



Private Participation in Infrastructure (PPI)

2020 Annual 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, Apala Bhattacharya and Seulah Song, 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 Global Practice). The team is thankful to Helen Mary Martin (Senior PPP Specialist, IPG Global Practice), and Fernanda Ruiz-Nuñez (Senior Economist, IPG Global Practice) for providing valuable comments which helped shape the report. Photos by Shutterstock.com. 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

COVID-19's global impact on infrastructure was widespread and swift. The pandemic has left many countries struggling to repay their debts, and a handful of countries defaulted in 2020. Meanwhile, some governments have shifted to prioritize healthcare and social welfare programs. As a result, infrastructure spending took a back seat in 2020.

Since the start 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 prevented or delayed many projects already in pipelines from achieving financial closure. Public debt globally has risen to record levels, and sovereign credit ratings have been downgraded across the developing world. The growing uncertainty amid the pandemic has also increased the risk for private sector participants in key infrastructure sectors, especially transport.

Nevertheless, as countries bounced back from initial lockdowns, and vaccination rollouts buoyed hopes of a return to normalcy, infrastructure investments rose in the second half of the year. Investment commitments to infrastructure are a cornerstone of efforts to combat climate change, and these efforts will take centre stage in the global economic recovery from the pandemic.

2020 Key Highlights

Investment commitments of **US\$45.7 Billion** in 252 projects in 2020  **52% from 2019**

- **Latin America and the Caribbean (LAC)** dominated investments with commitments of **US\$14 billion**, a **54% decrease from 2019**, of total investment.



- **East Asia and Pacific (EAP)**, which usually out-invests all other regions, came in third, with commitments of **US\$9.5 billion**, a **75% decrease from 2019**.



- **South Asia (SAR)** was the region with the second highest investment level in 2020, with commitments of **US\$10.2 billion**, an 18% decrease from 2019.



- **Europe and Central Asia (ECA)** saw investment commitments of **US\$4.6 billion**, a **42% drop from 2019**. The region's investment levels increased 1.5 times from the first half of the year.



- Investment in the **Middle East and North Africa (MENA)** hit **US\$1.2 billion dollars**, an increase from 2019 but a decrease from previous years.



- **Sub-Saharan African (SSA)** received **US\$6.3 billion**, a **7% increase in investment levels from 2019**. It was the only region other than **MENA** to report an increase.



2020 Key Highlights



The energy sector outpaced the transport sector in 2020, attracting US\$29.8 billion across 145 projects, accounting for 65% of global PPI investments.



Renewable energy continued to dominate; 62% of electricity generation projects were in renewables. The most popular form of renewable technology was solar.



Investment commitments in the transport sector totaled US\$10.5 billion across 41 projects, a 78% decrease from 2019 levels.



The roads subsector continued to dominate the transport sector in 2020, but fell by 70% compared to 2019 investment levels.



Investment commitments in International Development Association (IDA) countries in 2020 totaled US\$6.2 billion across 30 projects in 17 countries. It was a 26% decrease from 2019.



Of investments with financing information, investment was largely **debt driven**, accounting for **76% of total investment**.

21% of total investment came from commercial sources in 2020, while **international debt financed 51% of total investment commitments**.

Executive Summary

Investment¹ commitments in 2020 stood at US\$45.7 billion across 252 projects, marking a 52 percent decline from 2019 levels. Private investment commitments have not fallen to these levels since 2004, when investment totaled US\$31.3 billion. Nevertheless, despite the ongoing pandemic, investments in the second half of the year (H2) increased by 15 percent from the first half of the year (H1).

Private investment commitments in 2020 fell in all regions except for Sub-Saharan Africa (SSA) and the Middle East and North Africa (MENA). The impact of COVID-19 was most severe in East Asia and Pacific (EAP), followed by Latin America and the Caribbean (LAC), Europe and Central Asia (ECA), and SAR (South Asia).

SSA had a remarkable year in terms of PPI investments. It received US\$6.3 billion across 24 projects, marking a 7 percent increase in investment levels from 2019 and a 14 percent increase from the five-year average of US\$5.5 billion. MENA had an increase of 72 percent from 2019 levels, but this was mainly due to historic low investments in 2019. In fact, the region saw a 54 percent decrease from the five-year average.

Investment commitments in International Development Association (IDA) countries in 2020 totaled US\$6.2 billion across 30 projects in 16 countries. This compared to US\$8.4 billion across 27 projects in 18 countries in 2019. It is notable that there were more projects in IDA countries despite the pandemic. Also, 2020 investment commitments in IDA countries were 21 percent higher than the 2015-2019 average of US\$5.2 billion.

Transport sector investment commitments were the lowest in the past decade, both in terms of number of projects and investment level. Due to lockdowns, mass transit services and toll roads were affected. Ports and railways were impacted as well, with decreased volumes of containers and cargo. Sudden and drastic declines in international travel have hurt airport public-private partnerships (PPPs).

The disruption caused by the global pandemic does not seem to have affected the longer-term shift towards renewable energy. The private sector is on board with most elements of the agenda. Of the 129 electricity-generation projects, 117 were in renewables.

With respect to financing,² approximately 59 percent came from private sources, 24 percent came from development and finance export institution (DEFI)³ sources, and 17 percent came from public sources. As was the case in 2018 and 2019, private sources remained the largest share. Public investment increased by 4 percent compared to 2019. In 2020, 76 percent was debt-financed; 28 percent of the total debt was raised from commercial providers, 19 percent from institutions, 18 percent from bilaterals, 13 percent from multilaterals and 21 percent from public sources.

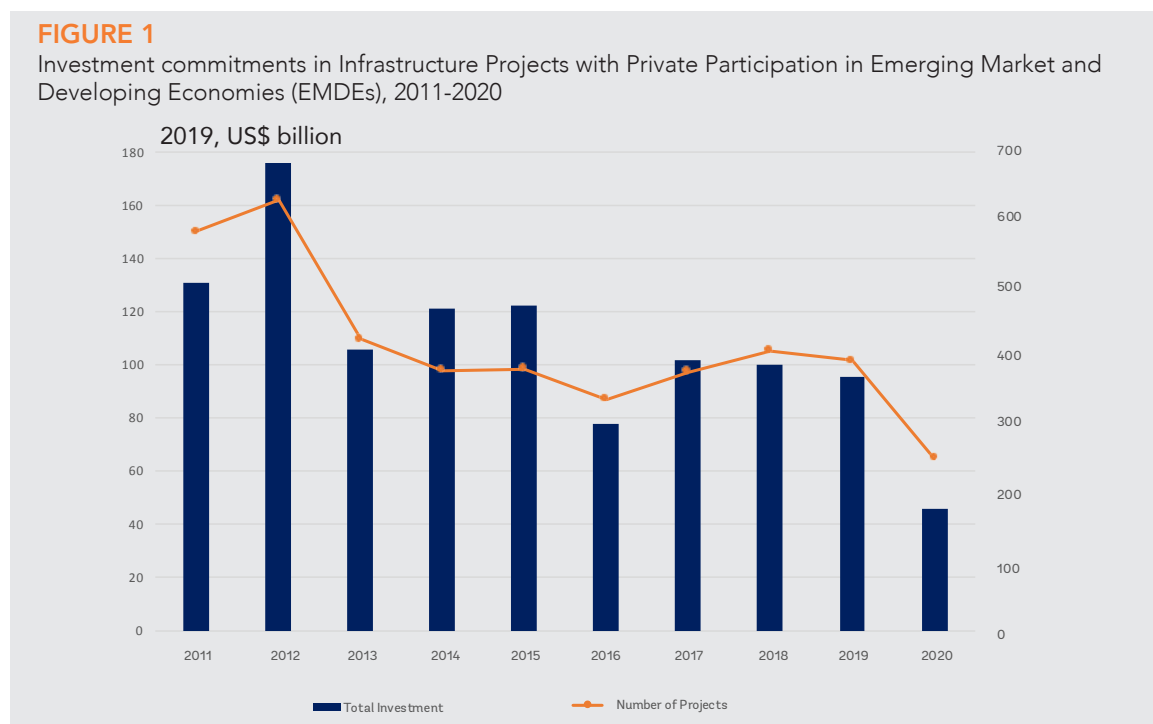
1 Private Participation in Infrastructure (PPI) as defined by the Private Participation in Infrastructure Database (<https://ppi.worldbank.org/en/methodology/ppi-methodology>).

2 Financing information was available for 79 percent of investment commitments made in 2020, with investments totaling \$50.1 billion. Information was unavailable for any projects in China, including the megaprojects. China had US\$ 6.3 billion of PPI investment and it is 14% of global PPI.

3 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. From this point on, the term bilaterals will include bilateral institutions as well as export credit agencies.

1. Overview

PPI investment in 2020 accounted for US\$45.7 billion across 252 projects, a 52 percent decrease from investment levels in 2019⁴ (Figure 1). Private investment commitments have not fallen to these levels since 2004, when investment totaled US\$31.3 billion. Nevertheless, H2 investments increased by 15 percent from H1 levels. The number of projects declined by 36 percent from 2019 levels in 2020. Nevertheless, the number of projects grew by 4 percent from H1 2020 in the second half of the year. As countries emerge from lockdowns, buoyed by hopes of vaccinations and achieving herd immunity, the level of investment commitments is expected to rise in the coming year.



There were 44 countries with investment commitments in 2020, down from 61 countries in 2019. Nevertheless, considering the magnitude and impact of the pandemic, the drop—from the previous five-year average of 48 countries—was not severe. Of the 44 countries with investment commitments, 16 were in Sub-Saharan Africa, the most of any region. Investment commitments in the region amounted to US\$6.3 billion, a 7 percent increase from 2019 levels. In contrast, investment levels in East Asia and the Pacific, usually the global leader, decreased by 75 percent from 2019, with 2020 investment commitments of US\$9.5 billion. The region has not posted such low investment commitments since 1991, when its investment commitments amounted to US\$5.6 billion. In the last 20 years, the region only came close to such investment commitments in 2002, when it reported investment levels of US\$10.9 billion. Nonetheless, there was a 14 percent recovery in investment levels from H1 2020 to H2 in the same year. The drastic fall in the region's investment commitments reflects the pandemic shock as countries scrambled to contain the virus, and abrupt lockdowns and travel restrictions brought economies to a near standstill.

⁴ The reclassification of Romania as high-income countries requires investment commitments in the countries to be hidden from the PPI database, therefore this figure is lower than the one reported in the 2019 PPI annual report.

Latin America and the Caribbean reported investment commitments of US\$14 billion, the highest of any region in 2020, but commitments decreased by 54 percent compared to 2019 levels. In contrast to EAP, LAC investment commitments in the second half of 2020 saw a 22 percent decrease from H1 levels, reflecting the region's worsening pandemic situation in the latter part of the year. South Asia reported the second highest commitments, with US\$10.2 billion, an 18 percent decrease from 2019. Similar to EAP, South Asia in H2 posted a recovery of 8 percent from the first half of the year. Europe and Central Asia reported investment commitments of US\$4.6 billion, a 42 percent decrease from 2019 levels. In the second half of the year, ECA investments increased 1.5 times, reflecting a rebound in investment in Russia after a drastic decrease in H1. The Middle East and North Africa had investment commitments of US\$1.2 billion. This was a 72 percent increase from 2019 levels, but the large investment value can be primarily attributed to the financial closure of the Noor Midelt CSP PV Plant in Morocco, amounting to US\$838 million.

China retained its spot among the top five investment commitments; it rose from third place in H1 to second place for full-year investment commitments. China's total investment commitments for the year amounted to US\$6.3 billion, a significant drop from 2019 levels. Brazil, India, and Mexico retained their positions among the top five investment commitments, with Brazil moving to first place, at US\$7.7 billion. However, its PPI as a share of gross domestic product (GDP; Table 1) dropped from 1 percent to 0.42 percent, reflecting the move away from infrastructure spending in 2020. Similarly, India had the third highest PPI as a share of GDP, with US\$5.3 billion, but decreased its share from 0.26 percent to 0.18 percent. Mexico, on the other hand, increased its share, from 0.23 percent in 2019 to 0.34 percent in 2020, largely due to the financial closure of the New Burgos, Cactus, and Isthmus Corridor Pipelines, worth US\$4 billion. Bangladesh is a new entrant to the top five countries and the first IDA country to enter the list. The country's 2020 investment amounted to US\$2.9 billion, a 190 percent increase from 2019 levels, and increased investment as a share of GDP from 0.34 percent to 0.97 percent. Bangladesh had the financial closure of seven projects, including a megaproject—the Reliance Meghnaghat Combined Cycle Power Plant.

Table 1: Top Five Countries with Investment Commitments in 2020

Country	2020 PPI (2019 US\$ Millions)	2020 PPI as a share of GDP	2019 PPI as a Share of GDP	Number of Megaprojects in 2020
Brazil	7,733	0.42%	1.01%	1
China	6,285	0.04%	0.18%	1
India	5,251	0.18%	0.26%	1
Mexico	4,269	0.34%	0.23%	1
Bangladesh	2,948	0.97%	0.34%	1

Project Size

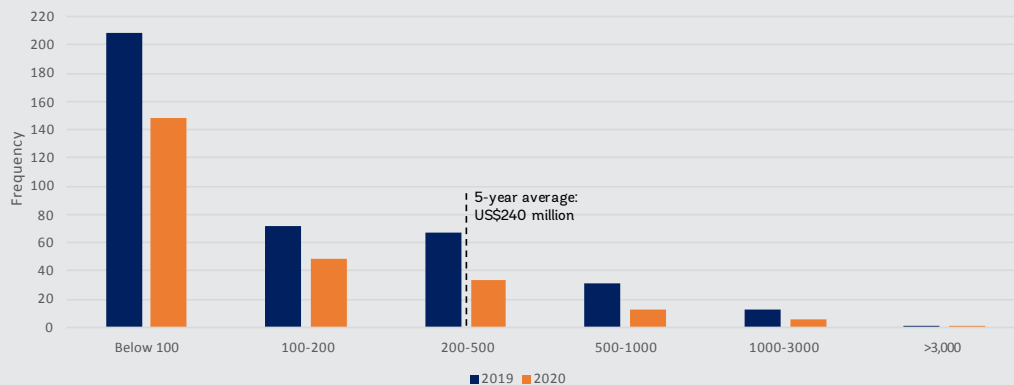
The average (mean) project size in 2020 (US\$183 million) was lower than the average project size in 2019 (US\$243 million), as was the median project size—US\$78 million in 2020, versus US\$95 million in 2019. 2020 also saw a decrease in larger projects, as indicated by the considerably lower median; the average project size for 2019, however, was skewed upwards, due to the inclusion of the Brazilian megaproject (US\$8.6 billion).

Year	Number of Projects	Mean	Median	Largest Project (2019 US\$, Millions)
2015	383	325	79	38,385
2016	339	242	78	5,528
2017	379	270	81	7,178
2018	410	243	102	3,873
2019	395	243	95	8,637
2020	252	183	78	4,000

Investments in every project-size category decreased compared to investments in 2019. Small projects (less than US\$100 million) made up a larger share of total projects in 2020, accounting for 59 percent compared to 53 percent in 2019. The share of medium-sized projects (US\$100 million to US\$500 million) decreased from 35 percent in 2019 to 33 percent in 2020 (Figure 2). The largest project in 2020 was US\$4 billion, compared with US\$8.6 billion in 2019.

FIGURE 2

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



Project Type

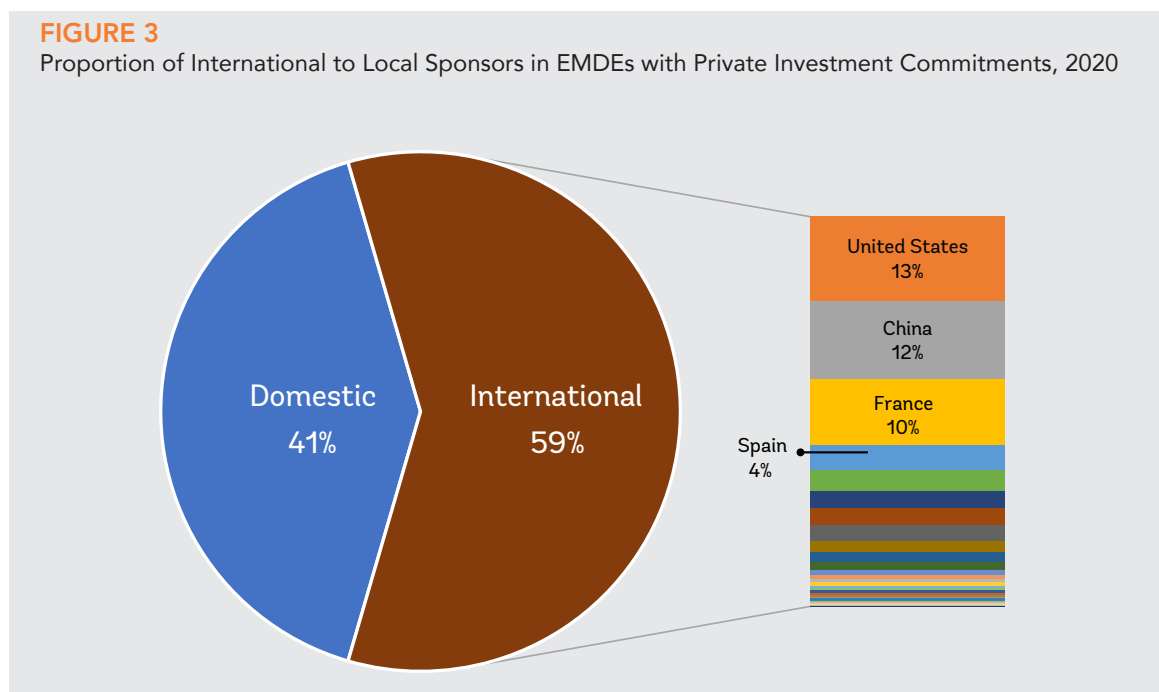
Greenfield projects continued to dominate in 2020, accounting for 85 percent of all PPI investments, compared with 70 percent in 2019. This increase was due to the substantial decrease in transport sector projects, which are usually brownfield. In 2020, the trend of increasing greenfield investments in the energy sector continued, with 74 percent greenfield projects in the energy sector and 80 percent brownfield investments in the transport sector. Nevertheless, by absolute value the investment commitments of

brownfield investments decreased substantially to US\$4.5 billion in 2020, down from US\$16.2 billion in 2019.

In 2020, 25 transactions were recorded as management contracts, close to the 24 in 2019, attributed to the continued rise of municipal solid waste projects. There were five divestitures in 2020. The transport sector in particular took a large hit in 2020, with only 41 projects reaching financial closure, compared to 121 in 2019. With COVID-19 negatively impacting transport traffic, projects based on user fees or tariffs saw a substantial decrease in revenue and demand while facing increased costs for sanitization and implementation of social distancing protocols, thereby diminishing financial closures in the sector.

Domestic Versus International Sponsors⁵

Of the 252 projects recorded in 2020, about 44 percent (110 projects) had a majority of their stakes sponsored by international entities. International sponsors focused on energy, with 89 of 110 projects (81 percent) in that sector. In terms of investment volume, 59 percent of projects were sponsored by international entities (Figure 3).



The region with the largest number of internationally sponsored projects in 2020 was LAC (33 projects). In that region, France (nine projects) and Spain (eight projects) were the main countries of origin. Overall, France was the country that sponsored the most projects (19). Entities based in Spain, the United States, and China sponsored 11, 8, and 7 international projects, respectively.

French entities sponsored 11 projects valued at US\$4.50 billion, U.S. entities sponsored 8 projects worth US\$5.83 billion, and Chinese entities sponsored 8 projects worth US\$5.44 billion.

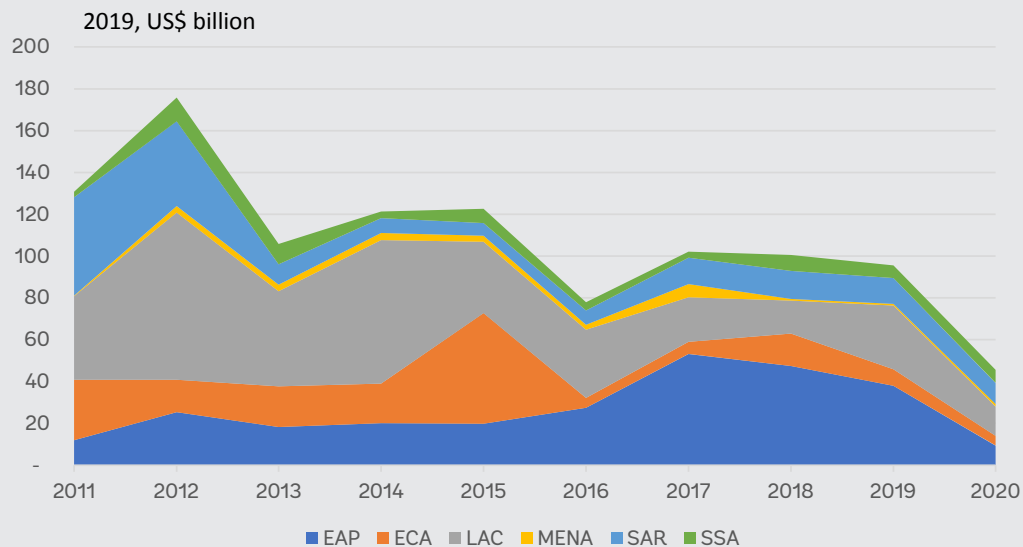
⁵ Sponsors are private entities that have an equity participation of at least 20 percent in the project contract for greenfields, brownfields, and management and lease contracts, and 10 percent of ownership in the project company for divestitures. A foreign state-owned enterprise is considered a private entity, although a domestic state-owned enterprise is not.

2. Geographic Spread

PPI investment commitments in 2020 fell in all regions except for SSA and MENA. The impact of COVID-19 on PPI was most severe in EAP, which saw a 75 percent decrease from both 2019 and its 2015-2019 average. Although LAC had higher investment commitments compared to other regions, it still saw a 54 percent decrease from 2019 levels and a 48 percent decrease from the five-year average. SAR PPI investment commitments decreased by 18 percent from 2019 levels and by approximately the same from the five-year average. The 2020 PPI investments in ECA fell by 42 percent from 2019 levels and 73 percent from the five-year average.

FIGURE 4

Investment Commitments in Infrastructure Projects with Private Participation in EMDEs
by Region, 2011-2020



SSA had a remarkable year in terms of PPI investments in 2020. It received US\$6.3 billion across 24 projects, a 7 percent increase in investment levels from 2019 and a 14 percent increase from the five-year average of US\$5.5 billion. However, many projects are fully DEFI-financed, indicating DEFI financing is one of the region's few options for large-scale projects. Finally, MENA had an increase of 72 percent from 2019 levels—mainly due to historically low investments in 2019. In fact, the region saw a 54 percent decline from the five-year average (Figure 4).

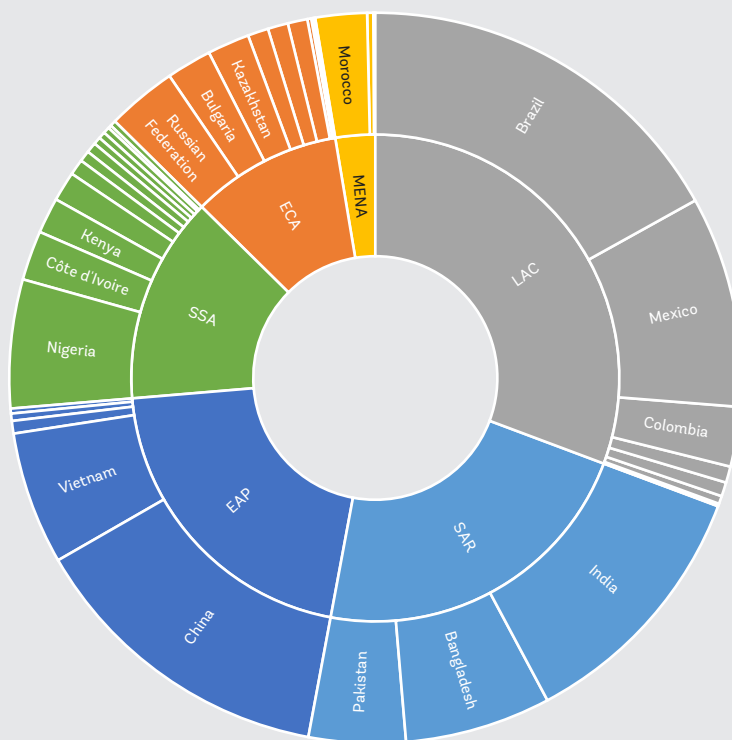
Latin America and the Caribbean

With US\$14.0 billion, LAC received the greatest investment of any region in 2020. However, LAC's investment declined 54 percent from 2019 and 48 percent from the 2015-2019 average. Brazil represented 55 percent of the region's 2020 investments, and Mexico received 30 percent. Other LAC countries with PPI transactions were Argentina, Colombia, El Salvador, Honduras, and Peru.

FIGURE 5

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

Total Investments=US\$45.7 billion



Brazil has continued its effort to sell state-controlled assets and form partnerships with private companies as part of its plan to lessen the public sector's burden and spark private investments in infrastructure.⁶ In 2020, Brazil's private investment fund acquired all the shares of Brazil's last remaining state-owned telecommunications company, Copel Telecomunicações (a subsidiary of Copel). Likewise, the acquisition of the remaining 10 percent stake in Transportadora Associada de Gás SA (TAG), the largest natural gas transmission network owner in Brazil, finally closed in 2020.

Mainly driven by the development of US\$4 billion in natural gas pipelines, Mexico had the highest level of LAC PPI investments in the first half-year of 2020. However, it managed to add only US\$255 million of PPI in H2 2020. Mexico had previously been the primary destination for renewable power plant investments, but this was not the case in 2020. Mexico's National Center for the Control of Energy (CENACE) issued a resolution in response to COVID-19. The measure had a significant negative impact on the profitability—and indeed the viability—of multiple solar and wind energy farms in Mexico.⁷ Mexico added only US\$212 million worth of renewable projects in 2020, compared to US\$2.7 billion in 2019 and US\$3.6 billion in 2018.

⁶ Iglesias, Simone Preissler. August 21, 2019. "Brazil to Speed Up Privatizations with Billions on the Line." Bloomberg. <https://www.ppi.gov.br/brazil-to-speed-up-privatizations-with-billions-on-the-line>.

⁷ Brown de Vejar, Kate. May 20, 2020. "Mexican renewable energy projects affected by new measures." DLA Piper. <https://www.dlapiper.com/en/us/insights/publications/2020/05/mexican-renewable-energy-projects-affected-by-new-measures/>.

South Asia

In 2020, SAR received US\$10.2 billion across 30 projects, an 18 percent decrease in investment from 2019 levels and approximately the same as the five-year average. However, the region's number of projects was the lowest in 10 years.

With US\$5.3 billion commitments, across 21 projects, India was SAR's largest PPI investment destination. In the past, India's transport sector received the most PPI investments, but, in 2020, 65 percent of investment commitments were made in energy. As the COVID-19 crisis continues to challenge the transport sector, the airport industry especially has turned to privatization, with the management and lease contracts of Lucknow, Ahmedabad, and Mangalore airports. Because travel is expected to be limited in the near to medium term, more airports are expected to privatize, allowing governments to ease demands on their budgets and pivot towards more pressing pandemic-related expenditures. The other projects in the transport sector were all brownfield road investments.

Bangladesh received the region's second highest PPI investment level. Its 2020 PPI investment commitment of US\$2.9 billion, across seven projects, was the highest in Bangladesh's history, placing it among the top five countries for the first time. However, most of its 2020 PPI investment commitments were channeled to a series of fossil fuel powered electric plants. Conventional power plants received US\$2.0 billion in 2020, compared with US\$133 million investment commitments for two renewable power plants. This trend is expected to continue for a while; Bangladesh, one of the world's fastest growing economies, needs a robust power infrastructure that can sustain its long-term needs for electricity.

In 2020, Nepal did not have any PPI investment commitments, for the first time since 2013. According to the World Bank's artificial intelligence-driven disruption tracker⁸, Nepal is one of the SAR countries most severely impacted by COVID-19. Construction sites in various Nepalese cities came to a halt after the lockdowns. In isolated sites, lack of supplies and government enforcement of the lockdown closed construction. The disruptions may have prevented the projects in pipeline from reaching financial closure.

With US\$ 2.0 billion investments, Pakistan was the only other country in the region with 2020 PPI investment commitments.

East Asia and Pacific

EAP attracted US\$9.5 billion in investments in 2020, a decrease of 75 percent from both 2019 and from the 2015-2019 average. This was mainly because EAP was a COVID-19 hotspot in the first half of 2020. Indonesia and Malaysia, usual regional PPI destinations, did not report any PPI investment transactions for the first time in PPI history.

China, with investments totaling US\$6.3 billion, continued to be the country with the highest investment commitments in EAP. However, China's investment commitments and number of projects were the lowest in the last five years. Unlike in the first half of 2020—during which China's water sector received the most investments—the transport sector outpaced the others for the full year. By month, investment commitments in China were lowest in April but started recovering after that and reached the highest point in December, when the country reported US\$1.6 billion worth of road projects.

⁸ COVID-19 Operational Disruptions in Infrastructure: <https://ppi.worldbank.org/content/dam/PPI/documents/Operational-disruptions-due-to-COVID--September--.pdf>

Vietnam continued its strong pace in the second half of the year and attracted a total of US\$2.7 billion of PPI investments in 2020. All of Vietnam's 16 transactions were electricity generation projects with renewable technology, a result of strong policy support in the country. In 2017, Vietnamese regulators authorized EVN, the national utility, to pay an attractive rate to purchase solar power from independent producers. These types of feed-in tariffs have proven effective inducements for jump starting growth in renewable energy. The strong pace will likely continue because, in June 2020, the Vietnam government formally approved 7 gigawatt (GW) worth of new wind projects to be built, putting the country on track for a total wind power-generation capacity of nearly 12 GW by 2025.⁹

Other countries with PPI investment commitments in EAP included Cambodia, the Philippines, and Thailand.

Sub-Saharan Africa

2020 was a remarkable year for SSA. It received US\$6.3 billion across 24 projects, marking a 7 percent increase in investment levels from 2019 and a 14 percent increase from the five-year average of US\$5.5 billion. Of the six regions, SSA was the only one that saw an increase from the five-year average. It is also noteworthy that high investment commitments were reported, although there was no project reported from either South Africa or Senegal. South Africa has previously been a leading PPI investment destination, and it had managed to record PPI every year since 1994. Likewise, in 2020 Senegal did not report any PPI, for the first time since 2007.

Nigeria has managed to report PPI investment commitments for five consecutive years since 2015. Sizable 2020 PPI investment commitments in Nigeria were mainly due to a big-ticket natural gas pipeline project. The US\$2.6 billion pipeline will transport up to 3,500 million cubic feet of gas a day from various gas gathering projects in southern Nigeria. Projects with foreign sponsors, especially from China, have played an important role in developing sizable infrastructure projects in Nigeria.

Côte d'Ivoire received US\$1 billion worth of PPI investments across three projects in 2020. However, the vast majority of the country's PPI investment commitments were made for two conventional power plants, namely Atinkou CCGT Plant and Azito Gas-Fired Power Plant Phase IV. These projects were purely DEFI backed, indicating DEFI financing is still one of the only options for such large-scale independent power producers (IPPs) in the region.

Burundi reported its first-ever PPI project. The Democratic Republic of Congo reported a 600 megawatt (MW) solar project, its first PPI investment since 2000. Other countries with PPI transactions in the region included Burkina Faso, Cameroon, Chad, Gabon, Guinea, Kenya, Madagascar, Mali, Mozambique, Somalia, Tanzania, and Togo.

⁹ Ha, Tim. June 29, 2020. "Vietnam approves 7 GW of wind energy projects." Reve. <https://www.evwind.es/2020/06/29/vietnam-approves-7-gw-of-wind-energy-projects/75395>.

Europe and Central Asia

At US\$4.6 billion, ECA's 2020 investment levels decreased by 42 percent from 2019's US\$7.9 billion. It was also a significant drop from the 2015-2019 average of US\$17.4 billion, and it was the region's lowest annual PPI investment in the past 10 years.

Russia received the largest PPI investments in the region—although the investment was 65 percent lower than in 2019. Falling oil prices and the COVID-19 contraction in Russia drove foreign direct investment to the lowest level in more than two decades, according to its central bank data, released in January 2021.¹⁰ Nonetheless, Russia managed to close a sizable bridge project, a 3.1-kilometer structure that will traverse the Lena river in Siberia, slated to be completed in 2025. The project was first proposed in the 1980s but was repeatedly delayed, due to its high cost and significant engineering challenges.

Bulgaria received the second largest amount of PPI investment commitments in 2020, thanks to the successful closure of an airport concession contract, with multilateral financing by the European Bank for Reconstruction and Development (EBRD). EBRD's loan has played an important role filling up a market funding gap in the region, especially in the current COVID-19 crisis conditions. According to EBRD, this project will be the first large-scale infrastructure concession in Bulgaria.

Other countries in ECA with 2020 PPI transactions included Armenia, Bosnia and Herzegovina, Serbia, Turkey, Ukraine, and Uzbekistan. Uzbekistan, which recorded its first PPI transaction in 2019—the year it adopted a PPP law—marked three more PPI investment transactions in 2020.

Middle East and North Africa

MENA attracted US\$1.2 billion in investments across four projects in 2020, an increase of 72 percent from 2019 levels but a decrease of 54 percent from the five-year average. The significant year-over-year increase was thanks to a US\$800 million solar project in Morocco. Excluding this project, the yearly investment commitments in MENA were the second lowest since 2011. The number of projects was also the lowest in the past 10 years. There are still encouraging findings; all four projects are power plants with renewable technologies. These new plants will add 977 MW of clean energy capacity to the grid.

Other countries with private investment commitments in the region included Djibouti, with US\$124 million for a wind power plant, and Tunisia, with a US\$40 million wind project. There was only one MENA project that reached financial closure in the second half of 2020, a Taza Onshore Wind Power Generation Project in Morocco. There was no project reported from Jordan. A leading PPI investment destination in the region, Jordan had previously managed to record PPI every year since 2011.

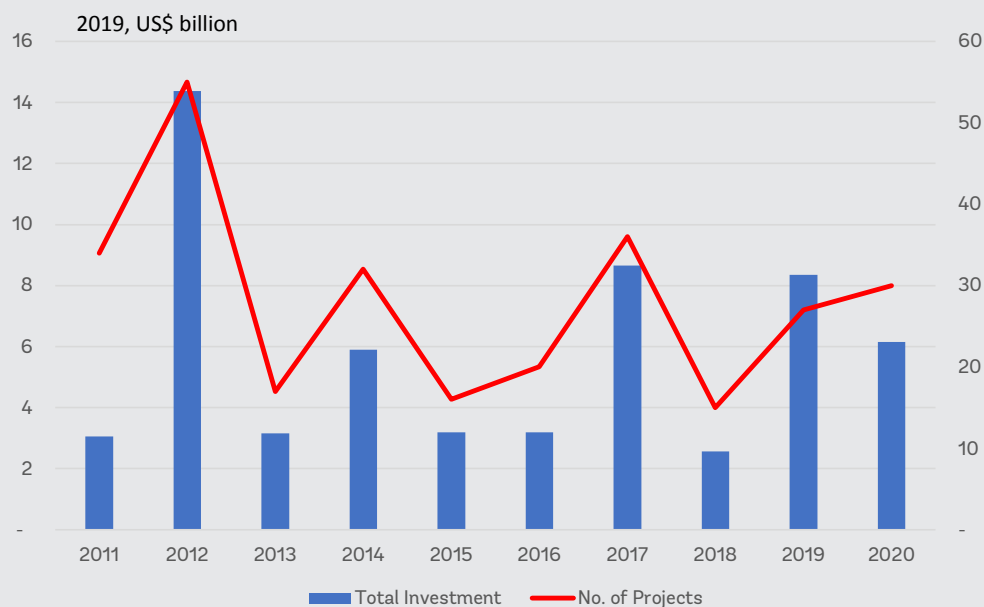
¹⁰ Andrianova, Anna. January 20, 2021. "Investments Into Russia Slump to Lowest Level Since 1994." Bloomberg. <https://www.bloomberg.com/news/articles/2021-01-20/investments-into-russia-slump-to-lowest-level-since-1994-chart>.

3. Investment in International Development Association (IDA) Countries

Investment commitments in 2020 in IDA in IDA countries totaled US\$6.2 billion across 30 projects in 16 countries. This compares with 2019's US\$8.4 billion across 27 projects to 18 countries (Figure 6). It is notable that there were more projects in IDA countries in 2020, despite the pandemic. Also, 2020 investment commitments in IDA countries were 21 percent higher than the past five-year average of US\$5.2 billion. Of 30 IDA projects, 26 projects had majority sponsorship from international entities. Also, 20 of 30 projects had some type of DEFI supports, highlighting the importance of institutional support from DEFIs in IDA countries.

FIGURE 6

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



Bangladesh led 2020's investment commitments in IDA countries. Across seven projects, US\$2.9 billion worth of investment commitments were made in Bangladesh. PPI investments were made in the country in five successive years. A private company, mainly backed by Japanese financial institutions, is developing a 745 MW, liquid natural gas-fired, combined-cycle power plant in Bangladesh. The project is India's largest foreign direct investment (FDI) in the Bangladesh power sector and represents the first phase of a proposed 3,000 MW gas-based, combined-cycle power project.¹¹ This reaffirms the importance of foreign sponsors to the high level of investment commitment in IDA countries. Although private investment commitments

¹¹ Reliance Gas Power Plant, Meghnaghat. Power Technology. <https://www.power-technology.com/projects/reliance-gas-power-plant-meghnaghat/>.

were high in Bangladesh in 2020, most of them were channeled to natural gas power projects instead of to the renewable sector.

In Côte d'Ivoire, there were investments worth US\$1 billion across three projects. As was the case in Bangladesh, most of the investment commitments with private sector participation in the country were for conventional power plants. The expansion of the Azito Thermal Power Plant will add 253 MW of combined cycle generation. The electricity will be sold to the Government of Côte d'Ivoire, through Côte d'Ivoire Énergies (CI Energies), under a 20-year concession agreement. The financial closure of the project was possible thanks to the support of multilateral DFIs and bilateral institutions.

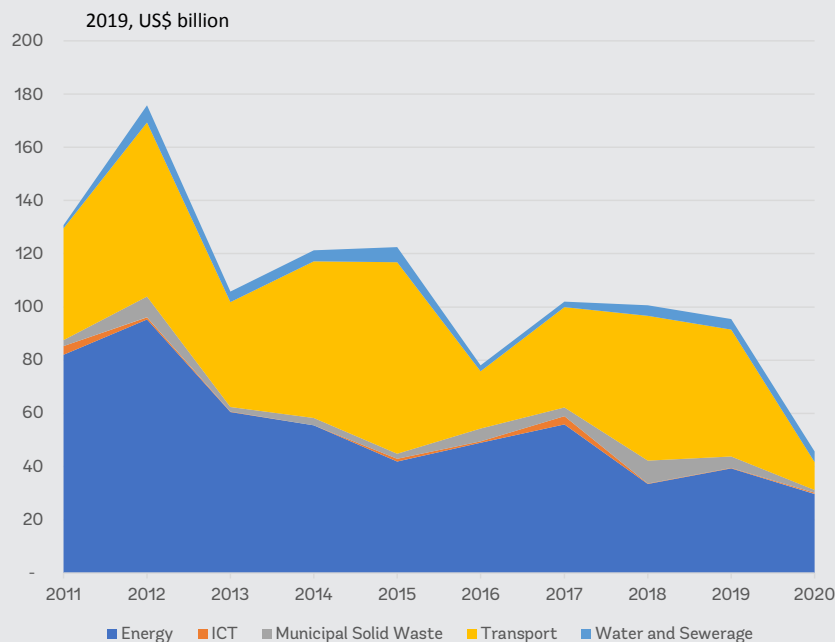
Burundi, the Democratic Republic of Congo, and Togo had the first PPI transactions recorded in the past five years. However, in Senegal and Nepal, there was no private investment commitment recorded for the first time in the past five years.

4. Sector Trends

The energy sector outpaced the transport sector, attracting US\$29.8 billion across 145 projects. This accounted for 65 percent of 2020 global PPI investments. The transport sector received only US\$10.5 billion across 41 projects, accounting for 23 percent of investment commitments in 2020. Municipal solid waste (MSW) received US\$1 billion across 19 projects, and the water sector attracted US\$4 billion over 46 projects, and information and communication technology (ICT) received US\$446 million for one project (Figure 7).

FIGURE 7

Investment Commitments in Infrastructure Projects with Private Participation in EMDEs by Sector, 2011-2020



Energy

At US\$29.8 billion across 145 projects, the energy sector's 2020 investments investment saw a 24 percent decrease from 2019 levels of US\$39.4 billion; it was also the lowest value in the past decade. In addition, 2020 saw the lowest number of energy projects recorded in the past decade. The significant decline in energy investments can be explained by the US\$10.6 billion sector decrease in LAC and the US\$2.5 billion decrease in ECA. Meanwhile, investments in energy actually increased in SAR, SSA, and MENA by US\$2.9 billion, US\$1.6 billion, and US\$757 million, respectively, compared to 2019.

Within the energy sector, US\$22.9 billion has been committed to the electricity subsector, and US\$6.9 billion has been channeled to the natural gas subsector.

Electricity

Electricity Generation

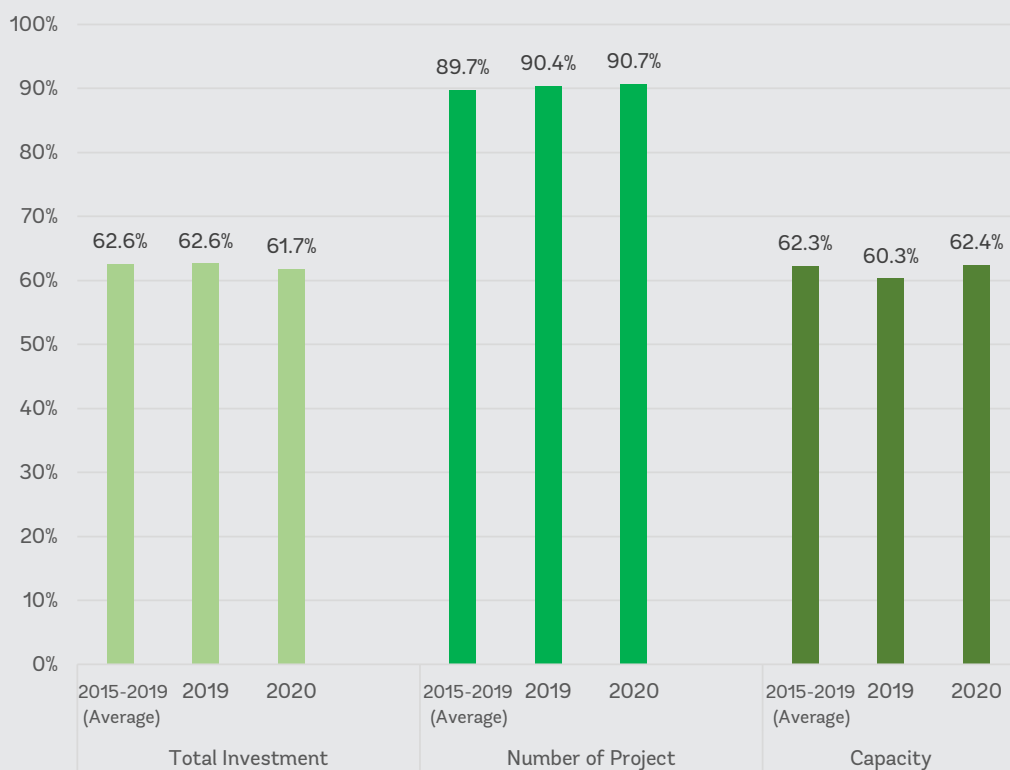
In 2020, the electricity subsector received US\$23 billion in private investment commitments. Of this, US\$20.6 billion was committed to 129 electricity generation projects. This compares to US\$25.6 billion across 146 projects in 2019. An encouraging finding is that the disruption caused by the global pandemic does not seem to have affected the longer-term shift towards renewable energy. Of the 129 electricity-generation projects, 117 were in renewables.

Ninety-one percent of all new electricity-generation projects used renewable-energy sources as compared to an average of 90 percent in the preceding five years. In terms of investment volume, almost 62 percent of 2020 electricity generation investments were in renewables, as compared to 63 percent in the past five years. Sixty-two percent of the newly added capacity was from renewable-energy sources in 2020 (Figure 8).

The most popular renewable technology in 2020 was solar, due to strong renewable programs in India and Brazil. Next most popular was onshore wind technology, mainly due to high investments in Vietnam and Brazil.

FIGURE 8

Electricity Generation Projects in EMDEs (Renewable and Conventional Resources) by Investment Volume, Number of Projects, New Capacity, 5-year Average, 2019 and 2020

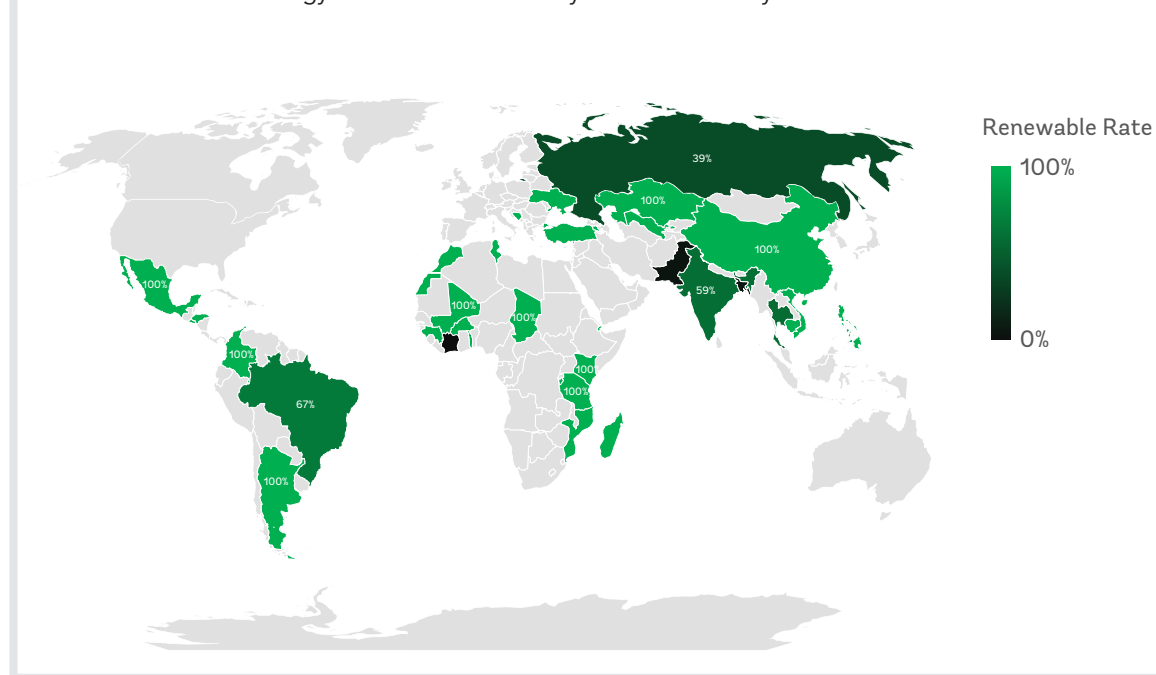


At a country level, with the exceptions of Bangladesh, Brazil, Côte d'Ivoire, India, Pakistan, Russia, and Thailand, most of the private investments in energy were in renewable energy projects. In Brazil, Côte d'Ivoire, and Thailand, private investments in conventional energy plants (mostly natural gas) were higher compared to renewables in two consecutive years (Figure 9).

Investment commitments in wind power plants were notably high in Vietnam despite the COVID-19 pandemic disrupting global clean energy supply chains and construction, due to the strong political will demonstrated by the government. The Vietnamese government formally approved 7 GW worth of new wind projects to be built in the country, putting it on track for a total wind power generation capacity of nearly 12 GW by 2025.

FIGURE 9

Rate of Renewable Energy Sources Used in Newly Added Electricity Generation



*Renewable rate refers to the share of new renewable energy capacity in the total new capacity.

Natural Gas

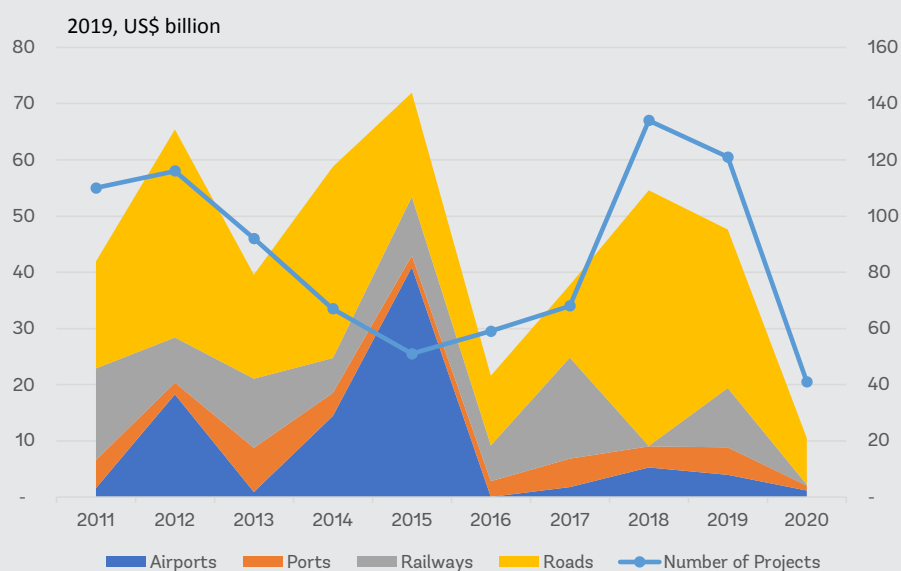
There were four natural gas projects with US\$6.9 billion in investment commitments in 2020. Examples include the Ajaokuta–Kaduna–Kano (AKK) pipeline, which is being developed by Nigerian National Petroleum Corporation (NNPC) to transport natural gas from southern Nigeria to central Nigeria. The US\$2.8 billion pipeline project represents phase one of the 1,300-kilometer Trans-Nigerian Gas Pipeline (TNGP) project, which is being developed as part of Nigeria's Gas Master Plan to utilize the country's surplus gas resources for power generation as well as for consumption by domestic customers. Mexico's US\$4 billion natural gas pipeline, storage, and corridor project is another one. It 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.

Transport

PPI investment commitments in transport were the lowest in the past decade, both in terms of project number and investment level. 2020 saw investments of US\$10.5 billion across 41 projects, a 78 percent decrease from 2019 levels and from the five-year average. Worldwide lockdown measures affected mass transit services and toll roads. Ports and railways were impacted as well, with decreased volume of containers and cargo. Airport PPPs have been heavily impacted, with sudden and drastic declines in international travel. Hence, a number of projects in the pipeline were also delayed and financial close was pushed back for many projects.

FIGURE 10

Investment Commitments in Transport Infrastructure Projects with Private Participation in EMDEs by SubSector, 2011 -2020



In the transport sector, China received the largest investment commitments (US\$2.8 billion), followed by India (US\$1.8 billion) and Colombia (US\$1.0 billion). Within transport, road investments dominated, accounting for 79 percent of the sector's investments. Of the remaining 33 transport projects, eight were airport projects worth US\$1.2 billion, and five were ports investments totaling US\$805 million. Finally, there were railroad projects worth US\$222 million.

Water and Sewerage

At US\$4.0 billion across 46 projects, investment in the water sector in 2020 stayed at roughly the same level as 2019 but had a 13 percent increase over the previous five-year average. Within water, US\$2.2 billion was channeled to water utility projects, and US\$1.8 billion was committed to water treatment and sewerage projects. Investment commitments in water were made in China, Brazil, Côte d'Ivoire, Uzbekistan, and Mexico.

In Uzbekistan, a French multinational corporation, the Municipality of Tashkent, and the Ministry of Housing and Communal Services signed an innovative contract aiming to modernize the Uzbek capital's water and wastewater networks and improve the management of its water company, Tashkent Shahar SuvTaminoti (TSST), in line with international standards. This seven-year contract includes the implementation of current solutions for smart water management.

In Côte d'Ivoire, a private U.S. water treatment company was given the green light for a US\$192 million project to build and commission a 150,000-cubic-meter-per-day surface water treatment plant.

Municipal Solid Waste (MSW)

In 2020, a total of US\$984 million was invested across 19 projects in MSW. This compares to US\$4.3 billion across 57 projects in 2019 and the five-year average of US\$4.5 billion across 52 projects. Most investment commitments (US\$767 million) were channeled to treatment and disposal projects. Among treatment and disposal projects, incineration and waste-to-energy technology was the most popular mode, at US\$730 million. The investment commitments in 2020 will add capacity of 733 thousand tons of solid waste processing in developing countries. Investment commitments in MSW occurred in three countries: Bulgaria, China, and Serbia.

Information and Communication Technology (ICT) Backbone

In the ICT sector, a total of US\$436 million was invested in one divestiture transaction. This compares to US\$174 million in 2019 and the five-year average of US\$1 billion. Brazil's investment fund acquired the country's state-owned telecom major Copel Telecom for about \$443.7 million. The telecom major was the country's last state-owned telecom company.

5. Financing Trends

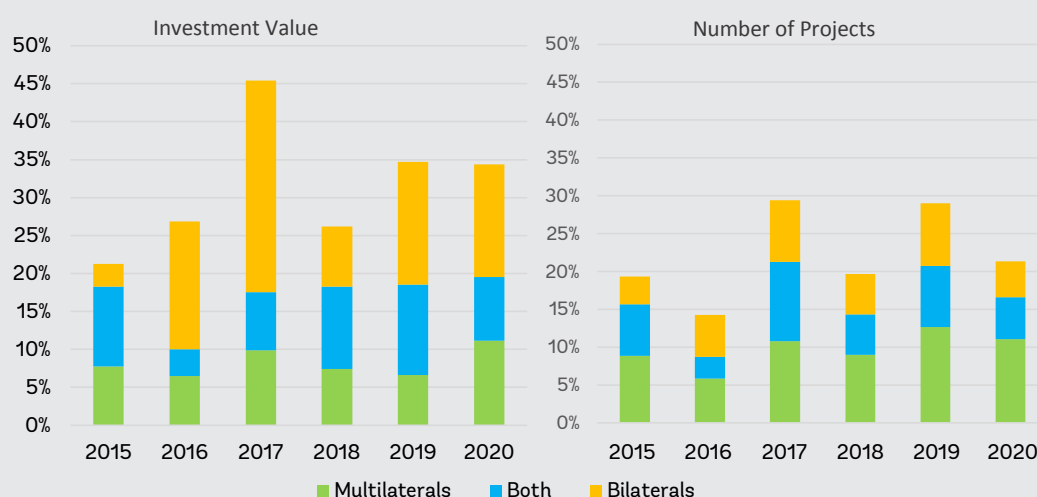
Development and Export Finance Institution (DEFI) Support¹²

DEFI Support

In 2020, 54 projects received some form of DEFI support. This accounted for 21 percent of all PPI projects, the third highest level of DEFI involvement in the past five years (Figure 11). By investment value, projects with DEFI support accounted for 34 percent of total investment commitments, both maintaining the level of DEFI involvement seen in 2019. Although there was an 8 percent reduction in number of projects receiving DEFI support from 2019, the average size of projects receiving DEFI support was higher in 2020, with four megaprojects receiving DEFI support.

FIGURE 11

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



DEFI support tended to be focused in the energy sector, representing 78 percent of total support—specifically renewable energy projects, which were 34 out of 43, in line with the global push to reduce greenhouse gas emissions and combat climate change. Strong emphasis was seen in the solar sector, with 23 solar projects, and the remaining projects were in wind energy (9 projects), and geothermal (1 project) and hydro (1 project). DEFIs continued to direct their support to low-income and lower middle-income countries (34 projects); countries that have relatively low levels of financial sector development tend to rely heavily on DEFI debt and/or guarantees to encourage infrastructure investment.

DEFIs provided direct debt support of US\$7.6 billion in 2020; of this, 57 percent, or US\$4.3 billion of direct loans, was provided by bilateral institutions to 17 projects. Multilateral institutions provided

¹² 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.

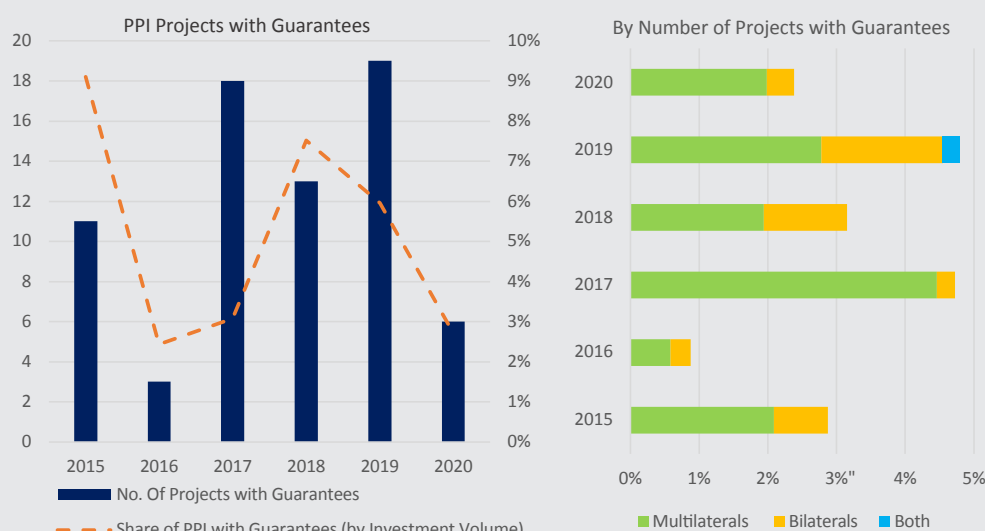
US\$3.3 billion in direct loans to 34 projects, as well as equity, guarantees, insurance, interest rate swaps, and transaction advisory service to 12 projects.

DEFI Support Guarantees¹³

In 2020, six projects in five countries—Côte d’Ivoire, Djibouti, Madagascar, Serbia, and Uzbekistan—received guarantee support. Although the share of total PPI investment volume receiving guarantee support was lower than the past three years, it was higher than what was seen in 2016. The share of projects receiving guarantee support decreased as well. The uncertain investment outlook due to the global pandemic and the deteriorating risk environment could be contributing factors to 2020’s decreased uptake of guarantees. Half the 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.

FIGURE 12

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



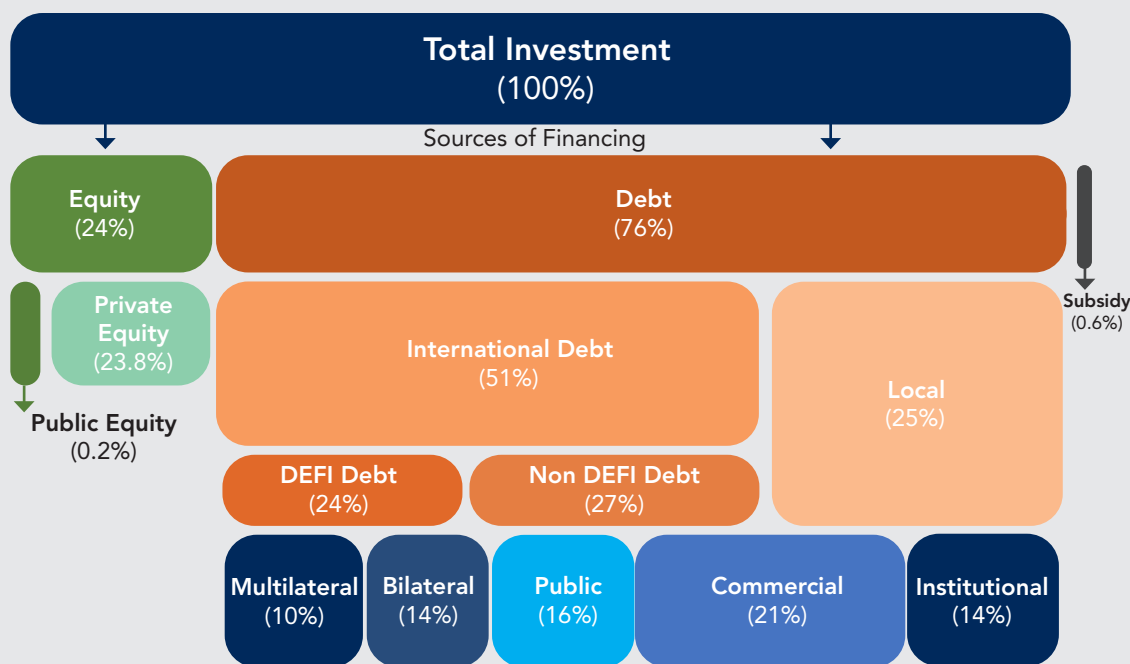
Financing Mix

In 2020, detailed financing information was available for 111 projects, amounting to 79 percent of PPI projects by investment value (US\$31.2 billion of US\$39.4 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 66 projects.

¹³ 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.

FIGURE 13

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



*All figures as a percentage of total investment

Source: PPI Database, World Bank as of Jan 2020

Of the US\$31.2 billion in financing mentioned above, approximately 17 percent (US\$5.3 billion) came from public sources, 59 percent (US\$18.4 billion) came from private sources, and 24 percent (US\$7.5 billion) came from DEFI sources. Figure 13 provides a detailed breakdown of the investment sources.

Of the US\$7.4 billion in total equity provided in the 2020, financing came largely from private sources. These private sources accounted for 99 percent of total equity, with the remaining 1 percent of equity, or US\$55 million, financed by state-owned enterprises or governments that participated in joint-venture projects.

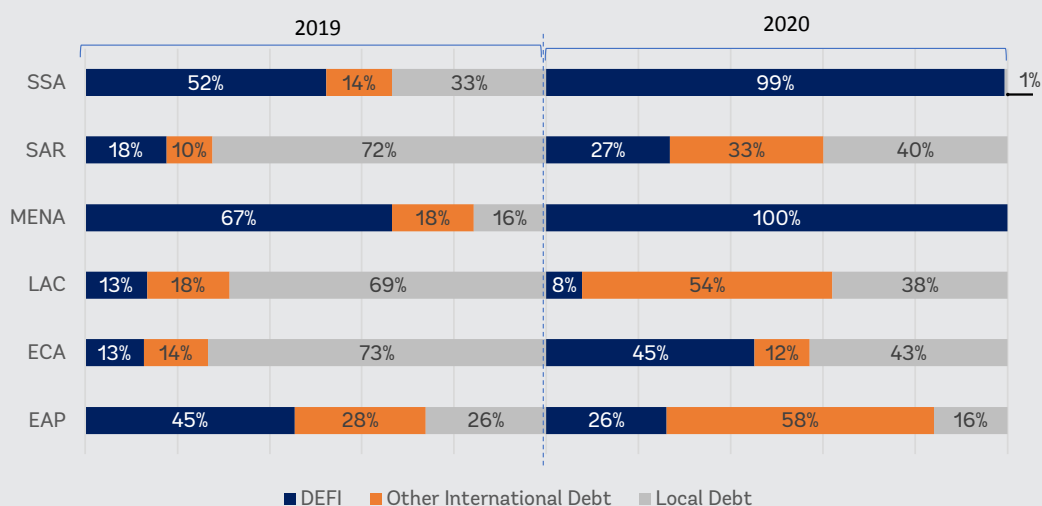
Interestingly, government subsidies accounted for only 0.6 percent of total investment, or US\$190 million, and went towards three transport projects—two highway projects in India and a railway project in Gabon. With governments facing larger fiscal debts and needing to focus expenditures elsewhere in the economy (related to the economic contraction and pandemic-related costs), input for infrastructure has declined.¹⁴ 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 (for capital expenditure)

¹⁴ 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/>.

in infrastructure, provided stimulus packages such as wage subsidies, to help the people and businesses affected by COVID-19 to stabilize the economy.^{15 16}

FIGURE 14

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



Reflecting the nature of project financing in infrastructure, projects continued to be highly debt reliant in 2020, with a total debt of US\$23.7 billion. International debt providers accounted for two-thirds of this, and provided half of the total investment in 2020. The role of institutional investors rose in 2020, due to the high levels of institutional debt involved in the New Burgos, Cactus, and Isthmus Corridor Pipelines in Mexico (US\$4.0 billion). This project alone accounted for a quarter of total international debt, and 89 percent of institutional debt, showing that institutional investors should be looked at as potential long-term partners, though they are constrained by risk exposure and scale of projects. Additionally, the Ajaokuta-Kaduna-Kano Project in Nigeria and the Thar Block-I Coal-Fired Power Plant megaproject in Pakistan also had more than US\$2 billion and US\$1 billion, respectively, coming in via international funding through both bilateral and commercial sources, thereby adding to the role of international lenders in 2020.

In 2020, DEFI played a large role in cushioning the decline in PPI investment. 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). Not only did all of MENA's investment come from DEFIs in 2020, it was one of the few regions that bucked the trend and had an increase in infrastructure investment. SSA had an interesting story as well, with 99 percent of its debt financed through DEFI sources, indicating DEFI financing is still one of the only options for large-scale PPP projects in the region. The Ajaokuta-Kaduna-Kano megaproject itself had US\$2.2 billion

15 Baba, Moyuru. 2020. "India offers 20% wage subsidy to counter coronavirus job losses." <https://asia.nikkei.com/Economy/India-offers-20-wage-subsidy-to-counter-coronavirus-job-losses>.

16 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-%20lockdown-idUSKBN21D0YK>.

of funding from bilateral sources and accounted for 73 percent of all debt in SSA. The continued presence played by the DEFI in SSA helped protect the region from the global pandemic's economic impact.

SAR and ECA also received significant amounts of DEFI investment. Bangladesh, the new entrant to the top five countries for investment commitments, had all its debt financed from international sources, of which 43 percent of its debt (US\$899 million) came from DEFI sources. Pakistan also had most of its debt from international sources and half its debt (US\$717 million) from DEFIs. On the other hand, most of India's debt came from public banks. ECA's DEFI involvement was seen mainly for renewable energy projects, with seven of nine projects in the wind and solar sectors. The remaining projects were a highway and a municipal solid waste management project. ECA also saw a high level of commercial debt, mostly in renewable energy projects (12) and transport projects (4) from Russia and Turkey. These regions highlight 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 and investment can be scaled up.

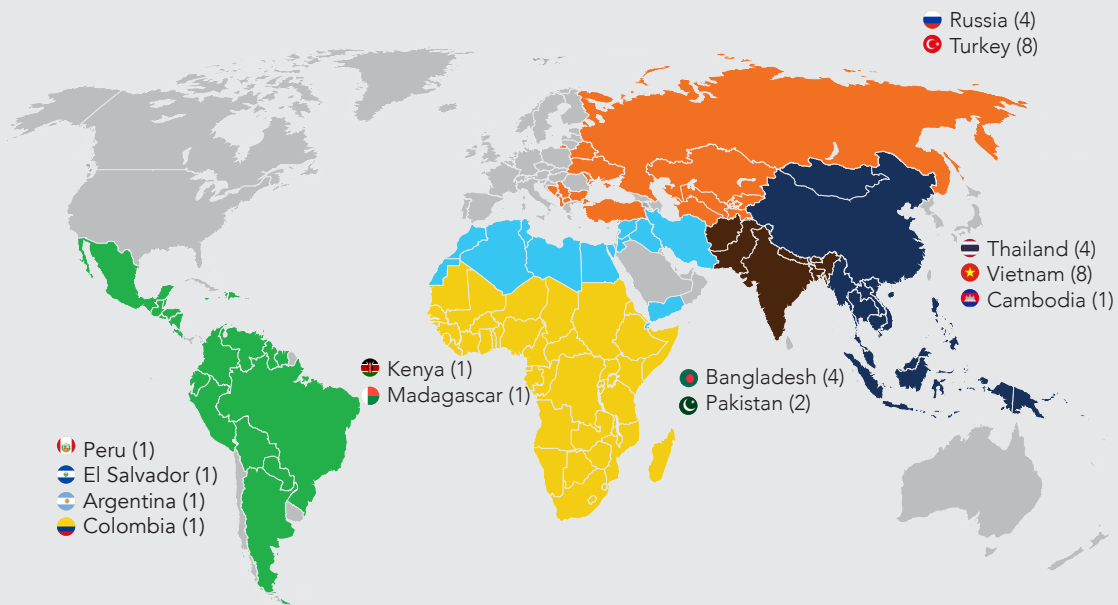
The role of commercial debt¹⁷ remained at what was reported in the first half-year of 2020, 28 percent of total debt, and was lower than what was reported for the past two years.¹⁸ The added risk of a global economic downturn and labor shortages, supply chain disruptions, changed bankability and feasibility of projects given drops in demand and disruptions and downgrading of many countries due to the pandemic have decreased investor confidence. SAR's commercial debt financing (US\$2.9 billion) was the highest, accounting for a third of the total commercial debt raised globally. Most of this came from Thar Block-I Coal-Fired Power Plant in Pakistan, and the Reliance Meghnaghat Combined Cycle Power Plant and Dhaka Elevated Expressway in Bangladesh—a total commercial investment of US\$1.6 billion, which made up nearly a quarter of global commercial debt. LAC was generally more commercial debt and public debt heavy, other than the US\$4 billion institutional investment in the New Burgos, Cactus, and Isthmus Corridor Pipelines in Mexico. Brazil made up 98 percent of the region's public debt, with the remaining 2 percent coming from Colombia. Of the projects with public debt, 16 were in renewable energy—mostly in wind and solar, with a hydro and a biogas project as well. EAP, which had a large drop in investments, also saw most of its debt coming from commercial sources. El Salvador, Kenya, and Madagascar 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 15).

17 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).

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

FIGURE 15

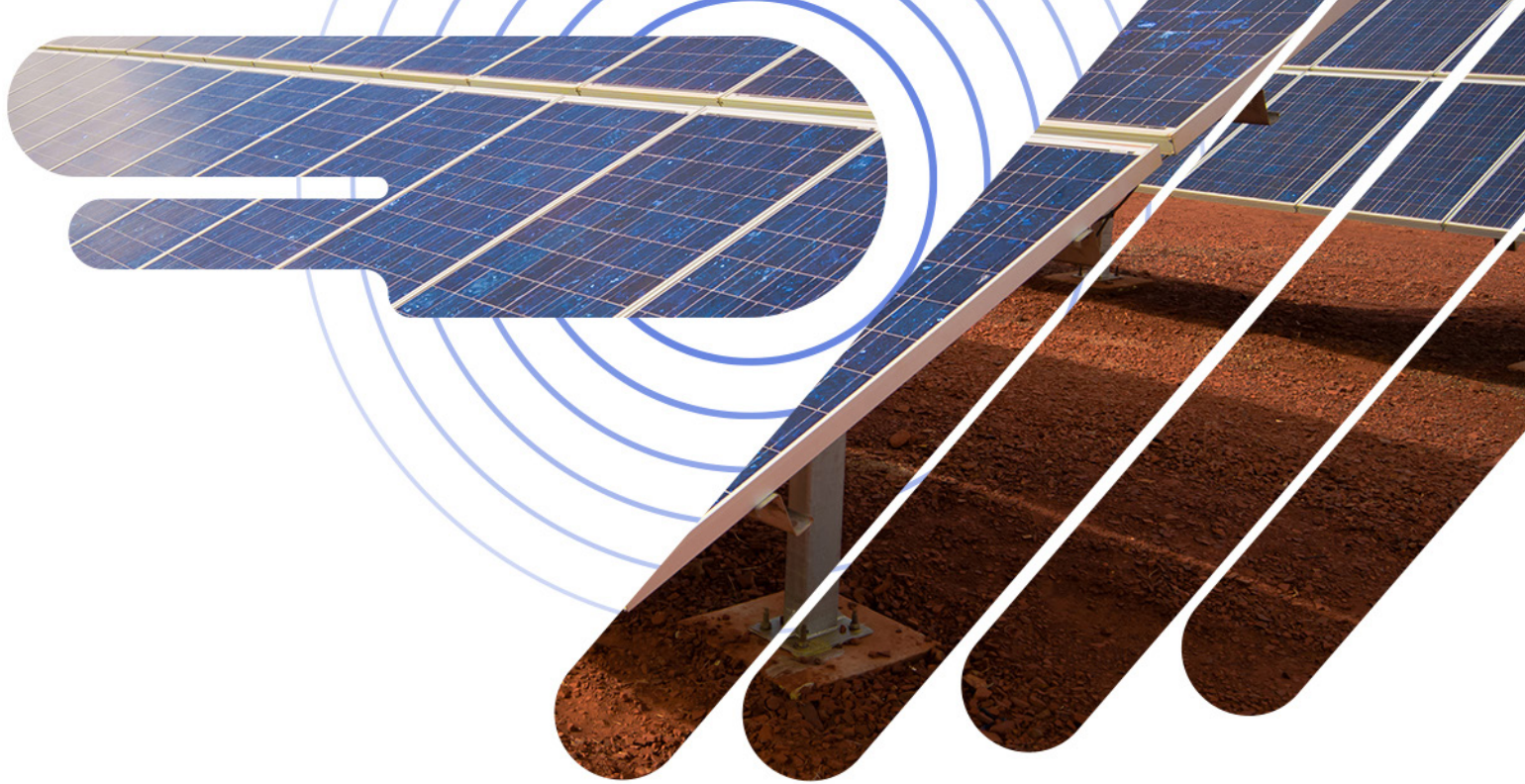
Countries That Received a Significant Share of Commercial Financing for Infrastructure Projects with Private Participation in Each Region, 2020



Notes: The number in the parentheses () indicates the number of projects with commercial debt financing. Countries are listed in terms of highest to lowest share of commercial financing in the country.

Appendix A: DEFI Agencies that Supported Projects in 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)	Israel Export Insurance Corporation (ASHRA)
Africa Finance Corporation	Belgian Investment Company for Developing Countries	Nippon Export and Investment Insurance
Africa 50	China Development Bank	Servizi Assicurativi del Commercio Estero (SACE)
African Guarantee Fund	Climate Investment Fund	Sinosure
Africa Trade Insurance Agency	Development Bank of Japan	
AIIB	FMO (the Dutch Development Bank)	
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)	JBIC	
Green Climate Fund	Japan International Cooperation Agency (JICA)	
GuarantCo	Kreditanstalt fuer Wiederaufbau (KfW) (German Investment and Development Company [DEG])	
Inter-American Development Bank (IADB)	Oesterreichische Entwicklungsbank AG	
IFC	OPIC	
Islamic Corporation for the Development of the Private Sector	Proparco	
Multilateral Investment Guarantee Agency	Renewable Energy Performance Platform	
North American Development Bank (NADB)	U.S. International Development Finance Corporation	
OPEC Fund for International Development (OFID)		
World Bank		



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 Global Practice. 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



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