Contribution of Institutional Investors

Private Investment in Infrastructure

2011–H1 2017

WORLD BANK GROUP
Public-Private Partnerships

Acknowledgement & Disclaimer

This report was written by Deblina Saha (Task Team Leader), Seong Ho Hong, Akhilesh Modi and Iuliia Zemlytska with editorial inputs from Luba Vangelova and design by Victoria Adams-Kotsch. The team is very grateful for the support and guidance received from Laurence Carter (Senior Director, IPG Group), Jordan Schwartz (Director, IPG Group), Abha Joshi-Ghani (Senior Adviser, IPG Group) and Cledan Mandri-Perrott (Head of Infrastructure Finance and PPPs, Singapore). The team is thankful to Jeffrey Delmon (Senior Infrastructure Finance Specialist, IPG Group), Mark Giblett (Senior Infrastructure Finance Specialist, IPG Group), Steven Hong (Senior Manager, Global Infrastructure Hub), Rana Karadsheh (Manager, IFC), Samuel Maimbo (Senior Adviser, CFOFD), Darwin Marcelo (Senior Infrastructure Economist, IPG Group), Mark M. Moseley (COO, Global Infrastructure Hub), Fiona Stewart (Lead Financial Sector Specialist, FCI) and Hin Lung Yuen (Senior Infrastructure Finance Specialist, Global Infrastructure Facility) for providing valuable comments which helped shape the report.

This report relies on data solely obtained from the Private Participation in Infrastructure Database. The database records investment commitments for infrastructure projects in low- and middle-income countries globally, at the time of financial closure. Infrastructure refers to energy, transport, and water and sanitation projects serving the public, including natural gas transmission and distribution, but excluding oil and gas extraction.

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. In most cases, the researchers are able to obtain information from public sources that are representative of the true nature of the projects, but in some cases, they may not be accurate or complete. In such cases, the database reports the project data which seems to be most accurate.

Index

Highlights*

(2011 – H1 2017)

25
Institutional investors, 15 contributed equity, 9 debt, and 1 both.

37
Greenfield Projects

4
Brownfield Projects

OLDMUTUAL

Institutional investor with the largest number of equity transactions, mostly concentrated in the SSA region.

0.44% Institutional investor debt

1.67% Institutional investor equity

0.67% Institutional investors share of total global PPI financing

3

30% of all Uganda projects during 2011–H1 2017 received institutional support.

41
PPI PROJECTS RECEIVED INSTITUTIONAL-INVESTOR CONTRIBUTIONS

15
Institutional investor projects received DFI support

12  **12**  **21** 

SSA and LAC had the highest number of projects that received institutional-investor support. South Africa dominated, with 12 out of 21 projects in SSA.

Debt
8 projects

Equity
35 projects

Institutional-investor contributions skewed more toward equity. 2 projects received both debt and equity.

FINDINGS ON INSTITUTIONAL INVESTOR BEHAVIOR

1. Look for **maximixing their returns**—invest more through equity than debt.
2. Prefer contracted revenues as it gives **greater revenue visibility**.
3. Focus on greenfield energy projects over brownfield transport projects due to **preference for lower gestation period**.
4. **Reliance on goverment or DFI support**—two-thirds of project had support.
5. **Country ratings aren't a key consideration** if backed by DFI or government support.

26
Renewable energy projects received institutional-investor contributions. 15 of these were wind energy projects.

7
The number of solar energy projects is less than wind energy projects though, global trends show a shift toward solar energy projects.

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1. Introduction

Infrastructure development is a critical factor for a country's long-term growth and economic development. Well-designed and efficiently implemented investments in infrastructure can promote economic growth and improve access to basic services that boost quality of life. A World Bank report concluded that the developing world would need to invest US$836.0 billion per year, or 6.1 percent of current gross domestic product, from 2014 to 2020 to meet the new infrastructure demand and maintain the service level of existing assets. Emerging and developing economies would have to double their spending to US$452.0 billion per year.[1] Further, the 2017 Global Infrastructure Outlook estimates that the cost of providing infrastructure to support global economic growth and to start closing infrastructure gaps will be US$94.0 trillion by 2040. The need for infrastructure investment far exceeds the financing available from traditional sources. The public sector has been providing the bulk of infrastructure investment, given the inherent public-goods nature of infrastructure. However, public resources are now strained in emerging markets and developing economies, as governments are faced with rising fiscal vulnerabilities as a result of budget deficits, higher debt-to-GDP ratios, a high-interest-rate environment, depreciating currency increasing the burden of external debt, etc. At the same time, funding from development institutions and donor agencies is unlikely to fill the infrastructure gap. Although the private sector is often being looked at as an infrastructure "white knight," total private investments in infrastructure in developing countries over the previous 27 years (1990-2016), as reported by the PPI Database, have totaled only US$1.6 trillion across the transport, energy and water sectors. This is a drop in the ocean compared to the infrastructure-investment needs of more than US$0.8 trillion annually.

The International Monetary Fund estimates that more than US$100 trillion is held by pension funds, sovereign-wealth funds, mutual funds, and other institutional investors.[2] These institutional investors are therefore increasingly being regarded as a potential source of financing for infrastructure projects. In fact, encouraging institutional investors to invest in private-sector infrastructure projects has been the holy grail of infrastructure financing for more than two decades. The main driver for this is that the long-term nature of infrastructure assets has the potential to match the liability-driven investment needs of institutional investors such as pension funds and insurance companies, whose liabilities often stretch across multiple decades. Infrastructure assets have the potential to yield higher returns and offer lower correlations and hence wider diversification opportunities, compared to traditional assets such as fixed-income securities or listed-equity investments, although with the likelihood of higher risks.

Although institutional investors can potentially help fill part of the infrastructure gap, information on the current levels of institutional-investor activity with respect to infrastructure financing in developing economies is not readily available. Through this report, we aim to provide some sense of the activity of institutional investors when it comes to infrastructure financing in developing markets, using the information recorded in the Private Participation in Infrastructure (PPI) Database as the basis for this analysis. The PPI Database reports private investment commitments at the time of financial closure, serving the public in low- and middle-income countries, in the energy, transport, water and informa-

1 Ruiz-Núñez, Fernanda; Wei, Zichao, "Infrastructure Investment Demands in Emerging Markets and Developing Economies," Policy Research Working Paper No. 7414, World Bank, Washington, DC, 2015.

2 "From Global Savings Glut to Financing Infrastructure: The Advent of Investment Platforms," IMF working paper, 2016.

tion and communications technology (ICT) sectors. As such, this report only documents and analyzes the participation of institutional investors in PPI investments in low- and middle-income countries at financial close for the period 2011 to H1 2017.[3]

In this report, institutional investors are defined as entities that pool money from various sources to invest in different asset classes, with the intent of generating profitable returns on their investment. All entities that are primarily in the business of making financial investments in the form of equity or debt, without being involved in the construction, operation or management of the infrastructure project (e.g., pension funds, private-equity funds, hedge funds, mutual funds, insurance companies, etc.) fall into this category. Institutions or funds that are primarily in the business of making financial investments, but are implementing projects through specially formed subsidiaries on an exceptional basis, are also considered institutional investors. The report also lists and provides details about all projects that received financing from institutional investors, along with details about the investors (Annexes I, II and III).

The first section of the report provides a general overview of the projects that received financing from institutional investors and the share of institutional-investor contributions in the total investment garnered during the period of study. The report finds this share to be extremely low and as such the risks and barriers to institutional investment in infrastructure are also highlighted in this section.

The second section provides details about the institutional investors who provided financing support to the PPI projects recorded during the period. The third section provides a cross-sectional overview of the projects, dissecting the information across regions, sectors and countries, while analyzing the correlation between institutional-investor activity and sovereign risk rating of the country. The concluding section paves the way forward, with recommendations on what needs to be done in order to harness the potential of institutional-investor financing in infrastructure, while discussing the important role that can be played by international financial institutions (IFIs) to support such institutional investment.

2. Overview

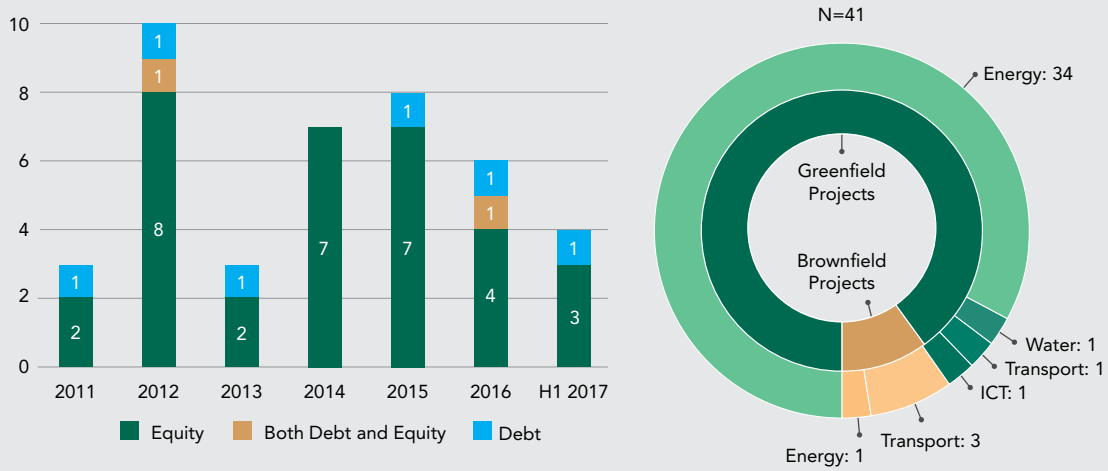
In the period from 2011 to H1 2017, 41 projects received institutional investor contributions in the form of equity or debt. Of these, 35 projects received support in the form of equity, eight received support in the form of debt, and two received both equity and debt support. These 41 projects received support from 25 different institutional investors—15 contributed equity, nine contributed debt, and one investor contributed both debt and equity on two separate projects.

Sub-Saharan Africa (SSA) and Latin America and the Caribbean (LAC) have the largest number of institutional-investor transactions (21 and 12 respectively), while the other regions recorded less than five such transactions. Only four of these 41 projects were brownfield projects; the remaining 37 projects were greenfield projects. Three of the four brownfield projects were in the transport sector, and 34 of the 37 greenfield projects were in the energy sector (Figure 1). The general notion is that institutional investors prefer to invest in brownfield projects, where certainty of revenue streams and stability of the

3 The amount of institutional investment in developed countries (e.g., the United States, Canada, Australia, the United Kingdom) is much higher.

regulatory environment are already established, and the "carrying costs" arising from a gradual drawdown of the debt portion during the construction period can be avoided. However, when it comes to the energy sector, institutional investors invest in greenfield projects, because the period of construction for them is very short (spanning 18 to 36 months), whereas the construction period for transport projects is much longer and therefore the bulk of institutional-investor financing in that sector has gone to brownfield projects.

FIGURE 1
Number of projects with private participation in EMDEs that received institutional-investor contributions, by financial closure year and project type (2011 – H1 2017)



Thirteen of the 41 projects had also received support from multilateral and bilateral agencies—of these, five received only multilateral support, four received only bilateral support, and four received joint support from both multilateral and bilateral agencies. The support type was mostly in the form of loans, but there was also syndication support to two projects and a World Bank guarantee to one project. Most multilateral and bilateral support went to African countries, which accounted for nine out of 13 projects. Eight of the 13 projects that received multilateral and bilateral support were from speculative-grade countries. IFC had participated in two of these projects as a loan provider—the Falcon Ma'an Solar PV Plant in Jordan and the Azura-Edo Gas-Fired Power Plant Phase 1 in Nigeria.

2.1 SHARE OF INSTITUTIONAL-INVESTOR CONTRIBUTIONS

Detailed information on financing sources was available for only 29 of the 41 projects that received some form of institutional-investor contributions. From 2011 to H1 2017, 2,354 projects reached financial closure. Detailed financing information was available for only 934 of these projects.

Table 1 represents the share of institutional-investor contributions to total global PPI investment, debt and equity. It shows that the contribution of institutional investors is miniscule, at only 0.67 percent of the total global PPI investment (comprising 0.4 percent of the total debt and 1.3 percent of the total equity).

TABLE 1: BREAKDOWN AND SHARE OF INSTITUTIONAL-INVESTOR CONTRIBUTIONS TO THE PROJECTS BY YEAR

	Equity		Debt		Total Investment	
Year	Institutional-Investor Contribution (US$ million)	Share of Global Totals	Institutional-Investor Contribution (US$ million)	Share of Global Totals	Institutional-Investor Contribution (US$ million)	Share of Global Totals
2011	–	0.0%	$76	0.2%	$76	0.2%
2012	$152	1.1%	$73	0.1%	$225	0.3%
2013	$43	0.4%	$22	0.1%	$65	0.2%
2014	$333	3.0%	–	0.0%	$333	0.8%
2015	$172	2.3%	$619	3.1%	$791	2.9%
2016	$249	2.4%	$108	0.4%	$357	1.0%
H1 2017	$31	0.4%	–	0.0%	$31	0.1%
TOTAL	**$980**	**1.3%**	**$898**	**0.4%**	**$1,878**	**0.67%**

2.2 BARRIERS TO INSTITUTIONAL-INVESTOR PARTICIPATION IN INFRASTRUCTURE

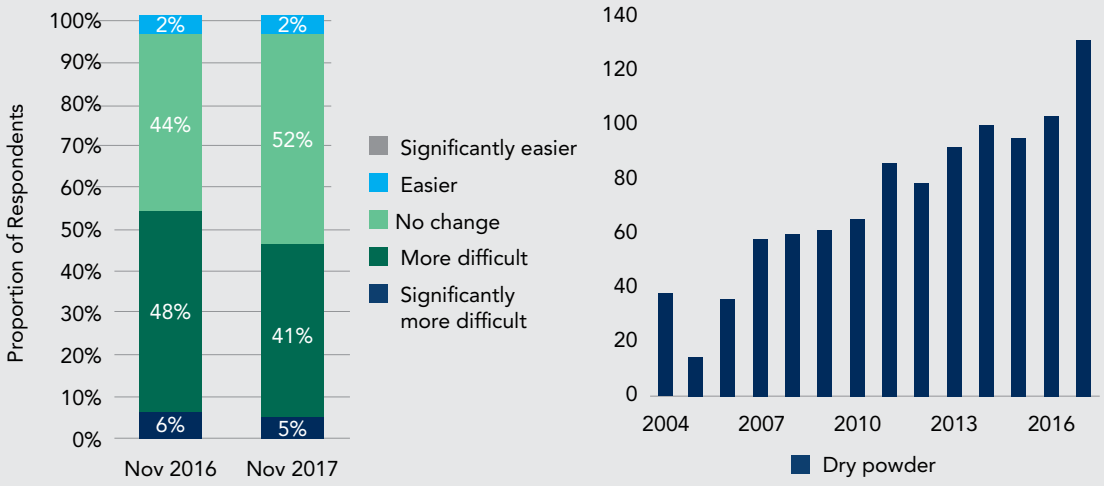
Although, on the demand side there is a need for more resources to finance infrastructure and on the supply side institutional investors are looking for long-term, high-yielding instruments, matching the two has been a challenge, resulting in the extremely low share of institutional-investor contributions to PPI investment at 0.67 percent.

It seems that very few institutional investors have the appetite to invest in emerging and developing economies (EMDE) infrastructure assets—only two percent of fund managers find it easy to spot attractive opportunities for investing in infrastructure. The dry powder, or money raised but not invested, for infrastructure assets under management has also been consistently increasing over the previous 14 years (Figure 2).

There are several possible reasons for the low institutional-investor participation in infrastructure and growing levels of dry powder among infrastructure assets under management (AUM). Table 2 summarizes some of the key challenges to institutional-investor flows to infrastructure.

FIGURE 2

Fund-manager views on difficulty of finding attractive investment opportunities and increasing dry powder for unlisted-infrastructure AUM



Source: Preqin

TABLE 2: CHALLENGES TO INSTITUTIONAL INVESTOR FLOWS TO INFRASTRUCTURE	
Lack of a "Sizeable" Project Pipeline	There is a lack of a significant pipeline of well-prepared and well-structured infrastructure projects in emerging markets. As the number of bankable projects in these countries is low, they do not make up a significant-enough asset class to compel institutional investors to invest the resources necessary for them to analyze possible investment opportunities. Typically project related risks and returns, even in the same sector, vary differently from country to country (particularly in EMDE) which often requires specialized and country dedicated teams.
Limited Resources	As highlighted above, institutional investors often have limited resources for setting up the specialized infrastructure teams that will most likely be needed to assess and track investments in EMDEs.
High Risk/Low Returns	By their very nature, infrastructure assets in EMDEs are often associated with higher-than-normal project and political risks. Therefore, investors often require a minimum return to consider taking on such risks. Unfortunately, the yields on many infrastructure investments in EMDEs are relatively low compared to the risks. These low yields have been driven by several factors, including the limited pipeline of bankable deals (which has led to aggressive bidding by equity investors) and the fact that, in many markets, there is still a large pool of commercial bank debt willing to lend to projects on long tenors and low margins (particularly from Chinese, Japanese and Korean banks*).

* This pool of bank debt may eventually decline as banks begin to implement Basel III.

TABLE 2: CHALLENGES TO INSTITUTIONAL INVESTOR FLOWS TO INFRASTRUCTURE	
Challenges Due to the Inherent nature of the Infrastructure Projects	Some characteristics of infrastructure financing constrain institutional investment. E.g.: i. Infrastructure projects typically do not yield returns during the construction phase (i.e., there are no regular payouts for three to five years); ii. Infrastructure investments have relatively restrictive/unclear investment-exit strategies (e.g., no equity divestment during the construction phase plus a few years into operation; unclear/potentially difficult exit via debt refinancing; no rating of borrower special purpose vehicles); and iii. There are often no make-whole provisions on early repayment or refinancing by the borrower.
Differing Mandates and Lower Risk appetite of Institutional Investors	Institutional investors are very different in terms of governance structures, applicability of financial regulations, return expectations, risk appetite, and portfolio-diversification targets. This is likely to make mobilization of financing from institutional investors challenging in EMDEs where such regulatory frameworks may not be designed to support institutional investors in making infrastructure investments. Furthermore, they also tend to be risk averse, preferring mature markets with established track records. Foreign-exchange risk is also a hindrance, because unlike banks with local intermediaries, institutional investors would have to bear the currency risks, which are generally higher in developing markets. They also tend to prefer brownfield projects over greenfield projects, because they have established revenue streams and they can avoid carrying costs and construction risks, but EMDEs have less-developed markets for investing in existing assets (many of which are managed by the public sector through state-owned enterprises, etc).
Unpleasant Past Experiences	The first generation of infrastructure-investment products did not cater well to institutional-investor needs, and there were cases of investment in projects with poor returns and little economic value. Pension funds and other institutional investors suffered because of exaggerated demand expectations and financial leverage (e.g., Eurotunnel or the Cross-City Tunnel in Sydney).
Information Asymmetry	A knowledge deficit about what investing in infrastructure means may deter institutional investors from exploring such long-term investment decisions at the relevant strategic asset-allocation decision meetings. This information gap has the potential to reinforce the view among regulators that infrastructure investment is highly risky and should be generally avoided as an asset class.

*Based on author's compilation from various sources***

** Sources include the 2014 PPIAF report, "Institutional Investment in Infrastructure in Emerging Markets and Developing Economies," by Georg Inderst and Fiona Stewart; EDHEC Risk Institute publication on making a better match between institutional investors and infrastructure investments; and a blog by Jordan Z. Schwartz on Institutional Investment in Infrastructure: A view from the bridge of a development agency.

2.3 INSTITUTIONAL INVESTORS AS DEBT PROVIDERS IN PPI PROJECTS

Ten institutional investors (see Table 3) actively participated as debt providers for eight infrastructure projects in the 2011 to H1 2017 period.

TABLE 3: INSTITUTIONAL INVESTORS WHO PROVIDED DEBT TO PPI PROJECTS (2011 – H1 2017)

Country	Institutional Investor (Origin, Loan Amount in US$ million)
Russia	CJSC Leader (Local / $619)
Philippines	Bank Prudential Capital Group (International / $85)
South Africa	Old Mutual Asset Managers (International / $70)
Bulgaria	Hyundai Marine & Fire Insurance, (International / $24.3)
Bulgaria	Green Cross Insurance (International / $24.3)
Bulgaria	Tong Yang Insurance (International / $24.3)
South Africa	Future Growth Asset Management (Local / $22.7)
Colombia	Ashmore Group (International / $22.6)
Philippines	The Philippine American Life and General Insurance Company (Local / $21.42)
Argentina	ICE Global Credit Master Fund (International / $Not Available)

Seven of the institutional investors were international players and provided debt outside of their home jurisdictions, whereas the remaining three provided debt to projects in their home countries. They invested in six countries and nine out of the 10 projects were in the energy sector. CJCS Leader of Russia emerged as the largest debt provider amongst all institutional investors, with a US$619 million contribution to the Kutuzovsky Northern bypass toll-road project. Most institutional investor debt sizes ranged from US$21 to 25 million; the only exceptions were CJSC Leader, Bank Prudential Capital Group (US$85 million) and Old Mutual Asset Managers (US$70 million).

2.4 INSTITUTIONAL INVESTORS AS EQUITY HOLDERS IN PPI PROJECTS

During the 2011 to H1 2017 period, 16 institutional investors made equity contributions to 35 projects. Old Mutual (an international investment, savings, insurance company headquartered in South Africa) had the largest number of institutional-investor equity transactions (10). These are mostly concentrated in the SSA region. Salus Fundo de Investimento em Participacoes S.A, an investment fund in Brazil owned by Companhia Paranaense de Energia, which develops and operates wind projects, has made equity contributions to seven wind projects in Brazil. Table 4 lists the institutional investors that provided equity to PPI projects, along with the project locations.

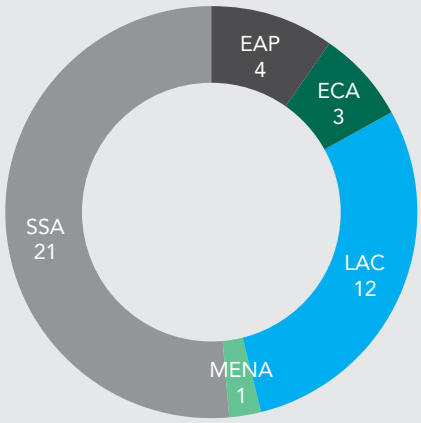
TABLE 4: INSTITUTIONAL INVESTORS THAT PROVIDED EQUITY TO PPI PROJECTS (2011 – H1 2017)			
Investor	Investor Country	Number of Projects	Project Country (or Countries)
Old Mutual	South Africa	10	Ghana, Mozambique, Nigeria, South Africa
Salus Fundo de Investimento em Participacoes S.A	Brazil	7	Brazil
Macquarie Group	Australia	5	Philippines, Mexico, Ghana, Nigeria, South Africa
Lereko Investments	South Africa	3	Uganda, South Africa
African Infrastructure Investment Managers (AIIM)	South Africa	2	Mali
BlackRock	USA	2	Mexico
Frontier Investment Management	USA	2	Uganda
Inspire Evolution Investment Management	South Africa	2	South Africa
Sanzhi Qiming Investment Fund Management Company	China	1	China
Philippine Investment Alliance for Infrastructure (PINAI)	Philippines	1	Philippines
EnerCap Power Fund	Czech Republic	1	Romania
Catalyst Private Equity Fund	Jordan	1	Jordan
Investment Fund for Developing Countries	Denmark	1	Mali
Libya Africa Portfolio for Investments (LAP)	Libya	1	South Sudan
American Capital Energy and Infrastructure	USA	1	Nigeria
Asset and Resource Management Company	Nigeria	1	Nigeria

3. Regional Overview

SSA and LAC had the largest number of institutional-investor transactions (21 and 12 respectively), whereas no projects received any form of institutional investment in the South Asia Region (SAR). Institutional investors' PPI in SSA is concentrated in South Africa, accounting for 12 of the 21 projects in SSA. This is mainly due to the frequent investment participation by Old Mutual Life Assurance Company, an institutional investor based in South Africa. Other countries with institutional-investor transactions in SSA include Ghana, Mali, Mozambique, Nigeria, South Sudan and Uganda.

In LAC, 12 institutional-investor transactions were recorded since 2011. Brazil accounted for the majority of them (seven); all of these were wind energy projects sponsored by Salus Fundo de Investimento em Participacoes S.A. Three energy projects with institutional-investor participation were recorded in Mexico—one was a wind project, and the remaining two were natural-gas transmission projects. Other countries with institutional investor involvement in LAC include Colombia and Argentina.

FIGURE 3
Projects that received institutional-investor contributions, by region (2011 – H1 2017)



Four projects with institutional-investor participation were recorded in East Asia and Pacific (EAP). The Philippines accounted for three of them. Unlike South Africa or Brazil, where institutional investors tend to invest in infrastructure in the form of equity only, institutional investors in the Philippines provided both equity and debt. The equity investors were the Philippine Investment Alliance for Infrastructure (PINAI) and Macquarie Group; the debt providers were the Philippine American Life and General Insurance Company and Prudential Capital Group, which participated in two electricity-generation projects. The only water project that received institutional-investor contribution was in China.

Three projects with institutional-investor participation were recorded in Europe and Central Asia (ECA). These deals in Russia, Bulgaria and Romania reached financial closure in 2015, 2011 and 2012, respectively. In the Middle East and North Africa (MENA), only one project has received institutional investor contribution—a solar-power project in Jordan that reached financial closure in 2015, with equity contribution by Catalyst Private Equity Fund.

Institutional investors are also active in International Development Association (IDA) countries, with a total of seven transactions in Ghana, Mali, Mozambique, South Sudan, and most notably, Uganda. In Uganda, a total of 10 PPI projects were recorded from 2011 to H1 2017; three of them received equity investment from institutional investors, accounting for 30 percent of all Ugandan projects. The investments came from Frontier Investment Group and Lereko Investment and were all for small hydropower plants.

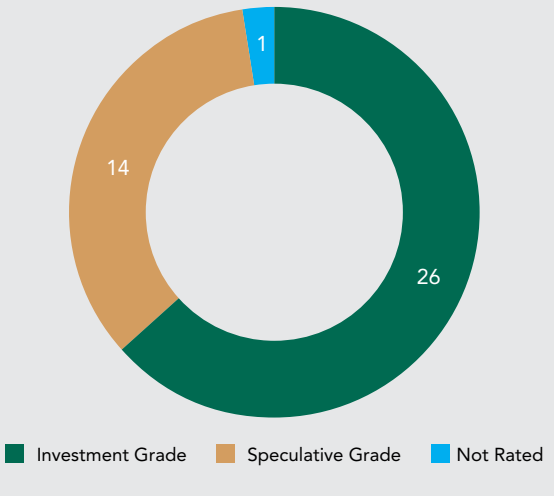
3.1 COUNTRY OVERVIEW BASED ON SOVEREIGN-RISK RATINGS

The 41 projects analyzed in this report were recorded across 17 countries. Of these, seven countries (representing 26 projects) are rated as "investment grade," nine (representing 14 projects) are rated as "speculative grade" by rating agencies such as Moody's, S&P and Fitch, and one is unrated. Investment grade (AAA to Baa3 for Moody's and AAA to BBB- for S&P and Fitch) refers to the ability of the country to meet its financial obligations sufficiently. Speculative grade (Ba1 to C for Moody's and BB+ to D for S&P and Fitch) refers to uncertainty in payment of obligations, as well as a vulnerable financial and economic scenario for the country in the near to mid-term.

China, Mexico, South Africa, Bulgaria, Philippines, Romania and Brazil (in 2014) are the investment-grade countries, whereas Argentina, Russia and Brazil (2015 and 2016), Jordan, Ghana, Mali, Mozambique, Nigeria and Uganda are speculative grade. Brazil had an investment grade rating until 2014 but was downgraded in 2015 and 2016 on the back of local political and governance issues. Similarly, Rus-

sia was downgraded in 2015 due to low oil prices, a sinking ruble, and international sanctions. South Sudan, with one project, is the only country that does not have a rating among the countries included in this study.

FIGURE 4
Number of insititutional-investor projects based on country risk rating



All African countries (except South Africa) that received institutional investments were speculative grade. Uganda had the highest speculative-grade rating among all African nations and saw institutional investors invest in three projects in three years (2015, 2016 and 2017). Other countries that were rated either speculative or highly speculative (Ghana, Mali, Mozambique and Nigeria) received investment for one project each from 2014 to 2017.

Of the eight projects that institutional investors financed with debt, three projects (37.5 percent) were in speculative-grade countries (Russia, Colombia and Argentina). The remaining five projects (62.5 percent) were in investment-grade countries. Of the 35 projects that received equity funding, 12 (37 percent) were in speculative-grade countries (including South Sudan), and 21 (63 percent) were in investment-grade countries. However, it is interesting to note that eight of the 14 speculative-grade country projects received some form of multilateral or bilateral support, and two other projects received government guarantees, accounting for 71 percent of speculative-grade country projects. Although institutional investors prefer to invest in investment-grade countries, they do not seem averse to investing in speculative-grade countries if there is adequate multilateral, bilateral or government support.

4. Sectoral Analysis

Institutional-investor contributions are highly concentrated in the energy sector. Of the 41 projects that received institutional-investor support, 35 (85 percent) were in the energy sector. Four transport projects and only one ICT and one water and sewerage project had institutional-investor involvement.

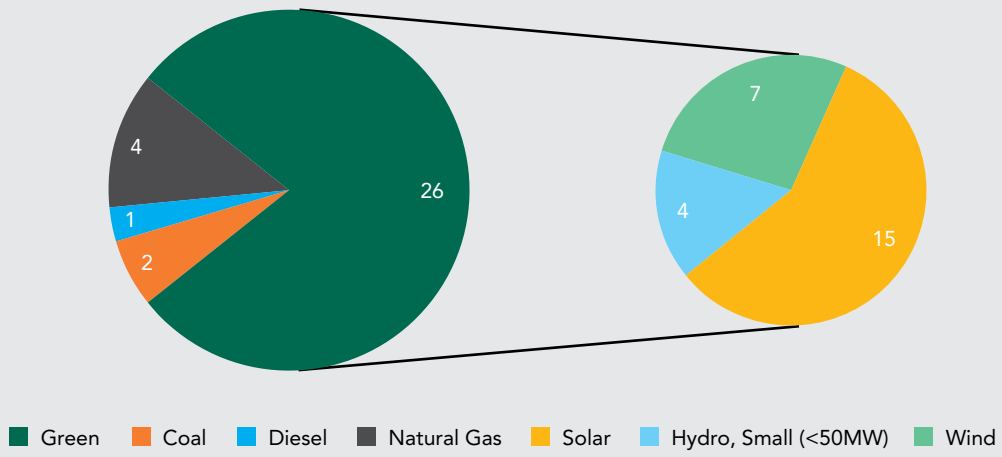
4.1 ENERGY

Total institutional investment in the energy sector from 2011 to H1 2017 totaled US$1.23 billion, 79 percent of it was in the form of equity. Of the 35 energy projects that received institutional-investor support, 12 were recorded in South Africa (eight of these reached financial closure in 2012). The lead-

ing institutional investors in South Africa are Inspire Evolution Investment Management and Old Mutual. Brazil had seven projects receiving institutional investor support, all in the form of equity.

Of the 35 energy projects that received institutional-investor support, 33 were electricity-generation projects and two were natural-gas transmission projects. Twenty-six electricity-generation projects (78 percent of all such projects) are in renewables; the majority of these were wind energy projects, in contrast with the overall trend in all PPI projects, where solar energy is the most popular renewable energy source. This is mainly because there are more institutional investors active in Brazil and South Africa, and these two countries traditionally rely more on wind energy. Brazil and South Africa together account for 13 out of the 15 wind energy projects.

FIGURE 5
Number of Electricity Generation Projects with private participation in EMDEs that received Institutional-Investor Contributions, by Source type (2011 – H1 2017)



4.2 TRANSPORT

There were four institutional-investor transactions recorded from 2011 to H1 2017 in the transport sector. Three of them were road projects in Russia, Colombia and South Africa, and the remaining one was a light rail transit (LRT) project in Philippines. Only the Colombia project has an availability payment structure; the other transport projects derive their revenue from user fees.

Additionally, three-quarters of the transport projects are brownfield projects.

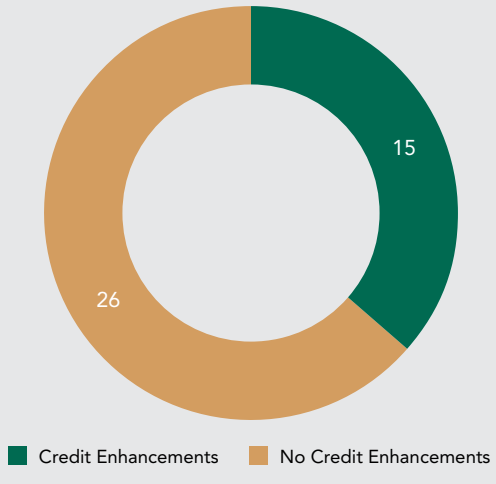
TABLE 5: TRANSPORT PROJECTS THAT RECEIVED INSTITUTIONAL-INVESTOR SUPPORT			
Country	Year	Project Name	Segment
Philippines	2016	Light Rail Transit 1 (LRT 1) Cavite Extension	LRT
Colombia	2016	Cartagena-Barranquilla and the Circunvalar de la Prosperidad	Highway
Russia	2015	Kutuzovsky Northern bypass toll road	Highway
South Africa	2011	Beitbridge Border Post	Highway

4.3 ICT AND WATER

One ICT project and one water project received institutional investment from 2011 to H1 2017. The water project in China received equity investment from Sanzhi Qiming Investment Fund Management Company Limited, a venture capital firm in China. The Gemtel project in South Sudan was the ICT transaction that received equity from a Libyan private-equity fund called Libya Africa Portfolio for Investments (LAP). Neither the total investment amounts nor the amount of institutional-investor commitment is known for these projects.

TABLE 6: WATER AND ICT PROJECTS THAT RECEIVED INSTITUTIONAL-INVESTOR SUPPORT			
Country	Year	Project Name	Segment
China	2017	Dali Haidong New Mountainous City Er Sea Protection Water Environment Treatment PPP Project	Sewerage
South Sudan	2011	Gemtel (GreenN)	ICT

FIGURE 6
Number of projects with and without credit enhancements



4.4 CREDIT ENHANCEMENTS

Of the 41 projects to which institutional investors contributed, 37 percent (15) had some form of credit enhancement in the form of payment guarantees (12 projects), revenue guarantees (two projects) or debt guarantees (one project) by governments. Of these 15 projects, a significant proportion were in South Africa, which provided payment guarantees for nine projects. One project each in Bulgaria, Jordan, Uganda, Mozambique, Mexico and Brazil received some form of a guarantee.

The South African government has been a keen promoter of renewable energy sources and provided guarantees to almost all institutional investments made in the renewable space in that country. In contrast, Brazil, which has a large portion

of wind projects, has provided institutional investors with no guarantees. Yet Brazil is the second-highest country outside of Africa to receive institutional investment.

Thus, we see that although institutional investors might prefer countries and/or projects that are backed by a public guarantee, they are also willing to invest in countries and sectors based on the merits of the project. Also, as renewable projects become more mainstream, and the risks and returns of these technologies are tested and understood with increasingly measurable success, public support in the form of direct or indirect guarantees is no longer needed.

4.5 PROJECT-AWARD METHOD AND MAIN REVENUE SOURCE

Of the 41 projects that received institutional-investor support, 38 had information available about the award method. Competitive bidding is the most popular award method, accounting for 20 of these 38 projects (53 percent). It is similar to the share of all PPI projects that were competitively awarded (55 percent). However, the share of projects that were granted a license to operate by the government (37 percent of all projects that received institutional investor support), is notably high compared to the share of all PPI projects (27 percent). From this it can be inferred that institutional investors seem to have a lower preference for competitively bid projects—understandably, as returns to investors are squeezed due to the competitively low prices.

In terms of the source of revenue generation, it appears that institutional investors prefer contracted revenues (i.e., a strong robust revenue source flowing out of a contract), because projects with power purchase agreements (PPAs) with either a public or private entity accounted for 78 percent of all projects that received institutional-investor support. This is higher than the share of all PPI projects whose revenue source is from PPAs (59 percent). At the same time, un-contracted revenues in the form of user fees account for 10 percent of all projects that received institutional-investor support, which is much lower than the share of all PPI projects (27 percent). This is probably attributable to the fact that institutional investors have primarily participated in energy projects, and energy projects tend to rely more on power purchase agreements. However, when it comes to transport projects, the trend is reversed—three out of four transport projects that received institutional investor financing derive their revenue from user fees, and only one project has an availability-type payment structure.

5. Conclusion

There is a general awareness and consensus in the infrastructure community that there is a huge potential pool of liquidity from institutional investors that can be used to finance a portion of the massive infrastructure needs in emerging markets and developing economies. However, the participation rate of institutional investors remains considerably low, not just in developing economies, but also in developed countries.[4] There are several barriers to being able to effectively channel institutional investor flows into the infrastructure sector, including the absence of a significant project pipeline to enable qualification of infrastructure projects as an investable asset class; the inherent nature and risks associ-

4 OECD institutional investors invest less than one percent in infrastructure, mostly in OECD countries.

ated with infrastructure projects; the lack of adequate information, and the inability of institutional investors to assess risks and monitor the projects over the full life-cycle of the project.

Institutional investors have a clear preference for energy projects over transport projects, which have shorter gestation periods and lower construction risk. Within transport there is a strong preference for brownfield projects, which have an established performance track record and no construction and operational-delay risks. In the energy sector, where institutional investors have been the most active, there is a clear preference for contracted revenue over un-contracted revenue. This clearly indicates that revenue visibility and certainty is one of the key considerations for institutional investors. While the bulk of the institutional-investor projects were in investment-grade countries, institutional investors do not seem averse to investing in speculative-grade countries if there is adequate multilateral, bilateral or government support (71 percent of all speculative-grade country projects had some form of support). Thirteen projects received some sort of development finance institution (DFI) support, 15 received some form of government support, and only two projects received both government and DFI support. With almost two-thirds of all institutional projects relying on DFI and government support, it is clear that institutional investors also count on some policy back-up to protect their revenue streams. The relevance of policy is further supported by the South African experience—the country was able to attract the highest level of institutional-investor investment (albeit local) through a programmatic approach—like that of the South African government initiative—Renewable Energy Independent Power Producers Procurement Program (REIPPP), despite considerable political risks. Therefore, in order to stimulate the flow of much-needed financing from institutional investors into the infrastructure sector, interventions over the entire spectrum of "policy to projects" are needed.

On the policy side, standardization of underlying infrastructure projects is essential to help scale up investment in such assets. Large physical infrastructure projects are complex and can differ widely from one country to the next. Governments and multilaterals can help provide the institutional environment to encourage the securitization of infrastructure assets, which will essentially allow for the pooling and subsequent sale of future cash flows arising from a group of similar infrastructure assets, through collateralized bond obligations or collateralized loan obligations, thus contributing somewhat to the establishment of infrastructure assets as a standard asset class.[5] There is also a need to understand the regulatory constraints and fiduciary responsibilities of institutional investors in order to be able to build the right climate for their participation. Developing fixed-income infrastructure indexes could also resolve some of the challenges.

At a project level, improving project preparation by carrying out robust feasibility studies and structuring projects with appropriate risk allocation is key to increasing institutional-investor participation, as is providing credit enhancements to mitigate risks. Credit enhancements can be provided in the form of guarantees by multilateral and other financial institutions, as well as hybrid products that integrate the risk appetite of banks for construction risks with the long-term horizon of pension funds, while addressing refinancing risks.

Considering that almost 60 percent of all non-investment-grade country projects received some sort of DFI support, DFIs have a key role to play. They i) assist countries in resolving the policy and regulatory hurdles to investment; ii) support government entities in better project selection and preparation; iii)

5 "From Global Savings Glut to Financing Infrastructure: The Advent of Investment Platforms," IMF working paper, 2016.

contribute technical expertise to projects by ensuring adherence to accepted environmental and social standards in project design; and iv) facilitate good governance and transparency. Additionally, guarantees can be used to mitigate risks, which would increase the potential for attracting institutional investors to high-risk markets by protecting financially viable projects from non-commercial risks. DFIs can provide a wide range of risk-mitigation products, including guarantees (e.g., risk guarantees and credit guarantees) as well as risk insurance (e.g., political risk insurance). The World Bank Group has a host of guarantee products, and other IFIs, including the Asian Development Bank, the Inter-American Bank, and the African Development Bank also offer similar guarantee products, alongside many regional development banks and DFIs. Considering that only one project that received institutional-investor financing was backed by a World Bank guarantee, there is scope to increase institutional-investor participation by deploying more guarantees, because they tend to reduce risks at the project level, which then becomes palatable to institutional investors who prefer to invest in lower-risk and higher-yield assets. Finally, in addition to guarantees, there are also institutions such as the Global Infrastructure Facility, which have the potential to attract institutional investors by providing resources to help countries develop bankable projects, while bringing together financial institutions, infrastructure builders and operators, as well as governments and multilateral development banks.

Annexure I: Project Snapshot

Country (Moody's/S&P/ Fitch Rating)	FC	Project Name	Primary Sector	Project Type
Argentina (B2/B+/B)	2017	Santa Fe Gas-Fired Plant	Energy	Greenfield
Brazil (Baa2/BBB-/BB+)	2014	Chapada do Piaui I Wind Park	Energy	Greenfield
Brazil (Baa2/BBB-/BB+)	2014	Chapada do Piaui II Wind Park	Energy	Greenfield
Brazil (Baa2/BBB-/BB+)	2014	Santa Brigida Wind Park	Energy	Greenfield
Brazil (Baa2/BBB-/BB+)	2014	Ventos de Santo Augusto Wind Farm	Energy	Greenfield
Brazil (Baa3/BB+/BB+)	2015	Sao Clemente Wind Complex	Energy	Greenfield
Brazil (Baa3/BB+/BB+)	2015	Tiangua Wind Farm	Energy	Greenfield
Brazil (Ba2/BB/BB)	2016	Ventos do Araripe III Wind Farm	Energy	Greenfield
Bulgaria (Baa2/BBB/BBB-)	2011	SDN-KEPCO Veliko Tarnovo Solar Plant	Energy	Greenfield
China (A1/A+/A+)	2017	Dali Haidong New Mountainous City Er Sea Protection Water Environment Treatment PPP	Water & Sewerage	Greenfield
Colombia (Baa2/BBB/BBB)	2016	Cartagena-Barranquilla and the Circunvalar de la Prosperidad	Transport	Brownfield
Ghana (B2/B/B)	2014	Kpone Independent Power Project	Energy	Greenfield
Jordan (B1/BB-/BB-)	2015	Falcon Ma'an Solar PV Plant	Energy	Greenfield
Mali (B1/B-/B-)	2017	Kayes Thermal Power Plant	Energy	Greenfield
Mexico (A3/BBB+/BBB+)	2012	Macquarie Marena Wind Farm	Energy	Greenfield
Mexico (A3/BBB+/BBB+)	2014	Los Ramones Gás Pipeline Phase II Sur	Energy	Greenfield
Mexico (A3/BBB+/BBB+)	2015	Los Ramones Gas Pipeline Phase II Norte	Energy	Greenfield
Mozambique (Aa2/B/B)	2014	Ressano Garcia Gas-Fired Plant	Enregy	Greenfield
Nigeria (Ba3/B+/BB-)	2015	Azura-Edo Gas-Fired Power Plant Phase 1	Energy	Greenfield
Philippines (Baa3/BB+/BBB-)	2013	Toledo Coal-Fired Power Plant Cebu	Energy	Greenfield

Country (Moody's/S&P/ Fitch Rating)	FC	Project Name	Primary Sector	Project Type
Philippines (Baa3/BB+/BBB-)	2016	Kauswagan Coal-Fired Power Plant Expansion	Energy	Brownfield
Philippines (Baa3/BB+/BBB-)	2016	Light Rail Transit 1 (LRT 1) Cavite Extension	Transport	Brownfield
Romania (Baa3/BBB-/BBB-)	2012	EPGE Chirnogeni-Independenta Wind Farm	Energy	Greenfield
Russia (Ba1/BB+/BBB-)	2015	Kutuzovsky Northern Bypass Toll Road	Transport	Greenfield
South Africa (A3/BBB+/BBB+)	2011	Beitbridge Border Post	Transport	Brownfield
South Africa (Baa1/BBB/BBB)	2012	ACED Cookhouse Wind Farm	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	Inspired RustMo1 Solar Plant	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	Jeffrey's Bay Wind Farm	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	Old Mutual–Greefspan Solar PV	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	Old Mutual–Herbert Solar PV	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	Old Mutual Hopefield Wind Farm	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	SolarReserve Lesedi Solar Plant	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2012	Standard Bank Kouga Oyster Bay Wind Farm	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2013	Neusberg Hydro Electric Plant	Energy	Greenfield
South Africa (Baa1/BBB/BBB)	2013	Bokpoort CSP Plant	Energy	Greenfield
South Africa (Baa2/BBB-/BBB-)	2015	Noupoort Mainstream Wind	Energy	Greenfield
South Africa (Baa2/BB+/BBB-)	2016	Kathu CSP Power Plant	Energy	Greenfield
South Sudan (Not applicable)	2011	Gemtel (GreenN)	ICT	Greenfield
Uganda (B1/B+/B+)	2015	Siti Small Hydro Power Plant	Energy	Greenfield
Uganda (B2/B+/B+)	2016	Lubilia Kawembe Hydropower Project	Energy	Greenfield
Uganda (B2/B+/B+)	2017	Butama Hydroelectric Plant	Energy	Greenfield

Annexure II: Project and Institutional-Investor Details

A. TRANSPORT-SECTOR PROJECTS WITH INSTITUTIONAL-INVESTOR CONTRIBUTIONS

2016

LIGHT RAIL TRANSIT 1 (LRT 1) CAVITE EXTENSION	
Country	Philippines
Sponsor	Metro Pacific Investments Corporation (MPIC) Ayala Corporation Macquarie Infrastructure Group (MIG)
Institutional Investor	Macquarie Infrastructure Group (MIG)
Project Description	The project entails extension of the LRT Line 1 by 11.7 km from the existing Baclaran station to the future Niyog station in Bacoor, Cavite. The project company won the bid for a 32-year concession to build and operate the project. The concession agreement was signed in October 2014. The concessionaire will have the rights to all revenues derived from LRT fares and commercial developments. The concession agreement was signed in October 2014, and the project achieved financial close on 11 February 2016. The investment commitment for the project was US$1.1 billion.

CARTAGENA-BARRANQUILLA AND THE CIRCUNVALAR DE LA PROSPERIDAD	
Country	Colombia
Sponsor	Mario Huertas Cotes Constructora MECO
Institutional Investor	Ashmore Group
Project Description	The project involves the expansion, rehabilitation and operation of 146.7 km of highways connecting the cities of Cartagena-Barranquilla and the Circunvalar de la Prosperidad. The investment was estimated at US$500.5 million. The project was awarded a 25-year concession contract. The sponsors created the company Concesion Costera Cartagena Barranquilla SAS to lead the project. In July 2016, a debt-financing package was signed for the project; Ashmore Group was one of the debt participants.

2015

KUTUZOVSKY NORTHERN BYPASS TOLL ROAD	
Country	Russia
Sponsor	OJSC Corporation Transstroy
Institutional Investor	CJSC Leader
Project Description	The project involves the construction of a high-speed 11-km toll road from the Moscow International Business Centre to the Molodogvardeyskaya Traffic Interchange. The road will consist of four lanes and is expected to be traveled by up to 45,000 vehicles a day. A four-year concession agreement was signed between OJSC New Concession Company (managed by Leader Management Company) and the Moscow City Government to implement the project. The project costs are expected to be about US$774 million (RUB50 billion).

2011

BEITBRIDGE BORDER POST	
Country	South Africa
Sponsor	Sanlam Old Mutual Nedbank Capital
Institutional Investor	Old Mutual
Project Description	The South African government awarded a 15-year toll concession for the construction, operation and eventual transfer of additional border facilities at the Beitbridge Border Post between South Africa and Zimbabwe. The concession was awarded to the South African Infrastructure Investment Company (SAIIC), which will in return upgrade the border facilities and widen the main access road from a single lane to a multi-lane highway. SAIIC is a joint-venture company formed by Old Mutual, Sanlam and Nedbank, representing the equity tranche of US$26 million in this US$97 million investment. SAIIC awarded Standard Bank the sole mandate to arrange an 11-year US$71 million debt package, with the South Africa export-credit agency ECIC providing 100 percent political-risk insurance and 85 percent commercial-risk insurance.

B. ICT-SECTOR PROJECTS WITH INSTITUTIONAL-INVESTOR CONTRIBUTIONS

2011

GEMTEL (GREENN)	
Country	South Sudan
Sponsor	LAP Green
Institutional Investor	Libya Africa Investments Portfolio (LAIP)
Project Description	In 2011, Gemtel was one of five telecom companies granted a license to operate in South Sudan (alongside Zain, Sudani, MTN and Vivacell), when South Sudan sold its stake to the sponsor LAP Green, which received funding from its parent company Libya Africa Investments Portfolio (LAIP), a private equity company.

C. WATER-SECTOR PROJECTS WITH INSTITUTIONAL-INVESTOR CONTRIBUTIONS

2017

DALI HAIDONG NEW MOUNTAINOUS CITY II SEA PROTECTION WATER ENVIRONMENT TREATMENT PPP PROJECT	
Country	China
Sponsor	Sanzhi Qiming Company Limited
Institutional Investor	Qiming Venture Partners
Project Description	The project involves the construction of the Dali Haidong New Mountainous City Er Sea Protection Water Environment Treatment PPP Project, in Dali City in Yunnan province. The total investment was US$290.95 million (RMB2000.23 million), of which US$163.93 million (RMB1127 million) was for greenfield construction. Sanzhi Qiming had a 90-percent stake in the project, equity for which was injected by its parent company, Qiming Venture Partners, with the remaining stake belonging to the local government. The concession term was 23 years.

D. ENERGY-SECTOR PROJECTS WITH INSTITUTIONAL-INVESTOR CONTRIBUTIONS

2017

SANTA FE GAS-FIRED PLANT	
Country	Argentina
Sponsor	Albanesi Group
Institutional Investor	ICE Global Credit Master Fund
Project Description	The project involves the development of a 200 MW gas-fired power plant in Santa Fe province, with a total cost of US$175 million. Albanesi Energía S.A is the project company that will undertake the project on behalf of the sponsor, Albanesi Group. The output from the power station will be sold to the wholesale market in Argentina.

BUTAMA HYDROELECTRIC PLANT	
Country	Uganda
Sponsor	KMR Infrastructure WK Construction Group Fieldstone Africa Investment Resources Lereko Investments
Institutional Investor	Lereko Investments
Project Description	The project involves the development of a 5.25-MW hydro plant located on the Sindila river in the Bundibugyo district, with estimated costs of US$18.5 million. The project benefits from a 20-year power-purchase agreement with the Uganda Electricity Transmission Company Limited, supported by an implementation agreement with the Government of Uganda. It has also benefited from the highly respected GETFiT Programme in Uganda, which is a partnership between the German development bank (KfW) and the Ugandan Government.

KAYES THERMAL POWER PLANT	
Country	Mali
Sponsor	Burmeister & Wain Scandanavian Contractor A/S (BWSC) African Infrastructure Investment Managers (AIIM) Investment Fund for Developing Countries (IFU) Redox Power Solutions
Institutional Investor	African Infrastructure Investment Managers (AIIM) Investment Fund for Developing Countries (IFU)
Project Description	The project entails the construction and operation of a 90-MW oil-fired power plant in Kayes, in western Mali. It will be the West African nation's first independent power project (IPP) to feed into the national grid. Once operational, power will be sold to Mali's national utility, Énergie du Mali (EDM), through a 20-year power-purchase agreement. The project finance is structured through debt (73 percent) and equity (27 percent). The total investment is estimated at US$136.45 million, with debt of US$93.91 million and an equity contribution of US$42.53 million.

2016

KAUSWAGAN COAL-FIRED POWER PLANT EXPANSION	
Country	Philippines
Sponsor	Ayala Corporation Power Partners Ltd. Co. Philippine Investment Alliance for Infrastructure (PINAI)
Institutional Investor	Philippine Investment Alliance for Infrastructure (PINAI) Prudential Capital Group
Project Description	The project envisages the expansion of the existing GNPower Kauswagan coal-fired power plant, located in Lanao Del Norte, from 434 MW to 550 MW capacity, at an estimated cost of US$1,045 million. The project's sponsor consortium is GNPower Kauswagan Ltd Co., a joint venture between AC Energy Holdings (a unit of Ayala), Power Partners, and the Philippine Investment Alliance for Infrastructure (PINAI) Fund. AC Energy (Ayala) is covering 80 percent of the project. The project company has signed an agreement for the sale of 330 MW of power from the plant to Power Supply Aggregation Group Corp. (PSAGCorp), a group of Mindanao electric cooperatives. The amount of debt is US$765 million, provided by Rizal Commercial Banking Corporation, Security Bank Corporation, Bank of the Philippine Islands, Development Bank of the Philippines, Cathay United Bank, Prudential Hong Kong, Prudential Assurance Co. Singapore, Land Bank of the Philippines, United Coconut Planters Bank, and Bank of China.

VENTOS DO ARARIPE III WIND FARM	
Country	Brazil
Sponsor	Companhia Paranaense de Energia (Copel)
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	Companhia Paranaense de Energia (Copel) was granted authorizations to build wind parks in the states of Piaui and Pernambuco (366 MW in total capacity). The 35-year authorization contracts were signed with the regulatory agency ANEEL in September 2014.

KATHU CSP POWER PLANT	
Country	Uganda
Sponsor	SUEZ Investec Lereko Investments Public Investment Corporation
Institutional Investor	Lereko Investments
Project Description	Kathu Solar Park (RF) Pty Limited will develop the 100-MW Kathu SolarPark concentrated solar power (CSP) project in the Northern Cape, following the signing of a 20-year power-purchase agreement by the ENGIE-led consortium and South Africa's state-owned electricity utility, Eskom. Kathu Solar Park (RF) Pty Limited is a consortium comprising ENGIE, which has a 48.5-percent interest, as well as the SIOC Community Development Trust, Investec Bank, Lereko Metier, and the Public Investment Corporation developing the project. Financing comprises 78 percent debt and 22 percent sponsors' equity. Debt funding will be provided by Rand Merchant Bank, Nedbank Capital, ABSA Capital, Investec, and the Development Bank of Southern Africa.

LUBILIA KAWEMBE HYDROPOWER PROJECT	
Country	Uganda
Sponsor	Frontier Investment Management Cacl Consulting
Institutional Investor	Frontier Investment Management (FIM)
Project Description	The project involves the development of a 5.4-MW run-of-river hydro-power plant on the Lubilia river, around the village of Kawembe, in the foothills of the Rwenzori mountains in Western Uganda. It will serve 256,000 people. The project is developed under the KfW-led GET FiT facility, which is a dedicated support scheme for renewable energy projects managed by Germany's KfW Development Bank, in partnership with the Government of Uganda through the Electricity Regulatory Agency (ERA). Financing comprises a US$10.2-million term loan arranged by FMO and US$5.5 million in sponsors' equity.

2015

SAO CLEMENTE WIND COMPLEX	
Country	Brazil
Sponsor	Companhia Paranaense de Energia (Copel)
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	Ventos de Sao Clemente Holding S.A., a subsidiary of the Brazilian company Companhia Paranaense de Energia (Copel), was granted authorization to build eight wind-power plants in the state of Pernambuco (220 MW in total capacity). The project company signed 35-year contracts with the regulatory agency ANEEL. The total investment committed to the power plants was estimated at US$226.2 million (BRL 754.7 million). In December 2015, the state-owned bank BNDES approved a US$197.3 million (BRL 658.3 million) loan to the project. The remaining investment cost was set to be equity financed.

TIANGUA WIND FARM	
Country	Brazil
Sponsor	Energimp S.A. Ventos de Sao Jorge Energias Renovaveis S.A
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	The Brazilian company Energimp S.A., a joint venture owned by Argentine group IMPSA (55 percent) and the state-owned Federal Retirement Fund FI-FGTS (45 percent), was granted the authorization to build five wind-power plants in the state of Ceara (150 MW in total capacity). The 20-year contracts were signed with the regulatory agency ANEEL in July 2011. The sponsors created the special-purpose companies to manage the power plants. In November, 2014, Energimp sold the project to Ventos de Sao Jorge Energias Renovaveis S.A., a subsidiary of the Brazilian company Salus Fundo de Investimentos e Participacoes. The total investment in the project was estimated at US$209.8 million (BRL 700 million). Construction commenced in August 2015.

LOS RAMONES GAS PIPELINE PHASE II NORTE	
Country	Mexico
Sponsor	Sempra Energy International BlackRock First Reserve
Institutional Investor	BlackRock
Project Description	The Los Ramones Gás Pipeline Phase II Norte project involves the construction of a 441-km natural-gas pipeline starting in Los Ramones (in the state of Nuevo Leon) and ending in the state of San Luis Potosí. In March 2014, the project was awarded by the Mexican state-owned company Pemex to TAG Norte S.A. de C.V., a partnership of Gasoducto de Chihuahua (50/50 partnership of Sempra's subsidiary IENOVA and Pemex), PMI Holdings and TAG Pipelines (both companies wholly-owned by Pemex). The contract length was established as 25 years of commercial operations. In September 2015, PMI's 45-percent stake in the project company was sold to BlackRock and First Reserve for US$ 900 million.

FALCON MA'AN SOLAR PV PLANT	
Country	Jordan
Sponsor	Catalyst Private Equity Fund Desert Technologies Gruppo Maccaferri
Institutional Investor	Catalyst Private Equity Fund
Project Description	The project involves the development of a 21-MW solar photovoltaic power plant located in the Ma'an Development Area (MDA), south of the capital, Amman, on a 20-year build-own-operate-transfer (BOOT) basis. All output generated by the project was to be sold to Jordan's National Electric Power Company (NEPCO) under a 20-year PPA. The total project cost was estimated at US$50.2 million. The project's loan agreements were signed in October 2014, with debt financing in the amount of US$33.1 million. The IFC provided a loan of US$13.1 million. The sponsors invested US$16.9 million as equity.

AZURA-EDO GAS-FIRED POWER PLANT PHASE 1	
Country	Nigeria
Sponsor	Amaya Capital Partners Africa Infrastructure Investment Managers Aldwych International Ltd Asset & Resource Management Ltd (ARM) American Capital Energy & Infrastructure
Institutional Investor	Africa Infrastructure Investment Managers Asset & Resource Management Ltd (ARM) American Capital Energy & Infrastructure
Project Description	The project entails the design, construction, operation and maintenance of a 450-MW gas-fired open-cycle power plant on a build-own-operate basis and represents the first phase of a potential 1,000-MW power-plant facility. The Azura-Edo Independent Power Plant (the Azura-Edo IPP) will be in the northeastern outskirts of Benin City in Edo State. The total project cost is US$890 million. The project will sell power under a 20-year PPA to the Nigerian Bulk Electricity Trading PLC (NBET). Financing comprises approximately US$690 million in debt and US$190 million in sponsor equity.

NOUPOORT MAINSTREAM WIND	
Country	South Africa
Sponsor	Actis Mainstream Renewable Power Old Mutual
Institutional Investor	Old Mutual
Project Description	This project entails the development of an 80-MW wind farm located in Northern Cape of South Africa, composed of 35 wind turbines when completed. It was part of Window 3 of the Department of Energy's (DoE's) Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). The project cost was US$160 million, and debt financing was provided by ABSA Bank Limited and Development Bank.

SITI SMALL HYDROPOWER PLANT	
Country	Uganda
Sponsor	DI Frontier Market Energy Carbon Fund K/S
Institutional Investor	Frontier Investment Management
Project Description	The project involves the construction of a 5-MW small hydropower plant, located across the Siti river, in northeastern Uganda's Bukwo district. Once operational, the Siti 1 SHPP project will provide 22.5 GWh of clean energy annually. The total project cost was US$15.5 million. FMO provided a 15-year US$10.8m term loan, and the sponsor contributed US$4.6m in equity.

2014

CHAPADA DO PIAUI I WIND PARK	
Country	Brazil
Sponsor	ContourGlobal CHESF, Brazil Salus Fundo de Investimento em Participacoes S.A
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	Contour Global do Brazil (a subsidiary of the American company Contour Global), the state-owned Brazilian company CHESF, and the Brazilian investment fund Salus were granted authorizations to build seven wind parks in the state of Piaui (210 MW in total capacity). The 35-year contracts were signed with the regulatory agency ANEEL in March 2014. The total investment in the power plants of the wind complex was estimated at US$306.4 million (BRL720.3 million). In July 2014, the state-owned development bank BNDES approved a US$135.9 million (BRL319.5 million) loan to the project. In March 2015, BNDES approved another US$186.5 million loan to the project (BRL555 million).

CHAPADA DO PIAUI II WIND PARK	
Country	Brazil
Sponsor	ContourGlobal CHESF Salus Fundo de Investimento em Participacoes S.A
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	Contour Global do Brazil (36%) (a subsidiary of the American company Contour Global), the Brazilian state-owned company CHESF (50%), and the Brazilian Investment Fund Salus (14%) were granted authorizations to build six wind power plants in the municipalities of Caldeirao Grande and Simoes, in the state of Piaui (180 MW in total capacity, each with 30 MW). The 35-year contracts were signed with the regulatory agency ANEEL in May 2014.

SANTA BRIGIDA WIND PARK	
Country	Brazil
Sponsor	Companhia Paranaense de Energia (Copel)
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	The company Sao Tome Holding S.A., a subsidiary of the Brazilian company Salus Fundo de Investimento em Participações S.A., was granted authorizations to build two seven- MWpower plants in the state of Pernambuco, in the municipalities of Caetes, Paranatama and Pedras (total capacity of 191.7 MW). The 35-year contracts were signed with the regulatory agency ANEEL in Feb 2014. The wind park is also referred to as Parque Eolico Caetes.

VENTOS DE SANTO AUGUSTO WIND FARM	
Country	Brazil
Sponsor	Companhia Paranaense de Energia (Copel)
Institutional Investor	Salus Fundo de Investimento em Participacoes S.A
Project Description	Companhia Paranaense de Energia (Copel) was granted authorization to build five wind-power plants in the municipality of Simoes, in the state of Piaui (108 MW in total capacity). The company established eight special-purpose companies to manage the projects.

LOS RAMONES GÁS PIPELINE PHASE II SUR	
Country	Mexico
Sponsor	Mexico Power and Gas Ventures BlackRock First Reserve
Institutional Investor	BlackRock
Project Description	The project involves the construction of a 287-km natural-gas pipeline starting in the state of San Luis Potosí and passing through the states of Queretaro and Guanajuato. The pipeline was set to have a capacity of 1.42 billion cubic feet per day. The investment in the project was estimated at US$1,100 million. A US$884 million financing package was provided by an international consortium of banks and Mexican development banks Nafin and Banobras. The sponsors contributed US$216 million in equity.

KPONE INDEPENDENT POWER PROJECT	
Country	Ghana
Sponsor	Africa Finance Corporation Cenpower Holdings Sumitomo Corporation Macquarie Infrastructure Group (MIG) Old Mutual FMO
Institutional Investor	Macquarie Infrastructure Group (MIG) Old Mutual
Project Description	The project involves the development of a 340-MW power project with two General Electric-frame 9E gas turbines, two double-pass heat-recovery steam generators from NEM of the Netherlands, and Siemens' steam turbine, electrical generators and auxiliaries. The project cost of US$900 million was financed by US$420 million in long-term debt, US$250 million in equity and US$225 million in credit-facility financing.

RESSANO GARCIA GAS-FIRED PLANT	
Country	Mozambique
Sponsor	Old Mutual Gigajoule Pty Ltd WBHO
Institutional Investor	Old Mutual
Project Description	The Ressano Garcia gas-fired plant reached financial closure in June 2014. The sponsors of the project consist of the Gigajoule Group, Old Mutual, WBHO, and a group of private Mozambique shareholders. More than 50 percent of the project's equity is held by local shareholders, but Gigajoule is the largest single shareholder in the project company.

2013

TOLEDO COAL-FIRED POWER PLANT CEBU	
Country	Philippines
Sponsor	Metropolitan Group Global Business Holdings
Institutional Investor	The Philippine American Life and General Insurance Company
Project Description	The project involves the development of an 82-MW clean coal power plant in Toledo City, Cebu. The total investment for the project is PHP10.2 billion or US$245 million. The institutional investor provided debt for the project.

NEUSBERG HYDRO ELECTRIC PLANT	
Country	South Africa
Sponsor	Hydro Tasmania Old Mutual Industrial Development Corporation
Institutional Investor	Old Mutual
Project Description	The project involves the development of a run-of-river hydroelectric power plant, with an installed capacity of 10 MW. The electricity produced by this build-own-operate (BOO) project would be sold to Eskom's national grid via a PPA under an Independent Power Producer Procurement Program (IPPPP). The estimated total cost of the project amounts to US$56 million and would cover three turbines and the associated infrastructure.

BOKPOORT CSP PLANT	
Country	South Africa
Sponsor	ACWA Power Lereko Investments Kurisani Youth Development Trust
Institutional Investor	Lereko Investments
Project Description	The project involves the construction of the 50-MW Bokpoort concentrated solar-power plant in the Northern Cape. The project falls under the South African Renewable Energy Independent Power Producer Procurement Program. The plant will be able to generate a record high of about 200 GWh per year. Total investment for the project is US$498.18 million.

2012

EPGE CHIRNOGENI-INDEPENDENTA WIND FARM	
Country	Romania
Sponsor	Joannou & Paraskevaides Ltd Marguerite Fund EnerCap Power Fund
Institutional Investor	EnerCap Power Fund
Project Description	The project involves the development of the 30-MW Chirnogeni and 50-MW Independenta wind farms near the Chirnogeni and Independenta municipalities in the Dobrogea region. The projects were to comprise 12 turbines (2.5 MW each) at Chirnogeni and 20 turbines (2.5 MW each) at Independenta. EP Global Energy is a subsidiary of the Cyprus-based, Guernsey, UK-registered Joannou & Paraskevaides Group. Total project cost was estimated at EUR130 million (US$169 million). Joannou & Paraskevaides Group, through EP Global Energy, was the main developer for the project, although its equity stake was only 20 percent.

MACQUARIE MARENA WIND FARM	
Country	Mexico
Sponsor	Fomento Economico Mexicano (FEMSA) Macquarie Infrastructure Group (MIG)
Institutional Investor	Macquarie Infrastructure Group (MIG)
Project Description	The project involves the development of a 396-MW wind-power plant with 132 Vestas 3-MW turbines in Oaxaca. The sponsors were the Mexican brewing and bottling company Fomento Economico Mexicano (FEMSA) (the main developer) and two subsidiaries of Australian firm Macquarie (Macquarie Asset Finance Limited and Macquarie Mexican Infrastructure Fund). The total project cost was estimated to be MXN14 billion (US$1.06 billion). In December 2011, the Inter-American Development Bank (IADB) agreed to provide loans of up to MXN750 million (US$72 million) to finance the project.

ACED COOKHOUSE WIND FARM	
Country	South Africa
Sponsor	Macquarie Infrastructure Group (MIG) Old Mutual Investment Group AFPOC Limited
Institutional Investor	Macquarie Infrastructure Group (MIG) Old Mutual Investment Group
Project Description	African Clean Energy Developments (ACED) is a project developer created to build, own and operate renewable energy projects in Sub-Saharan Africa, including the 139-MW Cookhouse Wind Project, to be located in the Eastern Cape Province of South Africa. ACED was a joint venture, 50-percent owned by AFPOC Limited, a Mauritian company, and the remaining 50 percent by African Infrastructure Investment Fund (AIIF), which in turn was a 50/50 joint venture between Macquarie Africa (Pty) Ltd and Old Mutual Investment Group South Africa (Pty) Ltd (OMIGSA). Total project cost was estimated at ZAR2.4 billion (US$300 million), with Standard Chartered and Nedbank selected as the lead arrangers.

INSPIRED RUSTMO1 SOLAR PLANT	
Country	South Africa
Sponsor	Inspire Evolution Investment Management Momentous Energy
Institutional Investor	Inspire Evolution Investment Management
Project Description	Rustmo1 Solar energy was a 7-MW solar photovoltaic facility to be located near Rustenberg. The project was 51-percent owned by the investment-management firm Inspired Evolution (South Africa), with the remainder owned by a community trust comprised of local South African businesses and the project developer, Momentous Energy. Total estimated project cost was ZAR200 million (US$25 million).

JEFFREY'S BAY WIND FARM	
Country	South Africa
Sponsor	Mainstream Renewable Power Globeleq Old Mutual Genesis Eco-Energy Thebe Investment Corporation Usizo Engineering Pty Ltd Enzani Molene Technologies Pty Ltd Jeffrey's Bay Renewable Energy Community Trust
Institutional Investor	Old Mutual
Project Description	The project involves the development of a 138-MW wind farm on a build, own and operate basis, to be located in Jeffreys Bay, in the Eastern Cape. The project was to consist of 60 Siemens SWT turbines (2.3MW each), expected to generate 362 GWh annually. Total project cost was estimated at ZAR2.3 billion (US$296 million).

OLD MUTUAL – GREEFSPAN SOLAR PV	
Country	South Africa
Sponsor	AE-AMD Renewable energy Old Mutual
Institutional Investor	Old Mutual
Project Description	The project involves the development of a 10-MW solar photovoltaic project in the Northern Cape. The project was sponsored by the Old Mutual Life Assurance Company of South Africa and local developer AE-AMD Renewable energy. The total estimated project cost was US$48 million.

OLD MUTUAL – HERBERT SOLAR PV	
Country	South Africa
Sponsor	Old Mutual
Institutional Investor	AE-AMD Renewable energy Old Mutual
Project Description	The project involves the development of a 10-MW solar photovoltaic project to be located in the Northern Cape. It was sponsored by the Old Mutual Life Assurance Company of South Africa and local developer AE-AMD Renewable energy. The total estimated project cost was US$98 million. The equity investors put US$30 million into the project, along with US$68 million in debt financing. The power plant started operation in April 2014.

OLD MUTUAL HOPEFIELD WIND FARM	
Country	South Africa
Sponsor	Umoya Energy Macquarie Infrastructure Group (MIG) Old Mutual
Institutional Investor	Macquarie Infrastructure Group (MIG) Old Mutual
Project Description	In December 2011, Umoya Energy (a local renewable energy developer) was awarded the rights to develop a 65.4-MW wind farm to be located in Hopefield. Total project cost was estimated at ZAR1.6 Billion (US$200 million). In November 2012, the project reached financial close. At closing, the principal project sponsors were Macquarie and Old Mutual, each with 38.5-percent stakes.

SOLARRESERVE LESEDI SOLAR PLANT	
Country	South Africa
Sponsor	Solar Reserve Kensani Holdings Intikon Energy Oakleaf Investments
Institutional Investor	Old Mutual
Project Description	Lesedi Power Company was created to build, own and operate a 75-MW solar photovoltaic facility in Humansrus. The project company was a joint venture between the U.S.-based solar developer SolarReserve, Oakleaf Investments, and the South African companies Kensani Group and Intikon Energy. Total project cost was estimated at US$300 million. Old Mutual Asset Managers provided debt to the project.

STANDARD BANK KOUGA OYSTER BAY WIND FARM	
Country	South Africa
Sponsor	Standard Bank Red Cap Investments Inspire Evolution Investment Management Afri-Coast Engineers SA Eurocape Renewables
Institutional Investor	Inspire Evolution Investment Management
Project Description	In December 2011, Red Cap Kouga Wind Development Company (a local renewable-energy developer) was awarded the rights to develop a 77.6-MW wind farm in Oyster Bay. The project company was owned by Red Cap Investments, Afri-Coast Engineers SA (developer), Eurocape Renewables (project manager), Inspired Evolution Investment Management (investor) and Standard Bank (investor). The project was to consist of 32 Nordex N90 2500 HS turbines in the first phase, with 20 years of expected life. The project was expected to generate 290 GWh annually. Local stakeholders, through the Red Cap Kouga Community Development Trust (with IDC assistance), were expected to hold 26 percent of the equity. Total project cost was estimated at ZAR2 Billion or US$258 million.

2011

SDN-KEPCO VELIKO TARNOVO SOLAR PLANT	
Country	Bulgaria
Sponsor	SDN Company Korean South-East Power (KOESP) Korea Electric Power Company (KEPCO)
Institutional Investor	Hyundai Marine & Fire Insurance Green Cross Insurance Tong Yang Insurance
Project Description	The project involves the development of two 21-MW solar photovoltaic plants in Zlataritsa and Samovodene, in Central Bulgaria. The project company was a 50-50 joint venture of SDN Company and Korean South-East Power (KOSEP), with total investment commitment of US$204 million. The debt was structured as a EUR101 million (US$134 million) 12-year loan and a EUR9 million (US$12 million) 18-month revolver loan arranged by the Korea Development Bank (KDB), with participation from KDB, Korea Finance Corporation (KoFC), Hyundai Marine & Fire Insurance, Green Cross Life Insurance, KT Capital and Tong Yang Life Insurance.

Annexure III: Institutional Investor Details

Name	Description
African Infrastructure Investment Managers (AIIM)	African Infrastructure Investment Managers (AIIM) develops and manages private-equity infrastructure funds designed to invest long-term institutional unlisted equity in African infrastructure projects. AIIM actively manages investments in East, West and Southern Africa and has equity under management of US$2.0 billion, with a track record extending across seven African infrastructure funds. With offices across South Africa, Nigeria, Kenya and Côte d'Ivoire, AIIM has a thorough understanding of the African business environment and extensive experience spanning a range of infrastructure asset classes.
American Capital Energy & Infrastructure	American Capital Energy & Infrastructure invests in global energy infrastructure businesses, including power-generation facilities, gas and power distribution and transmission networks, energy transportation assets, and fuel-production opportunities, with a particular focus on high-growth economies such as those of sub-Saharan Africa and Asia.
Ashmore Group plc	Ashmore Group plc is a large British investment manager dedicated to the emerging markets. The chairman is Peter Gibbs and the CEO is Mark Coombs. It has US$52.2 billion under management.
Asset & Resource Management Company	Asset & Resource Management Company was established in 1994 and has evolved into one of the most respected financial services brands in Nigeria. The company is a diversified and integrated, non-bank financial-services institution with more than 15 years of investment management expertise. Its business comprises non-pension asset management, pension-fund administration, trust services, real-estate management and development, infrastructure finance, investment banking and financial advisory services.
BlackRock, Inc.	BlackRock, Inc. is an American global investment-management corporation based in New York City. Founded in 1988, initially as a risk manager and fixed-income institutional-asset manager, BlackRock is the world's largest asset manager, with US$6 trillion in assets under management. BlackRock operates globally with 70 offices in 30 countries, and clients in 100 countries. Due to its power, BlackRock has been called the world's largest shadow bank.
Catalyst Private Equity Fund	Catalyst Private Equity Fund is a Jordan-based private-equity fund that focuses on small- and midsized companies in the energy and water industrial and technology sectors in Jordan, Lebanon, Egypt, West Bank and certain MENA countries. Funds may be made available for other high-priority OPIC eligible countries such as Pakistan and Afghanistan.
CJSC Leader	CJSC Leader was founded in 1993. The Bank of Foreign Economic Activity (Vnesheconombank) SC, Gazprom OJSC, GAZFOND NPF, and Gazprombank are the company's shareholders. The company's clients as of March 31, 2015 are nine NPF and two insurance companies. The company manages three open and three closed-end mutual funds under trust-management rules. The total amount of funds (assets) transferred into trust management as of March 31, 2015 amounts to RUB436.0 billion.

Name	Description
EnerCap Capital Partners	EnerCap Capital Partners specializes in private-equity investments in clean and efficient-energy projects across Central, Eastern and South-Eastern Europe. EnerCap manages an extensive portfolio of energy investments in Poland, Romania, Croatia and the Czech Republic. The project assets under management exceed EUR450 million, providing clean energy to more than 200,000 households and saving 130,000 tons of carbon per year. The six partners have more than 80 years of relevant energy sector, project-finance and private-equity experience directly in the region, which uniquely positions EnerCap to continue to execute its investment strategy.
Frontier Investment Management (FIM)	Frontier Investment Management (FIM) is an investment manager focused on emerging and frontier markets. The firm's assets under management are invested on behalf of university endowments, sovereign-wealth funds, outsourced CIOs, and pension plans from North America, Europe and the Middle East. It holds majority ownership in SPVs, but the other partner is actively managing the project assets.
Futuregrowth Asset Management	Futuregrowth Asset Management is a Cape Town based specialist investment manager. It manages around R170 billion of clients' assets, across the full range of fixed interest and development funds, primarily focusing on industries in South Africa. The company has three key funds: the Power Debt fund, the Power ILB fund and most recently, the Infrastructure and Development Fund.
Green Cross Life	Green Cross Life has about one percent of the life-insurance market share in Korea. Acquisition of Green Cross Life Insurance by Hyundai Motor Group was approved in 2011.
Hyundai Marine & Fire Insurance Company	Hyundai Marine & Fire Insurance Company is a marine-, fire- and automobile-insurance company established in 1955.
ICE Global Credit Co Limited	Ice Global Credit Co Limited is headquartered in Ireland and is in the business of acquiring and managing certain types of portfolios of assets, including infrastructure.
Investment Fund for Developing Countries (IFU)	IFU provides risk capital and advice to companies wishing to set up business in Africa, Asia, Latin America and parts of Europe. Investments are made on commercial terms in the form of equity and loans. The purpose is to contribute to economic and social development in the investment countries. IFU and IFU-managed funds have co-invested in more than 1,200 companies in 100 countries in Africa, Asia, Latin America and parts of Europe. Committed investments total DKK 178 billion, of which IFU has contributed DKK19 billion.
Inspired Evolution	Inspired Evolution is a specialized investment-management business and authorized financial-services provider, with offices in Cape Town and Johannesburg, South Africa, and regional offices in London and Nairobi. Inspired Evolution offers a dedicated team with a proven track record in leading clean-energy infrastructure-type development and project-finance investments, as well as energy and resource-efficiency growth investments across Sub-Saharan Africa.
Lereko investment	Lereko investment is a private-equity firm specializing in investments through buyouts. It seeks to invest in later-stage and middle markets. It seeks to invest in clean electric power using wind and solar energy, transportation, building products, construction and engineering. Lereko was established in 2004 and is headquartered in South Africa.

Name	Description
Libya Africa Investment Portfolio (LAIP)	Libya Africa Investment Portfolio (LAIP) is in the business of international investment, with the strength of the Libyan economy at its core. The establishment acts as a sound private-equity fund, following international standards and moving towards the main fund-building objective related to capital gain or dividend yield.
Macquarie	Macquarie is a diversified financial group providing clients with asset management and finance, banking, advisory and risk and capital solutions across debt, equity and commodities.
Old Mutual	Old Mutual provides investment, savings, life assurance, asset management, banking, and property and personal insurance in Africa, Europe, the Americas and Asia. Old Mutual is the largest financial-services provider in Southern Africa. Its partnership with Nedbank and Mutual & Federal (M&F)—two sister subsidiary companies under the Old Mutual group banner in South Africa—enables it to offer a variety of financial products and services.
Philippine American Life and General Insurance Company	The Philippine American Life and General Insurance Company (also commonly known by its trade name, Philam Life) is an insurance company based in the Philippines. It is currently the largest life insurance company in the Philippines in terms of assets, net worth, investment, and paid-up capital.
Pinai	Pinai is a US$625-million private-equity fund—the largest and first of its kind in the Philippines—investing in core infrastructure assets. PINAI invests in unlisted equity and equity-linked infrastructure projects and businesses in the Philippines. PINAI invests in a portfolio of greenfield and brownfield projects across the infrastructure sector, including public-private partnerships in water and waste; roads, rail, and other mass transit; ports and airports; power generation, transmission, and renewable energy; gas distribution; and telecommunications infrastructure.
Prudential Capital Group, L.P.	Prudential Capital Group, L.P. is a private-equity firm specializing in private placements, refinancing, mezzanine financing, acquisitions, recapitalizations, expansion and growth-capital financing, leveraged loans, stock buybacks, recapitalization, management buyouts and sponsored leveraged buyouts, and the Pru-Shelf financing facility. It typically invests in utilities, industry, capital goods, oil, gas, power, communications, consumer cyclicals, consumer non-cyclicals, energy, financial institutions, technology, and transportation.
Salus Fundos de Investimento em Participações	Salus Fundos de Investimento em Participações is an investment fund owned by Companhia Paranaense de Energia (Copel), a state-owned entity in Brazil that develops and operates wind-power generation facilities. Salus Fundo de Investimento em Participacoes S.A is an investment vehicle involved in financially backing viable projects on behalf of Copel. The company has equity investments in seven projects with a total of 183.6 megawatts of capacity.

Name	Description
Tong Yang Life Insurance Co., Ltd.	Tong Yang Life Insurance Co., Ltd. engages in the life-insurance business in South Korea. The company offers insurance products such as sickness, accident, savings, pension, and retirement-insurance products, as well as insurance for children. It also provides loan services, including mortgage and credit loans, and asset-management services.
Qiming	Qiming is a venture capital fund in China. Qiming has been investing in 210 young, fast-growing and innovative companies across China in the Internet, consumer, healthcare, information-technology and clean-technology sectors.

About the Private Participation in Infrastructure Projects Database

The Private Participation in Infrastructure Database is a product of the World Bank Group's Infrastructure, PPPs and Guarantees team. Its purpose is to identify and disseminate information on private participation in infrastructure projects in low- and middle-income countries. The database highlights the contractual arrangements used to attract private investment, the sources and destination of investment flows, and information on the main investors. The site currently provides information on more than 8,000 infrastructure projects dating from 1984 to 2017 H1. It contains over 50 fields per project record, including country, financial closure year, infrastructure services provided, type of private participation, technology, capacity, project location, contract duration, private sponsors, debt providers, and development bank support.

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

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

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