

INVESTMENT IN AFRICAN INFRASTRUCTURE CHALLENGES AND OPPORTUNITIES

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PREFACE

MiDA, or “Mobilizing Institutional Investors to Develop Africa’s Infrastructure,” is a partnership between the National Association of Securities Professionals (NASP) and the United States Agency for International Development (USAID) Office of Private Capital and Microenterprise (PCM) and the Africa Private Capital Group of the Southern Africa Mission. The initiative seeks to facilitate and expand opportunities for infrastructure investment in Sub-Saharan Africa for investors seeking higher returns while making a meaningful impact on development and advancing US interests in the region. MiDA Advisory Council members include chairs of boards of trustees, executive directors and chief investment officers of some of the largest US pension funds, insurance companies, endowments and foundations.

The NASP-USAID Investment Partnership’s objective is to expose US institutional investors to opportunities to co-invest with their African counterparts in Sub-Saharan Africa’s infrastructure as part of their global infrastructure investment strategy. Further, MiDA seeks to increase opportunities for US financial services providers looking to deepen relationships with African institutional investors that currently hold an estimated US\$1 trillion in assets, of which billions are invested in the US.

MiDA engaged Mercer Investment Consulting LLC in a collaborative effort to investigate the barriers (perceived and real) to and opportunities for increasing institutional investors’ allocations to Sub-Saharan African infrastructure and to provide strategic recommendations to MiDA regarding possible courses of action the initiative could take.

01. EXECUTIVE SUMMARY

The need and opportunity for private investment in Sub-Saharan Africa (SSA) infrastructure are great. But significant barriers to scaling up such investment must be surmounted to support economic and, ideally, sustainable development in the region. Through interviews with 11 leading infrastructure investors globally — seven asset owners and four asset managers controlling more than US\$1 trillion in assets — we have identified the following key issues that need to be considered by mobilizers,¹ such as Mobilizing Institutional Investors to Develop Africa’s Infrastructure (MiDA), and development finance institutions (DFIs) in trying to crowd in private investment.

- **The Role of Infrastructure in Asset Owner Portfolios:**
 - **Diversification** — Some investors indicated that SSA infrastructure and real assets constitute “true” diversifiers offering uncorrelated returns. But others felt they could achieve adequate diversification by investing in infrastructure in other emerging markets, such as Latin America and South Asia, achieving a similar outcome with greater comfort around the local regulatory/operating environment.
 - **Risk/Return Profile** — For many asset owners, infrastructure is positioned in portfolios as an inflation-hedging asset and is biased toward “core”- or “core plus”-type assets (for example, completed and revenue-generating brownfield assets). The risk/return profile of African infrastructure investments, however, is often more aligned with a growth-oriented opportunistic allocation. (Largely because most of the current demand for infrastructure financing in SSA is for debt and equity for new greenfield projects, which can present considerable construction risks.)² This mismatch means African infrastructure opportunities may have no obvious role within an asset owner’s portfolio.
- **Aligning With Climate and Sustainability Targets:** Increasingly, DFIs and a growing number of asset owners are voicing concerns about the economic consequences of unmitigated climate change and support for successful implementation of the Paris Agreement and the Sustainable Development Goals. Achieving the necessary emissions reductions requires the urgent development of new, low-carbon infrastructure in emerging markets rather than high-carbon alternatives. Focusing on positive, measurable progress toward achieving global environmental and social goals — alongside attractive financial and diversification benefits — will be increasingly important in attracting long-term capital to the SSA infrastructure market.

¹ “Those seeking to i) work with governments to develop ‘bankable’ projects and/or ii) convene investors to channel more funds into sustainable infrastructure projects. In most cases, mobilizers are working with and convening multiple stakeholders.” — Mercer and IDB, *Crossing the Bridge to Sustainable Infrastructure Investing* (2017), available at <https://publications.iadb.org/handle/11319/8242>.

² See appendix for a full glossary of common infrastructure investment terms of art.

- **Patience and Long-Term Commitment:** Most of the investments in infrastructure in SSA are in unlisted assets, due to the relatively underdeveloped capital markets in most of the countries in this region.³ Unlike most developed market countries, and a few emerging market countries, there are few opportunities for investing in African infrastructure by purchasing liquid stocks and bonds of infrastructure companies, municipalities or projects via public exchanges.⁴ In SSA, most infrastructure investments are made directly, in the debt or equity of projects, or indirectly, via unlisted and typically illiquid infrastructure funds run by general partners with the necessary expertise and contacts. Infrastructure project design and development is typically a long-term endeavor irrespective of the market in which it takes place. However, in SSA, due to relatively weak institutional frameworks and capacity, projects can take even longer. Developing a robust private African infrastructure portfolio that is focused on greenfield opportunities and pays distributions regularly can take many years, requiring both significant patience and conviction in the strategy.
- **Risk Perception and Reality Gap:** Although African infrastructure projects may take longer to complete construction than projects in other regions, these delays don't typically result in greater default risk. On the contrary, African infrastructure project debt has a lower default rate than similar debt in many developed market regions (for example, North America) and a significantly lower default rate than many other emerging market regions (such as Latin America and the Caribbean).⁵ Moreover, African infrastructure projects typically benefit from various risk controls, including:
 - Revenue certainty: Power purchase agreements and other long-term revenue contracts are often utilized, minimizing price risk
 - Currency risk controls: Many projects are US dollarized, minimizing currency risk
 - The regular use of DFI-provided risk mitigation instruments

³ A comprehensive review of capital markets in SSA and their impacts on infrastructure investments is provided in Mbeng Mezui et al's *Structured Finance-Conditions for Infrastructure Projects Bonds in African Markets* (2013), available at https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Structured_Finance_-_Conditions_for_Infrastructure_Project_Bonds_in_African_Markets.pdf.

⁴ In mid-March 2018, a framework for the issuance of listed project bonds was introduced in South Africa. See <https://af.reuters.com/article/commoditiesNews/idAFL8N1QG174>.

⁵ Moody's Investors Service. *Default and Recovery Rates for Project Finance Bank Loans, 1983-2016* (2018), p. 24, available at https://www.moody.com/research/Moodys-Default-and-recovery-rates-for-project-finance-bank-loans--PR_380331.

There is also an improving exit environment. Despite these factors, many investors appear to be dismissive of Africa on the basis of its perceived riskiness, or the returns offered appearing to be inadequate. Evidence suggests investors that have allocated to SSA infrastructure are considerably more positive about the risk/reward balance than those not already invested.

- **Regulatory Inhibitors:** Although this challenge primarily impacts a certain type of asset owner — namely, insurers — regulation is notable because of the central role infrastructure assets could increasingly play as liability-matching instruments, especially in life insurer portfolios. At present in the United States, National Association of Insurance Commissioners (NAIC) and state-level regulations apply significant regulatory capital charges to assets invested in private equity or to unrated debt. These charges can be as high as 30%. Since very little greenfield African infrastructure is financed using rated debt instruments, the ability for insurers to invest in this asset class is constrained.
- **Gaps in Financing:** The African infrastructure investment ecosystem is currently being hindered by several gaps in the capital structure. Commercial debt providers are relatively few in number, resulting in a correspondingly high cost of debt in the market. Moreover, commercial debt providers (apart from DFIs) are typically not willing to provide the long-tenor commitments that are often needed. Interviewees also cited a lack of venture-capital-type equity to kick start the development of early-stage/smaller projects, a lack of truly concessional blended capital from DFIs that could be used to crowd in more private investment and a lack of project refinancing certainty (linked to the relatively small debt market).
- **Contractor Challenges:** In many SSA countries, there is a shortage of creditworthy contractors available to develop infrastructure projects. This increases risks during the development and construction phase.
- **Asset Owner Bandwidth:** Many large asset owners with infrastructure allocations have small internal teams attempting to deploy large amounts of capital. This is especially true in the United States. With limited bandwidth, their ability to perform due diligence for opportunities that might be considered off center from their mandate is constrained.

KEY OPPORTUNITIES

To address the above issues, a number of potential solutions were suggested by interviewees that could be readily implemented by MiDA, USAID or similar organizations in conjunction with various investment value chain participants. Some of the potential solutions suggested follow:

- **Collaborative Investing or Club Deals:** To address asset owner capacity constraints and to increase capital flows into the region, arranging asset owner “clubs” could help. In a club deal, a syndication protocol is established wherein one investor leads underwriting of a fund or co-investment for the group, and other, typically smaller investors, follow along with voluntary investments of their own. This structure simplifies the due diligence of following investors and minimizes overall costs, which are shared *pari passu* between all investors. Such arrangements can be set up either for the financing of a single infrastructure project or on a portfolio basis.
- **Education on Risk Mitigation:** Although perceptions of risk in the African market frequently appear to be elevated above reality, many risk mitigation instruments exist and are regularly deployed by DFIs in SSA.⁶ Yet awareness and usage of these tools appeared to be quite low among the asset owners interviewed, including those investing in infrastructure directly. Even where asset owners were familiar with such instruments, skepticism regarding their utility was often expressed. More education around the types and uses of risk mitigants could be beneficial to getting over the risk-perception hurdle. But this education must be coupled with an effort to minimize the time typically required by DFIs to underwrite risk mitigation instruments.
- **Engaging Local Investors:** Facilitating partnerships and co-investment between non-African asset owners and their African counterparts — particularly local pension funds — could aid in overcoming certain infrastructure investment risks by better aligning with the interests of the local government.
- **DFI Investment Partnerships:** DFIs are experts in investing across emerging markets. By partnering with DFIs in African infrastructure funds or deals, uninitiated investors might gain comfort with the region and asset class. Such partnerships can be structured in

⁶ A good survey of these risk mitigation measures is provided in African Development Bank — IRMA's *Needs Assessment for Risk Mitigation in Africa: Demands and Solutions* (2013), available at <https://sustainabledevelopment.un.org/getWSDoc.php?id=3015>.

a variety of ways: with the DFI serving as an anchor LP in a fund, as the GP for a fund or as the lead in a co-investment. Private investors participating in projects alongside DFIs benefit from a “halo effect,” as projects with DFI participation are likely to be treated well by local governments. Moreover, DFIs are, for the most part, seen as “honest brokers” that structure transactions to achieve a positive developmental impact and are not driven solely by commercial interests. This perception also helps DFIs in resolving any disputes that may arise.

- **Increased Refinancing Opportunities:** Many asset owners have a preference for investing in infrastructure via the acquisition of senior debt of operating (or brownfield) projects. Such assets are sought by asset owners that view infrastructure as a long-term, inflation-hedging asset class suitable for their core or core plus real assets allocations, or as a component of a listed fixed income mandate. In SSA today, most of the opportunities for private sector financing of infrastructure are in private greenfield projects. Over time, these projects, if successful, will present opportunities for refinancing by institutional investors.

However, preparations for future refinancing should be made at initial financial close, if possible, to lower the overall cost of financing (primarily by reducing refinancing risk). Investors should be prepared to take advantage of these opportunities. And regulatory authorities should pave the way for new investment instruments, such as project bonds and infrastructure debt funds that are often used in refinancing. DFIs can help by offering to guarantee future refinancing, thus allowing project sponsors to use mini-perm bank loans for construction financing and bringing in institutional investors post-construction.

Another way for SSA governments to provide similar low-risk investment opportunities would be to implement asset recycling for select public infrastructure assets. Governments can finance the initial construction of the infrastructure and then sell it, or the lease rights, to institutional investors when it is up and running successfully. Given that the risks of the project will be lower at this point, the cost of financing should also be lower. Governments can then use the proceeds from the asset sale to develop additional new projects. This may be less costly for taxpayers in the long run, as the cost of capital from the private sector for greenfield projects is usually much higher than the cost of government borrowing.

Lead contributors to this report:

Mercer:

Max Messervy
Senior Associate, Responsible
Investment Consultant

Alex Bernhardt
Principal, US Responsible
Investment Leader

MiDA:

Daniel Bond
Senior Advisor

Aymeric Saha
Managing Director

02. INTRODUCTION

Mobilizing Institutional Investors to Develop Africa’s Infrastructure (MiDA), a partnership between the United States Agency for International Development (USAID) and the National Association of Securities Professionals (NASP), was established in part to explore the opportunities and challenges facing institutional investors regarding infrastructure investment in Sub-Saharan Africa (SSA). As part of this effort, MiDA appointed Mercer Investment Consulting LLC (“Mercer”) to research the motivations for and obstacles to investing in SSA infrastructure from both an asset owner and asset manager perspective.

The goal of this report is not to replicate existing research on this subject, which is extensive, but to create a broader understanding of what drives investment in the infrastructure asset class in emerging markets across the value chain by soliciting informed opinions from asset owners, their asset managers and pension consultants that directly influence such decisions. As part of the research and development process for this report, Mercer has worked alongside MiDA members and staff and the MiDA Advisory Council, made up of prominent asset owners. Additionally, Mercer participated in a MiDA-organized field trip to South Africa to speak with local asset owners and managers involved in SSA infrastructure.

It is also important to note that MiDA deliberately selected Mercer to perform this research so that a major global pension consultancy would engage the topic of Sub-Saharan African infrastructure investment and disseminate its findings among its asset owner clients.

A prior Mercer report on sustainable and emerging market infrastructure⁷ identified three categories of initiatives that seek to increase infrastructure investment: influencers, mobilizers and tool providers. Mobilizers were defined as “those seeking to i) work with governments to develop ‘bankable’ projects and/or ii) convene investors to channel more funds into sustainable infrastructure projects. In most cases, mobilizers are working with and convening multiple stakeholders.” MiDA stands within this type of initiative category, as it is trying to help overcome the key barriers facing private-sector financing of sustainable infrastructure, including:

- Lack of “bankable” project pipelines
- High development and transaction costs
- Lack of viable funding models and inadequate risk-adjusted returns
- Unfavorable and uncertain regulations and policies

⁷ Mercer and InterAmerican Development Bank. *Building a Bridge to Sustainable Infrastructure — Mapping the Global Initiatives That Are Paving the Way* (2016), p. 4, available at <https://publications.iadb.org/handle/11319/7943>.

To capture appropriate perspectives on these challenges, Mercer conducted a series of interviews in early 2018. Mercer interviewed seven asset owners and four asset managers. The general characteristics of the institutions interviewed are:

- **Asset owners:**

- All have experience investing in emerging market real assets (although not necessarily in SSA).
- All have substantial assets under management, with the group's total assets nearing US\$1 trillion.
- Three are US institutions, two are Canadian and two are European.
- Five are public pension funds, one is a foundation and one is an insurance company.

- **Asset managers:**

- All have a history of investing in African infrastructure.
- All have private infrastructure funds currently "in the market" (fundraising).
- Collectively, they offer a diversity of private infrastructure funds (for example, equity and debt, greenfield and brownfield).
- All have more than US\$140 billion in AUM and nearly US\$8 billion invested in infrastructure collectively.

Through the asset owner interviews, we aimed to learn about each fund's history with investing in emerging market infrastructure generally (for example, processes followed to secure approval). We also wanted to gain an understanding of what makes African (or emerging market) infrastructure an attractive investment (or not) for their portfolios. We also focused on the role risk-mitigation instruments might better play to increase asset owner comfort with/allocation to the asset class.

Through our interviews of asset managers, we aimed to understand the characteristics of their products currently in the market and their relative attractiveness to institutional investors generally versus the broader global infrastructure fund opportunity set. We also focused in these conversations on the importance of risk-mitigation mechanisms to investing in African infrastructure and what typically makes African infrastructure an attractive investment for US asset owners in particular.



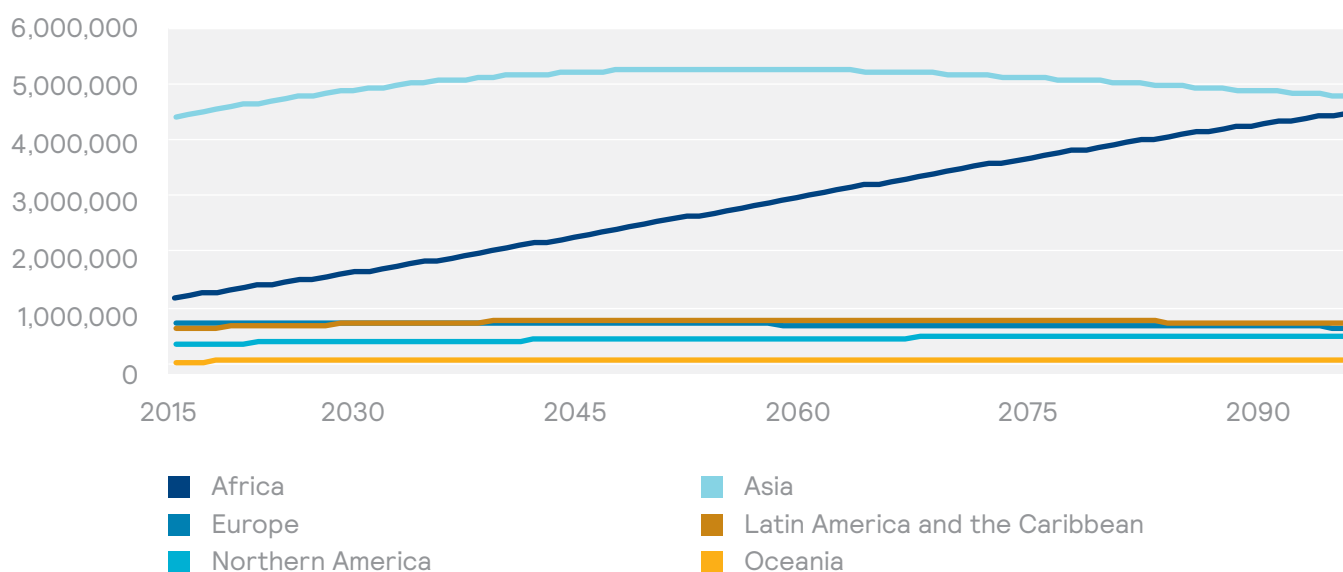
03. INFRASTRUCTURE INVESTMENT IN SUB-SAHARAN AFRICA

The African continent is home to more than one billion people and has the world's highest rate of population growth. The United Nations projects that the total population of Africa will climb from 1.3 billion people in 2017 to just under 4.5 billion by 2100.⁸ These figures indicate that Africa's population growth will be the main contributor to increasing the global population after 2030, with other regions of the world either stabilizing, decreasing or increasing only slightly.⁹

Any broad discussion of SSA infrastructure investment must take into account the continent's looming population boom and the impacts such dynamics can have on economic development trajectories and natural resource consumption.

These figures also raise fundamental questions regarding whether future African generations will have access to sufficient supplies of food, water, electricity and transportation services.

Figure 1. Population Projections: 2015–2100
United Nations Medium Variant (Thousands)



Source: United Nations, Department of Economic and Social Affairs, Population Division. *World Population Prospects: The 2017 Revision*, DVD Edition, 2017.

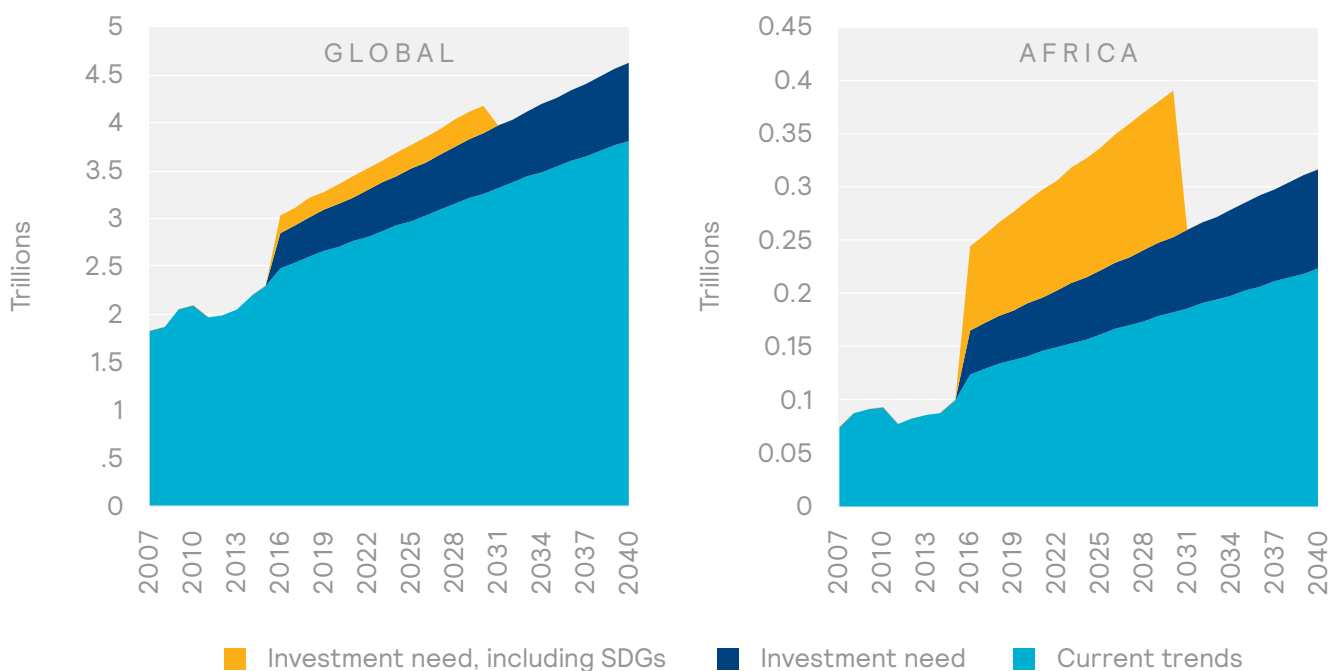
⁸ United Nations, Department of Economic and Social Affairs, Population Division. *World Population Prospects: The 2017 Revision*, p. 23, "medium variant" projection.

⁹ Ibid, p. 25.

In 2015, the United Nations adopted the Sustainable Development Goals (SDGs), an ambitious set of principles with the ultimate goal of eradicating all forms of poverty by 2030. The SDGs commit all signatories to achieving sustainable development across economic, social and environmental dimensions,¹⁰ and, as such, the goals are quite comprehensive in scope. A number of the SDGs have direct implications for infrastructure development. This includes but is not limited to Goals 6, 7, 9 and 13, which concern ensuring water availability and energy access for all, building resilient infrastructure and combatting climate change, respectively.¹¹

Meeting these goals, particularly in SSA, will require an immense commitment of resources and coordination among governments, NGOs and the private sector. The Global Infrastructure Hub (GI Hub), a project launched by the G20 in 2014 to help “grow the global pipeline of quality, bankable infrastructure projects,”¹² has performed in-depth analyses of infrastructure spending projections that quantify the “need gap” between current African infrastructure spending and peer-country best practices. Furthermore, the GI Hub quantified the sizeable gap between current spending and what it would take to meet the SDGs for universal electricity, water and sanitation access.

Figure 2. Infrastructure Spending Projections: Global and Africa, in Trillions USD



Source: Global Infrastructure Hub’s “Infrastructure Outlook: Africa” (2018), available at <https://outlook.gihub.org/region/Africa>.

¹⁰ United Nations, Department of Economic and Social Affairs. *Transforming Our World: The 2030 Agenda for Sustainable Development* (2015), available at <https://sustainabledevelopment.un.org/post2015/transformingourworld>.

¹¹ Ibid.

¹² Global Infrastructure Hub’s “About GI Hub” (2018), available at <https://www.gihub.org/about/about/>.

The global figures above show an US\$18 trillion aggregate gap in infrastructure when the SDGs are considered, or more than US\$700 billion per annum through 2040. Comparable figures for Africa show a US\$3.3 trillion aggregate gap when the SDGs are considered, or more than US\$132 billion per annum above current baseline investment levels through 2040.

To close even the baseline gap for infrastructure investment needs without considering SDG targets, significant private capital investments in African infrastructure will be needed. Public spending on infrastructure has stalled since the financial crisis and is unlikely to increase significantly in the decades to come,¹³ so galvanizing private capital will be essential. The total assets under management of asset owners in the Organisation for Economic Cooperation and Development (OECD) area is estimated at more than US\$55 trillion.¹⁴ Approximately 1% of this is already allocated to unlisted infrastructure assets.¹⁵ Increasing this amount by 2.5 times, from roughly US\$550 billion to US\$1.4 trillion, would be sufficient to close the US\$700 billion global annual funding gap. This would represent a very small portion of OECD asset owner assets (US\$700 billion of US\$55 trillion, or 1.3%) but represent a very significant shift in the portion allocated to infrastructure. Only 19% of this increase, or about a quarter of a percent of total asset owner assets, would need to be allocated to Africa to meet the need there.

For many investors, the primary factor that may drive increased investment of the sort required in African infrastructure is the potential for outsize investment returns. A survey of 186 international investors found that of those asset owners that allocate to emerging market infrastructure, a 7% to 11% equity premium was required compared to OECD infrastructure return rates (which typically range from 10% to 12%).¹⁶ According to research by African Infrastructure Investment Managers (AIIM), investments made in African infrastructure projects from construction through maturity are able to target dollar returns on the order of 20%. Investments made once projects are operating offer dollar returns in the low-to-mid teens.¹⁷

These premiums, however, come with significant perceived risks. For instance, a Boston Consulting Group and Africa Finance Corporation report noted that the gestation periods for African projects are typically seven to 10 years, often due to unforeseen delays — longer than equivalent projects in OECD countries. The report also noted that developers tend to assess project timelines and costs at 20% to 30% longer and higher compared to developed economies.¹⁸ These delays and costs are typically the result of poor institutional frameworks and government inaction.¹⁹ Although the risks associated with project preparation, construction delays and cost overruns can be avoided by investing in operating projects, the number of existing brownfield assets eligible for investment

¹³ World Bank Group, Office of the Chief Economist for the Africa Region. *Africa's Pulse: Volume 15* (2017), p. 86, available at <http://documents.worldbank.org/curated/en/348741492463112162/pdf/114375-REVISED-4-18-PMWB-AfricasPulse-Spring2017-vol15-ENGLISH-FINAL-web.pdf>.

¹⁴ OECD. *Survey of Large Pension Funds and Public Pension Reserve Funds* (2018), p. 10, available at <http://www.oecd.org/finance/surveylargepensionfunds.htm>.

¹⁵ Ibid, p. 15.

¹⁶ EDHEC Infrastructure Investment Institute–Singapore. *Investor Perceptions of Infrastructure* (2017), p. 80, available at <https://github-webtools.s3.amazonaws.com/umbraco/media/1820/gih-edhec-investor-survey-2017-web.pdf>.

¹⁷ AIIM. *An Analysis of the PE Exit Environment in African Infrastructure 2009–2017* (2017), p. 10.

¹⁸ Boston Consulting Group and Africa Finance Corporation. *Infrastructure Financing in Sub-Saharan Africa: Best Practices From Ten Years in the Field* (2017), p. 22, available at <http://www.africafc.org/News-Events/News-Press-Releases/AFC-BCG-Report.aspx>.

¹⁹ Ibid, p. 19.

is currently more limited than in more established developed markets. (And, as highlighted in the previous charts, the demand for new infrastructure assets is significant.) One option for increasing the supply of investable brownfield projects at this stage of the market's development would be establishing refinancing or capital recycling facilities for heretofore equity-funded greenfield projects once construction has been completed.

Notwithstanding the above, given the demand, the opportunities for private capital infrastructure investment in Africa are quite large versus current private inflows. Over the past 25 years, private investment in core African transport and power infrastructure has totaled only US\$51 billion, compared to US\$300 billion in Brazil since 1995 and US\$115 billion in Turkey.²⁰ Brazil and Turkey offer emerging market examples of the levels of private investment possible when governments develop robust legal and regulatory structures to facilitate public-private partnerships (PPPs) through reducing uncertainty and enhancing transparency for investors.

Although not specific to SSA, a 2017 survey of asset owners found that 38% reported investments in emerging market infrastructure, and of those that had investments, 82% expected to increase their allocation to the sector. This is a helpful finding given the investment gap highlighted on the prior pages.²¹ These survey findings illustrate both the need for and goals of this project. Namely, although a minority of asset owners are currently investing in SSA, those that are invested expect to increase their investments in the region due to the opportunities there.

Compared to Latin American infrastructure markets, SSA shows both a materially lower total transaction count and growth trend, and substantially lower total transaction values on an annual basis, as shown in Figure 3 on the following page. This chart clearly illustrates the pervasive infrastructure gap between SSA and other emerging market regions.

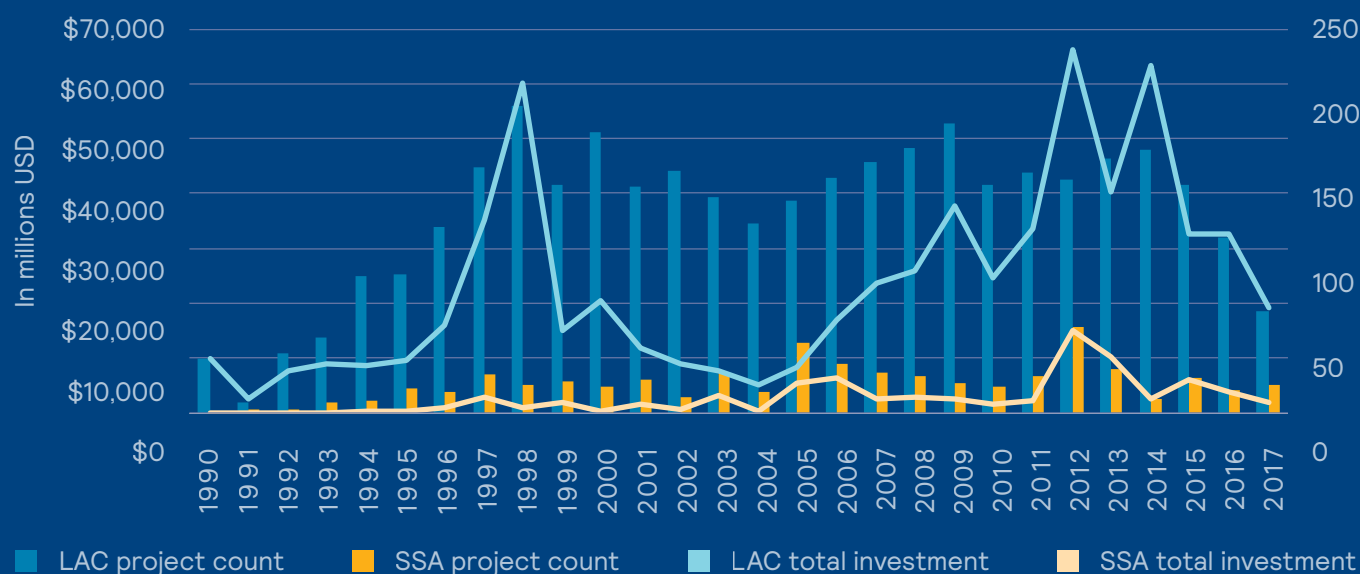
Figure 4 provides a comparison of emerging market economies' infrastructure investment trends on a global basis, grouped by income classification as determined by the World Bank.²² The majority of SSA countries are classified as either low or lower-middle income on this scale, indicating gross national incomes (GNIs) per capita of US\$1,005 or less in 2016, or between US\$1,006 and US\$3,955, respectively. This chart dramatizes infrastructure underinvestment in low-income countries in particular.

²⁰ Ibid, pp. 13–14.

²¹ EDHEC Infrastructure Investment Institute–Singapore. *Investor Perceptions of Infrastructure* (2017), p. 24, available at <https://github-webtools.s3.amazonaws.com/umbraco/media/1820/gih-edhec-investor-survey-2017-web.pdf>.

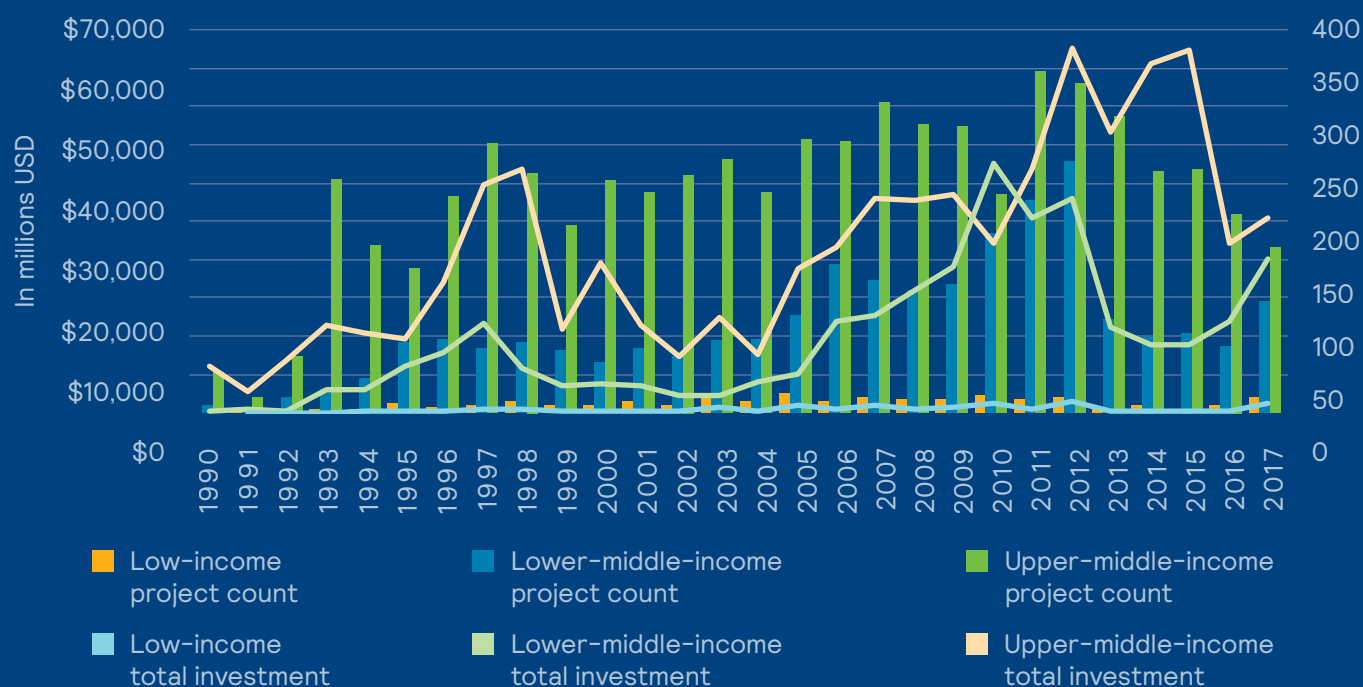
²² The World Bank. *World Bank Country and Lending Groups* (2018), available at <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519>.

Figure 3. Infrastructure Transaction Value and Count — A Regional Comparison of Latin America and the Caribbean (LAC) and Sub-Saharan Africa (SSA)



Source: World Bank Private Participation in Infrastructure (PPI) Database, available at <http://ppi.worldbank.org/visualization/ppi.html>.

Figure 4. Infrastructure Transaction Value and Count — A Comparison of Low-, Lower-Middle- and Upper-Middle-Income Countries



Source: World Bank Private Participation in Infrastructure (PPI) Database, available at <http://ppi.worldbank.org/visualization/ppi.html>.

04. THE INFRASTRUCTURE INVESTMENT VALUE CHAIN

Most asset owners (pension funds, insurance companies, sovereign wealth funds and endowments) are relatively risk averse and do not have the capacity to invest directly in individual assets. Rather, they seek to deploy capital through funds. By virtue of these characteristics, asset owners have frequently been hesitant to invest in infrastructure as an asset class, even though it can provide stable, long-term, inflation-adjusted returns with low correlation to most other types of investment assets — attributes that buy-and-hold investors seek for asset-liability matching.

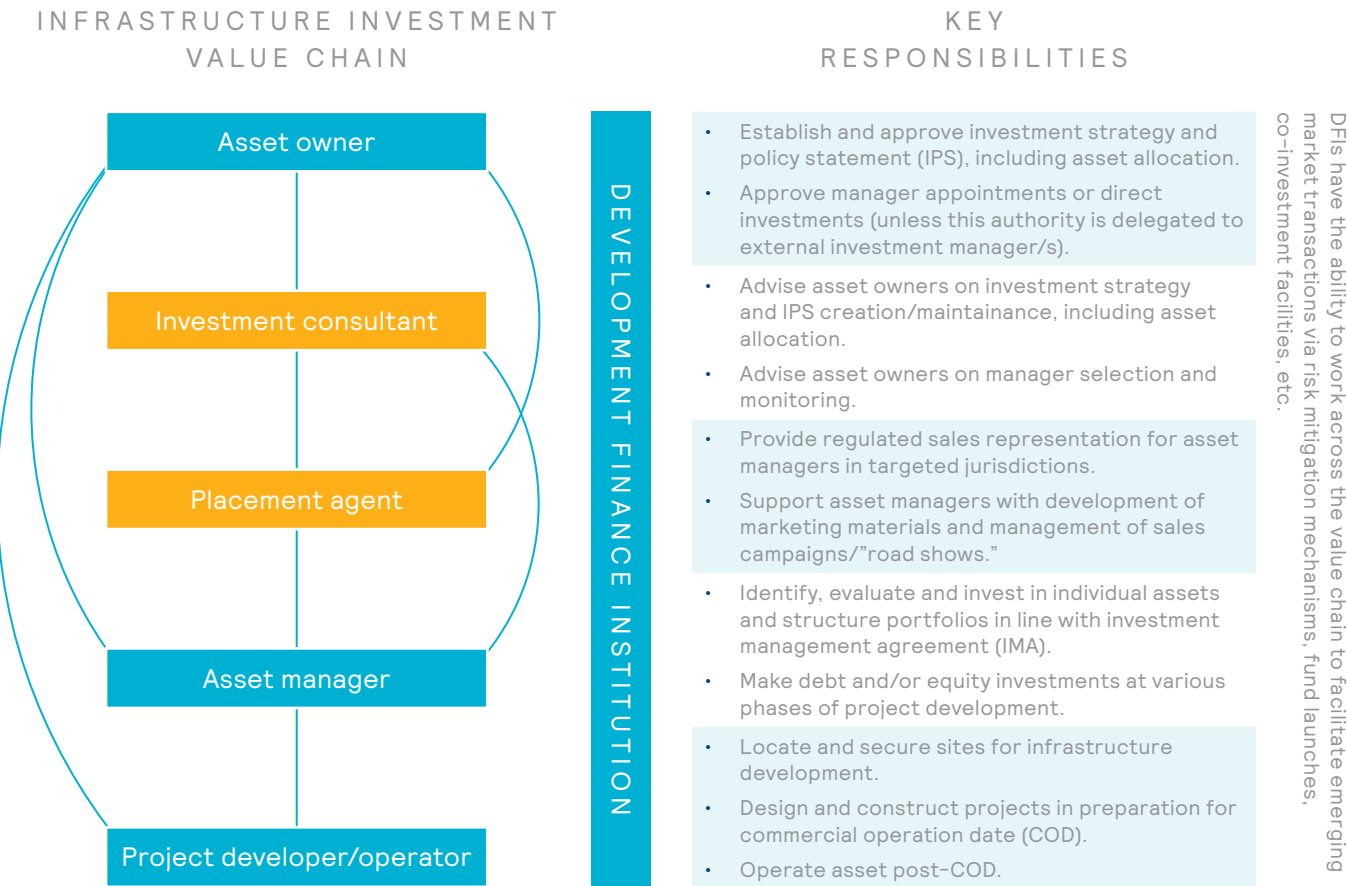
Against this backdrop, institutional investors have been steadily increasing their allocations to alternative assets, including infrastructure, over the past several years. They have normally done so gradually, moving up both the learning and risk curves. Typically, for their initial investments, they have used third parties to select and manage their infrastructure investments. The most common initial approach has been to invest in rated infrastructure debt (usually bonds) or via unlisted and in some cases listed infrastructure funds. Rating agencies and external fund managers therefore provide the requisite asset-level underwriting expertise.

Asset owners have also tended to have an initial bias toward their home markets — or markets they view as presenting lower political and regulatory risks — as an initial entry point. And they have tended to focus on investments in successfully operating projects rather than project development or construction financing. Only after they have gained some experience with infrastructure investments are asset owners likely to venture into infrastructure in emerging markets or greenfield projects, usually in the quest for higher returns and greater portfolio diversification.

Against the above, some of the world's largest institutional investors have developed large and focused direct-asset-based infrastructure investment programs supported by well-resourced and specialized in-house investment teams. A selection of these players is now turning its focus to emerging markets in the quest for higher returns and less competition for assets.

From the interviews conducted for this study, it became clear that the decision by an individual asset owner to make an investment in SSA infrastructure usually comes after a long period of information exchange and consultation. This involves several different stakeholders, both internal (for example, boards and committees) and external (for example, advisors and other value chain participants). Such an exploration period is warranted, since the infrastructure investment value chain can be quite complex. It includes a variety of different participants — asset owners and asset managers plus investment consultants, placement agents, project sponsors (the developers and operators of a project) and, in the context of emerging markets, development finance institutions — all of which play a unique role.

Figure 5. Infrastructure Investment Value Chain and Responsibilities



Source: Mercer.

The key roles of the members of this value chain are:

ASSET OWNERS

The decision for an asset owner to invest in African infrastructure is complex and influenced by a variety of factors and participants in the value chain. Since asset owners with large allocations to infrastructure are more likely to have adequate capacity to make regionally focused investments, the focus of the following commentary is on large infrastructure investors. Smaller asset

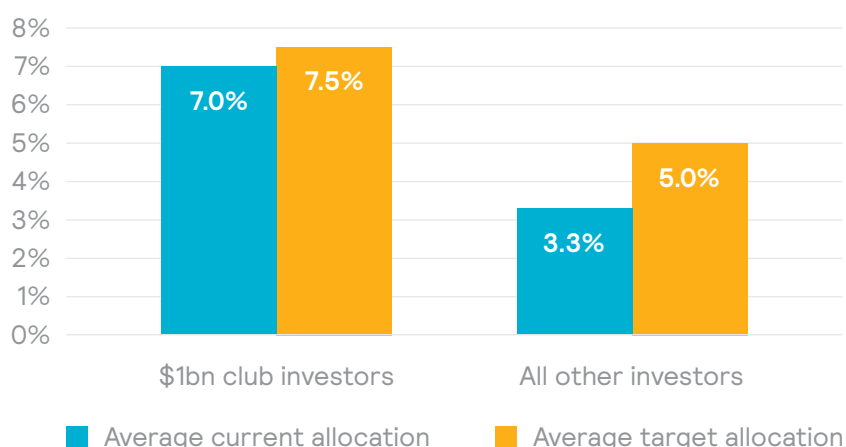
owners, on the other hand, though they may have an infrastructure allocation, are more likely to favor global funds that can offer them regional diversification. Although global funds may include exposure to Africa, specific allocations to the continent are not likely among smaller investors. (Rather, in these cases, the focus should be on allocations made by their external fund managers.)

The 75 asset owners globally with larger than US\$1 billion allocations to infrastructure are a relatively heterogeneous group. Although Canadian investors make up six of the top 10 such investors by current allocation size, and Australian investors account for 14 of the total, overall, the 75 come from more than a dozen different countries and represent several different investor types. Some commonalities these investors share include:

- Size (an average AUM of US\$100 billion)
- A dedicated infrastructure allocation (as opposed to an allocation included within a broader real assets mandate, for instance)
- An ability to access infrastructure exposure directly as well as through unlisted funds
- An average allocation to infrastructure of 7% of total AUM
- More than 90% realization of their target infrastructure allocation on average

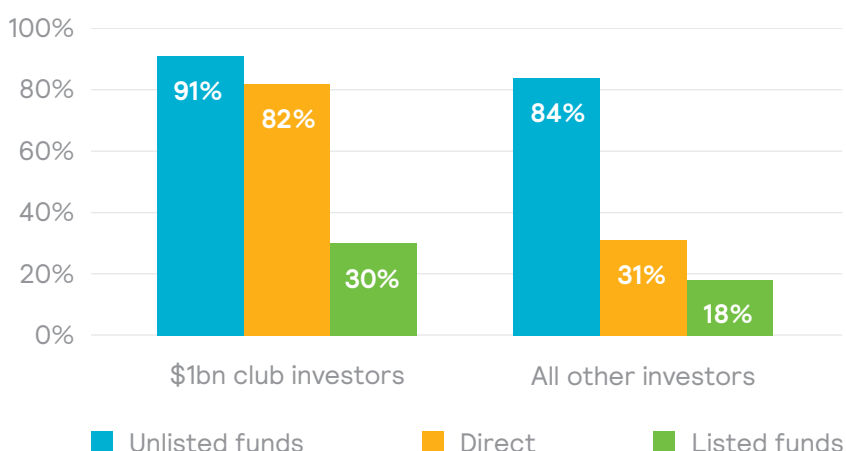
By comparison, asset owners with a smaller allocation often bundle infrastructure with other asset classes, rarely invest directly, have an average allocation of only 3.3% and have a harder time meeting their aspirational targets.²³

Figure 6. Average and Target Allocations to Infrastructure: \$1bn Club Investors Versus All Other Infrastructure Investors



Source: Preqin. "The \$1bn Club: Largest Infrastructure Fund Managers and Investors," Real Assets Spotlight, Volume 1, Issue 3 (August 2016), available at <http://docs.preqin.com/newsletters/ra/Preqin-RASL-August-16-Feature-One-Billion-Club-Infrastructure.pdf>.

Figure 7. Route to Market: \$1bn Club Investors Versus All Other



Source: Preqin. "The \$1bn Club: Largest Infrastructure Fund Managers and Investors," Real Assets Spotlight, Volume 1, Issue 3 (August 2016), available at <http://docs.preqin.com/newsletters/ra/Preqin-RASL-August-16-Feature-One-Billion-Club-Infrastructure.pdf>.

²³ Note, these numbers only address investors with infrastructure allocations. Investors with a 0% allocation to infrastructure are not considered.

There are lessons to be learned from the Canadian and Australian experiences²⁴ and from the interviews summarized in this report. But there is no single pathway for an individual investor to become a large allocator to infrastructure and, therein, to SSA exposure.

ASSET MANAGERS

These organizations identify investment opportunities, evaluate the risks and returns and invest in projects. They should have staff with significant experience in infrastructure financing and operations. They receive allocations from asset owners to invest their funds, meeting specific criteria agreed upon with the asset owners. They may approach asset owners directly or use placement agents. They need to know the financing needs and performance capabilities of project sponsors in order to identify investment opportunities.

The number of asset managers targeting SSA infrastructure exclusively is small. More than half of the total funds going into SSA projects comes from fund managers that include Africa as part of a wider geographic focus.²⁵

From the viewpoint of project sponsors, one of the key advantages of having asset managers responsible for investments is that they are active investors and can respond to any requests from the sponsors in a timely and useful manner. Especially during the construction period, project sponsors need waivers, consents and other forms of feedback from their creditors. More passive and less knowledgeable investors, such as most pension funds, are not good at providing such feedback.

Since asset managers seek to have projects constructed on time and within budget, their active involvement with projects provides “value for money” for public projects carried out as PPPs or concessions. This is the prime justification for using private-sector financing rather than less-costly government funding.

INVESTMENT CONSULTANTS

Asset owners are ultimately responsible for the approval of an investment policy statement (IPS) and for ensuring subsequent investments are made according to IPS guidelines. Nonetheless, IPS construction and individual investment decisions can be significantly influenced by investment consultants. In some cases, investment consultants are delegated complete authority over individual investment decisions (the so-called “outsourced CIO” model). In others, the advice provided by investment consultants can be overridden by asset owner staff or committees. Generally, however, the advice of investment consultants has a meaningful bearing on final investment decision-making.

Figure 8. General Illustration of the Influence of Investment Consultants Relative to Asset Owner Size



Source: Mercer.

²⁴ Inderst G and Della Croce R. *Pension Fund Investment in Infrastructure: A Comparison Between Australia and Canada* (2013), available at <http://www.oecd.org/pensions/pensionfundinfrastructureaustraliacanada2013.pdf>.

²⁵ Preqin. *The Infrastructure Market in Africa* (2016), available at <http://docs.preqin.com/reports/Preqin-Special-Report-Africa-Infrastructure-August-2016.pdf>.

The scope of a given asset owner–consultant relationship and the consultant’s degree of influence varies. Generally, the larger the asset owner, the more internal staff will be maintained to support fund due diligence or direct investing within asset classes, thus reducing reliance on outside advice. Since the 75 asset owners with the largest allocations to infrastructure worldwide often prefer to access infrastructure exposure directly (including several interviewed for this report), their reliance on investment consultants within the infrastructure asset class (for example, to support manager selection) is likely low.

This being said, large asset owners still often retain consultants to help with asset allocation, to review IPS objectives or to review internal investment due diligence practices. In this context, if a current IPS or investment practice inhibits (explicitly or indirectly) investment in SSA, investment consultants would do well to inform their clients and recommend supportive changes. This of course, depends on the extent to which the African infrastructure investment value proposition is deemed to be unique and worth pursuing given associated risks/costs.

PLACEMENT AGENTS

For many SSA-focused investment managers domiciled outside North America, establishing internal distribution platforms in the region (or others) can be a difficult proposition. Placement agents provide asset managers with an outsourced distribution capability replete with regulatory licensing in the targeted jurisdiction. In addition, placement agents typically support asset managers with the development and management of marketing materials and sales campaigns. Placement agents can play a critical role in offering overseas asset managers the chance to “bridge the gap” with developed economy asset owners and to access larger pools of potential investment capital.

PROJECT SPONSORS

Project sponsors, usually infrastructure development companies or large construction or operations firms, are responsible for putting projects together and operating them. They locate and secure sites, prepare the designs, enter bids in response to RFPs, arrange financing, undertake construction and often are in charge of operations post-construction. They also invest in projects, putting in some of the initial equity and sometimes providing debt financing as well. They make the final decisions on how projects are financed and refinanced. They thus work closely with asset managers to secure the financing they need to make projects happen. And, in some cases, they have direct contact with larger asset owners.

SUMMARY

The key question this report seeks to answer is how to get the majority of institutional investors not currently investing in SSA infrastructure to make an allocation. This means understanding the barriers to this decision that investors face and how these barriers can be removed or mitigated. By learning from investors currently invested in emerging market or SSA real assets and hearing their stories of how their firms decided to invest there, this report attempts to approach a well-studied topic from a novel perspective.

Building on the perspectives gathered through interviews, this report will analyze the investment value chain above to determine where potential interventions could best be made by mobilizers — like MiDA — to unlock more interest in/appetite for SSA infrastructure investment. Although there is no one way to unlock greater private investment in SSA infrastructure, this report aims to provide some practical yet potentially impactful recommendations for action. Such action should help create a brighter future for Africa and its people while also improving the investment outcomes of developed-world asset owners.

05. ASSET OWNER PERSPECTIVES

Asset owners have shown a growing interest in emerging market infrastructure in recent years. Although individual investors' reasons will vary, a survey of 184 investors, including asset owner representatives, indicated that asset owners “are drawn to emerging market infrastructure ... [in] the search for higher returns, followed by the lack of investment opportunities in OECD infrastructure. Creating diversification benefits across countries or sectors is a lesser concern.”²⁶

Through interviews, we set out to better understand investor views on SSA infrastructure and how these differ from their views on investment in other emerging markets. Our objective was to uncover potential strategies to unlock further financing of SSA infrastructure. We interviewed a total of seven asset owners for this study. Included were five public pension funds, one foundation and one insurance company.

The asset owners interviewed for this report offered a diverse set of observations on the risks and opportunities of infrastructure investment in SSA. The following key themes emerged from the interviews and provided useful insights.

THE ROLE OF SSA INFRASTRUCTURE IN PORTFOLIOS: A RANGE OF CONTRASTING VIEWS

Diversification

Two North American asset owners interviewed have large dedicated infrastructure allocations mostly realized through direct (as opposed to fund) investment. Although they can appreciate the rationale for investing in SSA infrastructure from a diversification perspective, they indicated that they have been able to effectively meet their portfolio return and diversification requirements through investing in Asia, Latin America, North America and northwestern Europe – markets where they generally have more comfort and experience. These asset owners believe their mandates, as currently constituted, do not require investment in SSA infrastructure. One interviewee additionally noted that their fund does not expect to make allocations to SSA infrastructure within the next decade.

²⁶ EDHEC Infrastructure Institute–Singapore. *Towards Better Infrastructure Investment Products?* (2016), available at http://edhec.infrastructure.institute/wp-content/uploads/publications/blanc-brude_2016e.pdf.

The reasons for this skepticism were various. One of the two investors indicated that their internal benchmarks determined by their central risk team are increased by the credit default swap (CDS) spread of the sovereign in which an investment is made over their domestic market. For African countries, this spread can be significant, raising the bar for relative outperformance of African assets. Both of the investors expressing this view have robust and mature direct infrastructure investing programs in other markets. But, to date, they have not placed “boots on the ground” or sought appropriate technical expertise that might grant them an advantage in SSA. Although such efforts could help them get comfortable with what they view as higher currency and political risk in the region (which one investor referred to as “uncontrollable”), these investors indicated little interest in expending the resources necessary. One had considered entering the market through a fund relationship, but this has not been a priority.

The other asset owners offered a contrasting view on the diversification benefits of investing in SSA infrastructure. In their experience, SSA does not behave in the same way as other global markets. This low correlation factor, from one investor’s perspective, is most effectively captured by investing in “local economies and local people” rather than solely considering geography as a diversification feature. Using real estate as an example, this entails investing in housing for local populations rather than commercial real estate intended to house multinational corporation operations in Africa. When investing in commercial real estate, the risk profile does not change materially across jurisdictions, since the tenants

are often the same. However, the risk that the multinational for which the property was built may leave a country if political or civil disturbances arise does increase. But the need for housing in Africa is tremendous and will typically continue to grow irrespective of the political environment. Investing in such assets offers a truly unique risk profile versus investing in other real estate markets, since the macro conditions and demographics are so different. This method of investing has the added benefit of being socially necessary and beneficial if done correctly.

[The Role of Infrastructure as an Asset Class](#)

The key contrast between investors’ views of SSA’s diversification factor appears to lie in whether those investors are currently invested in the region or not, whether they are direct or fund investors, and the role of infrastructure as an asset class in their portfolios. Those currently invested on the continent believe infrastructure assets in SSA offer a unique diversification strategy, whereas those not invested believe they can find appropriately uncorrelated assets in other regions. Moreover, direct investors may not feel the need to invest in Africa given the amount of deal-level opportunity they are seeing in other regions. The role of infrastructure as an asset class in an investor’s portfolio is also a contributing factor. If the asset class is meant primarily to serve an inflation-protection purpose, then investing in greenfield African assets may not be necessary to achieve the investor’s related goal. If, however, an investor positions infrastructure as a growth play, African investments — which can have much higher return expectations — become more attractive.

Climate and Sustainability

Although none of the asset owners interviewed identified climate change or sustainability concerns as the primary driver of their interest in SSA infrastructure investment, all were well aware of the potential environmental and social benefits such investments generate. One investor cited the growing convergence between sustainability and financial aims. This investor indicated that its returns for investing in essential real assets were more durable if those assets provided essential services to meet the demands of a burgeoning middle class on the continent. Impact investors — those that explicitly seek to generate positive and measurable environmental and social outcomes alongside financial returns — will find the African infrastructure opportunity resonates loudly given the outsize opportunity for both impact and return in comparison to other regions.

PATIENCE AND A LONG-TERM COMMITMENT NEEDED FOR SUCCESS

A common theme from investors invested in real assets in Africa was that making significant investments on the continent is necessarily a long-term play. Investors need both patience and the willingness to develop strong relationships with partners on the ground. Multiple asset owners indicated that they began to seriously evaluate SSA infrastructure and real assets investments around the 2010–2012 timeframe as the larger macroeconomic environment shifted to a search for yield. These funds built up their comfort and local knowledge over time through thorough desk research, robust local due diligence processes and organizational education efforts (typically from the board through staff). This long-term effort served to increase institutional comfort with investing in the region. All the investors currently invested in African real assets interviewed for this report indicated they are now actively planning to increase their SSA allocations.

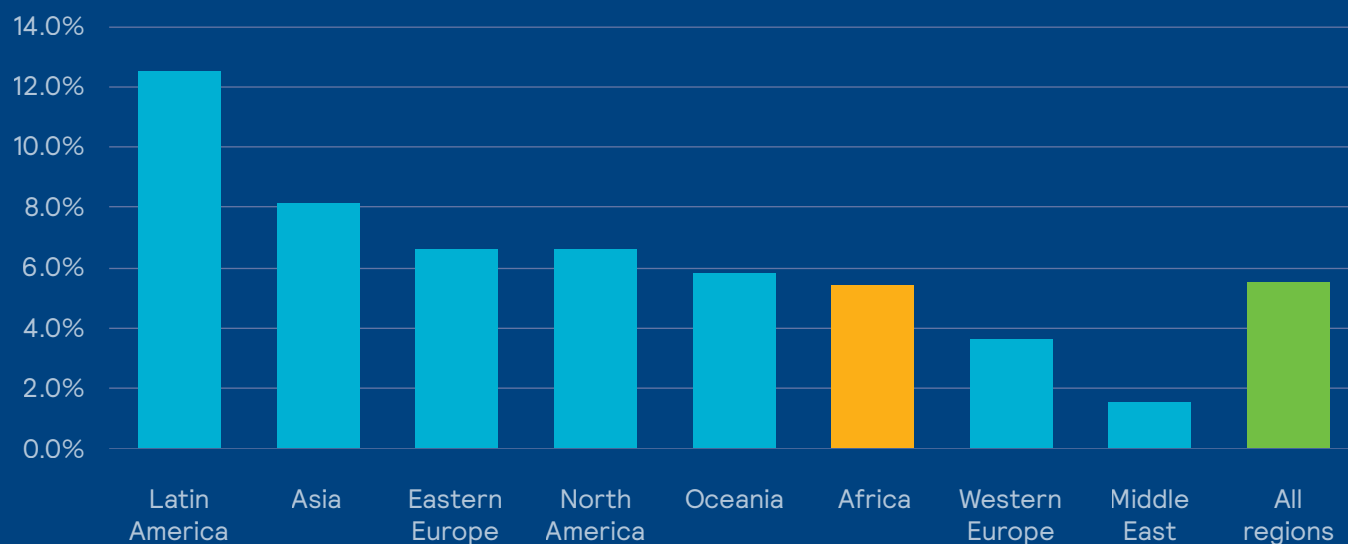
In addition to lengthy due diligence in advance of investing in Africa, interviewees indicated that investors also need to be patient after capital deployment. Deals often take longer to formulate and complete in Africa due to institutional deficiencies or bottlenecks. Although longer deal timeframes compress time-weighted returns, one investor indicated that achievable outcomes are still generally expected to be higher than for similar investments in other regions, as are investment multiples.

The level of due diligence required to successfully invest in SSA, combined with a broad perception of heightened risk compared to other markets, were deterrents to other asset owners as noted in the section on diversification above. For these asset owners that indicated they are able to meet their mandates without having to engage in lengthy commitments to evaluate opportunities in SSA, the risk-reward tradeoffs on the continent are apparently not compelling enough to warrant the due diligence required.

SSA RISK PERCEPTION AMONG ASSET OWNERS MAY BE OVERBLOWN

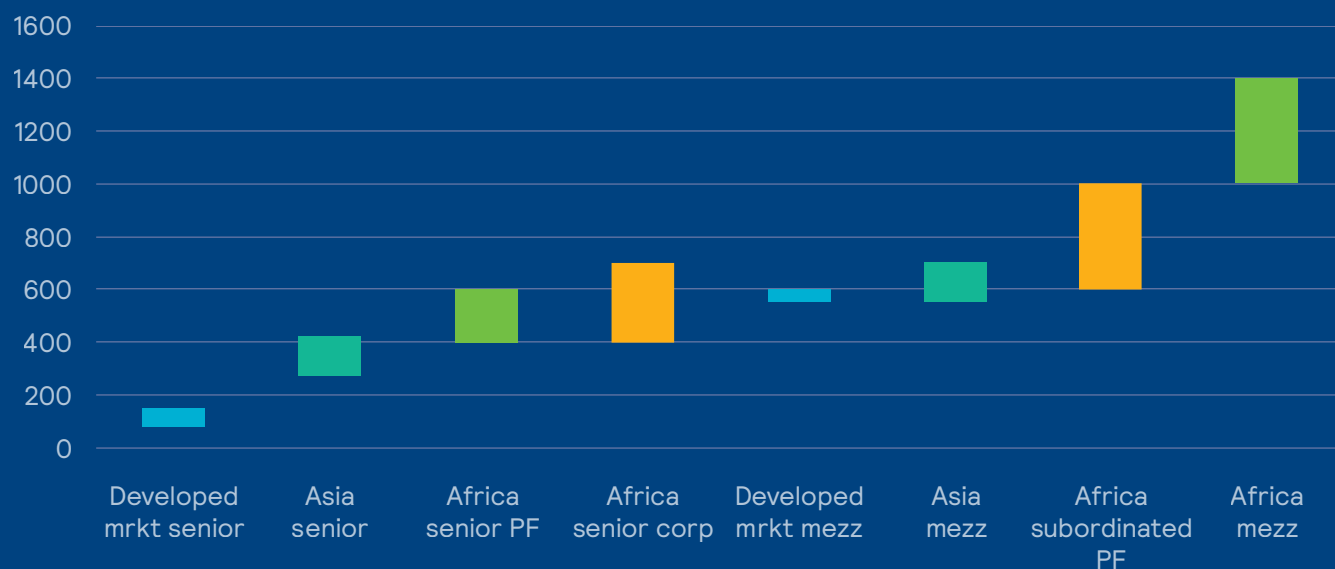
Asset owners that are already invested in SSA infrastructure are generally positive about their experiences and outlook for future involvement on the continent. One asset owner noted that the fund had “categorically” never lost money on investments in SSA, whereas some of the fund’s investments in Asian emerging markets had been much more volatile, posting both big losses and big gains. Another asset owner indicated that the fund had gained a strong level of comfort on the continent through structuring deals with a development finance institution (DFI) and other partners.

Figure 9. Project Finance Default Rates 1990–2016



Source: Moody's Investors Service. *Default and Recovery Rates for Project Finance Bank Loans, 1983–2016* (2018), p. 24, available at https://www.moodys.com/research/Moodys-Default-and-recovery-rates-for-project-finance-bank-loans--PR_380331.

Figure 10. Current Infrastructure Debt Spreads, in Basis Points



Source: Investec Asset Management, Industry Expert Interviews as of May 2018.

The charts above seem to reflect these investors' positive experiences. On a macro level, African project default rates remain quite low, even when compared to developed markets, whereas returns have been high. However, given the relatively limited private investment experience in Africa and issues with data depth and quality, the above charts should be considered suggestive rather than definitive. More research on the financial and sustainability-related performance of African infrastructure investment is certainly needed to improve the financial case. Without better performance data, it will be difficult to convince a wide array of investors that well-structured projects in SSA can overcome the weaknesses in the rule of law and regulatory stability of many countries in SSA.

REGULATIONS IMPEDE SOME INVESTOR TYPES FROM CONSIDERING SSA INFRASTRUCTURE INVESTMENTS

Insurance companies' liabilities — which can stretch to more than 30 years for life insurers — would align well with the long-term financing needs of SSA infrastructure development. But regulatory challenges appear to be prohibiting insurers from gaining significant exposure to the continent at this time. US insurance companies can be subject to prohibitive capital charges of more than 30% on equity investments.²⁷ This hampers insurers' abilities to invest in private equity funds or direct-equity financing of projects. For this reason and others, their assets are held primarily in high-quality debt instruments.

Since most of the opportunities for investing in SSA infrastructure are via equity or subinvestment-grade debt, this limits the opportunities of these companies to invest in SSA infrastructure. Risk mitigation instruments are attractive to such investors, as capital charges levied on noninvestment-grade securities are severe enough that they can quickly erode any emerging market risk premium.

²⁷ National Association of Insurance Commissioners. *Investment RBC Charges* (2018), p. 4, available at http://www.naic.org/documents/committees_e_capad_investment_rbc_wg_related_irbc_factors.pdf.

06. ASSET MANAGER PERSPECTIVES

As noted above, the number of asset managers targeting SSA infrastructure exclusively is small. For the period 2007–2016, 24 Africa-focused infrastructure funds closed with aggregate capital of US\$4.6 billion. By comparison, 115 global funds that may have an allocation to Africa closed during the period and raised an aggregate US\$102 billion.²⁸ The asset managers interviewed for this study come from both categories, but are all experienced African infrastructure investors with a variety of related private equity and debt funds to their credit. All were also currently in the market at the time of writing, with new emerging market or Africa-focused infrastructure fund offerings. The following key themes emerged from the interviews and provided useful insights.

THERE IS A GAP BETWEEN PERCEIVED AND ACTUAL RISK AMONG ASSET OWNERS

The asset managers interviewed for this project unanimously expressed the sense that, despite the popular opinion of many asset owners, investing in African infrastructure can actually be significantly *less risky* compared to investing in infrastructure in developed and other emerging markets. The chart in Figure 9, derived from Moody's Investors Service project finance bank loan default data, shows that African default rates are lower than the average across all global regions and significantly lower than the majority of key developed and developing markets.

The reasons behind lower project default rates are multiple, according to the asset managers we interviewed, although three aspects of African infrastructure finance in particular stood out:

- **Revenue Certainty**
African infrastructure deals are frequently backed by long-term, often sovereign-guaranteed revenue streams (for example, via power purchase or offtake agreements in the electricity sector). These are often supplemented with credit supports from the World Bank or other multinational institutions due to the lack of creditworthiness of government offtakers. By contrast, most large-scale electricity infrastructure projects in the United States are independent power producers selling into the spot-pricing market, thus exposing investors to material price fluctuation risks.

²⁸ Preqin. *The Infrastructure Market in Africa* (2016), available at <http://docs.preqin.com/reports/Preqin-Special-Report-Africa-Infrastructure-August-2016.pdf>.

- **Currency Risk Control**

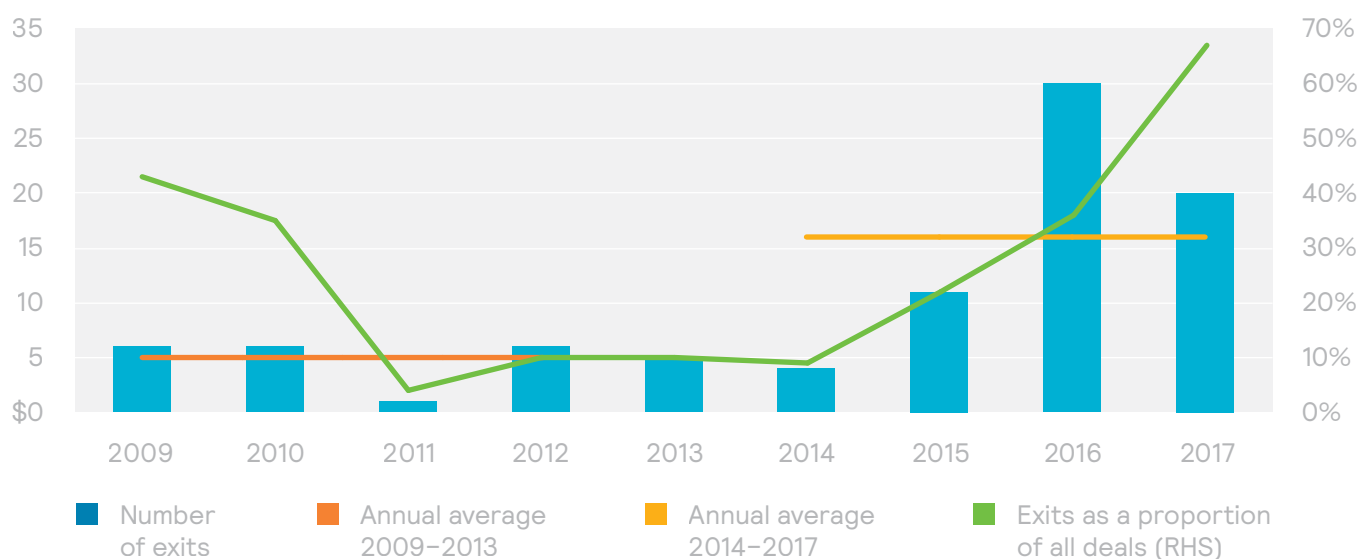
Asset managers noted that, outside Africa, infrastructure projects in Africa are generally pegged to US dollars or euros, effectively eliminating foreign-currency risk on these projects.²⁹ In India, one manager noted, investors must accept the rupee, and therefore, foreign exchange risk is a major concern for investors there. In this manager's experience, virtually the entire African power industry is "dollarized," thus mitigating a major risk concern compared to other emerging markets.

- **Improved Exit Environment**

Investments in unlisted infrastructure equity and debt are illiquid. Therefore, investors with a medium-term investment horizon seek some assurance that they will be able to exit projects within a given period of time. This is

particularly true of investments in greenfield projects. It is likely that the lack of information and understanding of the exit environment in SSA has held some investors back. AIIM, a major African infrastructure equity fund manager, has analyzed the exit environment for private equity infrastructure investments through its own privately held data and through publicly available databases. Their study indicates that the exit environment in African infrastructure is much healthier and more active than previously thought.³⁰ Such exits are key for greenfield investments. They can often yield high returns if the funds invested at initial financial close can be taken out by asset sales or refinancing once the project is operational and earning revenue. There is usually a significant "refinancing gain" due to the reduced risk perceived by new investors coming into the project once it is operational.

Figure 11. Number of Exits Per Year



Source: AIIM. *An Analysis of the PE Exit Environment in African Infrastructure 2009–2017* (2017), p. 4, available at <https://aiimafrica.com/>.

²⁹ However, the local government absorbs the risks and/or risk is passed on to local consumers through exchange-rate-linked pricing, which creates counterparty credit risk.

³⁰ AIIM. *An Analysis of the PE Exit Environment in African Infrastructure 2009–2017* (2017), available at <https://aiimafrica.com/>.

In the aforementioned whitepaper, AIIM tallied the number of private equity infrastructure investment exits between 2009 and 2017. The paper found that, out of 369 African-infrastructure-sector deals, 89 of them, or 24% of the total, consisted of exits for equity holders. Underlying these figures is a positive trend in terms of both deal activity overall and exits, with an average of five exits per year between 2009 and 2013, increasing threefold to 16 exits per year in the 2014–2017 period.³¹ Much of this activity has been driven by the more mature South African market, which introduced the Renewable Energy Independent Power Producer Procurement (REIPPP) program in 2012, with associated assets achieving commercial operation in or after 2014. Nonetheless, this positive trend reflects a maturing infrastructure market in SSA, with 69% of exits occurring in regions outside South Africa.³²

THERE ARE SEVERAL GAPS IN AVAILABLE INFRASTRUCTURE FINANCING

Asset owners seeking to invest in infrastructure outside Africa typically do so by purchasing bank loans, municipal bonds or project bonds, with debt service payments linked to the net revenues generated by infrastructure projects. Such debt instruments can be issued at a project's initial financial close but are more often issued during the refinancing that generally takes place once a project has been constructed and is generating revenue. Asset owners can also invest directly in the debt or equity of a project at its initial financial close.

This latter approach is more difficult, as it requires the investor to find and evaluate projects independently. Some large investors can manage this task on their own, but most invest indirectly by becoming limited partners in an infrastructure private equity fund, where the managing partner is responsible for sourcing the assets. Such funds can invest in either project equity or debt, but most have concentrated on equity investments in greenfield projects. Recently, a few funds have been formed to invest in project debt acquired during the post-construction refinancing phase of projects.

Although asset managers were uniformly bullish on the prospects of the SSA infrastructure investment environment, these experienced market participants also highlighted key areas where further development is needed to take the market to the next level.

- **Debt in General**

Asset managers noted that because very few commercial lenders are active in the infrastructure market in SSA, the cost of available debt is quite high due to a lack of competition — exceeding 10% interest for senior debt in some instances. One manager noted that, in particular, European commercial banks subject to Basel II capital requirements are less active in African infrastructure lending than they were previously.

³¹ Ibid, p. 4.

³² Ibid, p. 5.

- **Long Tenor Debt in Particular**

Although certain private investors indicate a willingness to provide longer-term debt (10+ years in duration), an asset manager noted that those investors often require an investment-grade rating.³³ Achieving that rating frequently requires the involvement of a DFI to provide a financial guarantee. This can both slow down the process and introduce additional complexity, which may make investors wary. DFIs were also cited by asset managers as a potential source of long-term debt.

- **Venture Capital**

One manager noted that, to ensure projects can be developed with enough equity funding to get off the ground and to attract the debt capital needed to achieve financial close, “real risk capital” at the venture capital/small deal level is needed for developers in SSA. A lack of venture capital availability can result in DFIs being the only source of risk capital available in certain SSA markets. This can introduce challenges, as noted in section 7 of this report.

- **Lack of Truly Concessional Financing**

Concessional, or below-market-rate financing, is a potentially catalytic tool used by DFIs to aid in the development of impactful projects. Although

gaining access to concessionary terms can greatly advance the “bankability” of infrastructure projects, many DFIs’ charters require them to be self-sustaining, necessitating commercial (or near commercial) rates. For these and other reasons, many socially impactful projects are unable to find the concessional financing that would better aid their development and crowd in private capital.³⁴

- **Refinancing Opportunities**

The inability of most infrastructure project debt in SSA to achieve an investment-grade rating is one of the reasons institutional investors, especially those from outside the region, have provided negligible debt financing. Greenfield projects face several risks, including construction, performance and offtake risk, which operating projects typically do not face. Once projects are completed and operating successfully, they are more attractive to risk-averse investors. As capital markets in SSA mature, there will be increased recycling of capital through project lifecycles between investors with differing risk and return targets. Unfortunately, there are few refinancing opportunities available in SSA at this time,³⁵ though most expect there will be more such opportunities in the future.

³³ Many asset owners — notably insurance companies — seek to acquire debt assets that have relatively low credit risk (which may be equated with an investment-grade rating). They may invest in higher-risk debt to obtain higher returns or greater portfolio diversification but only to a limited degree. Debt assets at the development or construction phase of infrastructure projects in developed market economies are normally assessed as being low investment grade (or below) unless third-party risk mitigation is provided. In emerging and frontier economies, such investments are viewed as being riskier — almost always noninvestment grade. In large part, this is due to the perception that political and regulatory risks are much higher in such markets, which means even soundly structured projects are viewed as risky. This view is codified by the practice of credit rating agencies to cap the rating of a project’s debt at the country’s sovereign credit rating unless significant credit risk mitigation is provided by a highly rated entity outside the country.

³⁴ In recent years, some DFIs have concluded that they can leverage their limited financing abilities by using a “blended finance” approach to support development efforts, including the financing of infrastructure projects. In this approach, they can use a relatively small amount of concessional financing or risk mitigation support to attract larger amounts of financing from commercial sources. Blended financing for infrastructure projects can be difficult and time-consuming, but a few projects are being financed in this way. Institutional financing has been attracted primarily when first-loss, subordinated capital is used to improve the risk/return profile of infrastructure assets. This is particularly true for those projects that are close to being standalone, with an acceptable returns profile, but where there is still excess uncertainty and risk in the enabling environment. See Brookings’ *Mobilizing Private Finance for Sustainable Infrastructure* (2017), available at <https://www.brookings.edu/wp-content/uploads/2017/11/mobilizing-private-finance-for-sustainable-infrastructure-brief.pdf>.

³⁵ Generally, institutional investors can invest in the debt of operating projects in one of two ways:

- When project sponsors refinance their outstanding construction-period debt, they can restructure the terms of their existing debt (usually working with the same creditors that provided the construction financing — which, in SSA, are usually commercial banks, multilateral development banks and development finance institutions). Alternatively, they can seek to obtain new debt (either via loans or bonds), which can be used to pay off the construction period loans. The latter approach offers new investors an opportunity to step in. Since institutional investors may be willing to provide long-term debt, sometimes at lower costs than bank debt, they can be an attractive source of private financing for the project sponsors.
- Alternatively, investors can acquire exposure via the secondary debt market, which means purchasing debt instruments (loans or bonds) outstanding from the project’s initial creditors. (There may also be debt instruments created by the securitization of debt-service payments from the outstanding debt of a single project or a group of projects.) Such secondary market transactions can occur at any point after initial financial close.
- It is also possible to invest in the debt of an operating project at the point at which existing operating period debt falls due for refinance, giving rise to a fresh debt issuance requirement.

• Asset Recycling

Another way institutional investors can gain access to operating infrastructure assets is when governments sell or lease publicly owned infrastructure to investors in what has been termed “asset recycling.” Private investors pay governments an up-front payment to acquire outright ownership, or a fixed period concession, over previously publicly owned infrastructure. The private entity maintains and operates the asset in exchange for the asset’s revenues from user fees and taxes and/or availability payments directly from government (or some subsidiary thereof). Under the direct asset transfer model, the private entity also takes outright ownership of the asset itself. Under the concession model, the government retains the ultimate ownership of the asset.

Assets that are most sought for recycling are those with established revenue streams, such as toll roads, airports and electric utilities. The government can use the lump-sum payment it receives from the concession grant or sale to fund new infrastructure projects. This enables the government to fund additional public infrastructure without adding to the government’s debt.³⁶ Such projects may face public criticism and thus may expose prospective investors to potential reputational risks. Such risks must be assessed and managed in the context of the deal structure and in any public communications.³⁷

CONTRACTOR CHALLENGES

One of the key infrastructure market “pinch points” identified by an asset manager involves the engineering, procurement and construction (EPC) phase of a project. In this instance, the manager

noted that finding EPC contractors with the relevant skills and experience to complete a project to specifications has posed significant challenges in SSA. Furthermore, finding EPC contractors with the requisite creditworthiness to collateralize potential penalties for project overruns can be an even greater challenge, particularly given that project delays and cost overruns are frequent occurrences in SSA infrastructure markets.³⁸ The situation appears to be improving, as one asset manager noted that there are 20–30 credible developers now versus four to five approximately 12 years ago. Another asset manager suggested that the EPC aspect of the infrastructure value chain might be an area for DFIs to get more heavily involved, whether through performance guarantees or other targeted interventions.

LACK OF ASSET OWNER BANDWIDTH

One asset manager noted that most US asset owners with infrastructure investment allocations grapple with serious resource constraints. There may be a very small team seeking to deploy several billion dollars’ worth of capital, and as a result, due diligence capacity suffers. This manager indicated that such resource-constrained situations are common enough among major asset owners that developing a “club deal” model, as seen often in Denmark, could help address this situation. In club deals, a syndication protocol is established in which one investor leads underwriting for the group and other, typically smaller investors, follow along with voluntary investments of their own. This structure simplifies the due diligence of following investors and minimizes overall costs, which are shared *pari passu* between all investors. Such models have been deployed by large investors before³⁹ and are currently being explored by others.⁴⁰

³⁶ MiDA. *Refinancing – Potential Entry Point for Institutional Investor Financing of Infrastructure in Sub-Saharan Africa* (2018). Pre-publication.

³⁷ Further information on infrastructure asset recycling can be found in a forthcoming report from the Marsh & McLennan Companies Asia Pacific Risk Center: *Infrastructure Asset Recycling: Insights for Governments and Investors*.

³⁸ BCG, p. 22.

³⁹ International Centre for Pension Management. *Buying Into the 407: The Syndication Protocol as a New Model for Infrastructure Investing* (2016), available at http://www.icpmnetwork.com/wp-content/uploads/2016/03/Case_Study_Buying_into_the_407_final.pdf. Monk A HB and Sharma R. *Capitalising on Institutional Co-Investment Platforms* (2015), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2641898.

⁴⁰ Jacobius A. “CalSTRS Discusses Collaborative Investing Model With Other Asset Owners” (2018), available at <http://www.pionline.com/article/20180509/ONLINE/180509837/calstrs-discusses-collaborative-investing-model-with-other-asset-owners>.

There are further consequences of this lack of bandwidth among asset owners, as noted by another asset manager. Infrastructure investment staff may be unwilling to prioritize emerging markets for investments for various reasons, including the aforementioned risk perception and an ability to achieve objectives for the asset class by investing in other, more familiar regions. This manager indicated that many US investors may have entrenched conceptions of the risks inherent to the SSA infrastructure market but that traveling to project sites and engaging in trust-building with local counterparts can help overcome such biases. This manager noted that such on-the-ground experiences can be “revelatory” for asset owners’ conceptions of the opportunities in SSA.

PIPELINES EXCEED AVAILABLE CAPITAL — THOUGH VERY FEW PROJECTS GET COMPLETED

During our interviews, we heard two seemingly incongruent observations from two major African infrastructure managers. One said its deal pipeline was far greater than the capital it had available, whereas the other cited a lack of bankable projects as a key problem. In considering these two statements further, we recognized that both are correct. Projects often make it through to conception, but due to institutional deficiencies encounter sometimes intractable delays in permitting, construction or other phases of development. Such delays could contribute to a backlog of projects awaiting financing, as the uncertainty of the situation could make managers hesitant to commit the capital necessary to push the project development forward.

On the other hand, although managers may have a surfeit of capital ready to invest, they may be restricted by investment policy statements that limit the risk they can assume with fiduciaries’ capital. This reduces the pipeline of projects they can participate in compared to others. As with many of the challenges faced by African infrastructure development, the key question appears to come down to risk perceptions among investors.

Redoubling this point, a third asset manager said the real risk of investing in Africa is not *if* you get paid but *when*. Certainly, the low historical default rates cited in Figure 9 underscore this point, although any payment delays can create liquidity risk for investors and drag down annualized return expectations if not properly accounted for and managed. The key conclusion appears to be that there is ample private sector interest in gaining further exposure to SSA infrastructure. However, weak institutions and governance remain stumbling blocks to achieving the widespread and beneficial economic development associated with realizing the region’s infrastructure needs.

07. THE ROLE OF DEVELOPMENT FINANCE

All the interviews conducted for this project covered the use of blended finance instruments as generally provided by DFIs — including multilateral development banks (MDBs), bilateral development banks and state aid agencies. This study sought to determine how these instruments might be used more effectively to crowd in private investor capital for SSA infrastructure funds/projects. The general consensus across interviews was that DFIs and MDBs serve important roles in the development finance value chain. But there were some notable dissenters and also notable gaps in knowledge of the roles that such institutions can play in SSA infrastructure finance.

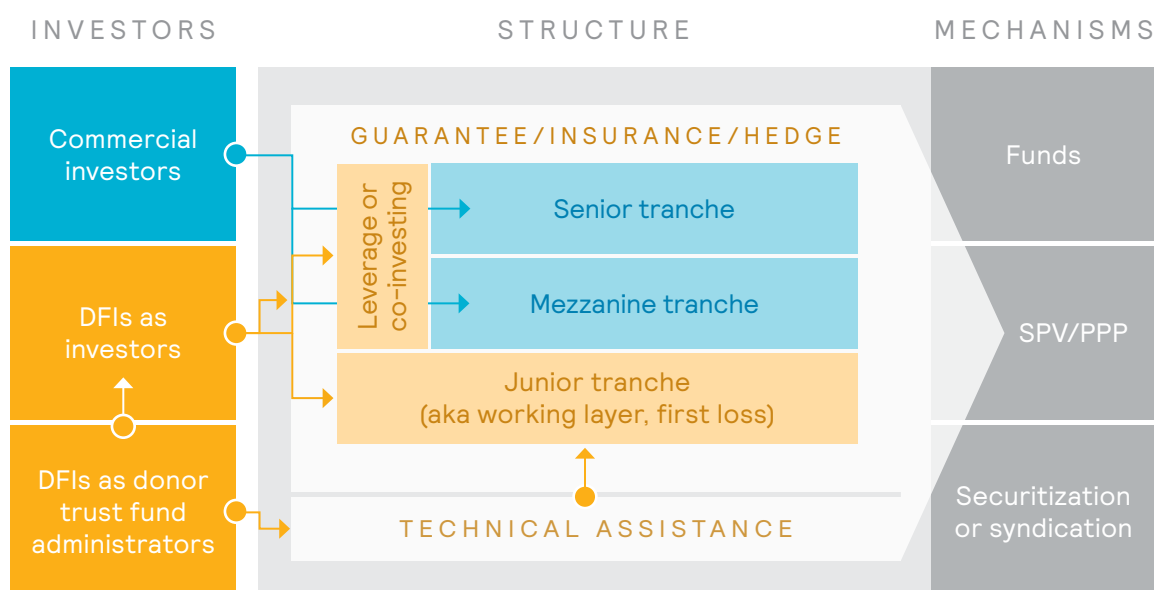
Blended finance instruments can be concessional or market rate and run the full gamut of capital solutions. Broadly, they include the instruments in the categories shown in Figure 12.

Figure 12. Blended Finance Instruments



Source: Mercer.

Figure 13. Blended Finance Structure Illustration



Source: Mercer.

DFIs in aggregate have had a mediocre track record of deploying blended finance to crowd in private capital. In total, the private capital leverage ratio realized by MDBs was only 0.8:1 in 2016.⁴¹ On this basis, there is a tremendous opportunity for DFIs to better utilize the various tools they have available – from concessional official development assistance (ODA) through commercial equity co-investment – to attract more private investors to SSA infrastructure.

In our interviews, a set of key themes arose that may provide insight for DFIs looking to engage private investors more fruitfully in the future.

RISK MITIGATION STRATEGIES: EDUCATION NEEDED

Asset owners indicated a range of perspectives regarding risk mitigation strategies that pointed toward some areas of possible misunderstanding. For those investors not invested in SSA infrastructure, there is a perception that risk mitigation techniques, such as credit enhancements, may reduce potential returns on projects. This may make them uncompetitive on a risk-adjusted basis versus assets more readily accessible in developed markets. There were also questions raised regarding whether appropriate insurance products even exist to insure against war, corruption and other risks that concern prospective emerging and frontier market investors (and they assuredly do).

⁴¹ The Blended Finance Task Force. *Better Finance, Better World* (2017), available at <https://www.blendedfinance.earth/better-finance-better-world/>.

Although some investors appreciated and utilized risk mitigation tools to support transactions, others shied away from them altogether. One investor argued that time delays incurred to obtain risk mitigation coverage during project development, combined with the cost of coverage — and the need for coverage in the first place — signal that something is wrong with the project’s underlying structure or characteristics, which should be evaluated. In this same vein, several asset owners already invested in Africa uniformly indicated that the best risk mitigation strategy is thorough due diligence. The corollary argument expressed by some asset owners is that if investors have to rely on risk mitigation tools to render a deal viable, it may simply be the wrong investment to consider. By contrast, one asset owner noted that the use of risk mitigation tools allows the fund to invest in a larger number of projects than it would otherwise, increasing both returns and impacts on the ground.

The divergent positions regarding risk mitigation tools across asset owner types indicate that enhanced efforts to clarify the capabilities and uses of risk mitigation offerings could be fruitful. More DFIs have begun using partial-credit guarantees (PCGs) or first-loss credit enhancements — either by providing subordinated debt or contingent financing. These are viewed by investors as more useful than traditional political risk guarantees (PRGs) that provide protection against specific risks. There is also an opportunity for DFIs to explore ways to shorten guarantee or insurance underwriting periods, perhaps by utilizing ODA, developing standardized templates/contracts or developing underwriting partnerships with private insurers.

PARTNERING WITH DOMESTIC INVESTORS: A POSSIBLE RISK MITIGATION STRATEGY WITH CO-BENEFITS

One asset owner with significant experience investing in SSA infrastructure argued that local pension funds co-investing in a deal with foreign investors can offer more protection from local government interference or abrupt policy changes than even a guarantee from a DFI. The straightforward argument put forth is that although local government officials may interfere with foreign-owned projects, they will be much less inclined to interfere with a project if its failure would negatively impact local citizens’ pensions. For this reason, facilitating partnerships and co-investment between non-African asset owners and their African counterparts could aid in overcoming certain infrastructure investment risks, real or perceived.

INITIAL INVESTMENTS THROUGH FUNDS AND/OR IN PARTNERSHIP WITH DFIS: AN OPPORTUNITY TO EXPAND THE POOL OF INVESTORS

Certain asset owners with existing African infrastructure investments indicated it might be prudent for asset owners seeking to gain exposure in SSA infrastructure to invest relatively modest amounts in funds as a starting point. As investors gain more comfort and experience in SSA and decide to increase their commitment to the region, they can begin to seek out other partners to uncover further investment opportunities. This strategy may eventually lead to the development of internal capacity with “boots on the ground” on the continent.

Alternatively, one asset owner suggested that first-time SSA infrastructure investors might partner with a DFI to gain further risk protection and assurances regarding their investments. This might be accomplished by (co)investing in a private infrastructure asset or fund with commercial (that is, nonconcessionary) terms, with one or more DFIs serving as an anchor limited partner or general partner. Although asset owners indicated that

involving DFIs can greatly slow the investment cycle, such challenges may not be as much of a deterrent for investors seeking to gain initial exposure in African infrastructure. Moreover, examples of successful prior DFI-asset owner partnerships can serve as useful case studies. A particularly interesting experiment along these lines is Climate Investor One. (See Figure 14 for details.)

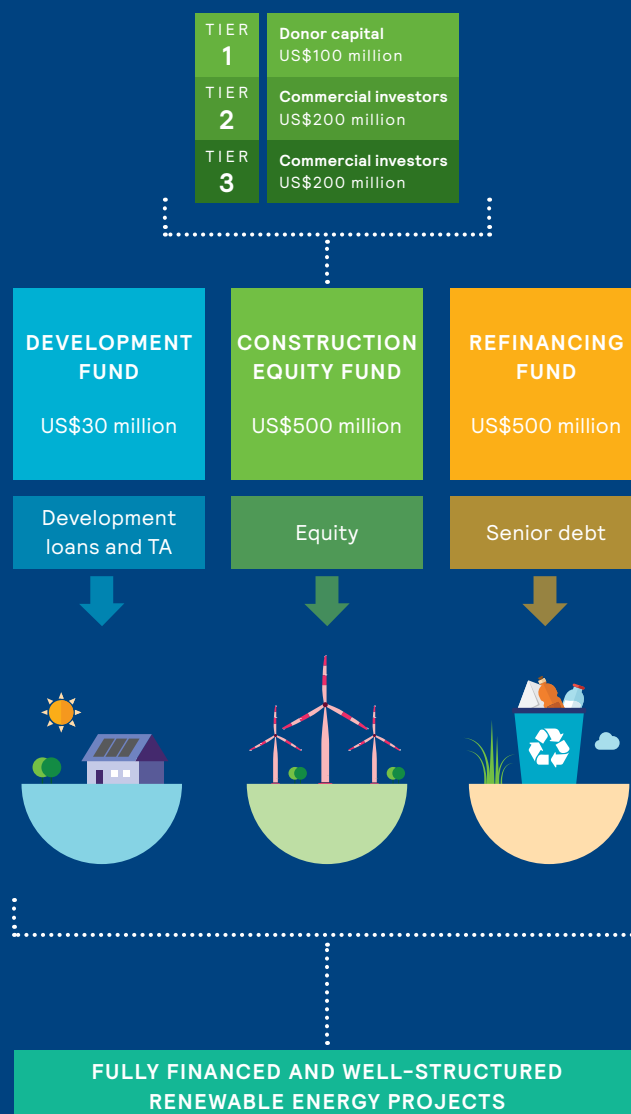
Figure 14. Example DFI and Institutional Investor Collaboration

 Climate Investor One (CIO) is an innovative blended finance solution to mobilizing institutional investors into financing renewable energy projects in developing countries. It was officially launched in 2015 at COP21 and reached first close on June 23 in 2017. CIO was incubated by FMO – the Dutch Development Bank – in conjunction with Sanlam InfraWorks and is managed by Climate Fund Managers. CIO combines three funds, each tailored to a phase of a project's lifecycle: development, construction and operations. The funds provide capital to energy projects in the wind, solar PV and run-of-river hydro sectors in Africa, developing Asia and Latin America. CIO's whole-of-life funding approach provides project developers with a simple financing structure that removes the need for continuous fundraising and complex multilateral negotiations with financiers, thereby reducing the development and construction timelines. Furthermore, CIO is an active participant in investee project development, providing assistance with a.o. technical, financial structuring and legal matters.

The Development Fund, populated by donor funding, provides development loans of up to 50% of development costs. Successfully developed projects receive funding from the Construction Equity Fund that provides up to 75% of construction costs in all-equity financing. It comprises three tiers, each with a different risk-return profile: Tier 1 is a junior equity tranche, funded by donors and absorbing the highest risk; Tier 2 is an ordinary equity tranche funded primarily by commercial investors and providing attractive returns; Tier 3 is a senior equity tranche taken up by institutional investors and covered by a guarantee from an export credit agency. The Refinancing Fund will provide up to 49% of refinancing needs once the project is operational. The Fund will be designed to attract institutional investors seeking long-term, de-risked infrastructure debt.

After second close in December 2017, CIO has reached US\$475 million across the Development and Construction Equity Funds. Fundraising for the Refinancing Fund is planned to commence by the end of 2018.

See <http://www.climateinvestorone.com/nl/> and <https://www.climatefundmanagers.com/nl/>.



Finding and effectively marketing such relatively low-risk ways for asset owners to “dip their toes” into SSA infrastructure investment waters could be essential for expanding the pool of foreign investors helping to develop and modernize the continent’s infrastructure. Simply building more relationships between asset owners and DFIs could be a great starting point. Third-party matchmakers could effectively bring DFIs and private asset owners together in private forums to learn from one another and discuss mutually beneficial collaborative engagements.

Thus, it follows that if DFIs are needed to finance SSA infrastructure, and these same DFIs have sustainability mandates, then prospective investors or developers should ensure their proposed projects adequately align with those DFIs’ climate and sustainability commitments in order to receive maximum DFI support.

SUSTAINABILITY PLAYS AN IMPORTANT ROLE IN DFI INFRASTRUCTURE FINANCE CONSIDERATIONS

Acknowledged throughout this report is the fact that DFIs play (and *can play even more*) important roles in the infrastructure investment ecosystem in SSA. Furthermore, the market signals that DFIs send through the projects they finance can resonate with investors and help drive investments toward more societally beneficial ends than they might otherwise. To this effect, in 2015, a group of influential multilateral development banks issued a joint statement at the Paris COP21 talks affirming their commitments to financing climate-related development in developing economies.⁴² For example, the African Development Bank pledged to triple its climate financing to nearly US\$5 billion annually by 2020. The European Investment Bank aimed to increase both its climate financing and the share going to developing countries to 35% of total lending by 2020. And the World Bank Group pledged to increase its climate financing by one-third to 28% of annual commitments by 2020.

⁴² European Investment Bank. *Joint Statement by the Multilateral Development Banks at Paris, COP21* (2015), available at http://www.eib.org/attachments/press/joint-mdb-statement-climate_nov-28_final.pdf.

08. CONCLUSION

In order to unlock additional asset owner investments in Sub-Saharan African infrastructure projects, targeted and sustained interventions across the investment value chain will be needed. MiDA is a multifaceted initiative uniquely placed to advance multiple interventions among key constituencies at once. Following are key pathways for interventions by MiDA and similar organizations in order of priority:

TARGETED OUTREACH TO ASSET OWNERS AND ASSET MANAGERS WITH LARGE EXISTING INFRASTRUCTURE ALLOCATIONS THAT ARE NOT YET INVESTED IN AFRICA

A common theme raised in interviews was that asset owners with exposure to African infrastructure are satisfied with their experiences and eager to continue investing on the continent. Asset owners not yet invested in Africa, on the other hand, tend to focus on the risks and hurdles such investments might pose. Therefore, in the near-term, MiDA may find success in engaging large direct infrastructure investors (including both asset owners and managers) with limited or no current exposure in Africa to make relatively modest allocations via funds or large direct opportunities as a starting point. There is a demonstrated maturing of the African infrastructure sector and a growing commitment by policymakers in many SSA countries to enhance investor protections and policy frameworks to facilitate private investment. Global asset owners and managers with infrastructure portfolios that have not yet allocated toward Africa are thus better positioned to take advantage of a growing opportunity.

Bringing senior asset owner and manager leadership to Africa for site visits and workshops with local counterparts can greatly facilitate trust-building and a broader appreciation of where both the needs and opportunities lie on the continent. Engaging these decision-makers on a personal level through direct interactions on the continent can shift an individual's perceptions in a way that data and presentations cannot. For asset owners and managers not yet invested in SSA infrastructure, having an internal advocate directly address their organization's risk aversion may be necessary to overcome organizational inertia. And continental trips may help convert an "Africa skeptic" into a decision-maker with a personal commitment to making such allocations happen. Beyond asset owners, MiDA could also usefully target education efforts toward asset managers and consultants advising on infrastructure investments.

ARRANGEMENT OF CLUB DEALS AND/OR SYNDICATED FINANCING OPPORTUNITIES

MiDA can play a catalytic function in advancing SSA infrastructure capital flows by working with interested asset owners to adapt collaborative investment models used in Northern Europe to the US context. In this role, MiDA could:

1. Educate NASP investor members regarding the purpose and function of “club deals” and other syndicated financing mechanisms.
2. Solicit statements of interest from NASP members to evaluate potential club deal SSA infrastructure investment opportunities.
3. Once a critical mass of investor interest has been expressed, facilitate the development of a memorandum of understanding (MOU) or similar document outlining the terms of agreement. This should include which asset owner will serve as the lead investor in the club, who the other members will be and would define the type, size and region/location of infrastructure opportunities to be pursued.
4. If deemed desirable by the club members, membership could also be extended to local SSA asset owner counterparts. This could provide both a measure of risk mitigation (see section 6 above) and potential local intelligence to the club.
5. As an alternative approach, MiDA could work with key intermediaries, such as DFIs, consultants and/or placement agents, to develop novel aggregation mechanisms to effectively and efficiently deploy assets from their clients interested in investing in infrastructure on a portfolio basis in emerging markets — including SSA countries.⁴³

Pursuing such measures necessarily involves educating members and facilitating collaboration. MiDA is well-positioned to use its unique mandate to facilitate the development of durable and long-term partnerships among US asset owners (and potentially their African counterparts).

CAPACITY BUILDING: ENGAGING MIDA INVESTOR MEMBERS IN COLLABORATIVE RESEARCH INITIATIVES

Virtually all asset owners and managers interviewed that are currently invested in African infrastructure pointed to fund or asset due diligence as the best form of risk mitigation. Conducting due diligence on potential African infrastructure opportunities, however, can be costly and time-consuming. (And requires specialist knowledge of the region.) Those hurdles may lead many investors to forgo devoting the resources necessary to develop a robust African infrastructure research program, thus missing out on potentially profitable, and socially impactful, investments.

One method to overcome these capacity challenges is to engage in a collaborative research model (for example, a “research club” model). Asset owner participants could each contribute a relatively modest amount of funding to hire a third-party research organization to conduct proprietary fund or asset research. This research would then be distributed to the group, offering market intelligence exceeding what would be economical for any single investor to solicit. Participants could then make their own decisions, based on the solicited research, of whether or not to invest in a particular fund or asset.

⁴³ The International Finance Corporation is testing this approach with a few insurance companies in their Managed Co-Lending Portfolio Program for Infrastructure. See <https://www.ifc.org/wps/wcm/connect/a5affca5-d77d-4fec-8804-97df4f036f13/MCPP+Infrastructure+Flyer+2018.pdf?MOD=AJPERES>.

Some examples of other potentially catalytic strategic research MiDA could facilitate include:

- More detailed and systematic gathering of information on the financial returns from investments in SSA infrastructure
- In-depth analysis of the political and regulatory risks to infrastructure investment in specific countries and sectors
- Maintenance of a database of investment opportunities in projects and funds

MiDA's role in engendering this research partnership could be similar in nature to its possible role in facilitating club deals. In brief, MiDA could canvass NASP members for their interest in pursuing such a collaboration and develop an MOU outlining participating members' fees as well as desired research topics and regions. It could also help solicit research bids through a competitive RFP process conducted on behalf of members. Once the research has been conducted and disseminated to participating members, MiDA could potentially leverage the findings to facilitate deal-making between members with similar interests in pursuing opportunities.

PROMOTION OF OPPORTUNITIES FOR MiDA INVESTOR MEMBERS TO INVEST IN BROWNFIELD ASSETS

It would be natural for institutional investors seeking to invest in SSA infrastructure to first enter this market by investing in project debt issued by successfully operating projects. This approach would offer relatively low-risk exposure while providing an opportunity to learn about these new markets. However, currently, there are few opportunities for them to do so. The greatest demand today for financing SSA infrastructure is in the financing of new projects. The investment vehicles needed for the refinancing of successfully operating projects, such as listed and rated project bonds or infrastructure debt funds, are lacking for most countries in SSA.

Some measures that would help overcome these impediments are:

- Encourage development finance institutions to make provisions for capital market refinancing when financing new infrastructure projects.
- Develop the enabling environment necessary for issuing project bonds in domestic capital markets of SSA countries and in international capital markets.⁴⁴
- Assist in the creation of infrastructure debt funds designed for the refinancing of successfully operating projects.
- Promote the use of mini-perm bank loans and refinancing guarantees to encourage the refinancing of projects into domestic and international capital markets and encourage increased government asset recycling efforts.

⁴⁴ MiDA is working with the World Bank to support the issuance of project bonds for renewable energy projects initiated under South Africa's IPP program, and the learnings from that effort should be refined and replicated in other SSA countries where feasible.

SSA infrastructure presents pioneering investors with the opportunity to achieve outsize returns with relatively low risk, underpinned by strong macroeconomic fundamentals and unique diversification benefits. At the same time, they can support the achievement of the Sustainable Development Goals. These many benefits are too readily overlooked by investors today, and the scale of need is too high to ignore. As awareness builds around the African infrastructure opportunity and means of accessing and de-risking the opportunity set evolve, more private investors are likely to enter the market. MiDA and similar mobilizers can accelerate the process by supporting the education and innovation efforts noted above. MiDA is well-positioned to undertake these tasks.



09. APPENDIX

A. INTERVIEWEES

Asset owners	Asset managers
California Public Employees' Retirement System (CalPERS)	LionWorks
Ontario Municipal Employees Retirement System (OMERS)	Actis
Ontario Teachers' Pension Plan (OTPP)	African Infrastructure Investment Managers (AIIM)
Casey Family Programs	Investec
Prudential Insurance	
PensionDanmark	Other
Washington State Investment Board (WSIB)	Marsh Political Risk and Structured Credit

B. GLOSSARY OF RELEVANT INFRASTRUCTURE TERMS

Asset manager — This refers to any fiduciary investor that accepts funds from individuals or institutions and manages these funds for a fee.

Asset owner — In this report, asset owners include nonbank financial institutions that maintain fiduciary control over a pool of assets and often invest their capital either through intermediaries (see *asset manager* definition) or directly into investable assets. Asset owners also include pension funds, insurance companies, foundations and endowments.

Asset recycling — This refers to government sales of income-generating infrastructure projects to the private sector in order to generate funds for new infrastructure investments. Usually, the private sector purchaser will finance the acquisition of such assets by the issuance of long-term debt.

Blended finance — This is a financing approach that uses a relatively small amount of concessional financing or risk mitigation support from DFIs to attract larger amounts of financing from commercial sources.

Brownfield projects — These assets are existing facilities either purchased or leased by an investor. As the facility already stands, and typically is in use, these investments can avoid the risks associated with investing in assets requiring development and/or construction (see *greenfield* below). In most cases, brownfield investments can be improved upon by investors to enhance cash flows through increased production or efficiencies.

Commercial operation date (COD) — This is the date upon which a project becomes operational and starts generating revenue post-construction; stated otherwise, the point at which a greenfield project becomes a brownfield project.

Construction risk — This refers to risk that the project will not be completed within the timeframe or costs initially projected at financial close.

Core assets — The most conservative of infrastructure investments, core assets tend to generate stable or predictable income with very low risk and little active asset management by investors. These assets suit investors that seek capital preservation and long hold periods,

Core plus assets — Infrastructure assets that are associated with a low-to-moderate risk profile, these assets have less predictable cash flows compared to a core asset. However, there may be opportunities to increase cash flow through improvements to the asset or increased efficiencies. Accordingly, core plus infrastructure assets require more active asset management than core.

Development finance institutions (DFIs) — DFIs are a class of financial entities focused on supporting the sustainable economic development of emerging markets. These include multilateral development banks (MDBs), bilateral development banks, national development banks and government-backed aid agencies. Examples of some DFIs active in SSA infrastructure financing are International Finance Corporation, African Development Bank, IFU, KfW, FMO, AFD, USAID and Development Bank of Southern Africa.

Engineering, procurement and construction (EPC) — This is the initial phase of a greenfield infrastructure project during which the project is being designed, permitted, resourced and built. This phase often relies upon the expertise of a project developer or developers, which may be owned by the investor or a third party.

First-loss credit enhancement — This refers to any device designed to protect investors from the loss of capital irrespective of the cause of the loss. The provider of this enhancement is exposed first if there is a financial loss of security. This enhancement usually provides protection only up to a specified amount of the total private capital at risk. The provider can invest subordinated debt or equity or provide a contingent line of credit, which can be drawn when necessary (and is repaid from future cash flow on a subordinated basis). This helps shield investors from any initial losses, thereby improving the creditworthiness of an investment.

Greenfield project — These investments require the wholesale development and construction of new facilities on previously vacant land. In terms of infrastructure, due to the inherent risks associated with constructing new facilities, greenfield investments can be perceived as riskier compared to investing in brownfield or already-existing assets. Greenfield projects entail several risks, including *construction risk*, *performance risk* and *off-take risk and demand risk*.

Various forms of third-party risk mitigation are available to overcome some of the risks of financing greenfield projects, especially for public infrastructure.⁴⁵ Unfortunately, such measures are rarely sufficient to reduce the risks substantially, at least until these projects have been operating successfully for some time.

⁴⁵ IRMA. *Needs Assessment for Risk Mitigation in Africa: Demands and Solutions Available* (2013), available at <https://sustainabledevelopment.un.org/getWSDoc.php?id=3015>.

Institutional Investors — This is a catch-all term, typically inclusive of asset owners and asset managers.

Mini-perm bank loans — Mini-perms are medium-term bank loans (typically three to seven years) for which there is debt outstanding at their maturity. They are similar to balloon payment mortgages in commercial real estate lending, except that mini-perms usually provide for alternatives to default in the event that the loan cannot be immediately refinanced or paid off at maturity. The alternatives provided are designed to incentivize the project sponsors to refinance as soon as possible. (For example, by barring any dividends being paid to equity and requiring that all income be used to pay down the debt or by gradually ratcheting up the loan's interest rate.)

Mobilizers — This is a term introduced in a recent Mercer-IADB report, *Building the Bridge to Sustainable Infrastructure*.⁴⁶ Three types of initiatives were cataloged in the report: “influencers,” “mobilizers” and “tool providers.” Mobilizers were defined as “those seeking to i) work with governments to develop ‘bankable’ projects and/or ii) convene investors to channel more funds into sustainable infrastructure projects. In most cases, mobilizers are working with and convening multiple stakeholders.”

Off-take risk and demand risk — This refers to risk that an agreement to purchase the project's services or output (such as a power-purchase agreement) will not be honored or that the demand for these services is less than initially expected.

Opportunistic assets — The riskiest of infrastructure assets, opportunistic assets have little to no cash flow at acquisition. They typically require multiple years of development before a return is realized, require active management by the investor and generally utilize more debt financing (that is, more than 70% debt-to-equity). Opportunistic investments can include ground-up developments, acquiring derelict assets for redevelopment or repurposing an asset for a different use. In all cases, the risks are high and success uncertain. Such assets are typically held for a limited time then sold for an expected profit of at least 20%.

Partial credit guarantee (PCG) — PCGs represent a promise of full and timely debt service payment up to a predetermined amount. Typically, the sum paid out under the guarantee covers creditors irrespective of the cause of default. Coverage is generally only provided up to a maximum portion of the debt service (for example, 50%).

Performance risk — This refers to risk that the project will not perform as expected once construction is completed.

Political risk guarantee (PRG) — PRGs cover private lenders and investors for certain risks of lending to sovereign or sub-sovereign borrowers. They can cover a number of sovereign or sub-sovereign risks, including currency inconvertibility, political force majeure (such as war), regulatory risk and government payment obligations (such as tariffs).

Power purchase agreements — See *off-take risk and demand risk*.

⁴⁶ Mercer and InterAmerican Development Bank. *Building a Bridge to Sustainable infrastructure — Mapping the Global Initiatives That Are Paving the Way* (2016), p. 4, available at <https://publications.iadb.org/handle/11319/7943>.

Public-private partnerships — An earlier Mercer report on infrastructure in Asia defined public-private partnerships (PPPs) as follows: “PPPs are typically characterized by high specificity, low redeployable value and high intensity of capital. They are agreements wherein the public sector (government entities — including ministries, municipalities and state-owned enterprises) procure and construct public infrastructure by tapping relevant financial or technical expertise and operational efficiencies of the private sector (businesses and investors). Usually done through a legally binding contractual arrangement, the partners engaged in the PPP agree to apportion responsibilities related to the implementation, management and operation of the infrastructure project in an optimal way that allows risks to be allocated to the parties that are best able to manage them ... This project implementation mechanism generates cost efficiencies and improves performance ... a special-purpose vehicle (SPV) is [often] set up with contractual financing agreements between the partners. On the one hand, the private player is able to take on the management and operational roles of the project while working towards the clear goal of maximizing profits using its private sector expertise. On the other hand, the government can remain focused on its primary responsibilities, such as implementing regulations and providing supervision, while still fulfilling social obligations without having to deploy all its scarce public resources.”⁴⁷

Refinancing — This is the replacement or renegotiation of the original capital structure, debt and/or equity of the project. Refinancings are attractive to project sponsors when interest rates fall (if the project can benefit from such a fall under its hedging policy) or when the risk profile of the project has improved. This is usually the case once construction is completed and the project is earning revenue. Refinancings can take different forms, such as:

- A reduction in the cost of debt as the perceived project risks are reduced
- Extension of the debt maturity
- An increase in the leveraging (that is, the amount of debt relative to equity), which often allows some equity to be taken out of the project⁴⁸
- Lighter reserve account requirements
- The release of guarantees provided by the project sponsors or by third parties

Recent regulatory changes have made it more expensive for banks to provide the long-debt tenors sought by project sponsors. Thus, it is now common for construction to be financed by “mini-perm” loans that require that they be paid off soon after construction is completed. This forces project sponsors to refinance the project’s debt.

⁴⁷ Marsh & McLennan Companies Asia Pacific Risk Center. *Closing the Financing Gap: Infrastructure Project Bankability in Asia* (2017), p. 8, available at http://www.mmc.com/content/dam/mmc-web/Files/APRC/aprc_closing-the-financing-gap.pdf.

⁴⁸ This is particularly attractive to most project sponsors whose primary business is usually project development and construction and not project financing.

Refinancing gains — A refinancing will often result in financial gains for the project sponsors. Some of the gains may come from the good performance of the project. But some may also arise from macroeconomic factors or lenders' greater confidence in a specific market (that is, factors not attributable to the project itself). In the case of PPPs or government-granted concessions, the project sponsor may be required to share any financial gains with the government or public authorizing entity.⁴⁹

Refinancing guarantee — This is a commitment made by a third party at the initial financial closing of a project that all or a portion of construction-period debt will be repaid with longer-term financing if the project is completed successfully. Such guarantees reduce the refinancing risk for project sponsors and creditors. They can also facilitate the refinancing of short-term bank loans by longer-term, lower-cost debt from institutional investors.

Secondary stage — These are investments in operating infrastructure (that is, post-construction) with well-established cash flows — such as an operating toll road — low risk and consequently lower returns compared to either green- or brownfield investments. These infrastructure investments can be likened to long-term bonds with coupons that guarantee predictable cash flows.

Value add — This refers to assets associated with moderate to high risk. Value add infrastructure assets have little to no cash flow when acquired but have strong potential cash flow once an investor has added value. Investors typically utilize higher amounts of leverage (more than 50%) for value add assets. These assets require very active management by owners and have commensurately higher potential annual returns compared to core or core plus.

⁴⁹ See the EPEC PPP Guide at <http://www.eib.org/epec/g2g/annex/8-refinancing/index.htm> for a discussion of the sharing of refinancing gains.

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