-package-so-far-is-all-about-liquidity-indian-officials-say-idUSKBN22R1SP>.



and investment can be encouraged.

ECA also received significant DEFI investment—for renewable energy projects, both wind and solar, as well as a municipal solid waste management project. In comparison, almost all of LAC’s investments came from other sources, primarily devoted to the US\$4 billion pipeline project in Mexico. Other than the mega project’s investments, most other investments were secured from local public banks, with more than US\$1.9 billion directed to projects in Brazil and Colombia. In fact, more than US\$1.8 billion was invested by public banks in Brazil, accounting for two-thirds of public debt in EMDEs. Brazil’s financial sector development has underscored the importance of such efforts for investment and economic growth.

The role of commercial debt declined in the first half-year of 2020 compared to the past two years. Commercial lenders funded 21 percent of total debt,<sup>14</sup> compared to the 46 percent reported at the end of last year.<sup>15</sup> The added risk of a global economic downturn and labor shortages due to the pandemic have decreased investor confidence. SAR’s commercial debt financing (US\$1.4 billion) was the highest, accounting for half of the total commercial debt raised globally. Most of this commercial debt came from the Thar Block-I Coal-Fired Power Plant in Pakistan and the Dhaka Elevated Expressway in Bangladesh—a combined commercial investment of US\$1.1 billion.

Colombia’s commercial debt of US\$342 million made up 64 percent of its total debt and placed it third in the category, after Pakistan and Bangladesh. Cambodia, El Salvador and Peru raised all their debt from commercial sources; there were also countries whose debt from commercial sources accounted for more than half of their total debt (Figure 12).

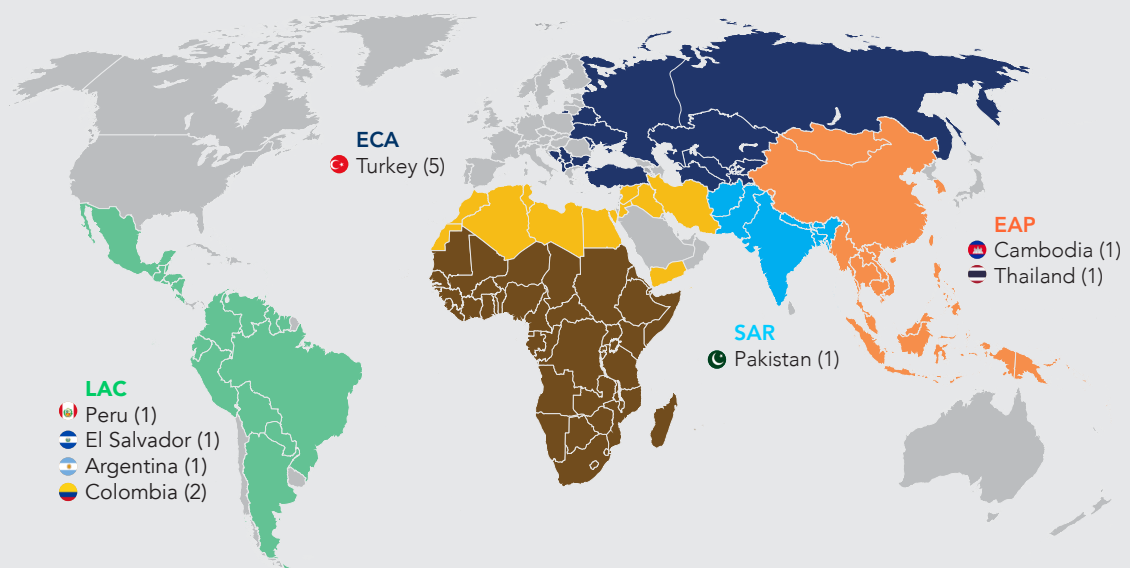
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<sup>14</sup> Commercial debt is only the debt raised from commercial banks and not necessarily all debt raised on commercial terms. Multilateral and bilateral agencies, such as International Finance Corporation (IFC) and the Asian Development Bank, 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).

<sup>15</sup> World Bank. 2020. Private Participation in Infrastructure (PPI) 2019 Annual Report. Washington, DC: World Bank. <https://ppi.worldbank.org/content/dam/PPI/documents/private-participation-infrastructure-annual-2019-report.pdf>.

**FIGURE 12**

Countries That Received a Significant Share of Commercial Financing for Infrastructure Projects with Private Participation in Each Region, From Highest to Lowest, 2020



Note: The number in parentheses indicates projects with commercial debt financing. Countries are listed by share of commercial financing.

## ANNEX A: DEFI AGENCIES THAT SUPPORTED PROJECTS IN THE FIRST HALF-YEAR OF 2020

Multilateral	Bilateral	
	Development Institution	Export Credit Agencies
ADB	Abu Dhabi Fund for Development	Export Import Bank of China
AfDB	Agence française de développement (AFD)	
Africa Finance Corporation	Belgian Investment Company for Developing Countries	
Africa 50	China Development Bank	
Africa Trade Insurance Agency	Climate Investment Fund	
Banque Ouest Africaine de Développement (BOAD)	Energy and Environment Partnership	
Clean Technology Fund	FMO (the Dutch Development Bank)	
Emerging Africa Infrastructure Fund (EAIF)	Government of France	
EBRD	Instituto de Crédito Oficial (ICO)	
Eurasian Development Bank (EDB)	International Cooperation and Development Fund (Taiwan ICDF)	
European Investment Bank (EIB)	Japan International Cooperation Agency (JICA)	
Green Climate Fund	Kreditanstalt fuer Wiederaufbau (KfW) (German Investment and Development Company [DEG])	
Inter-American Development Bank (IADB)	Oesterreichische Entwicklungsbank AG	
IFC	U.S. International Development Finance Corporation	
MIGA	Renewable Energy Performance Platform	
North American Development Bank (NADB)		
OPEC Fund for International Development (OFID)		



## About the Private Participation in Infrastructure Projects Database

The Private Participation in Infrastructure Database is a product of the World Bank Group's Infrastructure Finance, PPPs and Guarantees Department. 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 destinations of investment flows, and information on the main investors. The site currently provides information on more than 10,000 infrastructure projects dating from 1984 to 2020. It contains over 50 fields per project.

For more information, please visit: [ppi.worldbank.org](http://ppi.worldbank.org)



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The World Bank Group plays a key role in the global effort to end extreme poverty and boost shared prosperity. It consists of five institutions: The World Bank, including the International Bank for Reconstruction and Development (IBRD) and the International Development Association (IDA); the International Finance Corporation (IFC); the Multilateral Investment Guarantee Agency (MIGA); and the International Centre for Settlement of Investment Disputes (ICSID). Working together in more than 100 countries, these institutions provide financing, advice, and other solutions that enable countries to address the most urgent challenges of development.

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