

Private Participation in Infrastructure (PPI)

2023

Annual Report



WORLD BANK GROUP

Acknowledgement & Disclaimer

This report was prepared by a team comprising Deblina Saha (Task Team Leader), Seong Ho Hong (Co-Task Team Leader), Apala Bhattacharya (Consultant) with design inputs by Pablo Alfaro Chavez.

The team is very grateful for the support and guidance received Aijaz Ahmad (Acting Practice Manager of PPP Group, Infrastructure Finance, PPPs, and Guarantees Global Practice, World Bank). This report describes private participation in infrastructure (PPI) trends as recorded in the PPI Database. The database records investment information for infrastructure projects in 137 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. Photos by Shutterstock.com.

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32,500 KGS
71,500 LBS
6,440 KGS
14,210 LBS
63,210 KGS
2,700 CU FT
CAUTION
9'6"
HIGH

MAX. GROSS
TARE
NET
37,500 KGS
7,500 KGS
30,000 KGS
28,640 KGS
6,310 KGS
62,150 KGS
2,700 CU FT

Key Highlights

Investment commitments of

\$86.0 Billion in 2023


5% from 2022 (\$91.3 Billion)



1% from the past five-year average (\$85.5 Billion)

The number of countries with PPI increased to 68 from 54 countries in 2022

28% 



East Asia and the Pacific posted investment commitments of **\$51.4 billion**, a **28% increase** year on year and a **47% increase** from the past five-year average.

Increased investment commitments in China and the Philippines were the main drivers behind this surge.

4% 



Europe and Central Asia saw investment commitments of **\$4.1 billion**, a **4% increase** year on year and a **48% decrease** from the past five-year average.

The decline in investment is attributed to reduced investments in Russia, Ukraine, and Türkiye.


43% 



Latin America and the Caribbean received **\$15.8 billion**, a **43% decrease** year on year and a **decrease of 27%** from the previous five-year average.

This reduction was largely due to a substantial decrease in private investment in Brazil and Mexico.


104% 



PPI investments in **Middle East and North Africa** amounted to **\$2.9 billion**, a **104% increase** year on year and a **37% increase** from the past five-year average.

Egypt was the largest contributor to the region's investment surge.

40% 



South Asia received **\$8.2 billion**, a **40% decrease** year on year and a **decrease of 32%** from the previous five-year average.

The region as a whole saw declines in PPI investments, with the exception of Sri Lanka.

24% 



Sub-Saharan Africa received investments totaling **\$3.5 billion**. This marked a **24% decrease** year on year and a **45% decrease** from the past five-year average.

The decline cannot be attributed to any one country since overall, multiple countries experienced decreases in investments.

Sector Update



Water & Sanitation

Investment commitments in the Water sector decreased to a third of the investment levels seen in 2022, marking a 64 percent decrease compared to the past five-year average.



Energy & Renewables

Energy sector accounted for almost three quarters of the total global PPI investments.

Ninety-seven percent of electricity generation projects were renewable, compared to 94 percent in 2022 and the previous five-year average of 93 percent.



Transport

Investment levels in the transport sector dropped by 76 percent compared to 2022 and 69 percent from the past five-year average. China and India, historically the leading countries in road investments, both reported a sharp decrease.

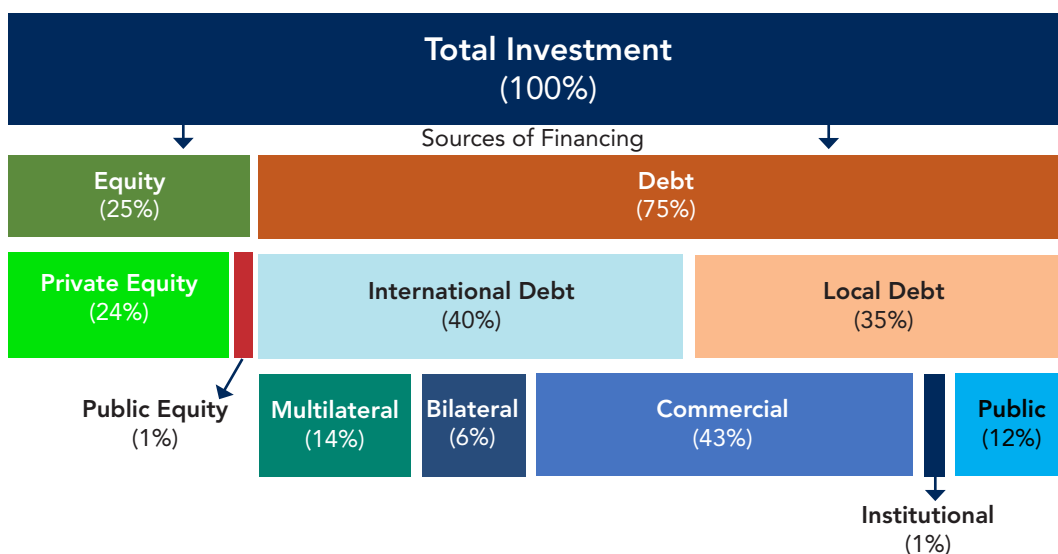


Municipal Solid Waste (MSW)

Investment commitments in MSW decreased to \$146 million across 11 projects in 2023, following a peak in 2022 where investments totaled \$796 million. This also marks the lowest value in the past five years.

Sources of Financing

Sources of Financing for Infrastructure Projects with Private Participation in 2023



* All figures as a percentage of total investment

Source: PPI Database, World Bank, as of January 2024.

In terms of financing, for projects recorded in the PPI Database, approximately 13 percent came from public sources, 67 percent from private sources, and 20 percent from DEFI sources.

Executive Summary

- Private sector investments in infrastructure, or private participation in infrastructure (PPI)¹ in 2023 amounted to \$86.0 billion. Although in terms of investment volume, this represents a decrease from the \$91.3 billion levels in 2022, 2023 saw a significant increase in the number of projects, jumping from 260 projects in 2022 to 322 projects in 2023.
- Similar to the increase in number of projects, the number of countries with PPI investment commitments in 2023 also increased to 68 from the 54 countries reported in 2022 and the previous five-year average of 50 (2018-2022). Notably, Guinea Bissau, Libya, Papua New Guinea, São Tomé and Príncipe, and Suriname recorded their first PPI investment transactions in more than a decade.
- The five countries with the highest levels of investment in 2023 as a percentage of national GDP were: Cabo Verde, with 7.4 percent of its GDP committed to PPI investments; Lao People's Democratic Republic (Lao PDR), with 6.2 percent and Bosnia and Herzegovina with 2.0 percent. In absolute terms, China, Brazil, Philippines, India, and Peru received the largest PPI investments in 2023. These five countries together attracted \$66 billion, capturing almost 77 percent of global PPI investment.
- Twenty-six IDA countries, compared to eighteen in 2022, received investment commitments amounting to \$4.3 billion in 2023. This represented an 18 percent increase in investment levels compared to last year but a 21 percent decrease from the past five-year average.
- Of all the projects recorded in 2023, 52 percent were primarily sponsored by foreign entities, marking an increase from the 44 percent recorded in 2022. ICT (78 percent) and energy (53 percent) are the sectors with the highest number of PPI projects being sponsored by foreign entities. On the other hand, the municipal solid waste sector (18 percent) and water sector (26 percent) predominantly have local sponsors.
- Energy saw a threefold increase in investment levels from 2022, with most of this increase occurring in the EAP region. Meanwhile, investment levels in the transport sector dropped substantially owing to a sharp decline in road investments in China and India, although ports subsector investments doubled. ICT investments increased almost fourfold reaching \$7.8 billion across 52 projects in 35 countries; while water and municipal solid waste sectors reported a decline.
- There was a significant increase in DEFI² participation in infrastructure projects in 2023, with 127 projects receiving some form of DEFI support. This accounted for 40 percent of all PPI projects, marking a significant increase from 26 percent in 2021 and 18 percent in 2022.
- With respect to financing, approximately 67 percent came from private sources, 20 percent from DEFI sources, and 13 percent from public sources. In comparison to 2022, private sources increased by 18 percent from 50 percent, while public sources decreased by 22 percent from 35 percent. DEFI's contribution (in the form of loan) to PPI projects in 2023 remained relatively unchanged from the previous year.

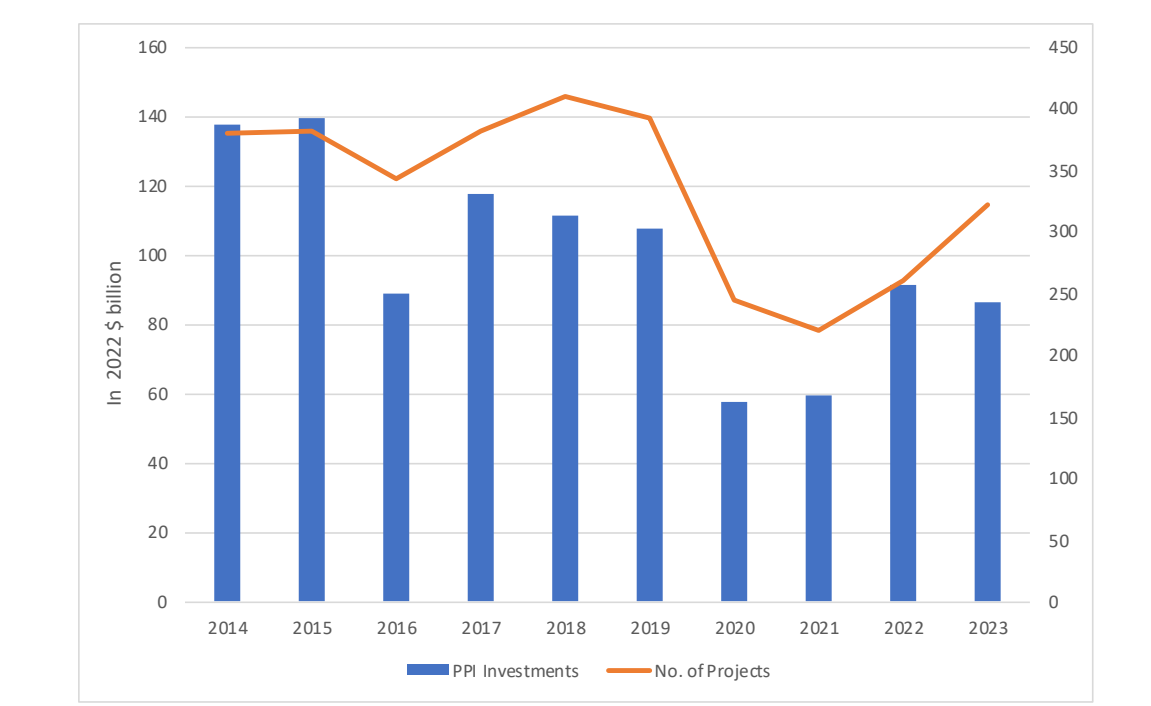
1 The term “investment” refers to private investment commitments at the time of financial close in energy, transport, water and sanitation, municipal solid waste, and ICT-backbone projects serving the public in low- and middle-income countries, including natural gas transmission and distribution, but excluding oil and gas extraction.

2 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.

Overview

PPI investment in 2023 amounted to \$86.0 billion, representing 0.2 percent of the GDP of all low- and middle-income countries (\$38.8 trillion). Although this represents a slight decrease from \$91.3 billion in 2022, total commitments in 2023 still marginally exceeded the previous five-year average (2018-2022) of \$85.5 billion. In terms of number of projects, 2023 saw a notable jump from 260 projects in 2022 to 322 projects in 2023, which was also an increase from the previous five-year average of 305 projects.

1 Figure 1: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Mid-Income Countries, 2014– 2023

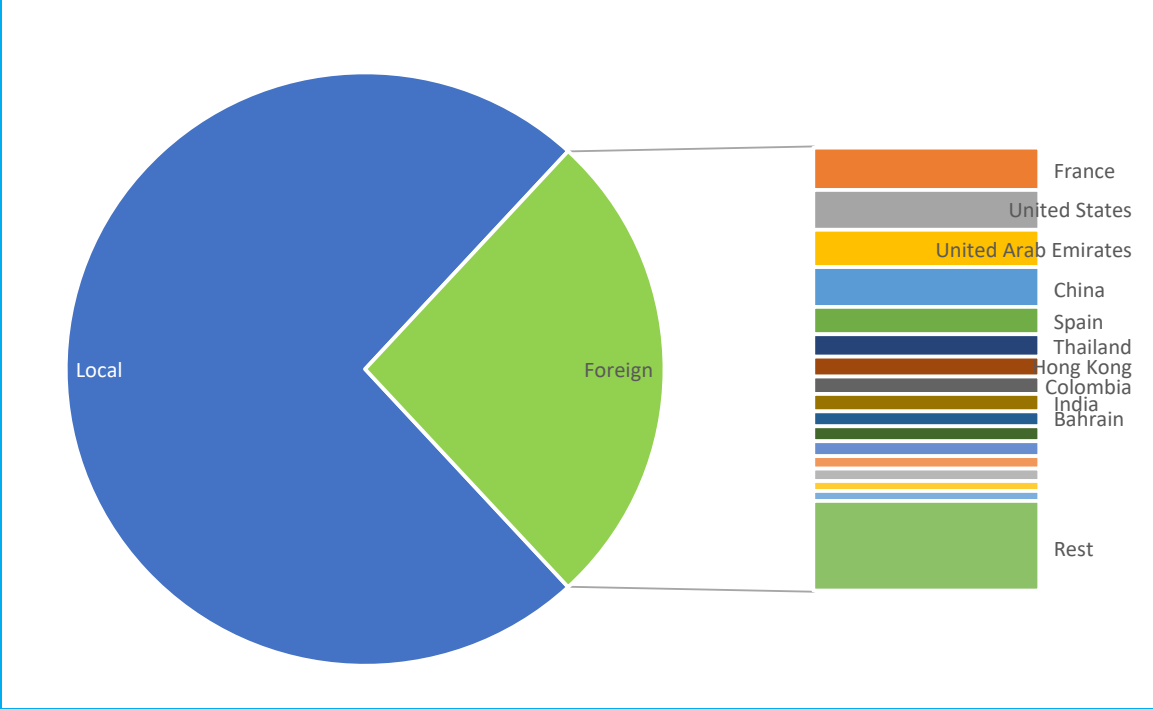


In 2023, the number of countries with PPI investment commitments increased to 68, surpassing the 54 countries reported in 2022 and the previous five-year average of 50 (2018-2022). Since the pandemic, there has been a continuous increase in the number of countries reporting PPI transactions. Notably, Guinea Bissau, Libya, Papua New Guinea, São Tomé and Príncipe, and Suriname recorded their first PPI investment transactions in more than a decade. Guinea Bissau, Libya, and Papua New Guinea, which are Fragile, Conflict-affected, and Vulnerable (FCV) countries, reported one PPI project each in 2023.

Domestic Versus Foreign Sponsors

In terms of the number of projects, 52 percent of PPI projects were primarily sponsored by foreign entities, marking an increase from the 44 percent recorded in 2022 (Please see Figure 2). In fact, this is the first time since the pandemic that foreign-sponsored PPI Projects have outnumbered the local ones. In terms of investment volume, 26 percent of the investments came from foreign sponsors, which is consistent with that of previous years. Foreign share of PPI investments is smaller (compared to foreign share by number of projects) owing to a significant portion of locally sponsored PPI projects, particularly in China, exceeded the billion-dollar mark in terms of investment volume. Excluding China, 50 percent PPI investments are from foreign sponsors.

2 Figure 2: Proportion of International to Local Sponsors in Low- and Mid-income Countries with Private Investment Commitments, 2023



The regions with the highest contribution from foreign investors in 2023 were the Middle East and North Africa (MENA) and Sub-Saharan Africa (SSA). In 2023, all 14 PPI projects in the MENA region were sponsored by foreign companies, while in SSA 83 percent of all PPI projects were sponsored by foreign companies. Conversely, East Asia and Pacific (EAP) and Latin America and the Caribbean (LAC) were the

regions with most projects being sponsored by local companies. In EAP, only one-fourth of its PPI projects were sponsored by foreign companies, while in LAC, the figure stood at 41 percent.

ICT and energy are the sectors with the highest number of PPI projects being sponsored by foreign entities. On the other hand, the municipal solid waste sector and water sector predominantly have local sponsors. This is likely due to the local nature of these services and the necessity for specific regional knowledge, which local firms can more readily provide.

There are a few countries where locally sponsored projects far outnumbered those sponsored by foreign companies. These countries include Brazil, India, the Philippines, and China.

Amongst foreign sponsors of PPI projects, France was the leading country, sponsoring the largest volume of projects with a total investment of \$2.1 billion across 14 projects. It was followed by the United States, with investments amounting to \$2.0 billion across 14 projects, and the United Arab Emirates (UAE), with \$1.9 billion invested across 10 projects. SUEZ/Engie from France undertook several large water and energy projects in the MENA region, while EDF Energies Nouvelles was prominent in power generation projects in SSA. From the UAE, Masdar sponsored several significant power projects in Uzbekistan, whereas DP World, an Emirati multinational logistics company, financed port projects in Tanzania and India. In the LAC region, US-based companies like Atlas Renewable Energy and New Fortress Energy were particularly active in the energy sector.

Geographic Spread and Trends

PPI investments declined in most regions, with the notable exceptions of the Middle East and North Africa (MENA) and East Asia and Pacific (EAP). MENA with \$2.9 billion continued its growth trajectory, with PPI investment levels almost doubling from 2022 levels at \$1.4 billion. EAP region returned to pre-pandemic levels of investment after a three-year lag as the region recovered from the effects of the pandemic. In Sub-Saharan Africa (SSA), at \$3.5 billion, there was a 24 percent of decline from \$4.5 billion in 2022: Western and Central Africa (AFW) reported a slight drop of 36 percent, while Eastern and Southern Africa (AFE) maintained its investment levels. Meanwhile, Europe and Central Asia (ECA) with investment commitments of \$4.1 billion continued to underperform in comparison to pre-pandemic but saw an increase in investment levels from \$4.0 billion in 2022. Investment levels in South Asia (SAR) declined to \$8.3 billion from \$13.7 billion in 2022.

As a percentage of regional GDP, LAC remained the highest in PPI investment in 2023 at 0.3 percent (See Table 1) but experienced a sharp 42 percent drop at \$15.8 billion compared to the previous year of \$24.3 billion. Meanwhile, EAP reported higher levels of investment commitments at \$51.4 billion than in 2022 at \$43.4 billion, coming in at 0.24 percent. SAR reported PPI investment of 0.19 percent of GDP in 2023, while MENA increased investment levels to 0.17 percent of regional GDP. ECA had the lowest levels of PPI investments as a percentage of GDP at 0.10 percent.

1

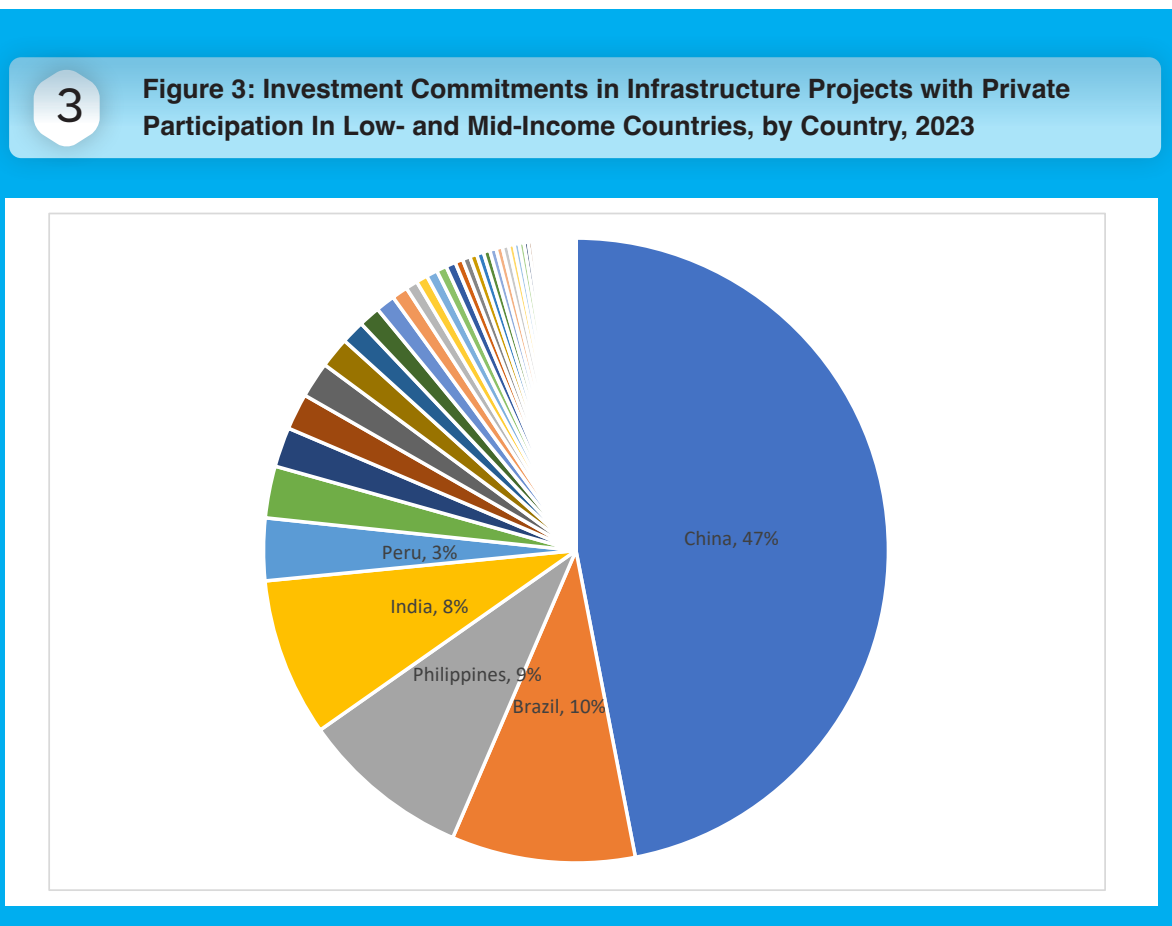
Table 1: Regional PPI (2023) in Terms of Regional GDP (Excluding High-income), 2023

Region	PPI (\$, millions)	Number of Projects	PPI/GDP
East Asia and the Pacific	51,445.17	73	0.24%
Europe and Central Asia	4,139.49	35	0.10%
Latin America and the Caribbean	15,809.68	102	0.30%
Middle East and North Africa	2,888.39	14	0.17%
South Asia	8,258.91	32	0.19%
Sub-Saharan Africa	3,465.26	66	0.17%

In absolute terms, China, Brazil, the Philippines, India, and Peru received the largest PPI investments in 2023. These five countries together attracted \$66.0 billion, capturing almost 77 percent of global PPI investment (See Figure 3).

Brazil, China, and India have consistently been among the top five PPI countries for decades. Together, these countries account for 57 percent of the total PPI over the past five years (2019-2023). Excluding these three countries, private investment commitments were recorded at \$30.4 billion in 2023. This marks a 17 percent increase from 2022 but a 22 percent decrease from the five-year average.

The five countries with the highest levels of investment in 2023 as a percentage of national GDP were: Cabo Verde, with 7.4 percent of its GDP committed to PPI investments; Lao People’s Democratic Republic (Lao PDR), with 6.2 percent and Bosnia and Herzegovina with 2.0 percent.



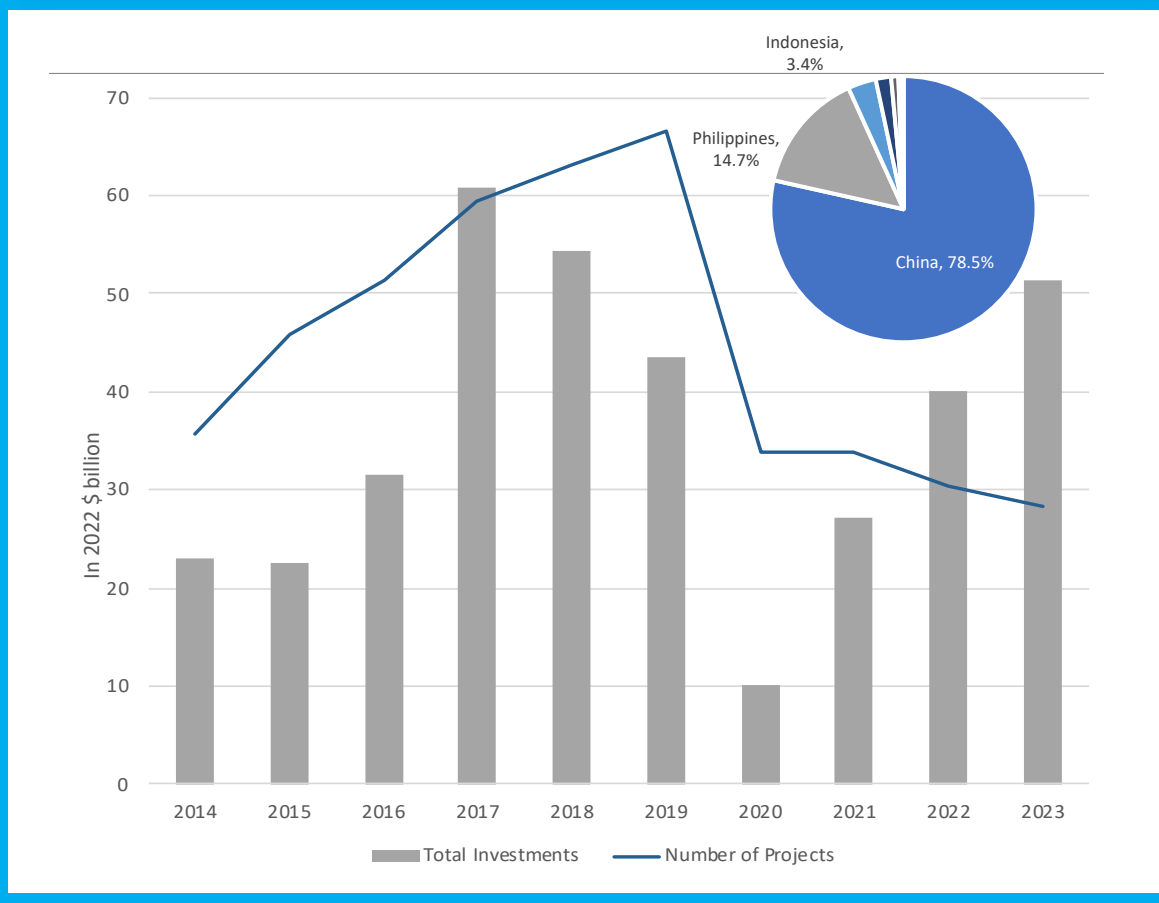
East Asia and the Pacific (EAP)

In 2023, EAP region received a total of \$51.4 billion in investments across 73 projects, representing an increase of 28 percent from 2022 levels and marking a healthy recovery from 2020 and 2021, when investment levels were particularly low. The recovery from pre-pandemic investment levels continued, with amounts reaching 47 percent higher than

the previous five-year average (2018-2022) of \$35.1 billion. However, the number of projects in the region remains at its lowest in the past decade. In EAP, there were four projects whose sizes were larger than four billion US dollars. This led to an increased average project size compared to previous years for EAP.

The high investment commitments in China were the main driver behind the region’s recovery. China received \$40.4 billion in PPI investment commitments, 95 percent of which were channeled across 24 energy projects. The Philippines reported the second-highest PPI commitments in the EAP region. PPI investments in the Philippines were fairly evenly distributed across all PPI sectors, with the ICT sector receiving the highest amount. Lao PDR also closed a notable cross-border project: the 600 MW Monsoon Wind Power Project with, an associated 500-kilovolt substation, and a 500-kilovolt transmission line. The generated electricity is expected to be sold to Vietnam Electricity (EVN).

4 **Figure 4: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in EAP, 2014-2023, and PPI Shares by Country in 2023**



Other countries with PPI investments in the region include Indonesia, Cambodia, Thailand, Malaysia, Vietnam, and Papua New Guinea (See Table 2).

2

Table 2: Investment Commitments and Number of Infrastructure Projects with Private Participation in EAP by Countries, 2023

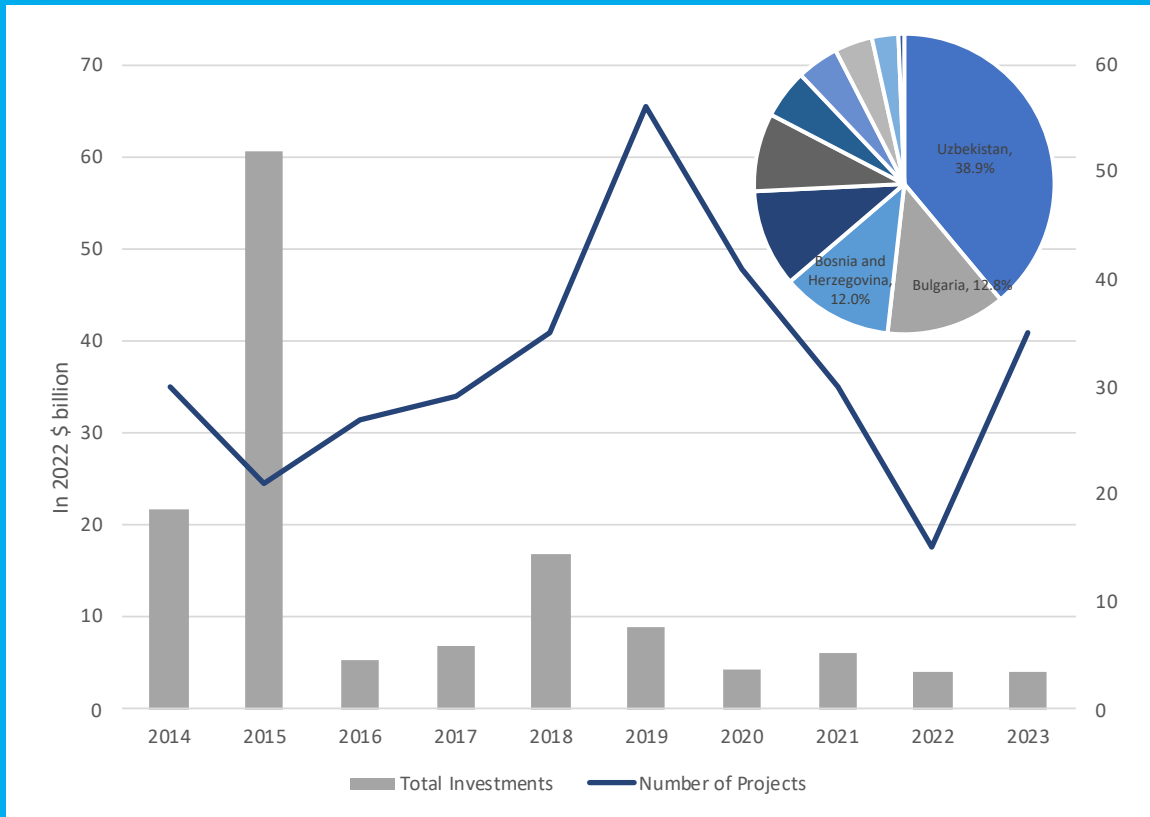
Country	PPI investments in 2023	Number of Projects
China	40,383	37
Philippines	7,574	17
Indonesia	1,762	8
Lao PDR	959	1
Cambodia	450	2
Malaysia	131	3
Vietnam	95	2
Thailand	90	2
Papua New Guinea	1	1
Total	51,445	73

Europe and Central Asia (ECA)

In 2023, the ECA region saw investment commitments of \$4.1 billion across 35 projects, a four percent increase from \$4.0 billion of 2022. However, it is still a 48 percent decrease from the past five-year average. The number of projects more than doubled from 15 in 2022 to 35 in 2023.

5

Figure 5: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in ECA, 2014-2023, and PPI Shares by Country in 2023



Uzbekistan led investments in the ECA region with \$1.6 billion across six projects, the largest project being the Andijan solar PV plant, valued at \$400 million. Of the six projects that achieved financial closure in the country, all had foreign sponsors. The majority were sponsored by the United Arab Emirates, while Saudi Arabia and China each sponsored one project. Bulgaria was the second-largest contributor to the region's investment commitments, with \$532 million invested across 13 projects. Eight of these 13 projects were in the municipal solid waste sector.

Other ECA countries with PPI transactions were Albania, Armenia, Azerbaijan, Bosnia and Herzegovina, Kazakhstan, Kyrgyz Republic, Serbia, and Türkiye (See Table 3). Russia and Ukraine continued to not report any PPI investment commitments for two years.

3

Table 3: Investment Commitments and Number of Infrastructure Projects with Private Participation in ECA, 2023

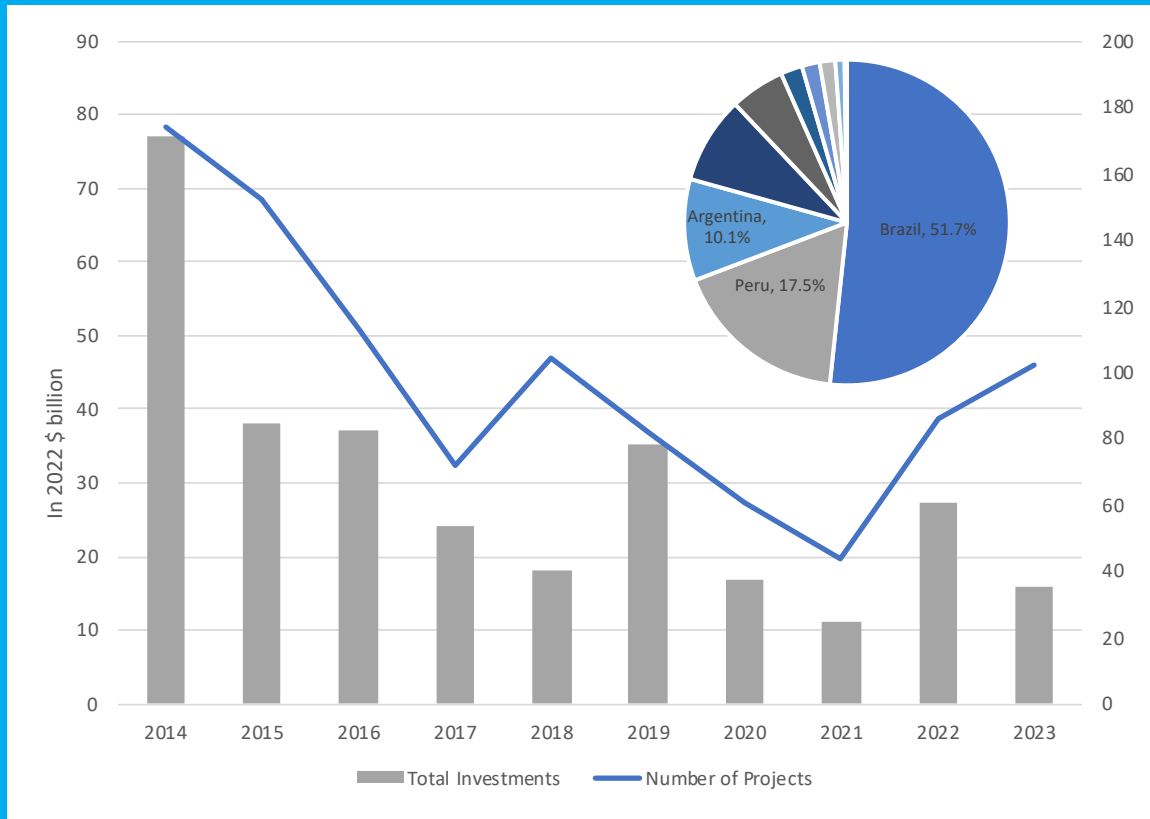
Country	PPI investments in 2023	Number of Projects
Uzbekistan	1,612	6
Bulgaria	532	13
Bosnia and Herzegovina	495	2
Türkiye	434	4
Azerbaijan	348	1
Kazakhstan	219	4
Albania	187	2
Serbia	169	1
Kyrgyz Republic	118	1
Armenia	26	1
Total	4,139	35

Latin America and the Caribbean (LAC)

In 2023, the LAC region recorded \$15.8 billion across 102 projects, marking a 43 percent drop in investment levels from 2022 and a 27 percent drop from the past five-year average. This decrease is significant, with the investment levels mirroring those seen during the pandemic years of 2020 and 2021, which were \$17.0 billion and \$11.1 billion, respectively. This reduction was largely due to a substantial decrease in private investment in Brazil and Mexico. Brazil reported only a third of the investment commitments compared to 2022, with \$8.2 billion across 50 projects. Despite this, Brazil ranked second globally, contributing 9.5 percent to total investment commitments in 2023 and accounting for 52 percent of the LAC region's total investment commitments. Peru was the second largest contributor to the region's investment commitments, with \$2.7 billion invested across 12 projects. Nine of these twelve projects were in the energy sector and, two were in ICT, and one was in the water sector.

6

Figure 6: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in LAC, 2014-2023, and PPI Shares by Country in 2023



Traditionally a key player in the region, Mexico reported investment commitments of only \$245 million across four projects in 2023. Despite several government initiatives aimed at attracting private sector investments, especially in the energy sector, the uptake has been slow. In 2023, Mexico announced just one energy project: a \$14 million expansion of a solar plant. The combination of policy uncertainty and project delays continues to pose significant challenges for private sector investment in Mexico's infrastructure.

4

Table 4: Investment Commitments and Number of Infrastructure Projects with Private Participation in LAC, 2023

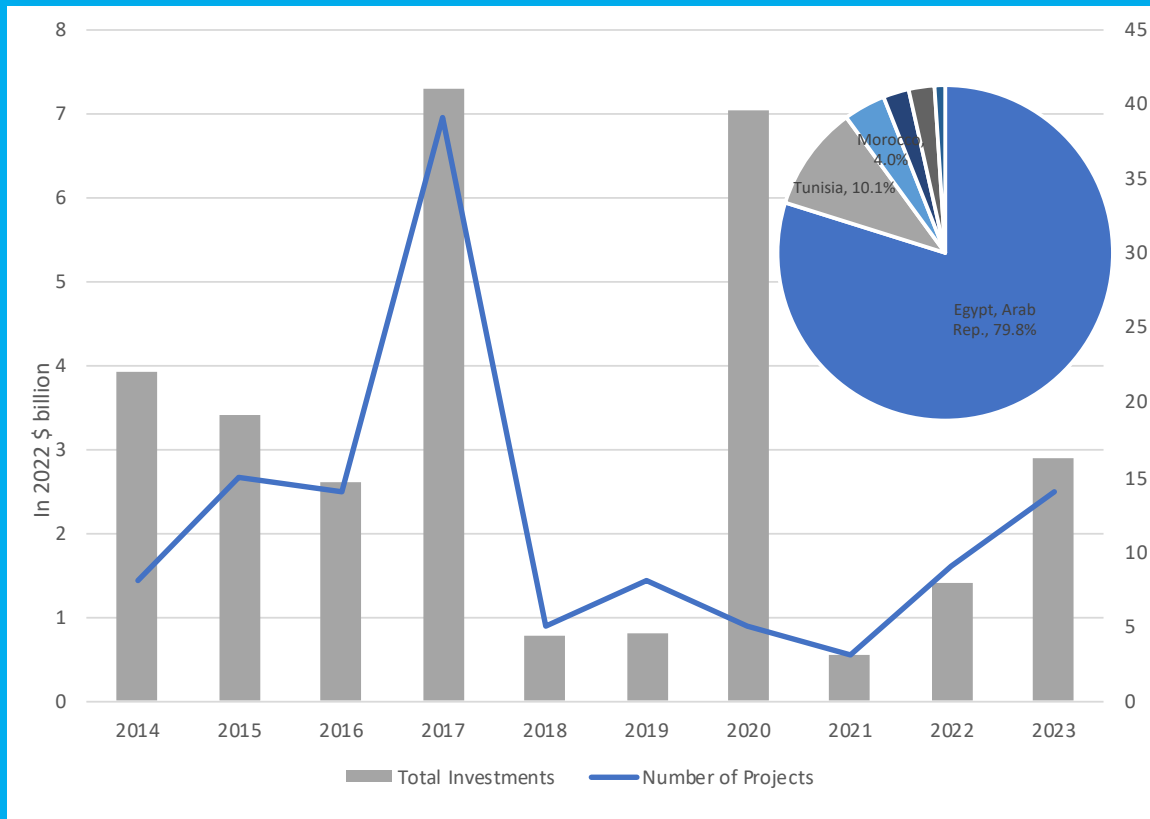
Country	PPI investments in 2023	Number of Projects
Brazil	8,171	50
Peru	2,773	12
Argentina	1,595	7
Colombia	1,365	9
Dominican Republic	858	11
Ecuador	341	3
Honduras	280	1
Mexico	245	4
Paraguay	145	2
Suriname	15	1
Nicaragua	13	1
Guatemala	10	1
Total	15,810	102

Middle East and North Africa (MENA)

In 2023, PPI investments in the MENA reached \$2.9 billion, marking a significant increase of 104 percent from the 2022 level of \$1.4 billion. It is also a 37 percent increase from the past five-year average (\$2.1 billion). Additionally, this year witnessed the highest number of projects reaching financial closure since 2017, with 14 projects reaching financial close.

7

Figure 7: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in MENA, 2014-2023, and PPI Shares by Country in 2023



Egypt was the largest contributor to the region's investment commitments, accounting for 80 percent of the total with \$2.3 billion invested across six projects. This is substantially higher than investment commitments in the last two years but Egypt saw investment levels of \$5.7 billion in 2020. The largest project in Egypt in 2023 was the development of the Ain Sokhna Port and the Port of Alexandria, valued at \$700 million.

Tunisia saw the financial closure of two investments valued at \$292 million. The largest among them was the Tunisia National Sanitation project, worth \$220 million. Other countries in the region, including Algeria, Djibouti, Libya, and Morocco, also received PPI investments (See Table 5).

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Table 5: Investment Commitments and Number of Infrastructure Projects with Private Participation in MENA, 2023

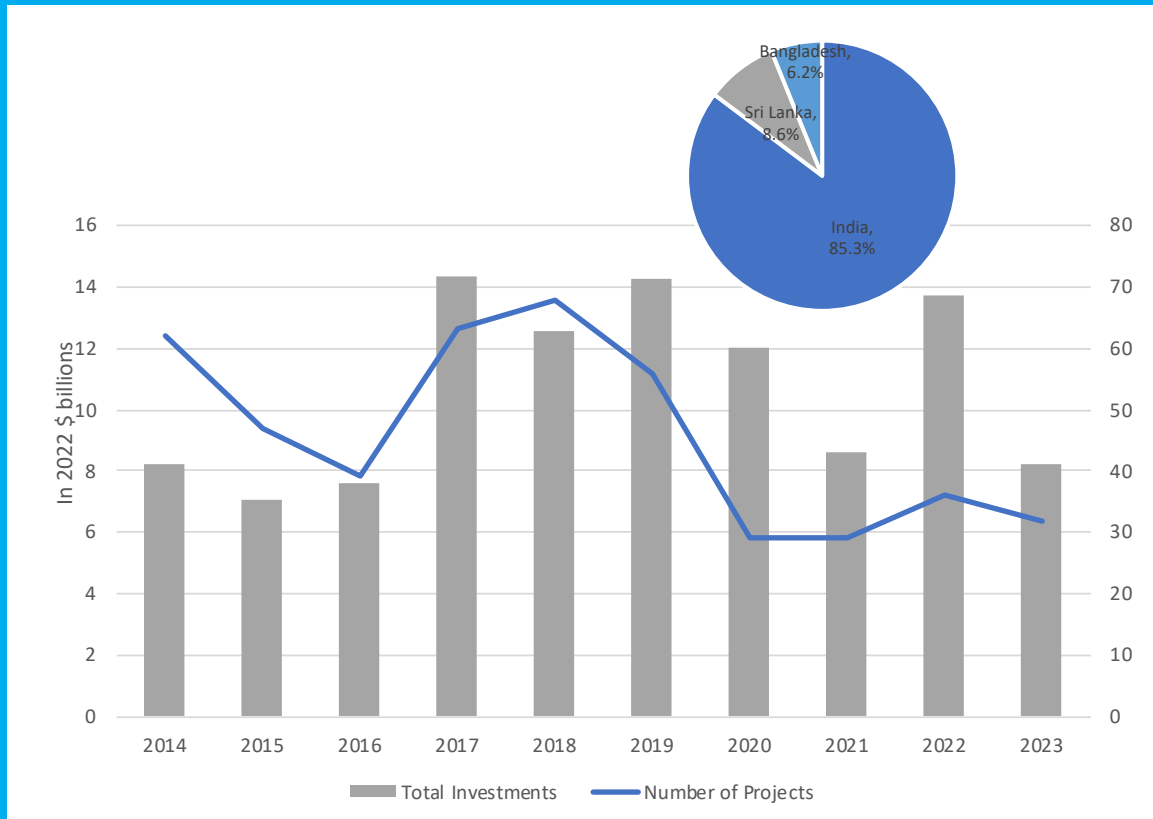
Country	PPI investments in 2023	Number of Projects
Egypt, Arab Rep.	2,306	6
Tunisia	292	2
Morocco	117	2
Algeria	72	1
Libya	72	1
Djibouti	30	2
Total	2,888	14

South Asia (SAR)

In 2023, SAR received \$8.3 billion in investment commitments for 32 private infrastructure projects, a drop of 40 percent from \$13.7 billion last year and a drop of 32 percent from the past five-year average at \$12.2 billion. The decline cannot be attributed to one specific country; rather, the region as a whole saw declines in PPI investments, with the exception of Sri Lanka. In South Asia, the largest investments were made in the energy sector, totaling \$5.3 billion—a departure from last year, where the roads sub-sector claimed the majority of investment commitments.

8

Figure 8: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in SAR, 2014-2023, and PPI Shares by Country in 2023



Eighty-five percent of SAR's PPI investments were in India. The country experienced a significant surge in PPI investments in 2022, reaching the highest level of investment seen in the past decade. However, in 2023 India saw a decline, with investment levels dropping to \$7.0 billion compared to \$11.8 billion the previous year, largely due to a decrease in road projects. In 2023, although investment levels were lower, the number of projects remained relatively stable, with 27 projects achieving financial closure. This compares to 29 in 2022 and 34 of past five-year average.

Excluding India, the South Asia region saw investment commitments only in Bangladesh and Sri Lanka, with investment amounts of \$508.6 million and \$708.8 million, respectively.

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Table 6: Investment Commitments and Number of Infrastructure Projects with Private Participation in SAR, 2023

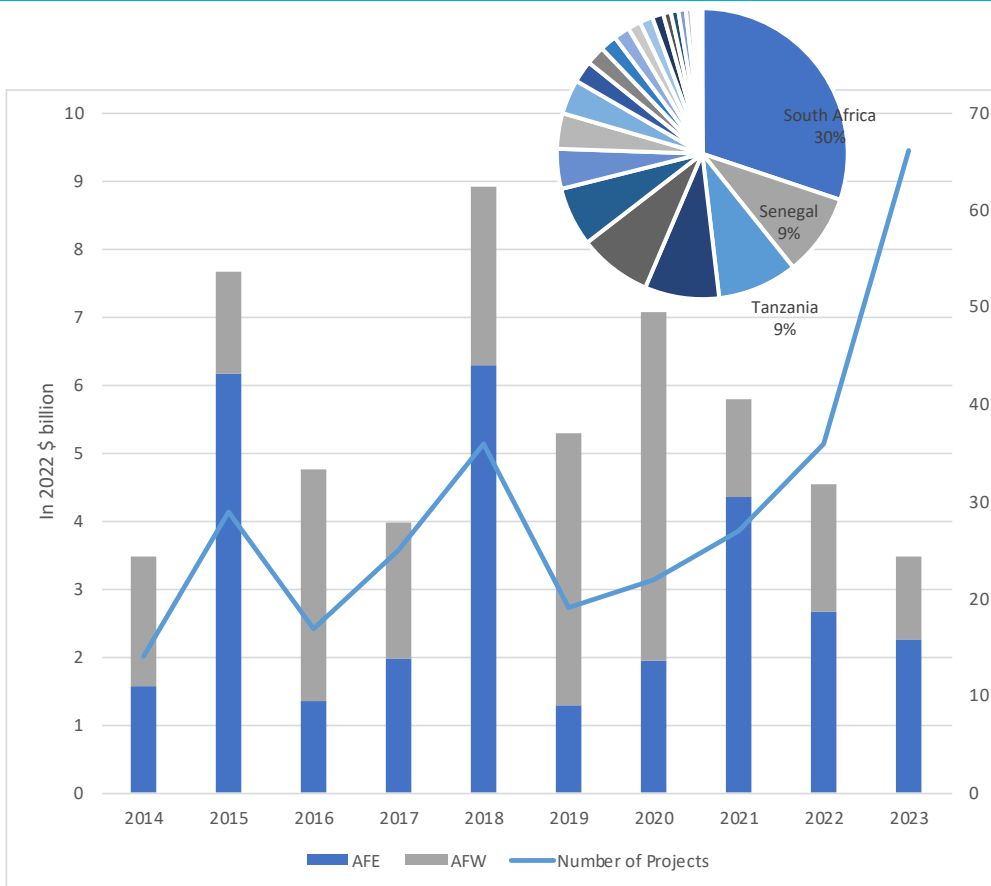
Country	PPI investments in 2023	Number of Projects
India	7,042	27
Sri Lanka	709	2
Bangladesh	509	3
Total	8,259	32

Sub-Saharan Africa (SSA)

In 2023, SSA saw investments in 66 projects totaling \$3.5 billion. This marked a 24 percent decrease from the investment levels of the previous year and a 46 percent decrease from the past five-year average. The largest contributor to the region's PPI was South Africa, responsible for 30 percent of the regional PPI, followed by Senegal and Tanzania. The sector receiving the largest share of PPI was energy, followed by ICT sector.

9

Figure 9: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in SSA Countries, 2014-2023



Africa Eastern and Southern (AFE) reported investment commitments of \$2.3 billion across 45 projects. While investment levels remained stable from the previous year, the number of projects reaching financial closure more than doubled to 45 in 2023. South Africa reported 11 projects, amounting to just over \$1.0 billion in investment commitments and nearly a half of the regional investment commitments. 15 other countries posted investment commitments in the region, including, but not limited to, Tanzania, the Democratic Republic of Congo, Ethiopia, and Uganda. The region also witnessed several cross-border ICT investment closures this year, showcasing its growth and development.

The Africa Western and Central (AFW) region reported investment commitments of \$1.2 billion across 21 projects in 2023. In the region, Senegal reported the highest level of investment commitments, accounting for almost 27 percent of the total investment

commitments in the region, with five projects worth \$316 million. Notably, four out of these five projects were in the energy sector.

Other countries reporting investment commitments in the region include Guinea, Cabo Verde, Ghana, Nigeria, Côte d'Ivoire, Cameroon, Chad, Guinea-Bissau, Benin, Gabon, and Sierra Leone. The largest project in the region was the expansion of the Orange Guinea Conakry (OGC) and OFMG network (an ICT project) in Guinea at \$227.4 million

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Table 7: Investment Commitments and Number of Infrastructure Projects with Private Participation in SSA, 2023

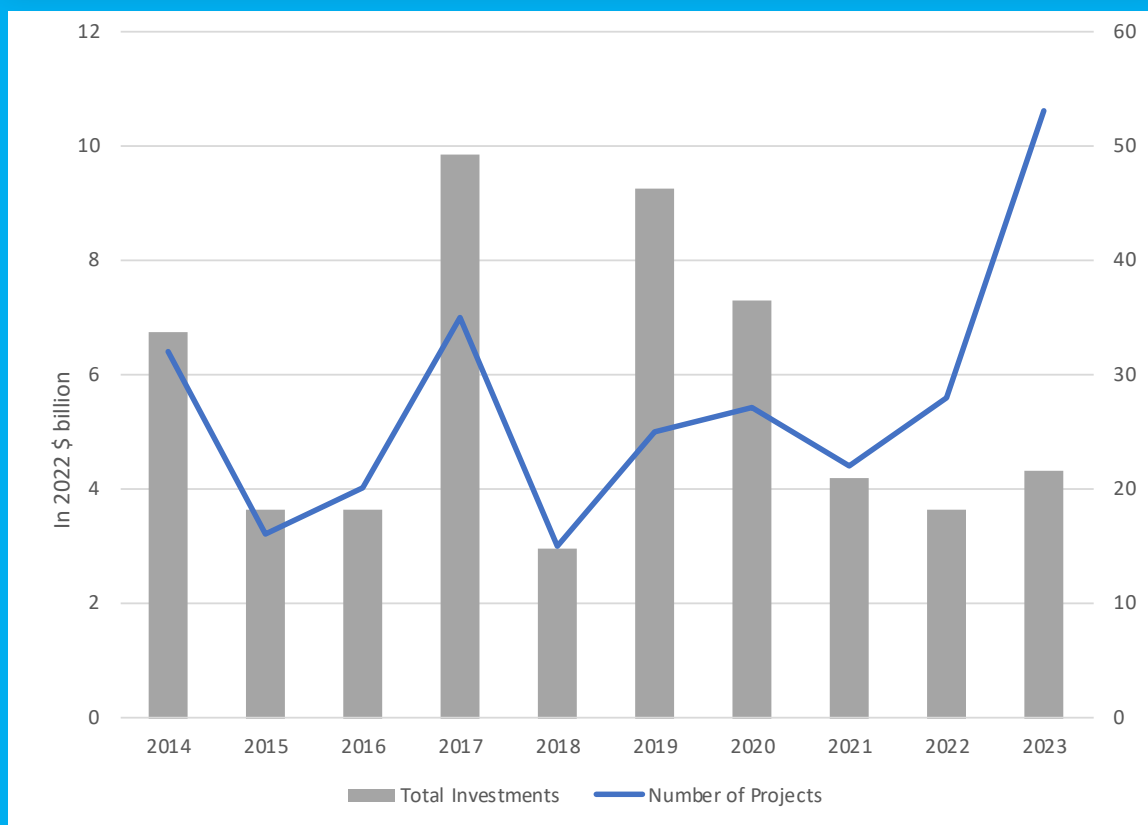
Country	PPI investments in 2023	Number of Projects
South Africa	1,044	11
Senegal	316	5
Tanzania	308	5
Congo, Dem. Rep.	287	4
Ethiopia	282	2
Guinea	227	1
Cabo Verde	154	2
Ghana	137	1
Nigeria	133	3
Cote d'Ivoire	84	2
Uganda	73	3
Botswana	64	2
Mozambique	62	4
Cameroon	50	1
Chad	50	1
Rwanda	43	3
Kenya	30	1
Guinea-Bissau	29	1
Angola	29	2
Madagascar	22	2
Zambia	12	2
Benin	10	2
Somalia	6	1
Namibia	4	1
Gabon	4	1
Sao Tome and Principe	4	1
Sierra Leone	1	1
Burundi	1	1
Total	3,465	66

Investments in International Development Association (IDA) Countries

Twenty-six IDA countries, compared to eighteen in 2022, received investment commitments amounting to \$4.3 billion across 53 projects in 2023. This represented an 18 percent increase in investment levels compared to last year but a 21 percent decrease from the past five-year average.

10

Figure 10: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries in IDA Countries, 2014-2023



Among these IDA countries, Lao PDR recorded the highest level of investment commitments at \$959 million for a single project: Monsoon Wind Farm project. Notably, Bangladesh which recorded the second highest level of PPI investments amongst IDA countries has managed to sustain PPI investment commitments every year since 2005. While Lao PDR and Bangladesh led the charge in terms of investment value, Tanzania and Senegal had the highest number of PPI projects in an IDA country at five projects each. Most of these projects were in the energy or ICT sector.

Furthermore, it is worth noting that thirty-four out of the fifty-three projects or 64 percent received some type of DEFI support, reaffirming the importance of such backing in IDA countries.

Sector Trends

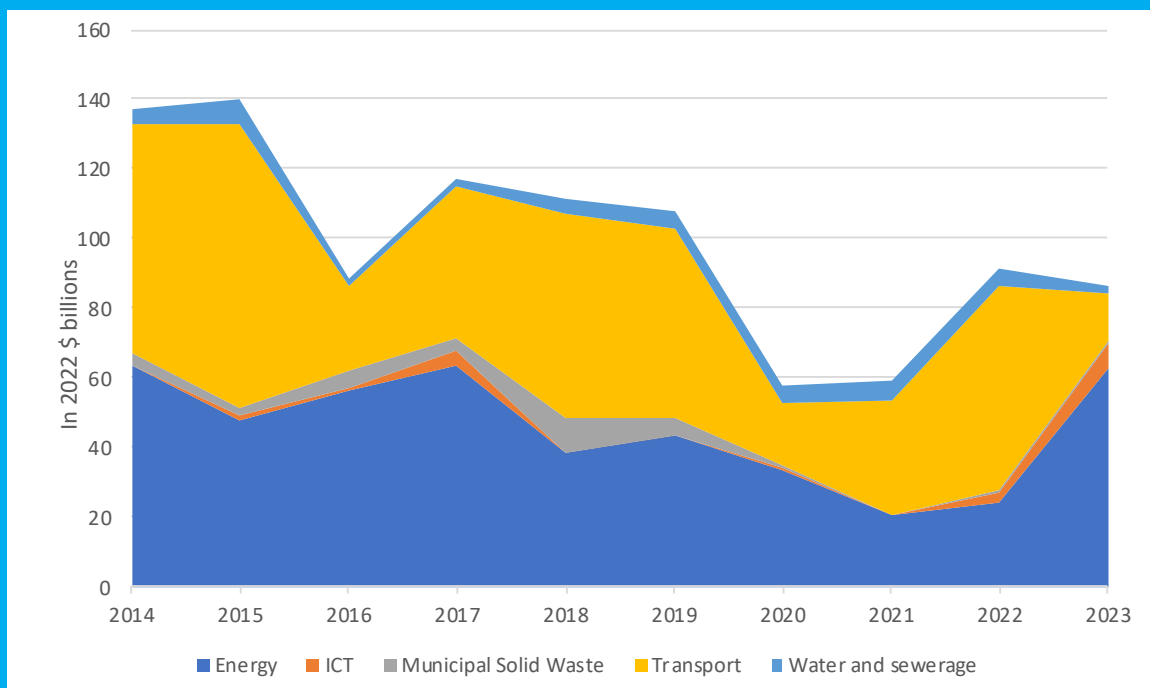
In a significant shift, energy sector investments outpaced transport investments in 2023, reaching \$62.4 billion across 187 projects. In contrast, last year the energy sector secured only \$24.4 billion in investment commitments across 129 projects. Such high investment levels in the energy sector have not been reported since 2017, after which the transport sector had largely dominated PPI investments globally.

Transport accounted for \$13.8 billion in investment commitments across 46 projects in 2023, compared to \$58.5 billion across 83 projects in 2022. This amount is less than a quarter of the investment levels committed and half of the projects that achieved financial closure last year. The surge in PPI investment in the transport sector in 2022 can be attributed to a series of large road public-private partnership (PPP) projects in China and India. However, this trend did not continue into 2023, with only four projects in China and 10 projects in India reaching financial closure. The countries reported investment commitments of \$1.7 billion and \$1.6 billion respectively compared to \$28.4 billion and \$9.3 billion in 2022.

The water and sewerage sector saw investment commitments of \$1.8 billion across 19 projects compared to \$5.3 billion across 27 projects in 2022. Municipal solid waste sector investments were recorded at \$146 million across 11 projects, marking a sharp decline 81 percent from the 2022 investment levels. Lastly, investments in ICT sector surged to a record \$7.8 billion across 52 projects, compared to \$2.4 billion across 12 projects in 2022.

11

Figure 11: Investment Commitments in Infrastructure Projects with Private Participation in Low- and Middle-Income Countries by Sector, 2014-2023





Energy

In 2023, the energy sector accounted for almost three quarters (73 percent) of the total global PPI investments, totaling \$62.4 billion across 187 projects compared to \$24.4 billion across 129 projects. This marks a return to pre-pandemic infrastructure investment levels and represents an almost threefold increase in energy investment levels from 2022. The majority of this increase occurred in EAP region, where investments surged tenfold from \$4.2 billion in 2022 to \$42.3 billion in 2023.

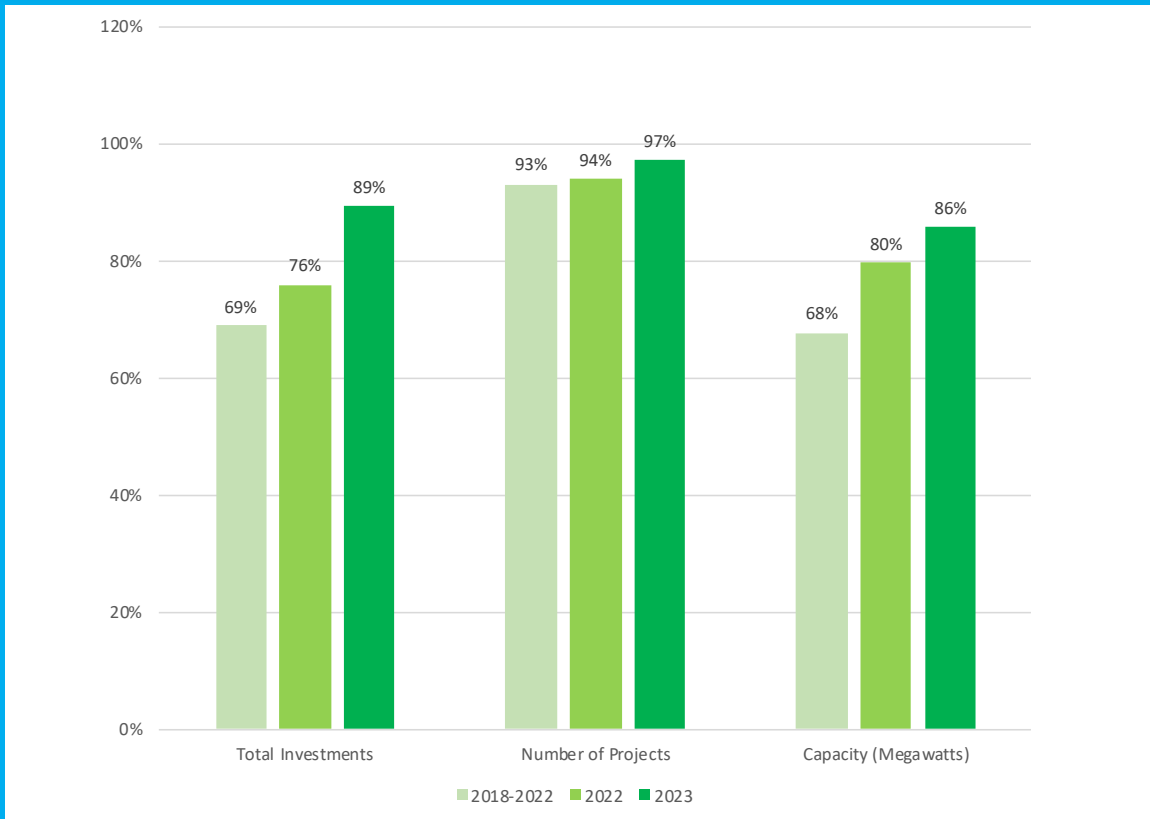
In 2023, the vast majority (98 percent) of energy projects were focused on electricity. Eighty percent of this involved power generation, while 17 percent dedicated to transmission, and the remaining two percent allocated to distribution. Natural gas saw investment commitments of \$843 million across three projects.

Electricity Generation

PPI investments in the energy sector are increasingly focusing on environmentally sustainable options. In terms of the number of projects, 97 percent of electricity generation projects were renewable in 2023, compared to 93 percent for the previous five-year average. This is equivalent to 89 percent as measured by total investment, substantially up from 69 percent for the previous five-year average (2018-2022). In terms of added capacity, 86 percent of new energy generation projects in 2023 were renewable, compared to an average of 68 percent over the previous five years. (See Figure 12)

12

Figure 12: Share of Electricity Generation Projects in Low- and Middle-Income Countries that Use Renewable Resources, by PPI Investment Volume, Number of Projects, New Capacity, Five-Year Average (2018-2022), 2022, and 2023

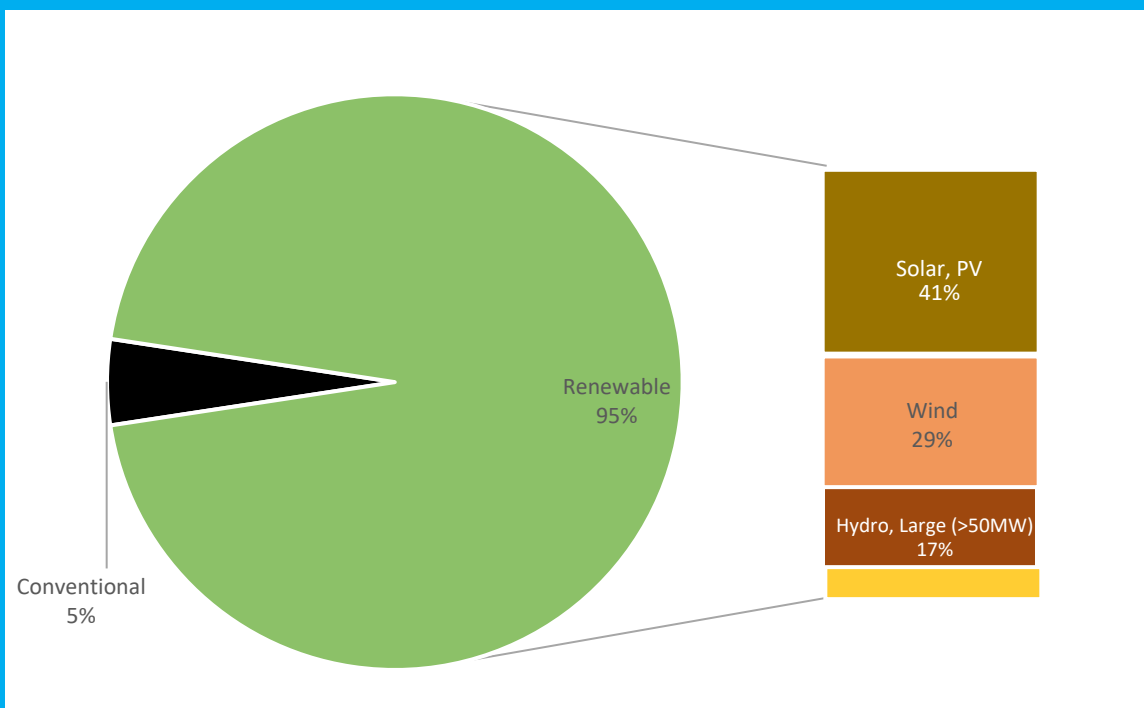


At the country level, almost all countries reported 100 percent of their investments in renewable energy, with the notable exceptions of Senegal, and Armenia. Senegal had four power generation projects in 2023, one of which used a diesel generator, while Armenia had one power generation project utilizing natural gas.

Solar PV technology constituted 41 percent of all power generation capacity in low- and middle-income countries. Following solar power, wind technology emerged as a cost-effective and reliable source of renewable energy, accounting for 29 percent of all energy investments.

13

Figure 13: Energy Mix of New PPI Power Generation Projects, 2023



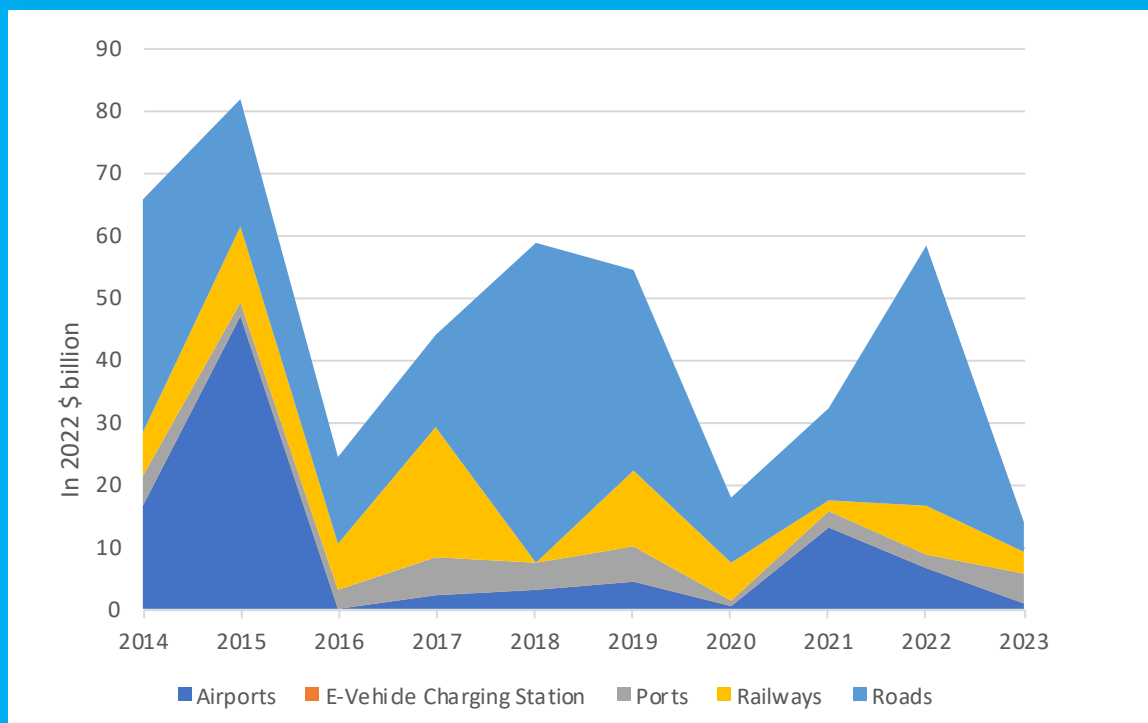


Transport

PPI investments in the transport sector reached their lowest level in the last two decades. Totalling \$13.8 billion across 46 projects, investment commitments in the transport sector accounted for only 16 percent of total PPI investments. While international travel resumed post-pandemic, leading to a sharp increase in transport investment in 2022, transport investments in 2023 were even lower than those during the pandemic years where transport investments had naturally slowed down due to movement restrictions. The sharp drop is mainly driven by a slowdown in road investments in China and India.

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Figure 14: Investment Commitments in Transport Infrastructure Projects with Private Participation in Low- and Middle-Income Countries by Sub-Sector, 2014-2023



Roads

In 2023, global investment levels in transportation dropped substantially to \$4.5 billion across 17 projects in six countries. This marks a sharp contrast with 2022, when investment levels reached \$41.8 billion across 60 projects. Both China and India, historically leading countries in road investments, reported significant decreases. China recorded road investment commitments of \$1.2 billion, compared to \$25.9 billion in 2022, while India recorded \$910 million, compared to \$6.3 billion in 2022 and the past five-year average of \$15.9 billion and \$4.3 billion, respectively.

Railways

In 2023, railway investments dropped to half of the previous year's total, amounting to \$3.4 billion across six projects in four countries. This represents a significant decrease after a spike in investment levels at \$7.8 billion in 2022, although the number of projects reaching financial closure remained consistent at six. A notable project that achieved financial closure in 2023 is the Manila Metro Rail Transit Line 7 (MRT-7) Stage 2, which accounted for the majority of railway investment for the year, totaling \$1.8 billion.

Ports

In 2023, there were 18 port projects across eleven countries that received investments worth \$4.9 billion. This is almost double of port investments in 2022 of \$2.3 billion and is higher than the previous five-year average of \$3.1 billion. The number of projects reaching financial closure also doubled from last year, standing at 18 project from nine in 2022. The LAC region had the highest private investment level for ports, at \$1.5 billion with five ports in Brazil as well as the largest one in Peru - the \$975 million Peruvian Chancay Multipurpose Terminal Phase I.

Airports

In 2023, investment commitments in airports totaled \$958 million across four projects in Brazil and China. This represents the lowest level of airport investment since 2020, when a significant decline was triggered by the decrease in international travel due to the global spread of the pandemic. The largest project was the renovation of the CCR Bloco Sul Brazilian Airports, with an investment of \$635 million.

E-Charging Stations

To underscore the importance of the climate change agenda, the PPI Database began collecting data on electric vehicle (EV) charging stations starting in 2022. In 2023, there was financial closure for one e-charging station project, amounting to \$94 million. The Eldrive charging station network involves the deployment of 10,574 electric vehicle charging stations across Bulgaria, Romania, Lithuania, and Latvia. The project was sponsored by eMobility International from Lithuania.



Water and Sanitation

Investment commitments in the Water Supply and Sanitation (WSS) sector decreased to \$1.8 billion across 19 projects in eight countries, falling to a third of the investment levels seen in 2022. Water utility projects constituted 72 percent of the total WSS investments, while water treatment projects accounted for the remaining 28 percent. Indonesia was responsible for 55 percent of the total investments in the WSS sector, with the financial closure of its largest project - the Jakarta Upstream Drinking Water Supply Systems (SPAM) - Phase 1, valued at \$790 million. Additional investment commitments in the WSS sector were made in Brazil (\$287 million, four projects), Cambodia (\$2.3 million, 1 project), China (\$286 million, 9 projects), the Philippines (\$3.7 million, 1 project), Tanzania (investment amount not available, 1 project), and Tunisia (\$220.6 million, 1 project).

Municipal Solid Waste

Investment commitments in Municipal Solid Waste (MSW) decreased to \$146 million across 11 projects in 2023 in four countries, following a peak in 2022 where investments totaled \$796 million across nine projects in six countries. The investment commitments reported for 2023 were lower than those during the pandemic years in terms of both investment amount and number of projects. The countries with investments in MSW in 2023 included Bulgaria (\$35.4 million, 8 projects), India (\$19.6 million, 1 project), Brazil (\$31.3 million, 1 project), and Indonesia (\$60 million, 1 project).



Information and Communication Technology (ICT)

Investment commitments in the ICT sector experienced an almost fourfold increase, reaching \$7.8 billion across 52 projects in 35 countries. This significant surge in the number of countries and projects is attributed to several ICT projects in 2023 that were cross-border, involving multiple countries.

Of note is the financial closure of the \$2.6 billion megaproject project in the Philippines (DITO Telecommunity Network and Portfolio Expansion). Additionally, a number of projects across SSA (\$1.2 billion, 26 projects) and LAC (\$1.4 billion, 15 projects) regions contributed to the rise in ICT projects, mostly in the areas of ICT backbone and data centers. ICT projects saw financial closure across 17 SSA countries.

Financing Trends

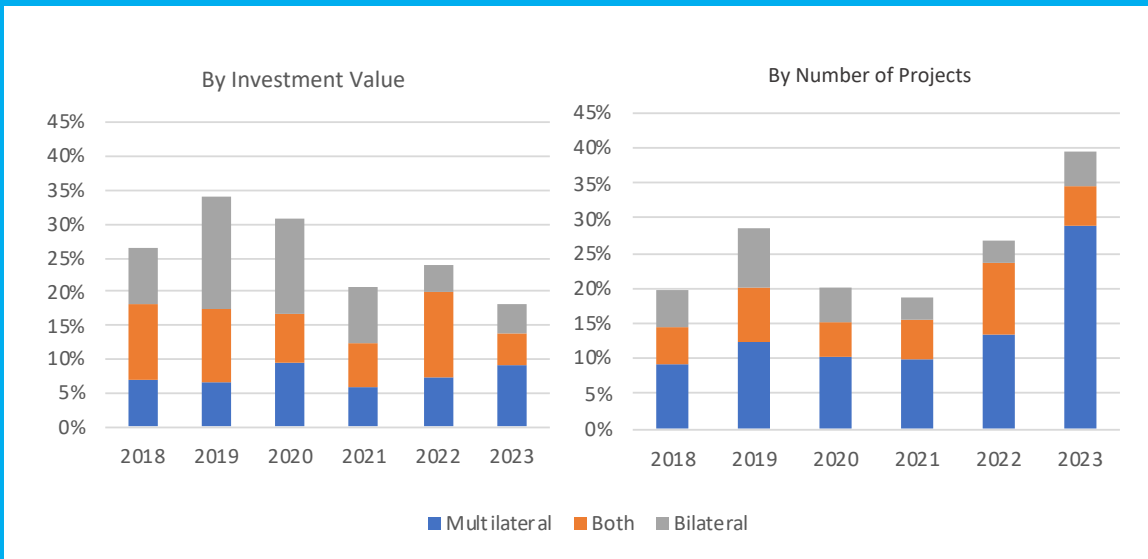
Development and Export Finance Institution (DEFI) Support³

DEFI Support

2023 saw a significant increase in DEFI participation in infrastructure projects, with 127 projects receiving some form of DEFI support. This accounted for 40 percent of all PPI projects, marking an increase from 26 percent in 2021 and 18 percent in 2022 (Figure 15). By investment value, projects with DEFI support accounted for 19 percent of total investment commitments, slightly lower compared to the previous year at 23 percent.

15

Figure 15: Share of Infrastructure Commitments with Private Participation in EMDEs that Received Support from Multilateral/Bilateral DEFIs, 2018 – 2023



As per previous years, DEFI support was predominantly focused in the energy sector, accounting for 60 percent of all projects with DEFI support. Specifically, support tended to be directed towards renewable energy projects, in line with the continued global push to reduce greenhouse gas emissions and combat climate change.

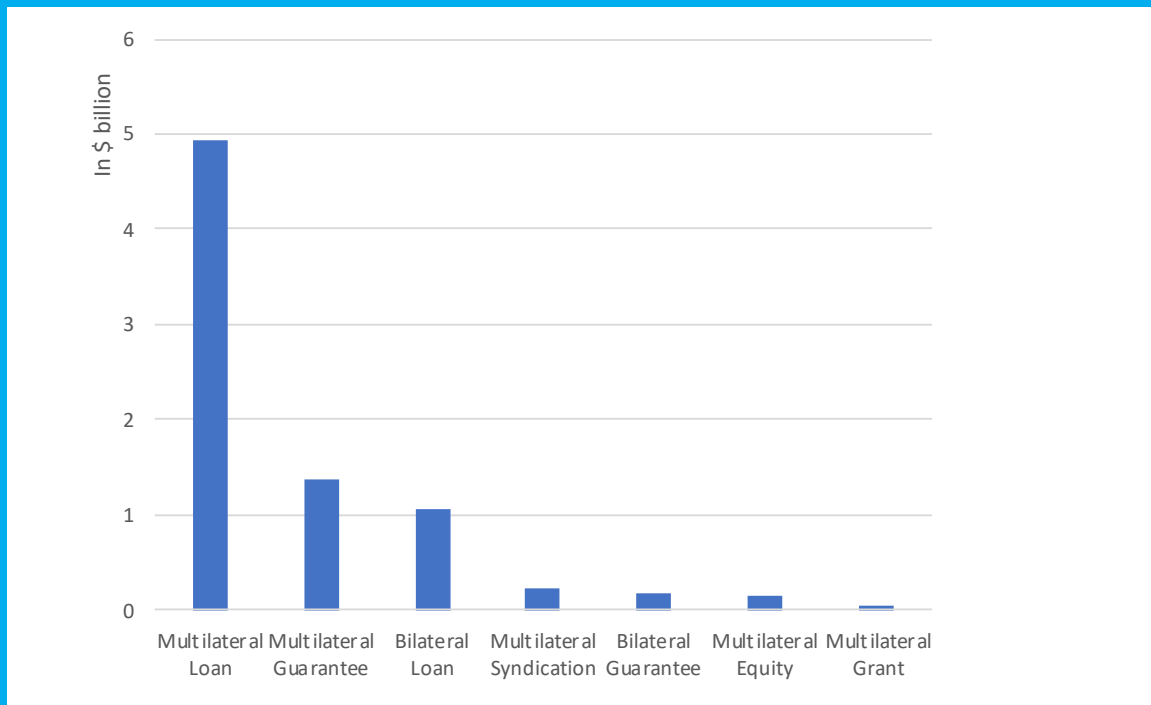
³ DEFI, for the purposes of this report, refers to multilateral institutions and bilateral agencies with a development mandate, as well as export credit agencies with a mandate to support domestic businesses in pursuing investments abroad. In this report, the term bilaterals will include bilateral institutions as well as export credit agencies.

Adding a regional perspective, SSA stands out as the region with the largest number of transactions supported by DEFI, totaling 29 transactions. DEFI's also continued to play a crucial role in stimulating investment across different income levels, particularly in low- and middle-income countries. The support from DEFI was highest in the lower- middle-income group, with 51 projects out of 102 projects. However, by proportion, low-income countries had the highest share of projects with DEFI support, where 28 of its 31 projects received some form of support from DEFIs.

DEFIs provided direct debt support of \$6.0 billion in 2023. Of this, 18 percent (\$1.1 billion) was provided by bilateral institutions to 19 projects. Multilateral institutions provided \$4.9 billion in direct loans to 60 projects. Other forms of DEFI support in 2022 include guarantees (\$1.6 billion), syndications (\$242 million), equity investments (\$158 million), and grants (\$54 million) (See Figure 16).

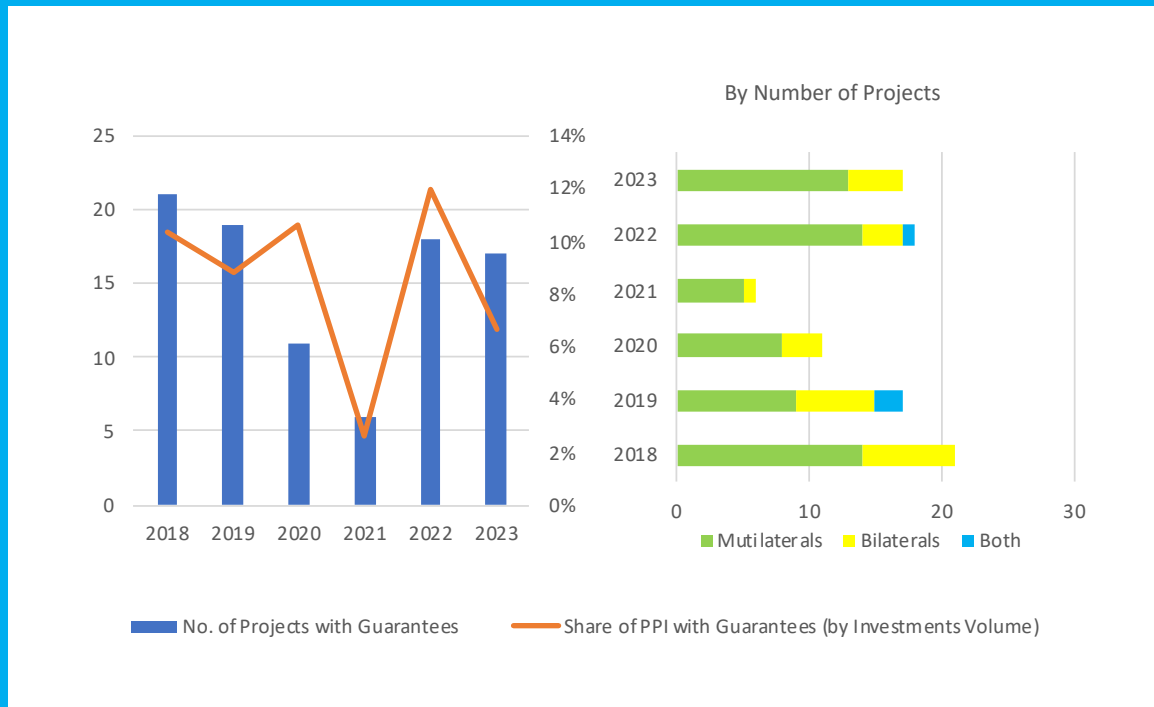
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Figure 16: DEFI investment commitments in PPI by Type, 2023



17

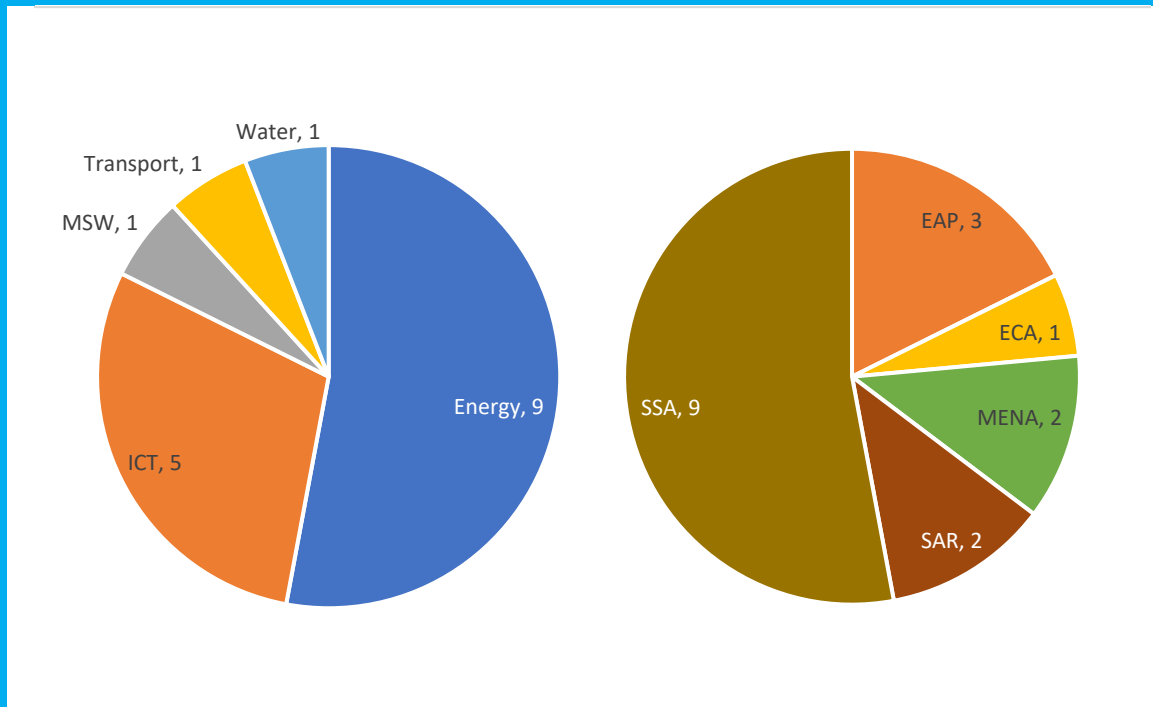
Figure 17: Projects with Private Investment Commitments Involving Guarantees in EMDEs, 2018-2023



In 2023, 17 projects across various sectors received support in the form of guarantees or insurance from DEFI. The lion’s share of this support was directed towards energy projects. Regionally, out of seventeen projects that received guarantees or insurance from DEFI, nine were notably situated within SSA. Countries within Sub-Saharan Africa that benefited from these guarantees include Botswana, Chad, Ethiopia, Guinea, Guinea-Bissau, Madagascar, Rwanda, South Africa, and Uganda.

⁴ 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.

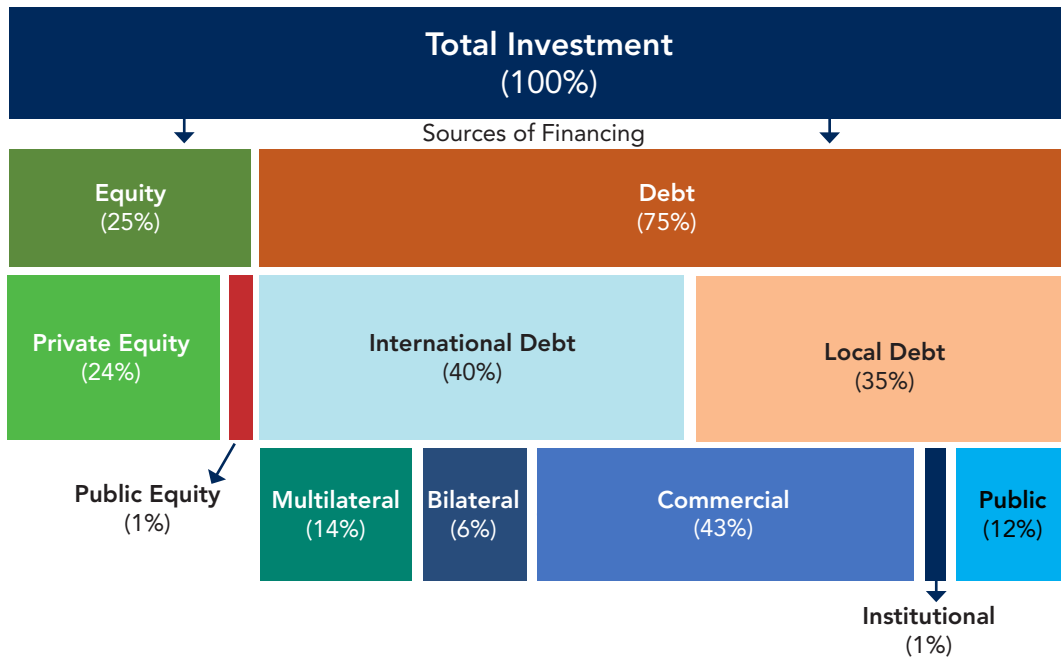
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Figure 18: Sectoral and Regional Distribution of 17 PPI Projects with Guarantees, 2023

The World Bank Group provided guarantee support for 10 projects. The majority of these initiatives were supported through the IFC's risk management programs. Additionally, MIGA supported four PPI projects across SSA in Rwanda, Guinea, Guinea-Bissau, and Ethiopia.

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Figure 19: Sources of Financing for Infrastructure Projects with Private Participation in EMDEs in 2023



* All figures as a percentage of total investment

Source: PPI Database, World Bank, as of January 2024.

In 2023, detailed financing information was available for close to 60 percent of projects (136 projects), amounting to 62 percent of PPI projects by investment value (\$28.3 billion out of \$45.6 billion). All information in this section is based on these projects.

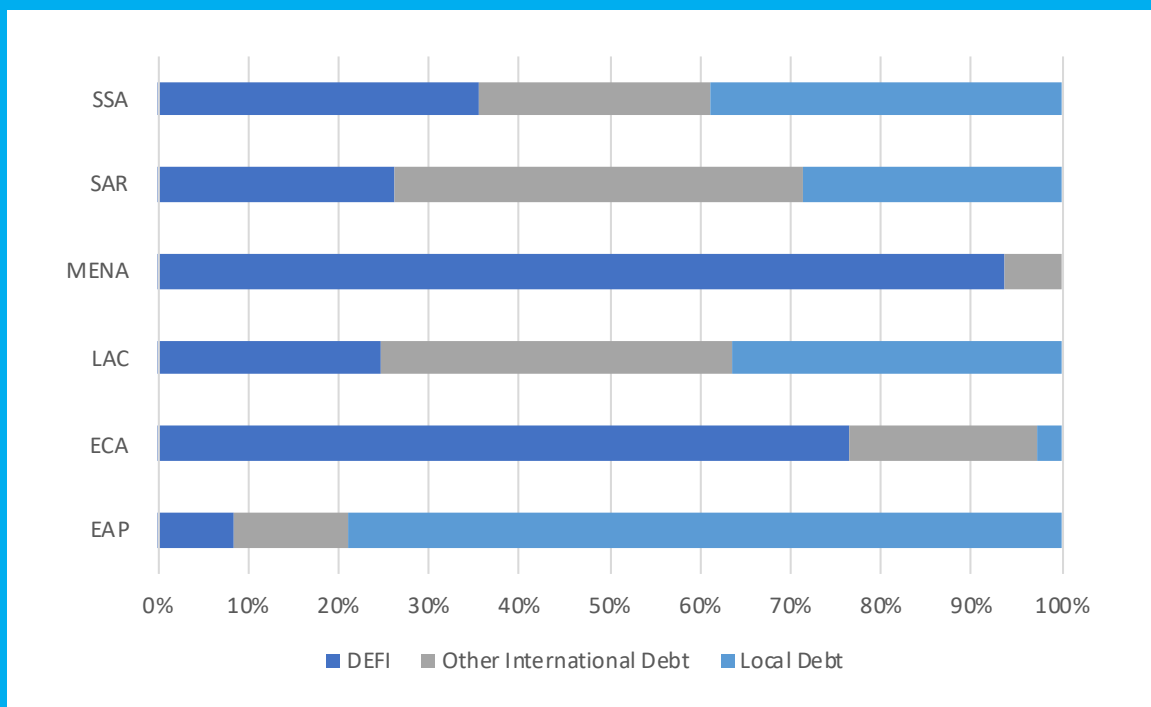
Of the \$28.3 billion in financing mentioned above, approximately 13 percent (\$3.7 billion) came from public sources, 67 percent (\$19.2 billion) from private sources, and 20 percent (\$5.7 billion) from DEFI sources. Figure 19 provides a detailed breakdown of the investment sources. The increase in financing from public sources was largely due to the expanded role of public banks.

Equity-wise, of the total \$6.9 billion in equity provided in 2023, financing predominantly came from private sources, which accounted for 95 percent of the total equity. The remaining 5 percent of equity, or \$293 million was financed by state-owned enterprises or governments participating in joint-venture projects.

Local debt increased by three percent from 32 percent in 2022 to 35 percent in 2023. There were \$9.7 billion worth local debt on 48 projects.

20

Figure 20: Share of International and Local Debt by Region for Infrastructure Projects with Private Participation in EMDEs 2023



EAP was the only region where local debt dominated the PPI investments for 2023 accounting for 80 percent of the total debt in the region (Figure 20). In contrast, MENA had none of its debt provided by local financing institutions, and ECA had a minimal portion provided by local lenders. Both these regions saw most of their loans coming from multilateral institutions instead. Remarkably, SSA saw a significant share of its debt (40 percent) coming from local lenders in 2023. This increase is attributed to South Africa, which reported a notable number of PPI projects this year.



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 (IPG) 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 method employed 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 2023. It contains over 50 fields per project.

For more information, please visit: ppi.worldbank.org





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