

Infrastructure financing
in sub-Saharan Africa

Opportunities and impact for institutional investors

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The NASP-MiDA Africa Institutional Investors Advisory Council

Letter of endorsement

We, the undersigned members of the NASP-MiDA Africa Institutional Investors Advisory Council, would like to congratulate Mercer, MiDA Advisors and Standard Bank on this second publication, *Infrastructure Financing in sub-Saharan Africa: Opportunities and Impact for Institutional Investors*. The research and case studies presented in this publication are revealing and resourceful. This document explores key themes and trends that are illustrative of the continent's potential and resilient markets. As institutional investors, we found the timely trends discussed in the paper encouraging, including the ongoing recovery of African markets from COVID-19 coupled with the deepening of Africa's capital markets and development of supportive policies.

We believe this publication can serve as a useful reference document for other interested institutional investors to learn more about the continent's investment potential and real return possibilities. It demonstrates the capabilities and expertise that Mercer, MiDA Advisors and Standard Bank collectively brought together to produce such a valuable resource document. We would also like to recognize USAID's contribution to this publication, as well as its continued support in educating and exposing US institutional investors on African markets.

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1. Preface

This report builds upon the 2018 document produced by Mercer and MiDA Advisors, *Investment in African Infrastructure: Challenges and Opportunities*, which offered our initial examination of sustainable investment opportunities in sub-Saharan Africa. This second report makes the affirmative case for Africa as an infrastructure and real assets investment destination. Whereas the prior report identified significant challenges and opportunities across key African markets, this report offers a macroeconomic perspective supported by detailed case studies of investment transactions to aid institutional investors in better understanding the nuanced opportunities and risks they might anticipate. We also provide commentary around impact investment opportunities and considerations on the continent, and we share asset owner perspectives on their experiences and outlook for the future.

For this second publication, we partnered with Standard Bank Group, the leading financial institution in Africa with a prominent presence in financing, structuring and advising on major infrastructure developments across the continent. This has allowed us to survey and analyze various case studies presented in this report to a much greater level of detail. Our analysis revealed unique insights on the financing of several projects across sub-Saharan Africa involving institutional investors.

Further, in the intervening three years since the 2018 report's publication, there have been some welcome and favorable developments that address a few of the recommendations highlighted in the first publication. These may offer new avenues for international investors to gain exposure to productive and impactful African infrastructure investments and achieve strong alignment with local institutional investors. A brief overview of some promising initiatives are presented in the report.

As in the first publication, we partnered with the U.S. Agency for International Development (USAID) to conduct a deep survey of the market. The survey included interviews with two major African asset-owner initiatives funded by the agency to enhance the capacity of African pension funds seeking to pool and diversify their fast-growing assets into infrastructure investments within their communities.

Sections of this document are made possible by the support of the American people through the United States Agency for International Development (USAID). The contents of this document are the sole responsibility of Mercer, MiDA Advisors and Standard Bank Group and do not necessarily reflect the views of USAID or the United States government.



2. Foreword: Sustainable infrastructure developments can ignite Africa's growth

By Sim Tshabalala, Chief Executive of Standard Bank Group

The very large scale of Africa's unmet infrastructure needs provides a compelling opportunity to create shared value for all stakeholder groups, including global and local investors, local businesses and the communities they serve.

The continent has been growing at a steady pace in recent years as its economies diversify, and Africa is proving its resilience in the face of COVID-19. But by addressing the inadequacy of infrastructure, we could spur a step change in Africa's growth trajectory.

Across all sectors, there are immense opportunities for infrastructure investments that are well structured and underpinned by sustainability considerations. Energy is one of the best examples.

Roughly 60% of sub-Saharan Africa's population is still without access to grid electricity. The African Union (AU) Commission says the continent needs to connect around 73 million people to electricity every year to reach the goal of access to affordable and sustainable energy for every African by 2030.

Thanks to advances in technology and Africa's rich solar, hydro and wind resources, the continent could unleash its potential in renewable energy, with decentralized solutions coming to the fore as companies and communities reduce their reliance on overburdened national grids.

And to cater to Africa's rapidly growing and urbanizing population, the need for transport infrastructure, housing and other investments continues to grow.

In recognizing the continent's potential and its massive infrastructure investment requirements, Standard Bank has positioned itself as an enabler of inclusive sustainable growth and human development. We know that the right

investments can yield solid returns for investors while making long-lasting positive impacts.

Our own profitability and sustainability depend on us creating value for all stakeholders. Therefore, to ensure that we succeed over the long term, we use social, economic and environmental (SEE) impact as one of our strategic value drivers.

This gives us opportunities to grow our business by encouraging our colleagues to develop innovative ways to address Africa's challenges.

For example, we played a key role in delivering East Africa's first-ever green bond, which enabled the development of environmentally friendly and affordable student accommodation in Nairobi. Our partnership with Acorn has yielded much-needed accommodation for more than 5,000 students.

We are also taking a holistic view of the development of Mozambique's liquefied natural gas industry. Rather than funding this project in isolation, we are working to develop the country's value chains to ensure that locally owned small businesses benefit through capacity-building, business development support, and access to market opportunities and finance.

This shared-value approach will help transform Mozambique's economy for the benefit of her people. It will also facilitate the shift to a low-carbon economy.

We state our purpose as: Africa is our home, we drive her growth. This translates into a commitment to consider the direct and indirect impacts of our lending activities on society, the economy and the natural environment. By extension, as we consider which infrastructure projects to support, we take into account the long-term prospects for generating value for all stakeholders.

3. Introduction

Institutional investors in the US and elsewhere are seen as a potential source of financing for public infrastructure. They hold a major portion of the world's savings and have a long-term investment horizon that matches what's needed for financing infrastructure. Given the current low interest rates on government securities, institutional investors are looking for alternative investments that can help them achieve their return targets. And they are attracted to investing in real assets as a way to help stabilize their returns over the cycles in stock markets.

At the same time, most governments today are facing increasing budgetary pressures that make it difficult for them to meet the public's needs for additional public infrastructure investing. Thus, there is great interest in having institutional investors help fill this infrastructure investment "gap."

Unfortunately, there are serious barriers to matching the availability of institutional investor financing to needs for infrastructure financing. This is especially true for emerging market economies such as those in Africa, where the infrastructure financing gap is particularly wide.

Most institutional investors are new to infrastructure investing and face a steep learning curve on why and how to invest in such assets. Only a few large asset owners with infrastructure allocations have internal teams capable of performing the necessary due diligence for investing in infrastructure projects directly. Thus, most institutional investors invest via third-party investment funds, which can significantly reduce their returns and typically do not align fully with their investment objectives. Institutional investors are being drawn into infrastructure based on its purported attributes of good returns, a low sensitivity to swings in the business cycle, little correlation with equity markets, long-term stable and predictable cash flows, inflation hedging properties, and low default/loss rates. Because infrastructure investing represents a relatively new asset class, there is still little empirical evidence that infrastructure assets actually provide these attributes. And it is clear that the degree to which they do provide them greatly depends

on the means of investing. Investment vehicles that can adequately deliver the potential benefits attributed to investing in infrastructure are often unavailable.

In addition, institutional investors are inherently risk averse. Thus, their investments in infrastructure must be structured to provide investment-grade — or near-investment-grade — risk profiles. This is typically difficult to achieve for infrastructure projects in general and rare for projects in emerging-market countries.

Investing in African infrastructure

Even given the above-noted barriers, institutional investors' investments in infrastructure have been growing steadily over the past decade from a very small base, increasing in value by about 10 times. Such growth appears likely to continue in the coming years, as many investors are targeting higher allocation weights to infrastructure than their current actual asset allocations. Heavy demand for infrastructure assets in developed-market countries is bidding up prices and potentially eroding future returns. Thus, investors are increasingly considering investments in emerging-market countries. Although Latin America and Asia have received the most investment, other regions, such as SSA, are now offering significant opportunities.

Barriers to investment in SSA

In addition to the difficulties institutional investors face when investing in infrastructure anywhere in the world, there are unique barriers to investing in infrastructure in SSA. Some of these are listed here.¹

High risk perception and limited risk mitigation options

US institutional investors have very little experience investing in infrastructure in Africa, but they generally consider the project and country risks to be high and difficult to estimate and price. This perception will not

¹ For additional details, see the USAID- and MiDA-supported study by Mercer: *Investment Opportunities in African Infrastructure: Challenges and Opportunities*, 2018.

change overnight. Direct exposure to the market and more systematic sharing of experiences and information will be needed to change such ideas. It is telling that those institutions that are investing in Africa almost always view the risks as reasonable, manageable and justified by the higher returns they are getting from their investments.

Since perceptions of risk at both project and country levels are high for infrastructure projects in Africa, investors frequently seek whatever risk-mitigation measures they can secure. For example:

- Power purchase agreements and other long-term revenue contracts are often utilized, minimizing demand and price risk.
- Many projects are US dollarized, minimizing currency risk.
- Credit and political risks can be mitigated by guarantees or insurance from development finance institutions (DFIs).

However, since such measures involve various costs and often considerable time to arrange, their use can reduce the returns on investment.

Institutional investors also avoid risk by investing primarily in operating projects. They normally will not invest at the project development or construction stages. This is due to the higher risk inherent in these stages and to the fact that most institutional investors lack the skills and knowledge to provide any added value to the projects during these stages. They are also seeking cash flow from their investments, which is usually unavailable until projects are operating successfully; that is, secondary-stage investments. Unfortunately, there are far fewer secondary-stage investment opportunities than greenfield opportunities in Africa at this time.

Limited investment vehicles

The vehicles for investing in infrastructure are more limited in Africa than they are in other regions.

Poorly developed capital markets mean that bond financing is almost nonexistent except for so-called government infrastructure bonds. (In actuality, these are government general-obligation bonds whose proceeds are intended

to finance infrastructure. They have no income stream associated with the underlying assets, and cash flows for the bonds are paid directly out of government tax revenues.) There is also a lack of government guarantees that might help reduce the risks of investing in projects. And even if there were such guarantees, project bonds in Africa would not be able to obtain investment-grade ratings required by foreign investors due to the “sovereign ceiling” set by the region’s noninvestment-grade government ratings.

There are a number of closed infrastructure funds that invest in African infrastructure or global infrastructure funds with allocations for African infrastructure. These are the most commonly used investment vehicles by US institutional investors today. But as mentioned above, this approach to investment involves issues with alignment of interests between the general partner (GP) and limited partners (LPs). There is also little information publicly available to evaluate the risk and return characteristics of these funds.

To date, there are very few listed funds or open-ended (evergreen) funds that invest in African infrastructure.

Gaps in financing

African infrastructure investing is constrained by several gaps in the capital structure in most countries:

- Commercial debt and equity providers are relatively few in number, resulting in a correspondingly high cost of capital for infrastructure projects. This limits the number of projects available to investors.
- There is a lack of venture-capital-type equity to finance the early-stage development of projects.
- There is a shortage of concessional funds from governments and DFIs that can be used to crowd in more private investment.
- Commercial debt providers (apart from DFIs) are typically not willing to provide the long-tenor commitments needed to make many projects financially viable.
- There is a lack of project refinancing certainty due to relatively small debt markets.

Fragmented markets

There are 54 countries in Africa. The largest economy, Nigeria, has a level of GDP roughly the same as the state of Minnesota. This fragmentation has many negative implications for infrastructure investing. Investors must become comfortable with many different institutional, legal and regulatory frameworks, as these are critical for investing in infrastructure. And it means that the pipeline of investable projects in any one jurisdiction is small.

It will take concerted efforts by African governments to overcome the barriers of fragmentation. Since it is unlikely that there will be any consolidation of national boundaries, the best we can hope for is increased harmonization across countries in terms of laws, regulations, taxes, etc. Many efforts in this direction have been launched but with limited success so far.

The case for investing in African infrastructure

Diversification

One of the golden rules of investing is to have a well- and properly diversified portfolio. In this respect, it is difficult to ignore Africa. It has some of the fastest-growing economies in the world. It is urbanizing more rapidly than any other region. It has one of the youngest populations in the world. There are potentially large productivity gains to be had simply by catching up with global technologies, and it is a continent rich in natural resources. Although African countries are still poor by global standards, the World Bank expects that most will reach “middle-income” status (defined as at least \$1,000 per person per year) by 2025 if current growth rates continue.

Higher returns

The returns of infrastructure in developed-market economies of North America and Europe have been declining as the growth of demand for infrastructure assets in these markets has exceeded supply. Although comparable data on returns from investing in infrastructure in Africa are limited, anecdotal information suggests they are higher than in developed markets. Whether this is true on a risk-adjusted basis is an open question. A few high-profile projects that have gone sour due to political intervention or

country conflicts have given the impression that investing in infrastructure in Africa is extremely risky. In reality, the little systematic evidence available suggests that there is no significant difference between the actual default rates of projects in Africa and other regions of the world. In any case, some institutional investors are looking at investments in Africa as a way to maintain their targeted returns.

Positive impacts

Many institutional investors seek positive social impacts as well as good financial returns. The individuals whose savings they are investing are increasingly demanding this. Thus, these investors are looking for opportunities “to do well while doing good” — what we call socially responsible investing. “Doing good” has been codified in the United Nations Sustainable Development Goals (SDGs), a collection of 17 global goals designed to be a “blueprint to achieve a better and more sustainable future for all.” Substantial investment in infrastructure will be essential for making progress in achieving these goals in poorer regions of the world such as Africa. Investing in public infrastructure in Africa can often be framed in terms of the positive developmental impacts — reducing the costs of transportation; increasing the availability of electric power; providing housing, education and healthcare; reducing carbon emissions; etc.

4. A review of the trends driving Africa's allure

By Simon Freemantle, Senior Political Economist, Standard Bank Research

A decade on, and progress remains impressive

Nine years ago, we published a series of reports detailing what we believed to be the four structural drivers behind Africa's renewed and long-term economic promise. These trends focused on:

- **Trend 1:** A larger, younger and more affluent population
- **Trend 2:** Africa's transformational urban swell
- **Trend 3:** Leapfrogging through technology
- **Trend 4:** Africa's deepening financial sector

We now pause, almost a decade later, to reconsider these themes and assess how each has continued to elevate its role in shaping Africa's ongoing progress. Of course, the extraordinary economic impact of the COVID-19 pandemic will disrupt Africa's socioeconomic and institutional trajectory. With that in mind, the data we outline in this report — which point to a continent that has continued the powerful positive shifts that characterized the more immediate post-2000 era — are imbued with added importance.

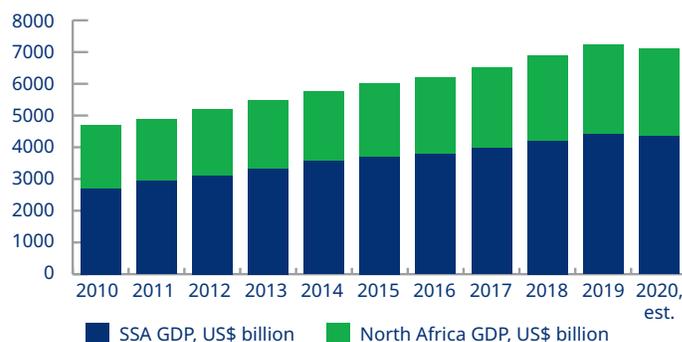
A decade of economic progress

In the time that has passed since our original report series, our argument around the continent's ongoing and structural transformation has been borne out:

- Between 2010 and 2019, Africa's collective GDP grew by 55%, from around US\$4.7 trillion to around US\$7.2 trillion (Figure 1).

- This trajectory has been broadly consistent with global growth over the same period. As a result, sub-Saharan Africa's share of global GDP has remained flat over the period, at around 3%, while Africa's has held at around 5%.
- Over the past 10 years, SSA's average growth has outpaced the global average (Figure 2) despite several key economies in Africa having suffered meaningful (and commodity-price-inflicted) economic declines in the 2015–2017 period.

Figure 1. Africa's total GDP has lifted by 55% since 2010



Sources: International Monetary Fund; Standard Bank Research as of June 2020.

Figure 2. SSA's growth rate has remained fairly robust

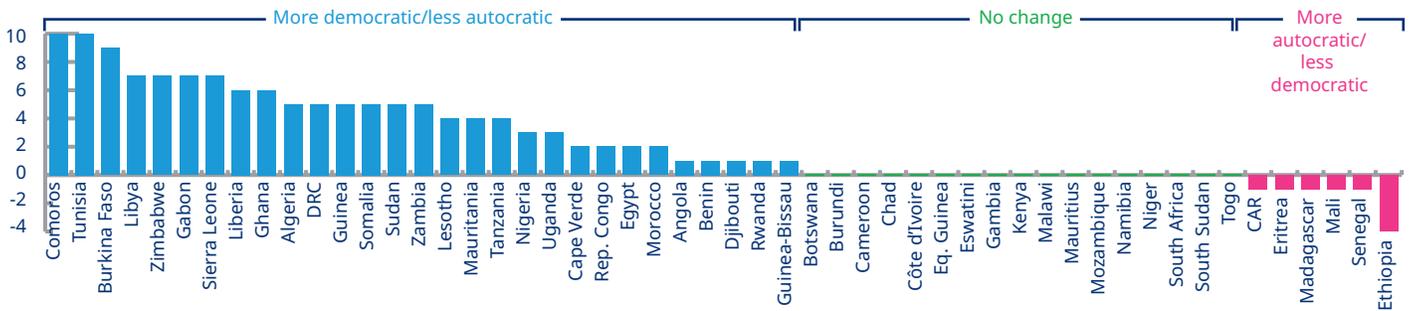


Sources: International Monetary Fund; Standard Bank Research as of June 2020.

Stepping back, there have been other important economic, institutional and political developments on the continent over the past decade too.

Democratic deepening. According to Polity data, 29 African economies became more democratic and/or less autocratic between 2000 and 2017, compared to just five economies that became less democratic or more autocratic. (And even within the group, there have been more recent and profound democratic gains, most notably in Ethiopia since Prime Minister Abiy Ahmed assumed power in early 2018.) (See Figure 3).

Figure 3. Most of the continent has seen meaningful democratic change since 2000 (Polity scores)



Sources: Polity; Standard Bank Research as of June 2020.

With this in mind, we now return to the four trends that formed our original series, using these to emphasize the thrust of economic opportunity presented across the continent as well as the scale of the developmental challenges these same shifts represent.

Trend 1: A larger, younger and more affluent population

A core theme of our report series last year was how sweeping demographic changes were elevating the scale of Africa’s economic and institutional potential. Meanwhile, these same shifts naturally present profound challenges for the continent, particularly in those economies unable to provide the required social and economic opportunities for a swelling and youthful population. As outlined in this report, these trends have clearly continued to manifest over the past decade. In fact, in some areas, the pace of population growth has been more pronounced than was anticipated 10 years ago. After outlining the basic continental population shifts and dynamics in this section, we discuss two more positive aspects of these demographic changes: 1) how, when coupled with rising economic activity, they are creating deeper consumer opportunities across the continent and 2) how the interplay between improved economic and institutional fundamentals and a fast-rising (and thus youthful) population is enabling the emergence of a “demographic dividend” in many African economies.

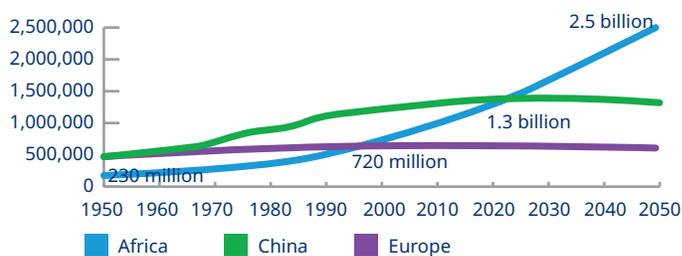
1. Population growth in Africa remains rapid

Today, Africa’s total population is estimated at 1.3 billion. This implies that over the past 10 years, the continent’s population has grown by 300 million people and that more than half a billion people have been added to the population since the turn of the century. Put differently, over the past decade, Africa has almost added the equivalent of the population of the United States. And since 2000, it has added the combined populations of the US and Brazil.² To draw this point home, over the past decade, the population of Nigeria is estimated to have grown by almost 50 million and that of Ethiopia by almost 30 million. Combined, these two countries have added the equivalent of Germany’s total population over the course of a decade.

Looking ahead:

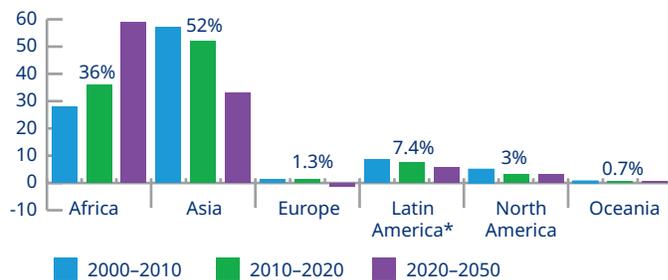
- The UN expects that Africa will be home to almost 2.5 billion people by 2050 — almost twice today’s number.
- Comparisons with China and Europe emphasize the pace of Africa’s demographic swell: Over the past 20 years, China has added 150 million people to its population and Europe just 22 million, compared to 500 million in Africa. Whereas in 1950, Europe’s population was 2.5 times larger than Africa’s, today, Africa’s is almost twice the size of Europe’s. By 2050, Africa’s population is expected to be 3.5 times larger than Europe’s and 1.7 times larger than China’s (Figure 4).
- Today, Africa accounts for 17% of the world’s population, up from 15% in 2010. By 2050, it is estimated that one-quarter of the world’s population will be African. Over the past decade, one-third of global population growth has taken place in Africa, and between 2020 and 2050, half of all global population growth is expected to be driven by Africa (Figure 5).³

Figure 4. Total population, '000



Sources: UN; Standard Bank Research.

Figure 5. Share of global population growth, %



Sources: UN; Standard Bank Research.

² United Nations Department of Economic and Social Affairs, Population Division. “World Population Prospects 2019,” available at <https://population.un.org/wpp/Graphs/DemographicProfiles/Line/903>.

³ Ibid.

This also means that Africa’s population has grown at an even faster rate over the past decade than the UN had expected when we wrote our original series. In our original report, we outlined the UN’s expectation for Africa’s total population to reach just under two billion by 2050. The UN now expects the continent’s population by that time to be 400 million larger than its original estimate.

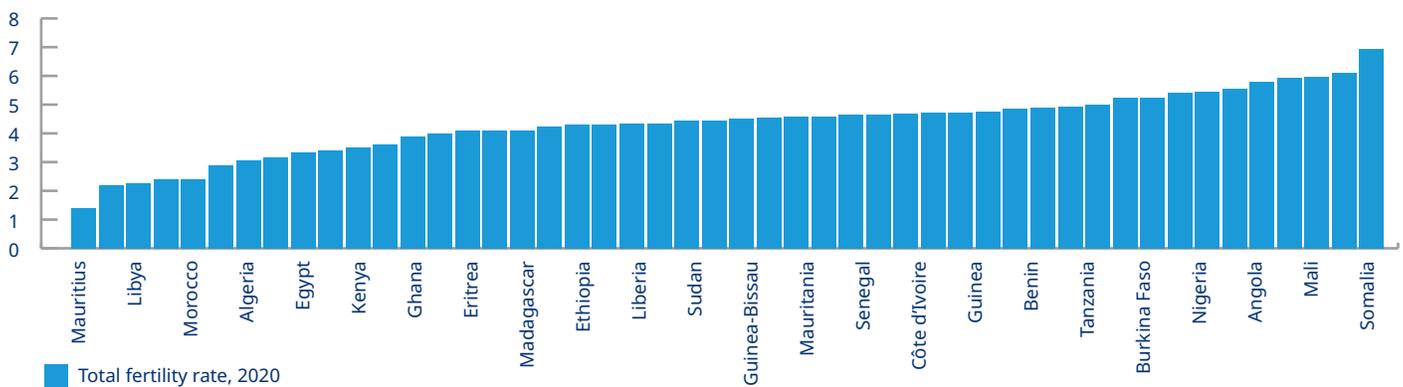
This population swell places far greater pressure on the continent’s social and economic infrastructure and on the capacity of its individual economies to ensure that economic growth — and thus the capacity to provide new work opportunities — keeps pace with population growth. Between 2010 and 2015, economic growth in SSA was almost twice that of average population growth, but this ratio is expected to have shifted considerably over the past five years, in part, due to the profound economic harm expected from COVID-19 this year (Figure 6). It is also generally true that population growth is more rapid in politically, institutionally and economically fragile countries than in more stable and advanced ones. At the extreme level, Chad has Africa’s (and the world’s) highest fertility rate at 6.95, with Somalia the second-highest on the continent at 6.12, compared to Mauritius with Africa’s lowest at 1.39, Tunisia at 2.20 and South Africa at 2.40 (Figure 7).

Figure 6. Economic growth versus population growth in SSA



Sources: UN; IMF; Standard Bank Research.

Figure 7. Wide divergences across Africa

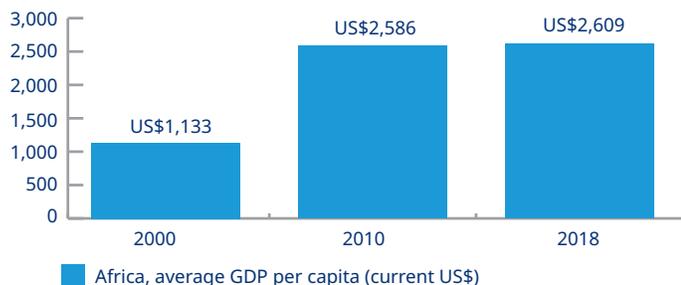


Sources: UN; Standard Bank Research.

2. Meanwhile, Africa’s consumer potential has elevated

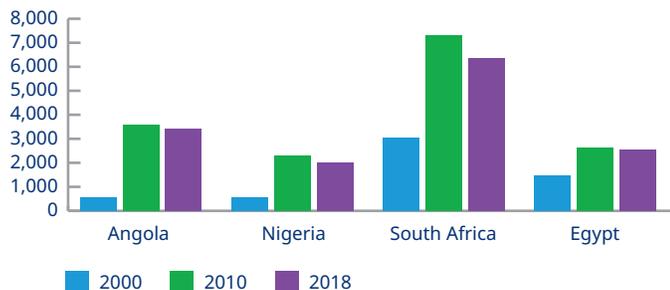
Africa’s general economic ascent continues to strengthen the continent’s consumer community. Nevertheless, the pace of economic ascent that marked the first decade of this century has cooled in the second, in large part the result of substantially slower average growth in some of the continent’s largest economies. Notably, while average GDP per capita across Africa rose more than twofold between 2000 and 2010, the pace of growth over the 2010–2018 period was more demure (Figure 8). This is largely due to a contraction in per-capita GDP in Angola, Nigeria, South Africa and Egypt over the past decade, compared to meaningful advances in the 2000–2010 period. Angola’s shift is perhaps the most pronounced in this regard. Whereas GDP per capita lifted by 550% between 2000 and 2010, over the next eight years, the country saw its average per-capita income decline by almost 5% (Figure 9).

Figure 8. Slowing overall per-capita gains



Sources: World Bank; Standard Bank Research.

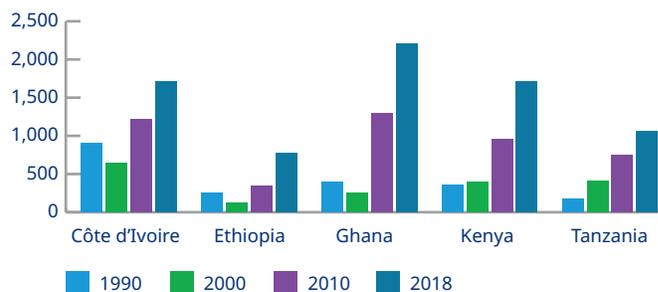
Figure 9. GDP per capita — slowing gains



Sources: World Bank; Standard Bank Research.

However, declines in these large African economies have been partly offset by a rapid rise in incomes across a range of economies — particularly in East and West Africa — that have flourished over the past decade. Most notably, between 2010 and 2018, per-capita GDP in Ethiopia rose by 125%, in Kenya by 80%, in Ghana by 70%, and in Côte d’Ivoire and Tanzania by just over 40% (Figures 10 and 11). During this period, these economies have consistently been among the fastest-growing in the world. Indeed, in 2018, half of the world’s 20 fastest-growing economies were in Africa, with Ethiopia, Tanzania and Côte d’Ivoire all included in this list.

Figure 10. GDP per capita, US\$ (current)

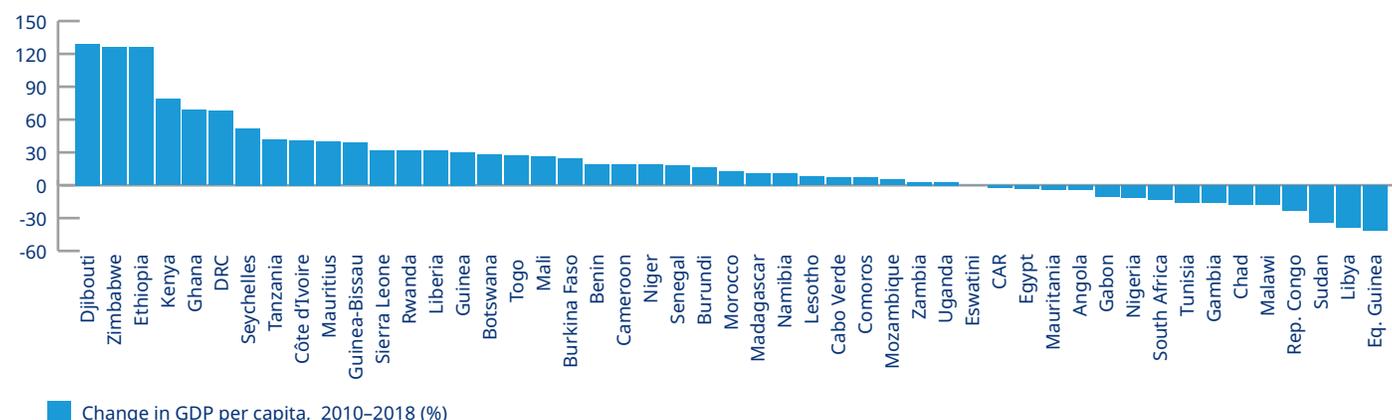


Sources: World Bank; Standard Bank Research.

Looking more broadly, it is still clear that despite notable vulnerabilities in some leading countries, most of the economies on the continent have registered positive per-capita gains between 2010 and 2018. In fact, during this period, two-thirds of Africa’s economies registered positive per-capita income growth, much of it well above the global average during the same period (Figure 11, next page).

- Aside from the mentioned advances in economies such as Ethiopia, Ghana and Kenya, countries such as the DRC (+70%), Sierra Leone and Rwanda (both up around 33%), and Cameroon (+20%) all registered meaningful per-capita income gains during this time.
- The slump in oil prices has also clearly driven much of the most notable per-capita income gains during the 2010–2018 period, with all four of the economies that registered the most profound declines relying heavily on oil exports to drive revenues (Figure 11).

Figure 11. Two-thirds of Africa’s economies registered positive per-capita income growth between 2010 and 2018



Sources: World Bank; Standard Bank Research.

Africa’s middle class is growing and maturing

These developments are leading to a maturation of the continent’s middle class. In 2014, we published two reports considering the growth of Africa’s middle class as well as meaningful income shifts within the continent’s low-income band. As we emphasized then, the rise of a middle class would suggest that the gains of growth are being more inclusively distributed, providing structural robustness to long-term trajectories. Within the context of Africa’s fast-growing (and thus exceptionally youthful), increasingly urbanized and interconnected population, the importance of shared growth becomes more acute. To classify what constitutes the middle class, we have used the South African Living Standards Measure (LSM) as a framework, with the breakdown by income category outlined in the table below.

Table 1. Ranking household (HH) consumption/income

Annual HH consumption	(US\$ constant, 2005)	Daily HH consumption
Low income	Under US\$5,500	Under US\$15
Lower middle class	US\$5,500–US\$8,500	US\$15–US\$23
Middle class	US\$8,500–US\$42,000	US\$23–US\$115
Upper middle class	US\$42,000 and above	US\$115 and above

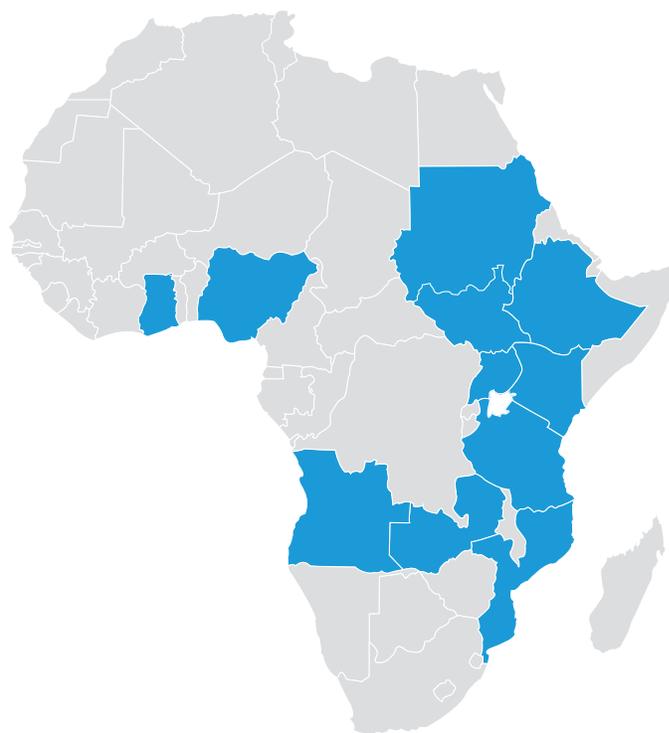
Source: Standard Bank Research.

We now return to (and update) some of the data from this series to emphasize the kinds of estimated income gains that have been reflected across a group of 11 significant SSA economies (as identified in Figure 12).

We selected these economies based on how they represent the broader economic opportunity on the continent. These economies accounted for almost 40% of the continent's total GDP and almost two-thirds of SSA's total GDP in 2019. They also account for 50% of the continent's total population, led, of course, by Nigeria (the continent's most populous country) and Ethiopia (its second-most populous country).

The first finding of an assessment of these economies is how their collective incomes have clearly swelled over the course of the past two decades. Average per-capita GDP across these 11 economies rose from US\$360 in 2000 to US\$1,480 in 2018. This has naturally led to meaningful middle-class growth (Figure 13). By our measurements, the number of middle-class households across these countries grew from 1.6 million in 2000 to 5.4 million in 2010 and 12.6 million today. Further, these economies have added 13 million lower-middle-class and middle-class households over the course of the past decade (Figure 14). Our assessment in this regard is backed up by other projections. For instance, according to the McKinsey Global Institute, between 2010 and 2015, consumer expenditure in Africa grew at a compound annual rate of 3.9%, reaching US\$1.4 trillion.⁴ It is expected that this will rise to US\$2.1 trillion by 2025 and US\$2.5 trillion by 2030.

Figure 12. The selected countries



Sources: Standard Bank Research.

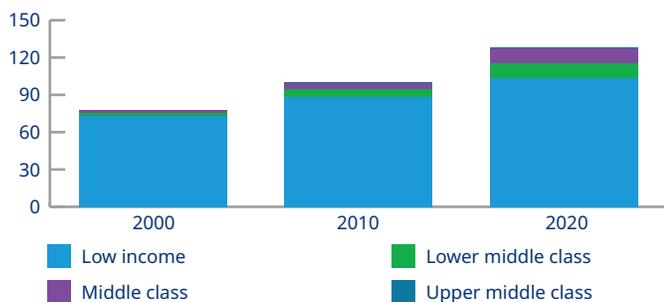
Table 2. The 11 economies that account for half of Africa's population

	Population (2020 est.)	GDP (2019, US\$)	GDP growth (2019, %)
Angola	33 million	200 billion	-1.5
Ethiopia	115 million	244 billion	8.9
Ghana	31 million	205 billion	6.1
Kenya	54 million	191 billion	5.6
Mozambique	31 million	45 billion	2.2
Nigeria	206 million	1,215 billion	2.2
South Sudan	11 million	22 billion	11.3
Sudan	44 million	175 billion	-2.5
Tanzania	60 million	194 billion	6.3
Uganda	46 million	119 billion	4.9
Zambia	18 million	76 billion	1.5
Combined	650 million	2,686 billion	4.1

Sources: UN; IMF; Standard Bank Research.

⁴ McKinsey Global Institute. *Lions on the Move II: Realizing the Potential of Africa's Economies*, 2016, available at <https://www.mckinsey.com/featured-insights/middle-east-and-africa/lions-on-the-move-realizing-the-potential-of-africas-economies>.

Figure 13. HHs by income across the 11 economies, m



Source: Standard Bank Research.

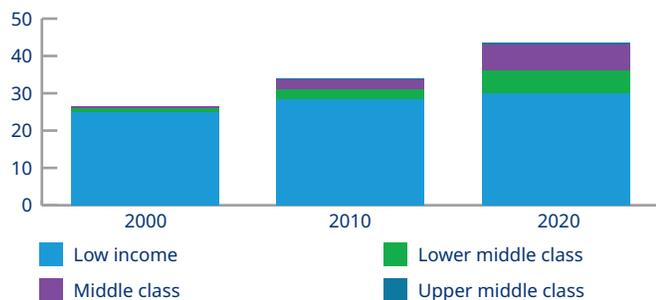
Figure 14. Middle class growth (no. of HHs, m)



Source: Standard Bank Research.

Unsurprisingly, Nigeria towers over the other selected economies, with 2.6 million middle-class households in 2010 and an estimated 7.0 million today (Figures 15 and 16).

Figure 15. Nigeria, number of households by income, m



Source: Standard Bank Research.

Figure 16. New middle-class HHs in Nigeria, m



Source: Standard Bank Research.

However, the data outlined above also emphasize how much of the continent remains within the low-income category. These households are, as we know, particularly vulnerable to economic shocks — such as the ongoing COVID-19 crisis, which threatens to roll back some of the meaningful post-2000 progress in alleviating levels of absolute poverty across Africa. Yet, although this vulnerability is acute, it is also important to further break down the low-income category to gain a better understanding of the scale of upward mobility being reflected within it. Here, we chose to divide the low-income segment into four bands — or living standard measures (LSMs):

- **LSM 1:** HHs with annual HH consumption of under US\$1,500
- **LSM 2:** Annual HH consumption of between US\$1,500 and US\$2,500
- **LSM 3:** Annual HH consumption of between US\$2,500 and US\$3,750
- **LSM 4:** Annual HH consumption of between US\$3,750 and US\$5,500

There is quite obviously a meaningful difference in economic security between those HHs in LSM 1 (most of these HHs fall below the absolute poverty line) and LSM 4, where HHs have some discretionary income. Indeed, in terms of scale, LSM 4 is where much of Africa's new consumer activity is taking place. In assessing the migration of households within these bands, it is clear that the total number of LSM 1 households is declining as rising incomes push households upward into LSMs 2, 3 and 4.

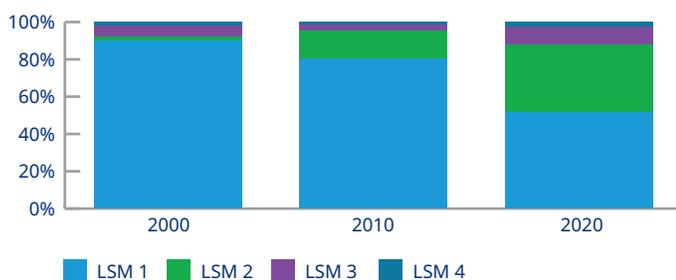
Considering LSM 4 alone, the 11 economies have seen the number of households in this category lifting from under four million in 2000 to around 14 million today (Figure 17). This more granular view is also essential in understanding income growth in a country such as Ethiopia, where the middle class remains small but the country's impressive recent growth is manifesting in material shifts within the low-income category. Whereas in 2000, more than 90% of Ethiopia's low-income HHs fell into LSM 1, this percentage currently stands at around 50 — this is particularly notable given the shift into LSMs 2 and 3 over the same period (Figure 18).

Figure 17. Low-income HHs across the 11 economies, m



Source: Standard Bank Research.

Figure 18. Ethiopia, low-income HHs by LSM, m

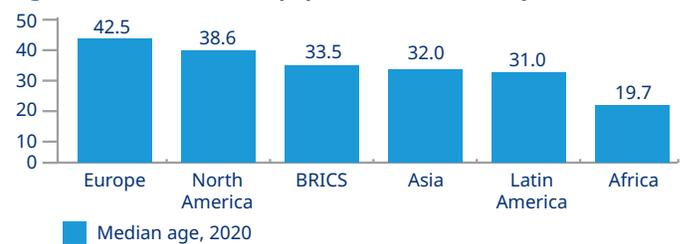


Source: Standard Bank Research.

3. Exploring Africa's demographic dividend

As we outlined in our original report series, Africa's growing population is not only increasingly affluent but, thanks to rapid growth rates in the past two decades in particular, is also exceptionally young. At present, Africa's median age is 19.7, the same as it was a decade ago. This is well below the global average and significantly below the BRICS and Asian averages as well (Figure 19).

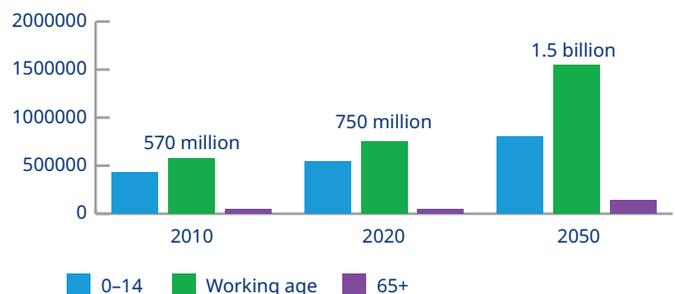
Figure 19. Half of Africa's population is under 20 years old



Sources: UN; Standard Bank Research.

As a result, Africa's workforce (measured as those between the ages of 15 and 64) continues to swell. Over the past decade, Africa's working-age population has increased by 180 million. Today, Africa accounts for 15% of the world's working-age population, up from 11% in 2000. By 2050, Africa's total working-age population is expected to reach 1.5 billion, one-quarter of the global total (Figure 20).

Figure 20. Today, 750 million Africans are "working age"

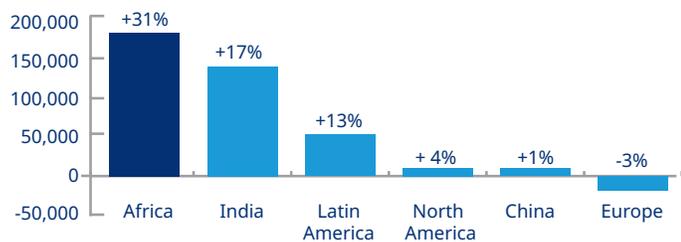


Sources: UN; Standard Bank Research.

Since 2000, Africa’s working-age population has grown by 31%, compared to 17% in India and 4% in North America (Figure 21). A comparison between Africa and Europe emphasizes this dynamic even further:

- Whereas, in 2010, there were roughly as many people of working age in Europe as there were in Africa, today, there are estimated to be almost 270 million more people in this age bracket in Africa than in Europe. (In our original report series, the data suggested that this gap would have reached 250 million by 2020.) (See Figure 21.)

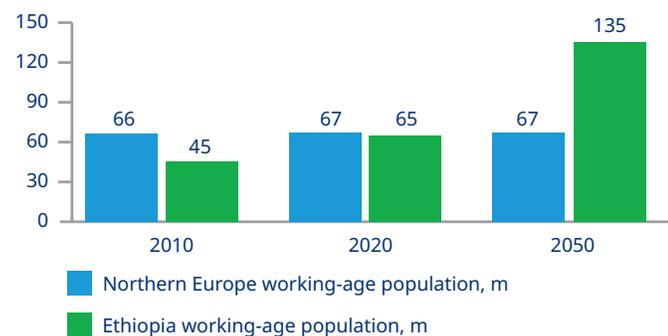
Figure 21. Increase in the working class since 2000



Sources: UN; Standard Bank Research.

- Another more specific reference brings this point home: Today, Ethiopia has the same working-age population (roughly 65 million) as the whole of Northern Europe (including the UK) combined. However, by 2050, Northern Europe’s working-age population is expected to remain flat on 2020 levels, whereas Ethiopia’s is anticipated to double, to 135 million (Figure 22).

Figure 22. Ethiopia’s working age = that of N. Europe

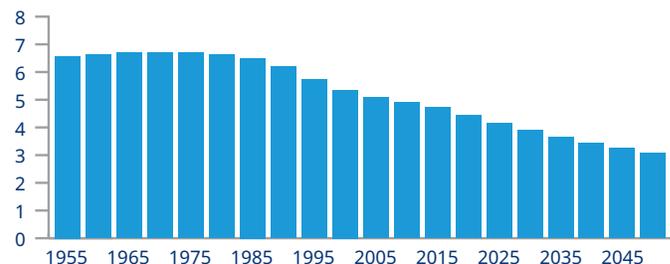


Sources: UN; Standard Bank Research.

Importantly, post-2000 economic and institutional gains have meant that Africa’s fertility rates are falling and healthcare standards (including such measures as life expectancy at birth and infant mortality rates) are notably improving.

- First, considering fertility rates, Africa’s overall rate remains comparatively high (as would be expected given the population growth rate) but continues to decline. From a peak of 6.70 in 1970, the continent’s average fertility rate now sits at 4.44 and is expected to reach around 3.0 by 2045 or 2050. Ten years ago, Africa’s average fertility rate was just under 5.0 (Figure 23).

Figure 23. Africa’s total fertility rate continues to decline



Sources: UN; Standard Bank Research.

- There remain important regional divergences — correlated with various economic and social characteristics — in fertility rates across the continent. North Africa’s total fertility rate currently sits at just over 3.0 and Southern Africa’s at 2.38, compared to 5.12 for Central Africa and 4.85 for West Africa.

Meanwhile, life expectancy is growing, and infant mortality (a good measure for improving standards of healthcare and broader socioeconomic well-being) is declining.

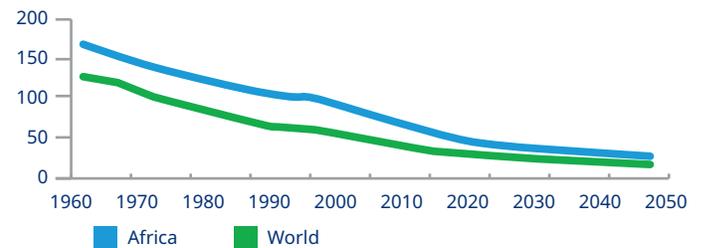
- Today, the average person born in Africa can expect to live to the age of 63, compared to 57 in 2010 and 52 in 2000. At this rate, by 2050, Africa’s life expectancy at birth will stand at 70, which is roughly the current global average.

- Meanwhile, Africa's infant mortality rate continues to decline. Today, the rate stands at 47 deaths per 1,000 live births, down from 68 in 2010 and 93 in 2000. Africa's pace of progress in this area is consistently more substantial than the global average, and by 2050, it is expected that Africa's rate will stand at 24 versus a global average of 16 (Figure 24). Africa's rate today is the same as the global average was in the early 2000s.

Locked within the convergence of a rising population, declining fertility rates and improving healthcare systems, which allow greater longevity, is the potential for a demographic dividend, wherein countries, as they adjust from environments of high fertility and high mortality to low fertility and low mortality, witness a mechanical appreciation in the size and vigor of the working-age population. Concomitantly, dependency ratios are at an all-time low, allowing the working class (which increasingly includes women, due to lower fertility rates) to accumulate, save and invest a greater amount of their income. Low fertility is also a factor enabling a more rapid accumulation of capital per head, thus supporting the development of a consumer base in the economy in question.

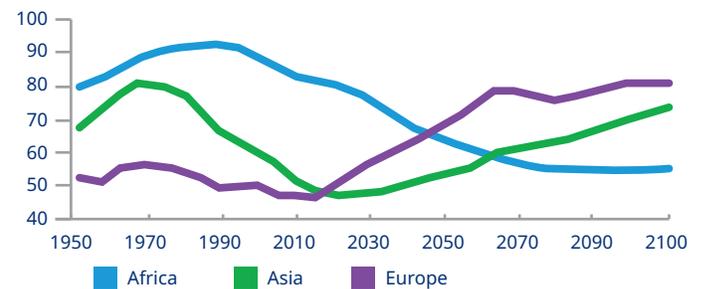
Overall, Africa's demographic dividend is expected to only fully mature later in this century in contrast to Asia's, which is currently in its peak stage, and Europe's, which has long since passed and where the old-age dependency rate has been increasing dramatically since 2010 (Figure 25). Some countries in Africa, of course, are likely to appreciate their demographic dividends sooner given lower fertility rates and more advanced economic support systems. Here, a comparison between countries like Mauritius (where the demographic dividend is already passing) and Ethiopia (where it has arguably yet to begin to manifest) reflect Africa's vastly divergent developmental trajectories (Figure 26).

Figure 24. Infant mortality (deaths per 1,000 live births)



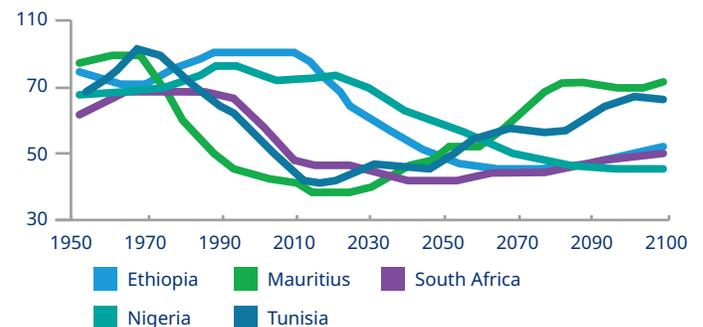
Sources: UN; Standard Bank Research.

Figure 25. Wide differences in demographic windows*



* Y-axis reflects the UN's dependency-rate score. Sources: UN; Standard Bank Research.

Figure 26. Dependency-rate divergences in Africa*



* Y-axis reflects the UN's dependency-rate score. Sources: UN; Standard Bank Research.

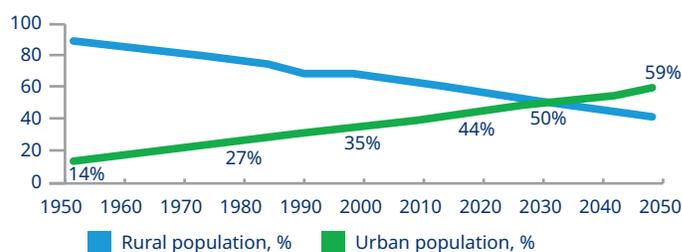
Trend 2: Africa's transformational urban swell

A second trend driving Africa's ongoing economic and institutional appeal is the continent's rapid urbanization. As we know, there is a clear and mutually enforcing relationship between economic growth and urbanization. Although, for the most part, urbanization supports socioeconomic development (indeed, institutions such as the World Bank and UN have suggested that sustained economic growth and rapid social development cannot be achieved without urbanization), it is also true that economic growth inspires more rapid rural-urban migration. Evidence is unambiguous in displaying a clear correlation between the economic success of nations and the prosperity of their cities. When coupled with economic growth, urbanization can introduce several profound gains, such as:

- **Economies of scale.** Given the benefits of agglomeration and economies of scale, urban-based enterprises are generally more productive and thus contribute a more substantial share of GDP than rural equivalents. Elevated accessibility to large and relatively diversified labor pools also positively influences productivity. Meanwhile, a broader local market enables easier access to the benefits of scale in production, facilitates enhanced access to suppliers and specialized services, and reduces transaction costs. Urban employees also tend to earn significantly higher wages than rural workers, enabling a greater swelling of the consumer base.
- **Infrastructure.** Given the immense challenges posed by inadequate infrastructure (particularly power and transport) in Africa, urban conglomerations allow greater and more immediate benefit for public spending on key infrastructure projects supporting economic growth. As a result, urban inhabitants have greater access to basic infrastructure services, providing profound support to relevant commercial aspirations.

- **Boosting rural incomes.** There is a clear link between urban and rural prosperity. Urban centers (which generally have enhanced infrastructure) provide concentrated primary markets for agricultural products, generating income that flows back to rural households. Indeed, proximity to cities is a critical determinant, enabling the adjustment from subsistence to commercial agriculture, increasing rural incomes, and ensuring the convergence of rural-urban living standards.
- **Democracy.** Urban concentration supports more robust development of viable civil societies, which, in turn, allows more effective mobilization for necessary and economically supportive political and social change.

Figure 27. A shifting urban-rural portrait in Africa



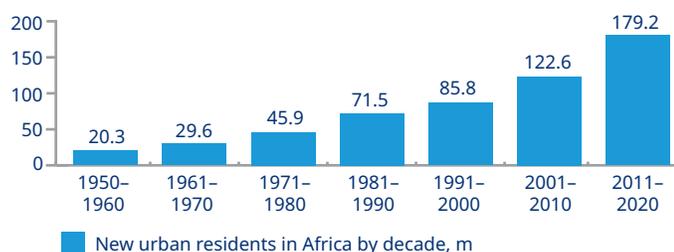
Sources: UN; Standard Bank Research.

Over the past decade, Africa's urban transformation has continued at a rapid pace. A range of data points indicate this trajectory:

- Since 2010, the continent's total urbanization rate has increased from 39% to 44%. At this rate, by 2030, half of Africa's population will be urban-based, and by 2050, this figure will be almost 60% (Figure 27).
- Since 2010, Africa's annual average rate of urban population growth has been 1.09%, compared to a world average of 0.8%.

- Nominally, this means that, since 2010, Africa’s total urban population has grown from 408 million to 588 million — a staggering 44% increase (and a rise of 180 million people). This is by some margin the largest urban swell Africa has experienced in any 10-year period in its history (Figure 28).
- This effectively means that in 10 years, Africa has added to its urban mass the equivalent of the total combined urban populations of the world’s seven most populous cities (Tokyo, Delhi, Shanghai, Mumbai, Sao Paulo, Beijing, Mexico City and Osaka).

Figure 28. A shifting urban-rural portrait in Africa



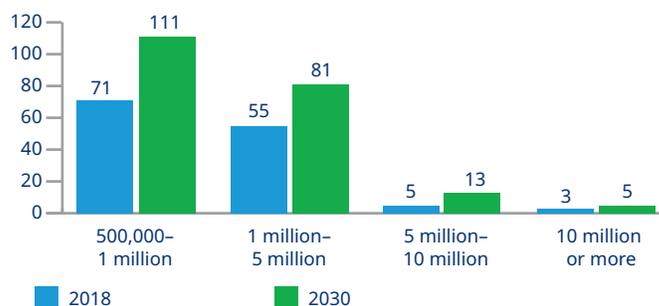
Sources: UN; Standard Bank Research.

Of course, these developments are leading to the mushrooming of Africa’s largest urban nodes. According to UN Habitat, Lagos, Nigeria, and Kinshasa, DRC, are both “megacities” — those with populations of more than 10 million.⁵ It is expected that by 2030, Dar es Salaam, Tanzania, and Luanda, Angola, will have grown to the point where they will have become megacities too. Some other data points from UN Habitat’s research into the world’s growing cities are relevant to outline:

- A decade ago, Africa had 49 cities or urban agglomerations with populations of more than one million. By 2018, this number was 63, suggesting that 14 more cities had breached this mark in eight years.
- Some of the fastest growth has been among the smaller of these urban nodes. For instance, between 2000 and 2018, the population of Uyo, Nigeria, grew at an annual average rate of 5.9%, swelling from 350,000 to more than one million; Mwanza, Tanzania, at a rate of 6%, from one million to 1.8 million; and Matola, Mozambique, at 6.6%, from just under 500,000 to more than 1.4 million.

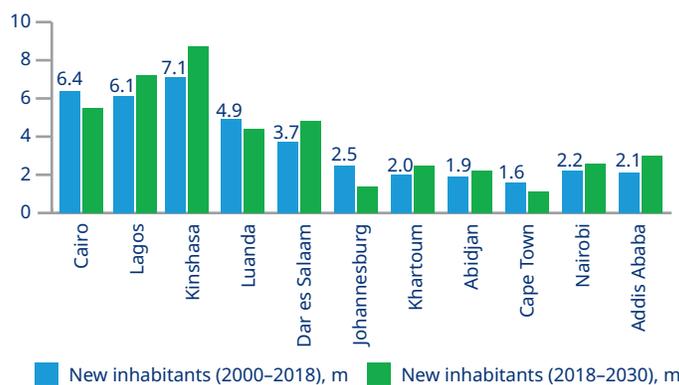
- Looking ahead, it is expected that between 2018 and 2030, the number of cities in Africa with populations between one million and five million will grow from 55 to 81, while the number of cities with populations between five million and 10 million will grow from five to 13 (Figure 29).
- Considering the continent’s largest cities, the astounding scale of population increase realized between 2000 and 2018 is expected to be repeated in the 2018–2030 period. Kinshasa’s growth is most pronounced: Between 2000 and 2018, the city’s population rose by more than seven million, and between 2018 and 2030, more than eight million are expected to be added. A similarly profound swell has been experienced in Cairo and Lagos, with proportionately large growth in some of the continent’s other metropolitan centers (Figure 30).

Figure 29. Number of cities in Africa by population size



Sources: UN Habitat; Standard Bank Research.

Figure 30. Africa’s top 10 cities continue to expand



Sources: UN Habitat; Standard Bank Research.

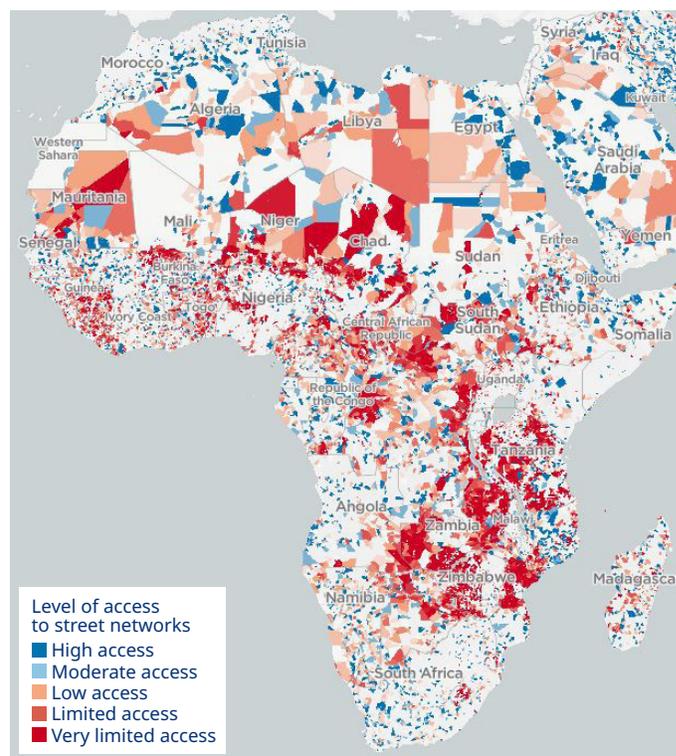
⁵ UN Habitat. *World Cities Report 2016 — Urbanization and Development: Emerging Futures*, 2016, available at <https://unhabitat.org/sites/default/files/download-manager-files/WCR-2016-WEB.pdf>.

Although these trends have meaningful advantages, we would be remiss not to outline how such profound urban growth is also — in the absence of sufficient African economies with robust economic and institutional support — leading to the mushrooming of urban slums across the continent. These areas present significant concerns for the continent’s policymakers. Further, many of the continent’s fastest-growing cities are in low-elevation coastal zones (LECZs), which increases their vulnerability to increasing climate-related catastrophes produced by climate change.

- UN Habitat estimates that, in 2010, 200 million Africans were living in urban slums or informal settlements. This equated to 50% of the continent’s urban population (a decrease, at least, from 75% in 1990).
- In some cities, this ratio is even more pronounced. In Kinshasa, for instance, it is estimated that seven in 10 urban residents live in slums.
- Since 2010, there has been some progress. For example, recent research in *Nature* found that the share of homes in Africa that met UN criteria for building standards, living space per person, water and sanitation more than doubled between 2000 and 2015 to just under 25%.⁶
- And the UN recently outlined how the proportion of municipal solid waste collected in SSA between 2010 and 2018 stood at more than 50%, compared to 32% between 2000 and 2010. (That said, SSA’s collection rates are still substantially below the global and developing-world averages.)

However, a pressingly large proportion of the continent’s urban population resides in areas that fall vastly below basic health and well-being standards, rendering their inhabitants more vulnerable to health problems. Rapid population growth also stretches infrastructure systems, emphasizing the pressing infrastructure deficit already in place across most African cities in this regard. In a recent assessment of global progress toward the achievement of the Millennium Development Goals, the UN outlined that just 18% of SSA’s total population in 2018 had “convenient access to public transport.”⁷ Further, a map produced by the Mansueto Institute for Urban Innovation at the University of Chicago outlines the inaccessibility (as measured by the sophistication of the street network) across much of the continent (Figure 31).⁸

Figure 31. Africa’s street network



Source: University of Chicago.

⁶ Tusting LS, Bisanzio D, Alabaster G, et al. “Mapping Changes in Housing in sub-Saharan Africa from 2000 to 2015,” *Nature*, Number 568, pp. 391–394 (2019), available at <https://doi.org/10.1038/s41586-019-1050-5>.

⁷ UN Statistics. “SDG11: Make Cities and Human Settlements Inclusive, Safe, Resilient and Sustainable,” 2019, available at <https://unstats.un.org/sdgs/report/2019/Goal-11/>.

⁸ Million Neighborhoods Initiative, 2019, available at <https://millionneighborhoods.org/#2/8.84/17.54>.

Trend 3: Leapfrogging through technology

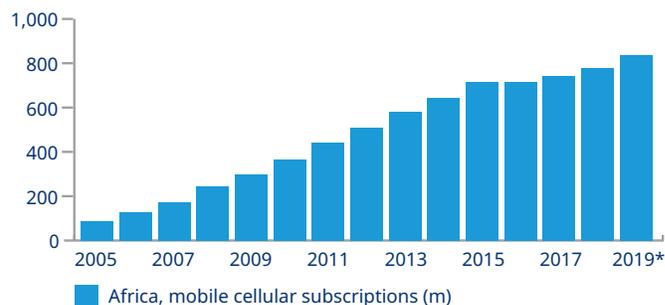
As we know, ongoing and seismic technological changes continue to fundamentally transform how individuals and firms connect, communicate and transact, providing new avenues of commercial nutrition. As we noted in our original series, in this area, Africa has certainly not been left stranded. In fact, the continent's fast-rising population has vigorously embraced technology in general, and telecommunications in particular, to enhance socioeconomic prosperity.

No technological area has seen more impressive change in Africa than the uptake of mobile telephony:

- In 2000, there were just 15 million mobile subscribers in Africa. By the time of our original report series, this had risen to around 440 million. Today, the continent's mobile subscription base totals around 840 million (Figure 32).
- Whereas, decades ago, barely four in 10 Africans had a mobile subscription, today, eight in 10 hold one.
- Further, by last year, 90% of Africa's population was covered by a mobile network, and 80% of the population was covered by at least a 3G mobile network.
- These figures also suggest that there is substantial room for ongoing mobile subscription growth in Africa when considering the average global subscription rate of 108% and the developed world average of 128% (Figure 33). Using these numbers, for Africa to reach the global average subscription rate, an additional 400 million to 500 million subscriptions would need to be added across the continent.

There have also been improvements in internet access and usage across the continent. Much of this enhanced access

Figure 32. 400 million new mobile subscribers in a decade



Sources: International Telecommunication Union (ITU); Standard Bank Research.

Figure 33. Mobile subscriptions per 100 inhabitants



Sources: ITU; Standard Bank Research.

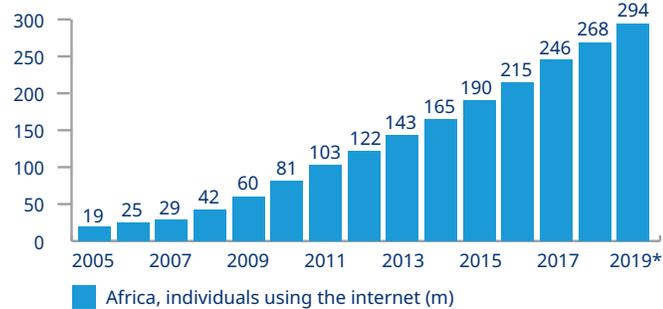
is being driven by the increased uptake of mobile (and smart) phones together with ongoing improvements in data availability and cost. As we will discuss in the next section of this report, mobile telephony is also driving deepening financial access in Africa and allowing firms to provide innovative financial and payment solutions in economies still challenged by more formal and systemic constraints.

A decade ago, fewer than 100 million Africans (less than 10% of the population) were regularly using the internet. Across the world, just 4% of total internet users were African. This rate clearly reflected a rift in connectivity between the continent and the rest of the world and presented challenges regarding Africa's ability to participate in — and benefit from — the so-called Fourth Industrial Revolution.

Since 2010, there have been important advances in this area:

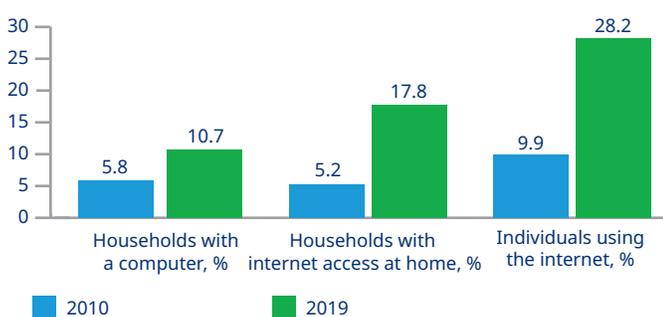
- In 2019, there were almost 300 million active internet users in Africa, reflecting a 260% increase since 2010 (Figure 34).
- During this same period, Africa’s share of global internet users has almost doubled, to just over 7%.
- According to ITU data, the share of African households with a computer has doubled since 2010, while the share of households with internet access at home has more than tripled during this same period (Figure 35).

Figure 34. A 260% increase in internet users since 2010



Sources: ITU; Standard Bank Research.

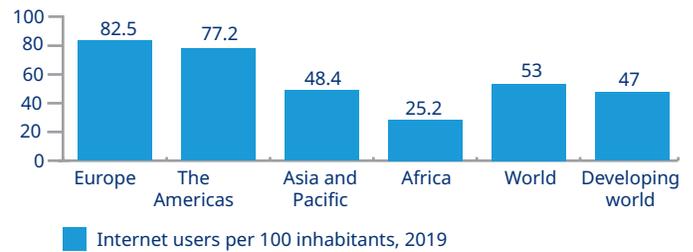
Figure 35. Internet access is slowly deepening in Africa



Sources: ITU; Standard Bank Research.

However, as important as these shifts are, it remains clear that Africa’s internet penetration and usage rates still substantially lag the global average and therefore continue to constrain the continent’s technological and thus socioeconomic progress.

Figure 36. A long way to go for Africa

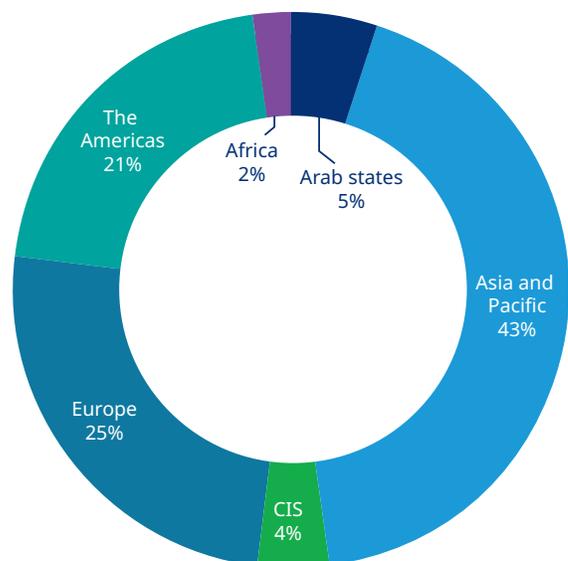


Sources: ITU; Standard Bank Research.

- Africa’s internet penetration rate is not only substantially lower than the global rate, but also well below the developing world average (Figure 36).
- This deficit is explained in part by Africa’s limited share of global bandwidth. Despite being home to roughly 17% of the world’s population, Africa accounts for just 2% of global bandwidth usage (Figure 37).

Of course, as with mobile telephony, this deficit will allow African economies to continue to derive potentially profound economic and institutional gains from elevated internet access in the years and decades ahead. At the same time, the continent faces pervasive (and largely infrastructural) challenges in more fully participating in global technological change.

Figure 37. Share of global internet bandwidth, 2019

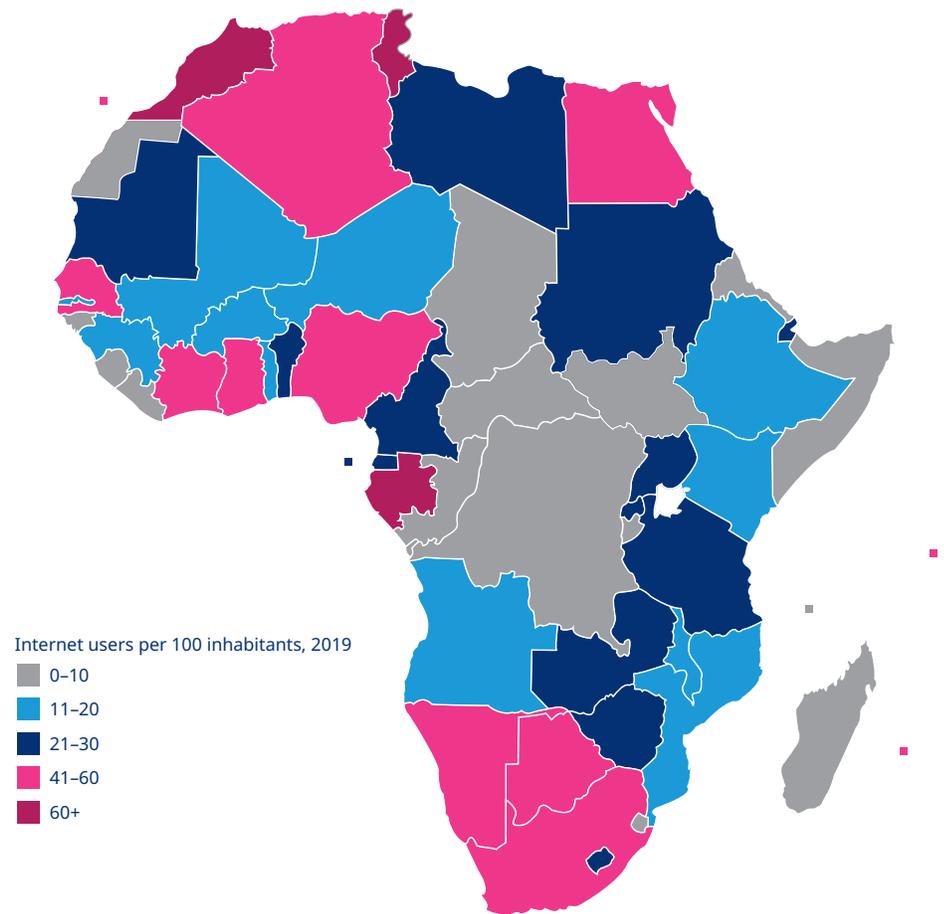


Sources: ITU; Standard Bank Research.

There are, of course, profound regional variations in internet usage across Africa, in large part, due to varying levels of economic and institutional maturity on the continent (Figure 38).

- The most extreme contrast in this regard is between Tunisia, which has an internet usage rate of 64%, and Eritrea, at under 2%.
- Overall penetration rates in East Africa are particularly low considering the region’s relative economic prosperity. In both Kenya and Ethiopia, just 18% of the population actively uses the internet.
- Usage in West Africa’s largest economies — Nigeria, Ghana, Senegal and Côte d’Ivoire — is higher, with an average rate across these four economies of 43%.

Figure 38. Wide variations in internet usage across the continent

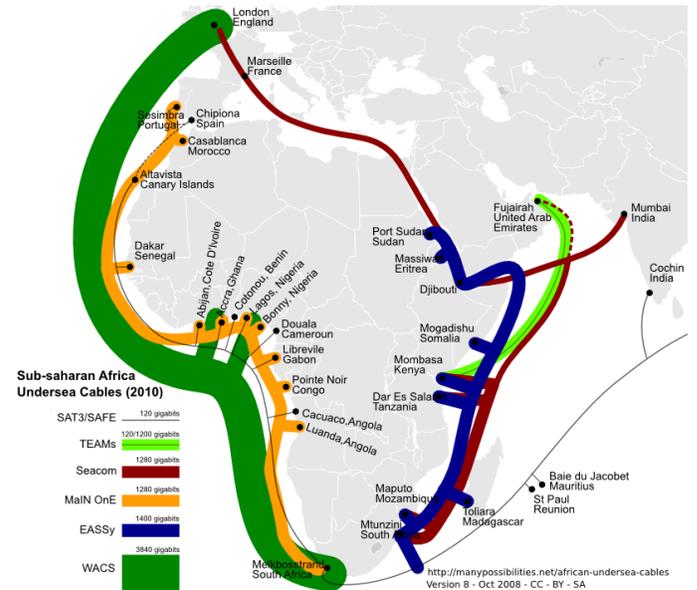


Sources: ITU; Standard Bank Research.

Further, Africa's information and communications technology (ICT) opportunities are sufficiently compelling for investment in Africa's ICT sector to be driven mostly by the private sector. Here, investment in new fiber-optic cables servicing the continent (most of which are privately financed) reflects the pace of change as well as the shape of future possibilities. Figure 39 outlines the extent of new fiber-optic cables connecting to Africa's various coastal cities in 2010, while Figure 40 expresses an updated account of these and new cables that are expected to be available by 2023. These maps emphasize the impressive elevation of private-sector activity that has congregated around this sector over the past decade.

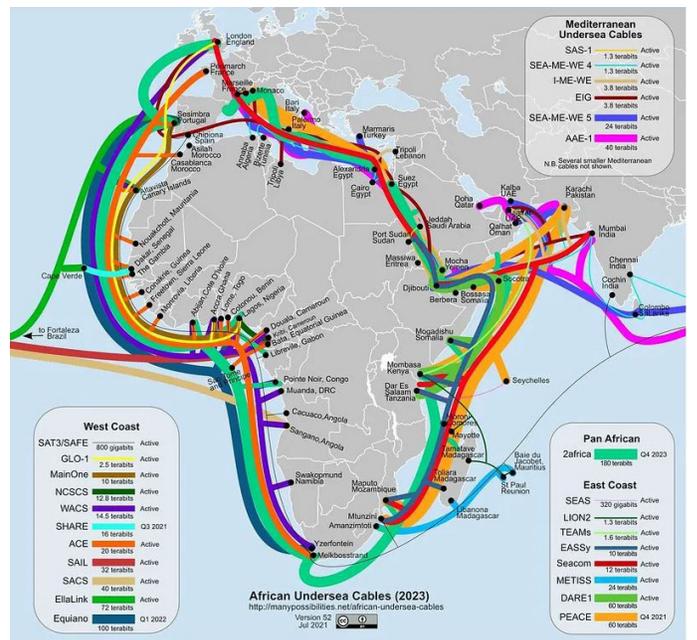
Looking ahead, it is self-evident that technological changes will be critical in the continent's socioeconomic ascent through growth, income and jobs as well as the transformation of the continent's economic structure and the innovative approaches to solving its pressing challenges. Some research and data point to these advantages, all of which we expect to have a profound effect on Africa's trajectory in the decades ahead. Further, as we have seen social media drive political change, the uptake of mobile telephony also has the potential to strengthen democratic systems in Africa.

Figure 39. Fiber-optic cables connecting Africa (2010)



Source: manypossibilities.net.

Figure 40. Fiber-optic cables connecting Africa (2023 est.)



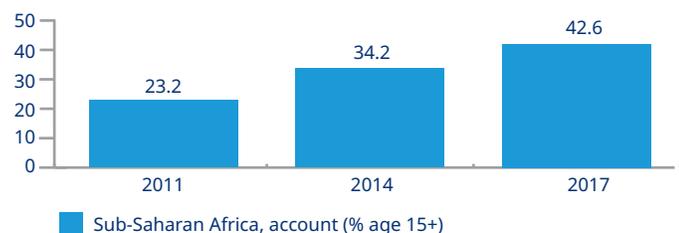
Source: manypossibilities.net.

Trend 4: Africa's deepening financial sector

Africa's financial services sector is responding rapidly to the continent's altering economic reality. Urbanization and rising incomes are bringing more people within reach of a broader suite of financial services, and, in so doing, providing a formal identity to new sections of the continent's young and aspirant population. Meanwhile, technological enhancements and pioneering innovative business strategies are allowing the financial sector unprecedented reach. Indeed, the deepening of Africa's financial sector is both a result and a driver of the strong macroeconomic gains reflected across several of the continent's core markets over the past decade.

The most evident symbol of the manner in which Africans are being empowered to embrace financial services is in the realm of banking. To be sure, banking systems vary hugely across Africa, and nascent developments are often unequally dispersed. Yet, increasingly, Africa's cash-based economy (consider that the ratio of M1 to M2 on the continent is the highest in the world) is finding a more formalized outlet. These gains have continued to accumulate over the past decade.

Figure 41. Adult account penetration has grown



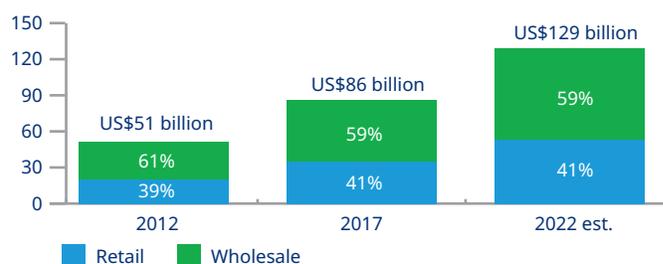
Sources: World Bank; Standard Bank Research.

⁹ World Bank Group. "The Global Findex Database 2017," available at <https://globalfindex.worldbank.org>.

¹⁰ McKinsey Global Institute (2016).

¹¹ World Bank Group (2017).

Figure 42. African client-driven revenues before cost



Sources: McKinsey; Standard Bank Research.

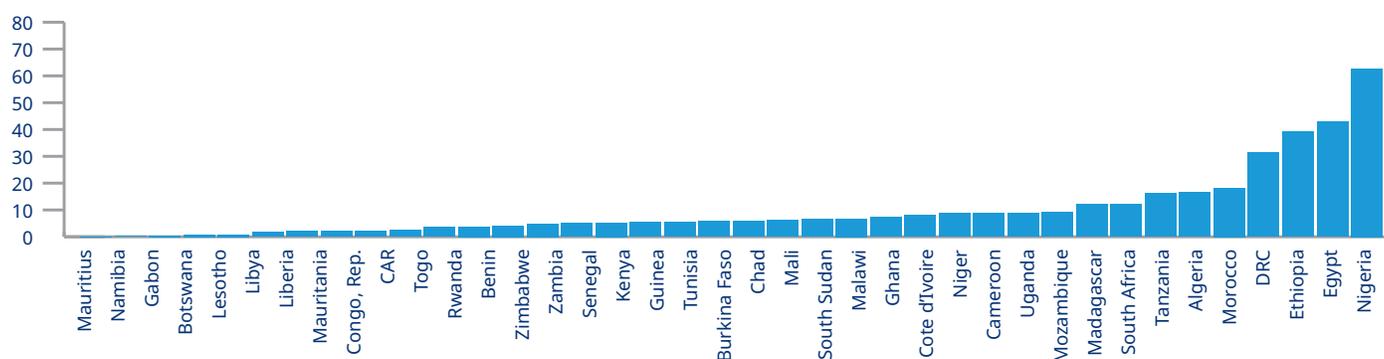
- According to the World Bank's Global Findex Database, between 2011 and 2017, the share of people over the age of 15 in Africa with access to a bank account almost doubled (Figure 41).⁹
- Using UN population data, this implies that the number of adults in SSA with bank accounts increased from 110 million in 2011 to 270 million in 2017, a 145% increase in the span of just six years.
- Additionally, according to the McKinsey Global Institute, Africa's banking sector is the second-fastest growing and the second-most profitable in the world, with important gains in both the retail and wholesale banking revenues since 2012 (Figure 42).¹⁰

However, despite this recent growth, Africa's population remains predominantly unbanked, emphasizing both the challenges and the opportunities present in this sector — and across the continent's economies more broadly.

- Returning to the World Bank's Findex Database, it is clear that the nominal scale of the unbanked opportunity is, as would be expected, most pronounced in countries such as Nigeria, Ethiopia, Egypt and the DRC. Nigeria alone is estimated to hold around 5% of the world's unbanked population.¹¹

- Yet relatively compelling opportunities also exist in other less-populous economies. For instance, there are estimated to be well over 10 million unbanked people in Morocco, Algeria, Tanzania and South Africa and just under 10 million in Mozambique, Uganda, Cameroon and Niger (Figure 43).

Figure 43. Number of adults without an account in select African economies, m



Sources: World Bank; Standard Bank Research.

Africa leads in mobile money

Over the past decade, the intersection of rising mobile penetration and elevating incomes has continued to drive the uptake of mobile money across the continent. In many underdeveloped African economies, mobile-money solutions are driving financial inclusion, thus deepening economic and financial security and providing critical transactional potential to many of the continent’s low-income households.

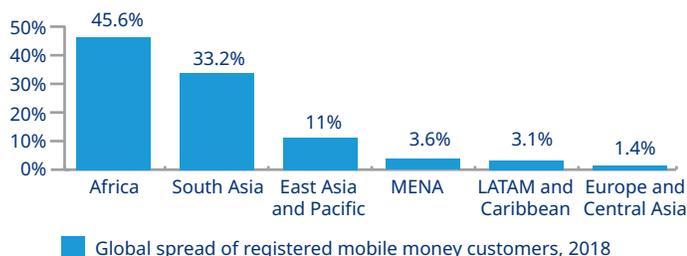
- According to the GSM Association (GSMA), Africa accounts for almost half of all mobile money activity in the world, with an estimated transaction value in 2018 alone of US\$26.8 billion (and this figure excludes bank-operated solutions). Further, in 2018, Africa added more than 17.5 million new active mobile-money accounts, and in 13 African countries, more than one-third of adults are active mobile-money users.¹²

- The GSMA has also identified three large African economies as “sleeping giants” in terms of their future mobile-money potential: Nigeria (where, in 2018, around 39% of adults had a mobile-money account), Ethiopia (34.8%) and Egypt (32.8%). This is in contrast to some other African economies in which mobile account penetration is well over 60%.
- Between 2011 and 2019, the value of mobile-money transactions in Africa grew by 890%.
- These developments continue to attract sizable investment flows. According to WeeTracker, for instance, there was an almost 400% increase in total startup funding received for African startups in 2018, with US\$725.6 million raised across 458 deals received for the year. Around 40% of this investment was directed toward fintech start-ups.¹³

¹² GSM Association. *The Mobile Economy: Sub-Saharan Africa 2019, 2020*, available at https://www.gsma.com/mobileeconomy/wp-content/uploads/2020/03/GSMA_MobileEconomy2020_SSA_Eng.pdf.

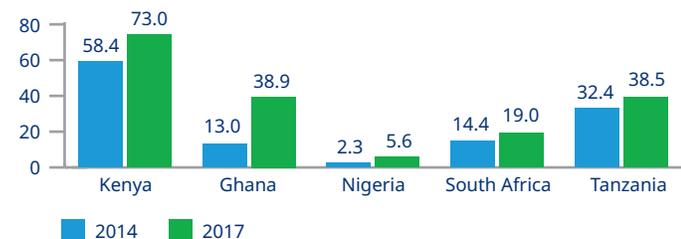
¹³ WeeTracker. “African Venture Capital 2018 Report — USD 725.6 mn Invested in 458 Deals,” 2019, available at <https://weetracker.com/2019/01/04/what-a-year-the-state-of-venture-capital-in-africa-2018/>.

Figure 44. Half of all mobile accounts are in Africa



Sources: GSMA; Standard Bank Research.

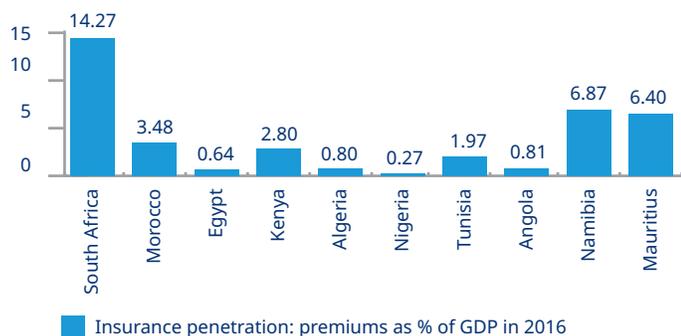
Figure 45. Mobile-money accounts (% age 15+)



Sources: World Bank; Standard Bank Research.

Africa’s insurance industry remains marginal by global standards. According to PwC, the continent accounted for just under 1.2% of insurance premiums written globally in 2017.¹⁴ However, BMI data (which is largely based on the drivers we have encapsulated in this report) suggest that this industry is likely to see sustained future growth. More specifically, property and casualty insurance are expected to grow by a compound annual growth rate (CAGR) of 4.3% between 2017 and 2025, much higher than projections in

Figure 46: Even Africa’s top insurance markets are relatively shallow



Sources: PwC; Sigma; Standard Bank Research.

more mature markets. Still, an assessment of Africa’s top 10 insurance markets is suggestive of the continent’s lag in this industry as well as the opportunities that clearly exist for more sustained growth as markets continue to mature (Figure 46).

There are, of course, powerful constraints to the deepening of financial access and the broadening of funding sources in Africa. These include the low-income levels in many economies, a lack of trust in or knowledge about financial institutions, a lack of infrastructure and distribution channels, and the pressing regulatory burdens domestic and international financial institutions face in many markets on the continent. Further, the COVID-19 crisis may be particularly challenging for the continent’s banking sector, constraining opportunities for some of the growth that was expected in 2020 and in the medium term thereafter.

Concluding remarks

Ten years ago, there was abundant enthusiasm for Africa’s post-2000 economic and political advance. *The Economist* famously adjusted its early imagery of Africa as being “the hopeless continent” (in 2000) to celebrate “Africa rising” (in 2011). Yet the decade since 2010 has been abundantly more challenged. Large African economies have struggled to emulate their early 2000s growth trajectory, and a range of other challenges attached to commodity-price declines and rising government debt trajectories has cooled sentiment toward the continent. Looking ahead, African economies will be ensnared by the global slowdown inflicted by the COVID-19 crisis, threatening some of the institutional gains recently achieved.

However, our data suggest that the fundamental drivers of Africa’s ongoing promise remain firmly intact. Furthermore, many have seen notable advances in the past decade. In our view, the confluence of a youthful population, improving economic and healthcare standards, rising urbanization, and deeper telecommunications and financial access continue to create profound improvements in the continent’s structural potential and resilience.

¹⁴ PwC. *Ready and Willing: African Insurance Industry Poised for Growth*, 2018, available at <https://www.pwc.co.za/en/assets/pdf/south-african-insurance-2018.pdf>.

5. Foreword: Infrastructure a priority as African countries look to reignite growth

By Kenny Fihla, Chief Executive of Corporate and Investment Banking at Standard Bank Group

Infrastructure development programs will play a key role in reigniting African economies in the wake of COVID-19 and positioning the continent for long-term prosperity. They will also present opportunities for global institutional investors, which are contending with downward pressure on yields in developed markets.

Africa has a substantial infrastructure deficit. Existing infrastructure is poorly maintained — and, in some instances, even abandoned. Meanwhile, underinvestment in new infrastructure as the continent's populations grow and urbanize means there is now an infrastructure funding gap in excess of US\$100 billion per annum according to the African Development Bank.

This implies opportunities for both policymakers and institutional investors.

Compared to developed economies, returns on the continent are highly attractive, particularly in countries that are relatively stable and have manageable long-term political risk. Further, infrastructure assets in general are aligned to the mandates of many institutional investors, as they are long-term in nature and often deliver stable, inflation-linked annuity-type returns.

With many African countries embarking on programs to create enabling environments for investors while also focusing on stabilizing state-owned entities and ensuring their regulatory environments protect investors, we see growing interest for assets on the continent. This comes at a time when public-private partnerships are once again coming to the fore as governments shift to off-balance-sheet methods of delivering infrastructure.

6. Case studies of infrastructure financing in SSA

By Daniel Bond, Principal Advisor, MiDA Advisors

As a follow-up to our previous report on infrastructure in Africa, this report examines in some detail examples of infrastructure projects and programs that have been carried out successfully and that have involved or have the potential to involve foreign institutional investors. The projects are a mix of sectors and countries. But all have been structured to successfully attract private-sector financing.

In addition, we briefly look at several promising recent innovations in infrastructure financing that have the potential to open up even greater opportunities for institutional investments in Africa.

Nigeria — Azura-EDO IPP

Background

Most US institutional investors invest in African infrastructure via private equity funds that specialize in infrastructure project financing. Although such funds can be used as vehicles for investing in project equity or debt, most often, they invest in project equity. The equity financing from these funds supplements equity provided by project sponsors, which is especially important for the construction phase. Much of the debt financing for infrastructure projects during construction comes either from commercial banks or from DFIs and multilateral development banks (MDBs). Sometimes, the MDBs also provide partial risk or credit guarantees to help draw in commercial financing for projects. Once projects are operational, it is more likely that institutional investors can be drawn into infrastructure funds that focus on refinancing opportunities. Secondary sales provide a key exit strategy for infrastructure funds that

are willing to take on the risks of project development and construction. And funds specializing in secondary sales are attractive to institutional investors, as they typically provide income from the start and are usually less risky.

One type of project in SSA that offers potential for institutional investors is the independent power producer (IPP). As governments across Africa have recognized that they cannot provide all the funding needed to fill the large and growing gap between the supply and demand for electric power, they have encouraged private companies to participate in power generation. One significant method is through supporting the development of IPPs. These are projects in which the private sector develops, finances, constructs, operates and owns the power production facilities. IPPs began to be used in SSA in the early 1990s,

but it has been only in the last decade that their use has become more widespread in other SSA countries. By 2016, there were 126 IPPs completed or under development in 18 SSA countries.¹⁵

Although Nigeria is endowed with abundant energy resources, including the world's eighth-largest reserves of natural gas, half its population still has no access to electricity, and power shortages are a major impediment for the country's economic development. In 2001, Nigeria embarked on an ambitious reform of its power sector. The Electric Power Sector Reform Act was passed in 2005 and still serves as the legal basis and regulatory framework for industry reform. Until this time, power supply and transmission were the sole responsibility of the Nigerian federal government. Since 2005, the government has focused on privatizing the generation and distribution of assets and encouraging private investment in the power sector.¹⁶

One of the key components of the reforms was to stimulate the development of privately owned power and IPPs. Given the abundance of natural gas in Nigeria, it was anticipated that a number of such IPPs could be developed quickly to use this resource to help meet the country's need for electricity.

IPPs are contracted to deliver a specified amount of power at a particular time and are guaranteed payment for this under power purchase agreements (PPAs). IPPs are one part of the electric power chain in Nigeria. Gas suppliers sell gas to the IPP under a supply contract, the IPP uses the gas to produce electricity, the Nigerian Bulk Electricity PLC (NBET)¹⁷ purchases electricity from the IPPs under PPAs and sells it to the distribution companies (DisCos) through vesting contracts, and the DisCos then sell electricity to their customers. In 2005, the Nigerian Electricity Regulatory Commission (NERC) was established to regulate the electric power system and is responsible for setting tariffs for the power sold by IPPs to the NBET.

Although Nigeria's new energy framework opened up the possibility for the development of private sector IPP projects, IPP developers still faced many challenges. The international law firm Dentons listed some of these:¹⁸

- The high cost and extensive timeline involved in achieving an acceptable allocation of risks and rewards among stakeholders
- The difficulty in raising commercial debt funding for project development activities, particularly following the recent tightening of credit to emerging market borrowers
- Obtaining uninterrupted access to feedstock gas for power generation and achieving a bankable offtake arrangement with NBET
- Low regulated domestic electricity prices that do not reflect the full costs of power generation
- Navigating a labyrinth of political, legal and regulatory frameworks to successfully develop and operate IPPs

Azura-Edo IPP

The Azura-Edo IPP project in Nigeria is a good example of how these financing components fit together.

The Azura-Edo IPP project is the first private, large-scale, non-recourse-project-financed greenfield IPP project in Nigeria that developed out of the country's restructuring of the electric power sector in 2005. Its centerpiece is a 461-megawatt open-cycle gas-turbine power station located near Benin City in Edo State, Nigeria. The project also includes the construction of a short 330-kV transmission line connecting the power plant to the Benin North substation and a short underground gas pipeline spur connecting the

¹⁵ Eberhard A, Gratwick K, Morella E and Antmann P. *Independent Power Projects in Sub-Saharan Africa: Lessons from Five Key Countries*, 2016, available at <https://openknowledge.worldbank.org/bitstream/handle/10986/23970/9781464808005.pdf>. Appendix E provides a list of these projects by country.

¹⁶ The Electric Power Sector Reform Act of 2005 was enacted to allow private investment in electricity generation, transmission and distribution. However, the transmission network continues to be government owned and operated and remains the weak link in the power sector supply chain.

¹⁷ The NBET is the manager and administrator of the electricity pool in the Nigerian electricity supply industry. It was incorporated in 2010 as part of the energy sector restructuring and is owned by the Federal Government of Nigeria.

¹⁸ A good discussion of the work involved in developing IPPs in Nigeria is provided in Dentons' *Nigeria Power Series — Part 1: Developing Bankable Independent Power Projects in Nigeria*, November 2016, available at <https://www.dentons.com/en/insights/guides-reports-and-whitepapers/2016/november/25/-/media/321b78e3931047f0ac310960c6c06f56.ashx> and Dentons' *Nigeria Power Series — Part 2: Unlocking Financing for Developing Independent Power Projects in Nigeria*, December 2016, available at <https://www.dentons.com/en/insights/guides-reports-and-whitepapers/2016/december/6/nigeria-power-series-part-2>.

power plant to the country's main gas trunk line. The project delivers power not only to Nigeria, but also to the broader West African Power Pool.

This groundbreaking project took considerable time and effort to go from inception in 2009 to financial close in 2015, and the development costs were high. Each of the project's contracts had to be negotiated from scratch. With Azura being the first IPP since the new guidelines were established, there was no ready-made template to follow. The initial project sponsor, Amaya Capital, was a relatively small, cash-poor, first-generation developer (established in 2009) that had to leverage equity partners and a large number of debt providers, each of which wanted to limit its exposure.¹⁹ The International Finance Corporation (IFC) was a co-lead arranger of the DFI component of the debt, and the World Bank employed its full range of risk-mitigation instruments to make the project bankable for commercial lenders.

The Azura-Edo project required US\$876 million in financing. US\$190 million (22%) of this was provided in the form of equity investments and US\$686 million (78%) in debt financing.

Three organizations in the World Bank Group played a key role in helping to mobilize the financing. The IFC provided US\$50 million in senior debt and US\$30 million in subordinated debt. It also facilitated the participation

of other DFIs in the project. A partial risk guarantee was provided by the International Bank for Reconstruction and Development (IBRD), and political risk insurance was provided by the Multilateral Investment Guarantee Agency (MIGA).²⁰

The project also used a risk mitigation instrument known as a put-and-call option agreement (PCOA). This option protects Azura-Edo in the case of an NBET default or — if gas-supply problems prevent production — by releasing the plant's owners from their legal obligations set out in the investment agreement. Azura-Edo can also demand that the government buy the facility at a price set under an international arbitration process.²¹

Putting together a group of project sponsors to supply the equity along with the necessary skills and experience to complete a project of this size and complexity was a major task. Amaya Capital was the project's initial lead developer and sponsor.²² Over the period from mid-2010 to late 2013, Amaya brought a number of other co-sponsors into the project:

- American Capital Energy and Infrastructure (ACEI)²³
- Aldwych International (Aldwych)²⁴

¹⁹ An excellent and detailed account of the Azura-Edo project's development phase is provided in Amaya Capital Limited's *High Voltage: A Development Guide to the 459MW Azura-Edo IPP*, 2016, available at <https://azurapower.squarespace.com/s/HighVoltage.pdf>. Much of the detail on the project's development reported here comes from this source.

²⁰ MIGA's guarantees for the project total US\$492 million. These guarantees cover equity investments by Amaya Capital Ltd., American Capital Energy and Infrastructure, Aldwych Azura Limited, the African Infrastructure Investment Fund 2 Power Holding, and Asset and Resource Management Ltd. MIGA is also covering commercial lending by Siemens Bank, KfW IPEX, Rand Merchant Bank and Standard Bank. Hedging instruments by Standard Chartered and RMB are also covered by MIGA's guarantees. See MIGA's press release, "MIGA Guarantees Support Nigeria's Azura-Edo IPP," January 19, 2016, available at <https://www.miga.org/press-release/miga-guarantees-support-nigerias-azura-edo-ipp>. The IBRD provided a partial risk credit guarantee that backstops payment obligations by the NBET, which provides security under the PPA in the form of a letter of credit (LC) issued by a commercial bank in favor of the IPP. The LC can be drawn in the event the NBET or the government of Nigeria fails to make timely payments to the IPP. Following the draw under the LC, the NBET would be obligated to repay the LC bank, failing which, the LC bank would have recourse to the IBRD for reimbursement. This, in turn, would trigger the obligation of the federal government of Nigeria under the standard indemnity agreement with the World Bank. The PRG also provides direct support to commercial lenders in the event of a debt payment default caused by the NBET's failure to make undisputed payments under the PPA or the government's payments under a termination of the PPA. There is also an LC for gas supply. See Eberhard A, Gratwick K, Morella E and Antmann P. *Independent Power Projects in Sub-Saharan Africa: Lessons from Five Key Countries*, 2016, available at <https://openknowledge.worldbank.org/bitstream/handle/10986/23970/9781464808005.pdf>.

²¹ Oxford Business Group. "Unique Opportunity for Independent Power Producers in Nigeria," available at <https://oxfordbusinessgroup.com/analysis/lead-way-unique-opportunity-blazing-new-trail-future-independent-power-producers>.

²² Amaya is a principal investment firm. Its first major investment was the Azura-Edo project. It has since invested in other energy projects and businesses in West and East Africa. See <https://www.amayacap.com/>.

²³ ACEI was a US-based investment firm focused on making investments in global energy infrastructure assets in emerging markets.

²⁴ London-based Aldwych International was established in 2004 for the purpose of developing, owning and operating power generation, transmission and distribution projects in emerging economies, primarily Africa. Funding for the company was provided by the Shell Foundation and the Dutch development bank FMO. See <https://www.aldwych-international.com/>.

- African Infrastructure Investment Managers (AIIM)²⁵
- Asset & Resource Management (ARM)²⁶
- Edo State government (which contributed land and infrastructure to the project)
- FMO²⁷

In November 2013, Amaya Capital and ACEI joined forces to create Azura Power, each with a 50% ownership interest.²⁸ Afterward, there were various changes in the ownership structure of the company, with investors leaving and joining at various times.

In 2016, ACEI exited its investment in the Azura-Edo project by selling its interest in Azura Power to Actis. In late 2013, ACEI had committed to invest up to US\$130 million in

the company.²⁹ The sale of ACEI's position in Azura Power and three other small projects, all made over a three-year period, was reported to have generated a compounded annual return of 18.1% and a 1.32-times multiple on invested capital.³⁰ Actis's investment in the project came from the Actis Energy Fund 4.³¹ It also provided additional funds that have allowed Azura Power to invest in other power projects in SSA.

In late 2019, the Africa50 infrastructure fund bought out AIIF2's position in the project. However, this transaction still left Actis as the controlling shareholder in Azura Power. Azura's other shareholders are Amaya Capital, Africa50, Anergis Group and the Edo State Government.³²

The debt financing of the project was even more complex, as would be expected with an innovative project of this size. Since the debt was provided in the form of project financing,

²⁵ Funding came from the AIIM African Infrastructure Fund 2 (AIIF2). With a 30% ownership stake, AIIM was the largest shareholder in the project. AIIF2 closed in 2012 and manages US\$562 million (including co-investments). It is a pan-African infrastructure fund and has a diversified portfolio across multiple sectors and countries. See https://aiimafrika.com/our-funds/funds_aiif2/.

²⁶ ARM is a Nigerian asset management firm. See <https://www.arm.com.ng/>. ARM's investment in the Azura project was made through the US\$250 million ARM-Harith Infrastructure Fund (ARMHIF) that ARM set up in partnership with Harith General Partners Proprietary Limited ("Harith") of South Africa. See the African Private Equity and Venture Capital Association's member profile, *ARM-Harith Infrastructure Investment Limited*, August 2017, available at <https://www.avca-africa.org/media/1775/arm-harith-avca-member-interview-final-update.pdf>.

²⁷ FMO, the Dutch DFI, played a role in helping develop the project, working with the IFC to arrange the financing. It appears to have taken a small equity stake in it as well.

²⁸ APC is a developer, financier, acquirer and operator of IPPs across Africa. It also owns Tobene, a 115-megawatt IPP in Senegal and has a greenfield IPP project under development in Mozambique. See [\[\]](#).

²⁹ The sale by ACEI of its interest in Azura-Edo to Actis was part of a restructuring undertaken by its parent company, America Capital Ltd., as it prepared to merge with Ares Capital Corporation in mid-2016.

³⁰ The other three projects were an operating wind farm in Jamaica, development rights for a wind project in Senegal and a portfolio of 10 mini-hydro projects across Indonesia. The sale by ACEI of its interest in Azura-Edo to Actis was part of a restructuring undertaken by its parent company as it prepared to merge with Ares Capital Corporation in mid-2016. See press release, "American Capital Energy & Infrastructure Announces Sale of Four Energy Investments with an 18.1% IRR and 1.32x MOIC," November 10, 2016, available at <https://www.prnewswire.com/news-releases/american-capital-energy-infrastructure-announces-sale-of-four-energy-investments-with-an-181-irr-and-132x-moic-300360722.html> and https://en.wikipedia.org/wiki/American_Capital.

³¹ Actis Energy Fund 4 invests in power generation and distribution assets in emerging markets in Africa, Asia and Latin America. LPs in the fund are primarily institutional investors from the US (including the New York Fire Department Pension Fund, Teachers Retirement System of the City of New York, Texas Municipal Retirement System, Arizona Public Safety Personnel Retirement System, New Hampshire Retirement System and Allstate Life Insurance), Europe (the Netherlands PGB Pensioendiensten) and Asia (Korea's National Pension Fund), plus the IFC. The fund had its final close in 2017 at US\$2.75 billion. According to one source, it was reporting a net return of 18.6% as of March 2019. See Stutts J. "Actis Holds \$3bn First Close on EM-Focused Energy Fund," *Infrastructure Investor*, July 14, 2020, available at <https://www.infrastructureinvestor.com/actis-holds-3bn-first-close-on-em-focused-energy-fund/>.

³² Africa50 was established by the African Development Bank and a number of African states. Additional information about it is provided later in this report. The Anergis Group was formed in 2017 by Africa Finance Corporation (AFC) and Harith General Partners ("Harith"). AFC is a pan-African multilateral development financial institution established in 2007 by a number of African states. AFC is majority owned (55.3%) by private investors, the bulk of which are African financial institutions. A further 44.7% is owned by the Central Bank of Nigeria. In addition to private investors owning shares, AFC allows African states (through their respective central banks, sovereign wealth funds, state pension funds or similar institutions) to be both shareholders and members of the corporation. As of April 2020, AFC had 26 member states. AFC has invested more than US\$6.6 billion in infrastructure projects across 28 African countries. Harith is a South African infrastructure fund manager that manages two Pan African Infrastructure Development Funds (US\$630-million PAIDF-1, which closed in 2008 and was Africa's first 15-year infrastructure fund, and US\$1.2-billion PAIDF-2). Both raised capital from state pension funds, DFIs, investment banks and financial institutions. The joint venture will merge the AFC's interests in Cenpower, owner of the Kpone Independent Power Project under construction in Ghana, and Cabeolica, a wind farm that provides 20% of Cape Verde's energy needs, with those of the Pan African Infrastructure Development Fund (PAIDF), which is managed by Harith. PAIDF was funded by AfDB and a number of African pension funds and asset managers. Its investments include the Azura-Edo IPP in Nigeria, the Lake Turkana Wind Power in Kenya, Kelvin Power Station in South Africa and the Rabai Thermal project in Kenya. Collectively, this portfolio represents some of the largest projects in Africa's energy sector.

the banks were lending to a special purpose vehicle (SPV), whose only assets were the contractual agreements between the project company, its supplier and its offtaker. This meant each lender had to study and approve all the contracts, a time-consuming process.

The debt was provided by a syndicate of commercial banks led by Standard Chartered Bank — including Standard Bank, Siemens Bank, Rand Merchant Bank and Mauritius Commercial Bank — and DFIs led by the IFC, including KfW, DEG, CDC, Proparco, FMO, Swedfund, the Emerging Africa Infrastructure Fund and the Overseas Private Investment Corporation (OPIC). The financing from these lenders was all dollar denominated. The project also included a naira-denominated debt tranche supplied by a Nigerian bank with funding from a Central Bank facility. The debt was structured with four tranches:

- Senior commercial tranche of US\$234 million backed by IBRD guarantees and MIGA insurance
- Senior DFI tranche of US\$267 million
- DFI mezzanine debt tranche of US\$65 million
- Local bank tranche of 24 billion naira (approximately US\$120 million)

The DFI-subordinated debt tranche provided additional risk mitigation for the commercial lenders.

The Azura-Edo IPP reached financial close in December 2015. It took almost two years longer than had been projected and cost five times the initial development budget.

The engineering, procurement and construction (EPC) of the Azura-Edo IPP was carried out by a consortium composed of Siemens AG, Siemens Nigeria Ltd and Julius Berger Nigeria PLC. Siemens is also the manufacturer of the heavy equipment used in the plant and has contracted to service this equipment under a long-term agreement. Construction began in January 2016 and was completed eight months ahead of schedule in April 2018.

In addition to the time and cost of putting together the financing, negotiating the gas supply and offtake

agreements, and contracting for construction, the project also had to meet several other requirements by the World Bank, the DFIs and commercial lenders, and Nigerian regulatory agencies. Two key requirements were:

- Working with World Bank guidance and in collaboration with the local community, the project sponsors developed and implemented a compensation plan and a resettlement action plan for the 1,000-plus landowners in the area. This effort started in late 2010 and continued until the last land claim was paid in early 2015.
- Work on the environmental and social impact assessment that had to be approved by the World Bank and the Nigerian Federal Ministry of the Environment began in 2011 and obtained final approval in 2013.

The project sponsors estimated that it took 250 person-years of work to develop the Azura-Edo IPP before the construction began.

The Azura-Edo power plant attained full commercial operations on May 1, 2018. Since then, the plant's operational performance has been among the highest of any new-build plant anywhere in the world. Its availability rate, to date, has exceeded 96%, and its equivalent forced-outage rate has been lower than 2%. As a result, during the period since it reached commercial operations, the Azura-Edo IPP has provided more than 8% of all the power sent to the national grid.³³

In recent years, the Nigerian government's finances have been under considerable stress, due in part to the drop in world oil prices. This has led to serious difficulties in financing payments to the country's power-generation companies as agreed under their PPAs. The Azura-Edo project has been protected from these payment problems largely due to the government's desire not to trigger the World Bank's guarantees, which it feels would damage its reputation with foreign creditors. This has demonstrated the value of this form of credit enhancement in such projects.

Up until the time the Azura-Edo IPPP project became operational, most of the private sector participants were private companies, DFIs and multilateral finance

³³ Akpan U. "How \$900m loan for Azura Power Plant was raised — Mgt," August 4, 2020, *Vanguard*, available at <https://www.vanguardngr.com/2020/08/how-900m-loan-for-azura-power-plant-was-raised-%E2%80%95-mgt/>.

organizations. However, as the project developed, pension funds from Nigeria and South Africa as well as those from Europe and the US participated in the financing of the Azura-Edo project through their investment in some of its project sponsors and through infrastructure private equity funds, specifically AIIM's African Infrastructure Fund 2, Actis's Energy Fund 4 Africa Infrastructure 2, ARM-Harith Infrastructure Fund and the Pan African Infrastructure Development Fund (PAIDF). As more large IPPs become operational across Africa, they will likely become an attractive source of infrastructure assets for institutional investors, both for direct investing and investing via infrastructure funds.

Impact

Some of the beneficial impacts of this project include:

- It supplies 14 million homes with electricity and accounts for 8% or more of the country's on-grid power supply.
- Although natural gas is not a green or renewable energy source, burning natural gas to produce electricity results in fewer emissions of nearly all types of air pollutants and carbon dioxide than burning coal or petroleum products to produce an equal amount of energy.
- The project created 1,000 jobs during construction.

Challenges

Some of the challenges this project faces:

- After 15 years, the transition from a publicly owned to largely privately owned power sector has not brought the expected outcomes. The current market structure of the Nigerian electricity supply industry has created a serious liquidity crisis in the sector that is constraining on-grid generation investments in Nigeria.³⁴ A key cause of this liquidity crisis is the Nigerian Electricity Regulatory Commission's (NERC's) failure to implement cost-reflective retail tariffs as part of its regulatory

regime. However, the NERC is unable to adjust electricity prices upward because the Government of Nigeria has prevented them from doing so, largely due to political pressure from consumers. Consumers do not want an increase in electricity price because the DisCos are currently not meeting their electricity supply expectations and they are distrustful of the billing system used by the DisCos. In turn, the DisCos cannot meet consumer expectations because they cannot charge consumers cost-reflective tariffs needed to provide revenue to upgrade the distribution system. Recently, there has been some progress in moving to more cost-reflective tariffs. The growing burden placed on the government in the form of price subsidies to support the electricity sector is becoming unsustainable, especially as the government's debt has been rising rapidly due to current low world oil prices. But overcoming the problems in the current system will not be easy.³⁵

- Given the government's finances, there have been difficulties in financing payments to the country's power generation companies as agreed under their PPAs. The Azura-Edo project has been protected from these payment problems largely due to the government's desire not to trigger the World Bank's guarantees, which it feels would damage its reputation with foreign creditors. This has demonstrated the value of this form of credit enhancement in such projects.
- The Azura-Edo power plant was to have been phase 1 of a planned 1,500-megawatt IPP facility located on the project's 100-hectare site. So far, the two additional planned power plants have not been built. Azura-Edo was also to have been a model for similar IPP projects in Nigeria. It was expected that the project documentation and financial structure developed by the Azura-Edo project would be used as a template for other privately financed power deals in Nigeria, providing a model that could save costs and time. The World Bank expected the government to use this structure with minimal changes for future projects and proceed swiftly to implement them.³⁶ In fact, this has not happened.

³⁴ The Oxford Institute for Energy Studies. *Overcoming the Market Constraints to On-Grid Renewable Energy Investments in Nigeria*, November 2019, available at <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2019/11/Overcoming-the-Market-Constraints-to-On-Grid-Renewable-Energy-Investments-in-Nigeria-EL37.pdf>.

³⁵ In 2020, the World Bank held back final approval of a US\$1.5-billion loan to the Government of Nigeria in an attempt to move the country to raise energy tariffs, reduce fuel subsidies and consolidate the exchange rate system. In August 2020, the government indicated that they would act on these measures. See "Nigerians to Pay More for Electricity as President Buhari Approves Implementation of New Tariff," *Sahara Reporters*, August 26, 2020, available at <http://saharareporters.com/2020/08/26/nigerians-pay-more-electricity-president-buhari-approves-implementation-new-tariff>.

³⁶ IFC. "Azura: A Breakthrough for Nigerian Power," July 2016, available at https://www.ifc.org/wps/wcm/connect/news_ext_content/ifc_external_corporate_site/news+and+events/news/azura-breakthrough-nigerian-power.

South Africa — REIPPPP Projects

Background

Given that 93% of South Africa's electricity is produced from burning coal and that economic growth and a lack of past investment in power plants are causing major shortages in the electricity supply, in recent years, the Government of South Africa has been promoting the development of its renewable energy (RE) production capacity. One of its key programs, the Renewable Energy Independent Power Producer Procurement Program (REIPPPP), has been highly successful in rapidly increasing the supply of RE while lowering its costs.³⁷ The program has drawn a great deal of attention due to the potential for its replication in other countries.

However, so far, limited attention has been paid to how institutional investors have participated or could participate in the financing of these projects, which, in some ways, are well suited to their investor preferences. Even greenfield REIPPPP projects have attractive features for risk-averse investors — a well-established regulatory framework with low-risk offtake contracts allows projects to be developed quickly, the construction period for the projects is much shorter than for most other types of infrastructure, and investors are now familiar with the technology used in most of the wind and solar projects that make up the bulk of the REIPPPP projects. Operating REIPPPP projects are even more attractive because they can provide a long-term steady income stream without market-demand risk and they have a positive environmental impact since they can provide electric power without generating carbon dioxide, methane or other climate-threatening gases. This appeals to investors seeking to support “green infrastructure” and looking for good environmental, social and governance (ESG) features in their investments. Now that there is a substantial number of REIPPPP projects that are operating successfully and can have their debt refinanced, this is an excellent opportunity for institutional investors to add these assets to their portfolios.

Background on the REIPPPP

In most countries, governments have offered specified feed-in tariffs (FITs) for electricity as a way to attract private investment for RE generation. FITs are based on government analysis of expected production costs for specific power projects and are used as the basis for competitive tenders for RE projects. After briefly using this approach from 2009 to 2011, the South African government decided to switch to an approach wherein private companies submit competitive bids to design, develop and operate large-scale RE power plants across South Africa. Bids were required to contain information on the project structure as well as legal, land, environmental, financial, technical and economic development qualifications. A key requirement was that a commercial bank had undertaken thorough due diligence of projects prior to bids being offered and had provided a letter confirming the financing was locked in. All REIPPPP projects incorporate standard, nonnegotiable contract documents, including 1) a 20-year power purchase agreement (PPA) with the national electric power utility, Eskom, 2) an implementation agreement, whereby the Government of South Africa guarantees to back-stop Eskom's payments under the PPA and specifies the obligations on the IPP to deliver economic development targets, and 3) a direct agreement that provides step-in rights for lenders in the event of default.³⁸

A key determining factor in the government's awarding contracts is the price set by the bidder to sell electricity to Eskom. A second evaluation factor is the developmental impact of the project on job creation, local content and Black economic empowerment (BEE). The REIPPPP is a form of public-private partnership in which the only risk-sharing that takes place is in the form of a government guarantee of the offtake payments.

³⁷ The program is sometimes referred to as REI4P.

³⁸ Eberhard A and Kåberger. “Renewable Energy Auctions in South Africa Outshine Feed-In Tariffs,” *Energy Science and Engineering*, Volume 4, Issue 3 (April 2016), available at https://www.researchgate.net/publication/301568240_Renewable_energy_auctions_in_South_Africa_outshine_feed-in_tariffs.

This procurement approach has proved successful in attracting bids from both domestic and international project sponsors. Around 209.4 billion rand (approximately US\$12 billion) of private capital has been committed to the REIPPPP projects — 24% of which is direct foreign investments.³⁹

The REIPPPP has also resulted in a dramatic decline in the price of RE. The prices set in window 1 (2011) were R3.65 per kilowatt-hour for solar and R1.51 per kilowatt-hour for wind. By window 4 in 2015, these prices had dropped to R0.62 per kilowatt-hour for both solar and wind. Thus, the cost of RE in South Africa went from being more expensive than for new baseload coal production to 40% cheaper over a period of only five years.⁴⁰

To date, 102 IPP projects have been procured from four bidding-round windows, with further windows expected to be announced in the future. Most of the projects from the first three phases have now finished construction — that is, they have reached the commercial operation date (COD) — with connections in place and are producing power. The REIPPPP projects are located across the country and use a variety of renewable energy technologies, including solar, onshore wind, small hydro, biomass and landfill gas. The solar projects have included both concentrated solar power (CSP) and photovoltaic (PV) technologies, although most projects use the latter. When the REIPPPP was launched, the government set a target of producing 7,000 megawatts of RE by 2020 and 17,800 megawatts by 2030. The projects contracted so far under the REIPPPP have already added 4,490 megawatts of capacity, and those in construction or awaiting construction should add another 2,347.⁴¹

The majority (two-thirds) of the REIPPPP projects were financed on a project-finance basis. The bulk of the debt financing at initial financial close of these projects was provided by banks and DFIs/ECAs. However, early on, the banks sold down some of their debt positions to large institutional investors (especially large insurance

companies) to position themselves for additional exposure in future REIPPPP rounds.

In addition, smaller African institutional investors were able to invest in the REIPPPP projects via specialized investment funds. For example, in late 2013, Vantage Capital Group launched an unlisted senior debt fund, Vantage GreenX, that invests in renewable energy projects.⁴² The Fund raised R2.2 billion (approximately US\$215 million) from 14 South African pension funds. It launched a second fund, Vantage GreenX II, which closed its fundraising at the end of 2016 with R2.95 billion (approximately US\$280 million) invested. The GreenX funds issue asset-backed notes to investors and use the proceeds to acquire senior debt in selected projects structured along limited-recourse-project finance principles. They can invest in up to 50% of the debt of each project. The funds have been structured to ensure the project economics flow through to the investors, allowing for a management fee to be charged by the advisor. LPs invest from US\$5 million to US\$50 million each. So far, both funds are investing primarily in REIPPPP projects. The first fund invested in debt of five solar and three wind projects. To date, the second fund has invested in four solar and two wind projects, all of which are still under construction.

Case study of the Upington Solar Complex

South Africa's largest solar PV complex to date consists of three adjoining 86-megawatt solar projects near Upington in the Northern Cape (Sirius, Dyasons Klip 1 and Dyasons Klip 2). Together, these projects will add 258 megawatts of RE to South Africa's national grid.⁴³

These projects were approved in April 2015 as a result of the fourth round of the REIPPPP. They reached financial close in April 2018. Construction started in the third quarter of 2018 and went into commercial operations in April 2020. The complex will sell electricity to the state-owned Eskom company under a 20-year PPA, with the payments guaranteed by the Treasury.

³⁹ Nomjana L. "REIPPPP Comes of Age," *Futuregrowth*, February 18, 2020, available at <https://futuregrowth.co.za/newsroom/REIPPPP-comes-of-age/>.

⁴⁰ Bischof-Niemz T. *Cost of New Power Generators in South Africa: Comparative Analysis Based on Recent IPP Announcements*, October 14, 2016, available at https://www.ee.co.za/wp-content/uploads/2016/10/New_Power_Generators_RSA-CSIR-14Oct2016.pdf.

⁴¹ See <https://www.energy.org.za/data-and-tools/project-database>.

⁴² Vantage Capital Group is a South African investment and financial services group founded in 2001. The Group currently has funds under management and investments of more than R8.0 billion (over US\$500 million). See <https://www.vantagecapital.co.za/>. Vantage also has mezzanine debt funds that invest in South African companies, as well as companies in Morocco, Côte d'Ivoire, Ghana, Nigeria, Uganda, Kenya, Mauritius, Namibia and Botswana.

⁴³ The total land area occupied by the Upington projects is approximately 600 hectares (approximately 1,500 acres.)

Scatec Solar (Scatec) is the project sponsor.⁴⁴ The company has been the engineering, procurement and construction provider for the projects and will provide operation and maintenance as well as asset management services to the power plants. Scatec provided 42% of the equity, H1 Holdings (a South African Black investor) 35%, Norfund 18% and the surrounding Community of Upington 5%.

MIGA issued guarantees covering the construction, ownership, operation and maintenance of the plants. The guarantees cover 90% of investments by Scatec Solar for up to 15 years against the risks of breach of contract and currency transfer restrictions and convertibility.⁴⁵

Standard Bank led the consortium of commercial banks and DFIs that provided the project's US\$220.2 million in debt financing, representing 77% of the project total cost of US\$286.0 million. This financing was notable not only for the amount but as the first time Standard Bank has provided inflation-linked CPI debt to a renewable energy project.

REIPPPP projects must have environmental authorization before they are allowed into the bid program. A detailed study of the environmental and social impacts of the Upington projects was completed in December 2010. The project's impact on local flora, fauna and water were examined, and protective measures were specified. Few significant negative impacts were identified (largely due to it being built on an isolated and arid plan).⁴⁶ The project will be monitored to ensure environmental conditions are met and stiff penalties are assessed for any violations. Scatec has also committed to operate in line with the Equator Principles and the IFC's Environmental and Social Performance Standards.

Scatec created a Stakeholder Engagement Forum to engage with the local people. They also introduced several community assistance programs and recruited and trained workers from the local communities.

Refinancing of REIPPPP projects

There should be significant potential for refinancing project debt in the REIPPPP projects that are now in their operating phase. This would free up some of the initial equity and debt of project sponsors and banks for investing in new projects. Also, some banks have reached their single exposure limits to some of the key project sponsors and need to free up this capacity to provide support for these sponsors in the future. Since the South African banks provided long-term debt for REIPPPP projects (15 to 17 years), this latter consideration is an important factor explaining the banks' interest in refinancing projects.

Refinancing normally provides some "refinancing gains" for the project sponsors because once projects are in production, they are viewed as having lower credit risk than during development and construction. This can attract lower-cost long-term debt from institutional investors, which can replace the commercial bank debt. The REIPPPP allows refinancing but only with approval from the government. (In addition, the REIPPPP allows original equity positions to be sold starting two years after COD.) Unfortunately, when the REIPPPP began, there were no guidelines established for the procedures to follow when projects are refinanced or for determining how refinancing gains would be distributed between project sponsors and the government. It was not until mid-2020 that government refinancing guidelines were released.⁴⁷ It was decided that the gains would be evenly split, with the objective of having the government's share go toward lowering the price at which power is sold, thus passing along the benefits of the refinancing gains to consumers. A recent survey indicates there is strong interest on the part of project sponsors to refinance their projects.⁴⁸

⁴⁴ Scatec Solar is a Norwegian company that specializes in solar power. The company was founded in 2007. The two major shareholders of the company are Scatec and Equinor. Scatec Solar develops, builds, owns, operates and maintains solar power plants and has an installation track record of more than 1.6 gigawatts. The company has a total of 1.9 gigawatts in operation and under construction on four continents. Scatec Solar entered the South African market in 2010. With six solar projects in operation in South Africa and a total generation capacity of 448 megawatts, Scatec Solar is the leading solar player in the country. In addition to the Upington projects are Kalkbult (75 megawatts), Dreunberg (75 megawatts) and Linde (40 megawatts). Scatec has a 45% equity ownership in each of these projects. Scatec's global solar project portfolio has a total capacity of 1,505 megawatts. See <https://scatecsolar.com/>.

⁴⁵ See <https://www.miga.org/press-release/miga-backs-six-solar-plants-south-africa>.

⁴⁶ Savannah Environmental Pty Ltd. *Proposed Upington Solar Thermal Plant and Associated Infrastructure Northern Cape*, December 2010, available at https://www.eib.org/attachments/pipeline/20100589_eis_en.pdf.

⁴⁷ See <https://www.ipp-projects.co.za/>.

⁴⁸ Arnoldi M. "Majority of IPPs Said to Agree to Refinancing Initiative," *Engineering News*, July 10, 2020, available at https://m.engineeringnews.co.za/article/majority-of-ipp-said-to-agree-to-refinancing-initiative-2020-07-10/rep_id:4433.

A number of approaches for refinancing REIPPPP projects have been in discussion for several years. One of the leading candidates is issuing project bonds. In 2013, a project bond was issued for the Touwsrivier Solar Project, a 44-megawatt solar project located in the Western Cape. The project sponsor, Soitec, issued a R1-billion bond (roughly US\$100 million) backed by a project SPV but also benefiting from a corporate guarantee from Soitec.⁴⁹ The bond was rated Baa2.za on the South African national rating scale by Moody's Investor Service. The "limited-recourse" bond was purchased by South African institutional investors. (Standard Bank acted as lead manager, book runner and debt sponsor for the offering.) The proceeds were used to finance project construction. However, since then, project bonds have not been used for RE projects. This may now change.

Recently, the government, working with the Johannesburg Stock Exchange, developed guidelines for the issuance of listed project bonds.⁵⁰ Such bonds can be sold only to "qualified buyers" and provide special provisions to allow investors access to detailed project information while protecting information project sponsors view as commercially sensitive. This should facilitate the issuance of project bonds by project sponsors and also make these bonds more attractive to investors, as listing on the exchange ensures a certain level of regulatory oversight investors are likely to find comforting.

Sponsors with large projects, such as Scatec Solar's Uppington Solar Complex, described below, may find it attractive to issue project bonds since their scale makes issuing a bond cost effective. It may also be possible to put together a number of smaller projects for a single bond issuance of adequate size to be cost effective.

Impact

Overall, the REIPPPP had (by early 2019) the following economic, environmental and social benefits⁵¹:

- Four gigawatts of RE electricity generation capacity is available from 64 projects connected to the national grid.
 - South Africa's carbon emission has been reduced by about 33.2 million tons, and water savings of 39.2 million kiloliters has been achieved.
 - The projects have created more than 40,000 job-years.
 - Local communities have benefited from over R1 billion spent by IPPs on education programs — for upskilling teachers and providing extra teachers and classrooms — and on supporting health facilities, feeding schemes, old age homes and early childhood development initiatives. More than 600 students from disadvantaged communities have been awarded scholarships.
 - The projects have helped to establish more than 1,000 small enterprises.
 - BEE investors who participated in the projects were able to develop their capabilities and strengthen their finances.⁵²
- The Uppington Solar Complex has had the following impact:
- It has delivered 650 gigawatts of power annually, providing clean energy to around 120,000 households.
 - It has reduced emissions of carbon dioxide by more than 600,000 tons annually.
 - It has provided about 1,000 temporary jobs during the construction phase and roughly 120 permanent workers to operate the projects on a continuing basis.
 - It has promoted skills development in the domestic workforce.
 - It has stimulated development of domestic RE production capacity for serving the domestic needs and for export.
 - It has assisted in the effort to develop Black-owned and managed companies.
 - Community trusts funded by electricity sales from the projects will help finance community development projects.

⁴⁹ Soitec, a French company, is a global leader in the manufacture of semiconductor material for electronics and more recently energy. See <https://www.soitec.com/>.

⁵⁰ See <https://www.mondaq.com/southafrica/securities/691662/jse-debt-listings-requirements-project-bonds>.

⁵¹ See <https://futuregrowth.co.za/newsroom/REIPPPP-comes-of-age/>.

⁵² The government has indicated that Black South Africans own, on average, 30% of projects that have reached financial close. This includes Black-owned companies investing in projects and local community ownership. *Ownership in the Renewable Energy Independent Power Producer Procurement Programme (REI4P)*, available at <https://90by2030.org.za/wp-content/uploads/2019/03/REI4P-Hi-Res.pdf>.

Challenges

The REIPPP faces several key challenges:

- When it was launched, the REIPPPP was to have bid windows opened every year or two by the release of a specific request for proposal (RFP) in the market. However, since the fourth round, the government has not issued a new RFP, and there was a 33-month delay in finalizing 27 projects from Round 4. A slowdown in South Africa's economic growth reduced demand for RE, and turmoil in Eskom ignited a political debate about the role of RE in the country's future.
- Since 2014, there has been considerable uncertainty about the future of the REIPPPP. However, the release of a revised integrated resource plan for electricity (IRP) in October 2019 has renewed hope that the program will be restarted.⁵³ The IRP calls for the creation of new RE capacity for 6,000 megawatts of solar PV, 14,400 megawatts of wind and 4,000 megawatts of small-scale embedded generation (SSEG) by 2030. This will require an estimated investment of more than R400 billion (roughly US\$22.7 billion).⁵⁴ There is also discussion about the possibility of creditworthy municipalities procuring power directly from IPPs.
- The timing of the fifth bid window remains unclear, although it should happen in 2020 to meet the targets set in the IRP. Given the arrival of the COVID-19 pandemic in South Africa in early 2020, there may be delays in launching the next RFP.
- The government has decided to unbundle the national electricity utility (Eskom) into three subsidiaries, one each for generation, transmission and distribution activities. The breakup of Eskom should introduce competition between power providers, thus allowing RE to compete for energy procurement to the national grid. Given the price competitiveness of RE, this should increase its use. The process of unbundling is to take place over several years. Once restructuring is complete, the transmission entity (TE) will become the buyer for purposes of the PPAs. Thus, all existing PPAs between Eskom and various IPPs will have to be transferred to the TE. This should not be of great concern to IPPs and lenders as long as the sovereign guarantees provided by the government under the implementation agreements are not adversely affected.
- Little thought was given to refinancing when the current REIPPPP projects were first financed. This may seem surprising to project sponsors used to financing projects in North America and Europe. In recent years, these sponsors have had to contend with the fact that commercial banks are no longer willing to provide long-term loans. This is largely due to the constraints placed on them by regulatory requirements such as Basel III.⁵⁵ In contrast, the REIPPPP projects are not being forced to refinance soon after the completion of construction. At initial financial close, projects were able to obtain long-term (15–20 years) bank or DFI loans rather than having to make do with construction loans of three to five years that then have to be refinanced. Supporting these long-term loans were usually financial agreements and hedging arrangements. The “breakage costs” of these may be prohibitive, depending on market conditions. Going forward, project sponsors will likely be aware of the need to structure the financing of their projects in a way that is more conducive to refinancing into the capital markets soon after the completion of construction.
- The recently published guidelines for refinancing REIPPPP projects detail requirements for sponsors that wish to refinance their operating projects.⁵⁶ Project sponsors that may be interested in refinancing a project will have to provide the government with detailed information and calculations of the refinancing gains to be expected. Although many project sponsors are interested in the refinancing opportunities, they are not sure it will benefit them given the rules in place for calculating the refinancing gains. The refinancing gain is defined as the difference in the net present value (NPV) of the distributions forecast to take place after the refinancing when compared to the position immediately before the refinancing. The prescribed discount rate for the NPV calculation is the base case equity internal rate of return (IRR) as set out in the model initially used to set tariffs offered in the sponsor's bid. This may make it difficult for sponsors to extract significant value from refinancing. The government has indicated some flexibility on the discount rate used, but it is not yet clear how much flexibility there will be.

⁵³ The IRP is a national government document that aims to provide an indication of South Africa's electricity demand, how this demand will be supplied and at what cost. *Integrated Resource Plan for Electricity 2010-2030*, March 2011, available at http://www.energy.gov.za/IRP/irp%20files/IRP2010_2030_Final_Report_20110325.pdf.

⁵⁴ GreenCape. See *Utility-Scale Renewable Energy: 2020 Market Intelligence Report*, available at https://www.greencape.co.za/assets/RENEWABLE_ENERGY_MIR_20200330_WEB.pdf.

⁵⁵ In future REIPPPP projects, similar constraints on long-term bank funding will apply and likely lead to changes in how projects are initially financed. See <https://www.deloitteblog.co.za/the-implications-of-basel-iii-for-infrastructure-funding/>.

⁵⁶ Johannesburg Stock Exchange. *Project Bond Debt Listings Requirements*, available at <https://www.fsca.co.za/Regulatory%20Frameworks/Documents%20for%20Consultation/DLR%20Amendment%20Schedule-Project%20Bonds.pdf>.

Kenya — Acorn Student Housing

Background

In many developed market economies, project bonds are a common means of providing financing for infrastructure projects. They can provide investors with a long-term and predictable income stream that helps institutions such as pension funds and life insurance companies more easily match their assets and liabilities. Particularly attractive to institutional investors are project bonds that are rated and/or listed on exchanges. Credit ratings help investors evaluate their level of credit risk, and listing ensures a significant degree of information disclosure and the protections of regulatory oversight. Most institutional investors view infrastructure debt as an attractive asset class, but few have the internal resources to manage direct investments without these supportive features.

Project bonds can also provide longer-term and lower-cost debt for project sponsors than is available with traditional commercial bank financing, especially now that Basel III regulatory guidelines have made it more expensive for commercial banks to provide long-term loans.

Given that most corporate sponsors of infrastructure projects in SSA don't have the financial strength to fund projects using their own balance sheets (by issuing corporate bonds, for example), project financing provides an off-balance-sheet source of financing for well-structured projects.

Even with these advantages, project bonds are still not yet widely used in Africa. In large part, this due to the relatively underdeveloped capital markets on the continent.⁵⁷ This makes the recent issuance of project bonds to fund the construction of student housing in Kenya of particular interest.

Acorn Holdings Limited

The company that issued the bonds is Acorn, which was established in 2001 as Acorn Group. Initially, the company provided project management services across East Africa. In 2006, the company added property development capabilities and began undertaking its own developments. Acorn has overseen the development of a number of iconic projects, including the Coca-Cola Regional HQ and the Deloitte Head Office in Nairobi. Between 2001 and 2015, it completed more than 40 projects with a combined asset value of more than US\$550 million. In November 2015, the Acorn Group entered into a joint venture with Helios Investment Partners to form Acorn Holdings Limited (AHL), a development platform primarily focused on developing and managing purpose-built student accommodations (PBSA) in Kenya.⁵⁸ Helios has US\$3 billion in assets under management, but this was their first real estate investment.

In recent years, PBSA has rapidly developed into a major subsegment of the real estate markets of many countries. Global investment into the sector reached US\$16.3 billion in 2018.⁵⁹ Explosive growth is expected for this type of real estate infrastructure since it generally provides higher rental yields than other assets and has provided revenue stability even during economic downturns. The rapid growth in the number of college students globally — and the special accommodation features these students seek — has led real estate development companies to start specializing for the PBSA market.

In 1970, there were fewer than 200,000 students enrolled in higher education in sub-Saharan Africa. Nearly five decades later, there are more than 4.5 million — a faster rate of

⁵⁷ AfDB. *Structured Finance: Conditions for Infrastructure Project Bonds in African Markets*, 2013, available at <https://www.convergence.finance/resource/HWKDad6tMaOg8kwqkWKUq/view> and Norton Rose Fulbright. *African Project Finance: Bonds and Alternative Financing*, 2017, available at <https://www.insideafricalaw.com/blog/african-project-finance-bonds-and-alternative-financing>.

⁵⁸ Acorn Holdings Limited (AHL), is a Mauritius private limited company owned 50% each by Acorn Investments Ltd. (AIL) and Accord HoldCo Limited ("Accord"). (See <http://acornholdingsafrica.com/>.) Accord's equity funding comes solely from Helios Investors III LP (Fund III). AHL is one of several investment funds managed by Helios Investment Partners, a London-based private equity investor with a broad portfolio of African interests. See <https://www.heliosinvestment.com/>. Helios's diverse LP base comprises a broad range of the world's leading investors, including sovereign wealth funds, corporate and public pension funds, endowments and foundations, funds of funds, family offices, and DFIs across the US, Europe, Asia and Africa. US investors own about half of Helios. The other half is funded by Asian investors, DFIs in Europe and a small amount of African capital. (One US investor is the New York State Common Retirement Fund. In 2014, this pension fund committed US\$100 million to Helios III.) Helios has had a long relationship with the Overseas Private Investment Corporation (OPIC). In 2004, OPIC chose Helios as co-manager of its US\$110-million Modern Africa Growth Fund (MAGIC). A few years later, OPIC provided financing of US\$78.5 million for the US\$908-million Helios Investors II Africa fund. The strong performance of that fund led OPIC in 2010 to provide US\$100 million in financing for a successor fund, Helios Credit Partners. In 2019, OPIC was restructured and renamed the U.S. International Development Finance Corporation (DFC).

⁵⁹ See <https://content.knightfrank.com/research/1775/documents/en/global-student-property-report-2019-may-2019-6426.pdf>.

growth than any other region in the world. However, the share of higher-education enrollment remains at 4% of the eligible population — the lowest in the world.⁶⁰ Student accommodations have not been supplied at a fast enough pace to keep up with mounting demand across SSA. Given the constraints on government budgets in the region, much of the investment in PBSA is expected to come from the private sector. So far, most of this investment is coming from within SSA itself, although there is increasing interest from outside the region.⁶¹

All universities in Kenya are experiencing an acute student housing shortage. The existing capacity is limited, and new developments have ultimately not kept pace with the growth in enrollment. The Government of Kenya has attempted to address the student housing shortage, but it faces serious budget constraints. Thus, it is looking to public-private partnerships (PPPs) as one solution. It has developed a PPP program for hostel development for several public universities.⁶² The project is expected to provide more than 50,000 new student beds. Moi University, Kenyatta University, South Eastern Kenya University and the University of Embu have initialized PPPs to address the housing deficit. However, despite these agreements having been signed as early as 2014, none have come to fruition.⁶³ As a consequence, the gap between supply and demand for student housing has continued to grow.

Acorn Holdings Ltd. has stepped in and is now the largest PBSA property developer in Kenya.⁶⁴ In contrast to what

is normally done in PPP projects, where the units are predominantly let to universities, Acorn lets units directly to students. Acorn has created two brands. Qejani will provide basic accommodation for students on a tight budget, at a monthly rent of between KSh7,500 and KSh10,000 per month. Qwetu provides value for money at a higher price point of between KSh12,000 and KSh31,000 depending on location and amenities provided.⁶⁵ By early 2020, Acorn had completed four developments in Nairobi in Ruaraka, Madaraka, Parklands and along Jogoo Road, totaling just over 2,300 beds.⁶⁶

In 2017, OPIC, now U.S. International Development Finance Corporation (DFC), approved a US\$50-million housing project loan facility to support Acorn's development, construction and operation of affordable accommodation for students in Kenya. In September 2018, Acorn received the first loan of US\$3.8 million in debt financing under this facility for the Edenvale project. This is a 300-unit project costing US\$6.49 million.⁶⁷ Since then, Acorn has not drawn additional funds from OPIC.⁶⁸

In 2019, Acorn also launched a medium-term note (MTN) program to raise local-currency financing. Although it had good access to local-bank financing, Acorn decided to go to the domestic capital markets as it wanted to establish its name in this market and build relationships with institutional investors. Acorn also wanted to secure fixed-rate financing for its projects. The MTN effort was arranged and placed by Stanbic Bank Kenya Limited and SBG

⁶⁰ See <https://www.christiecompany.com/africa-integras>.

⁶¹ J.L. *Student Housing: A New Asset Class in Sub-Saharan Africa*, 2016, available at <https://propertywheel.co.za/wp-content/uploads/2016/08/Student-housing-a-new-asset-class-in-SSA-August-2016.pdf>.

⁶² In 2014, a consortium of several domestic Kenyan companies led by Africa Integras won a public tender for a PPP worth US\$57 million to construct and operate Kenyatta University Hostels for 20 years. Africa Integras is a US-based private equity firm that specializes in developing education infrastructure using PPPs. The hostels are to be transferred to the university at the end of the contract. The contract with Kenyatta University was signed in June 2015. Construction began in 2018. See https://ppp.worldbank.org/public-private-partnership/sites/ppp.worldbank.org/files/2020-02/World%20Bank_Municipal%20PPP_Project%20Summaries%20Part%202%20%287Sept%29_Content.pdf.

⁶³ This can be attributed to the challenges faced by PPPs in Kenya, such as difficulties in managing the multistakeholder nature of most of the PPP projects and the lack of appropriate legal frameworks in Kenya to enable transfer of public land into special purpose vehicles to be able to attract private capital and bank debt. The extended timeframe of PPPs has also made it difficult to attract private financing. Private developers prefer to exit projects within three to five years. The student housing PPP projects have a design, build, own, operate and transfer model, in which the developers will recoup their returns after 20 years. See <https://cytonnreport.com/topicals/student-housing-market-1>.

⁶⁴ For an overview of the PBSA market in Kenya, see Cytonn Report's "Student Housing Market in Kenya," 2020, available at <https://cytonnreport.com/topicals/student-housing-market-1>.

⁶⁵ When initially entering the PBSH market in Kenya, Acorn's rents were higher, and it had difficulty leasing its units. As a result, Acorn lowered its pricing.

⁶⁶ Khusoko. "Property Developer, Acorn to Sell Qwetu and Qejani Student Hostels Stake Through D-Reit," 2019, available at <https://khusoko.com/2020/03/09/property-developer-acorn-to-sell-qwetu-and-qejani-student-hostels-stake-through-d-reit/>.

⁶⁷ See <https://ewsddata.rightsindevelopment.org/projects/2018-acornedenvale-acorn-edenvale-developments-llp/>.

⁶⁸ Because Acorn has a large future pipeline that doesn't have specific financing facilities, this is where OPIC funding could once again be used. Since the OPIC line is in dollars, this exposes Acorn to exchange-rate risk, so it aims for an optimal mix of cheap-dollar financing and local-currency financing, which is more expensive but has no foreign exchange risk. (When accepting OPIC's initial funding, Acorn recognized its exchange-rate risk but decided not to hedge. Acorn thought rents would track inflation and thus provide a natural hedge. But Kenya's subsequent exchange-rate volatility showed that this was shortsighted.)

Securities Limited in conjunction with Standard Investment Bank, which acted as placing agents. It was a “limited public offer,” targeting only institutional investors. The offering secured KSh4.3 billion in commitments by October 2019, slightly less than its target of Ksh5 billion (equivalent to a little less than US\$50 million).⁶⁹ In January 2020, Acorn Holdings Ltd. dual-listed the KSh5-billion (equivalent to approximately US\$47 million) green bond program on the Nairobi Securities Exchange and the International Securities Market of the London Stock Exchange.⁷⁰ The funding raised will be used to finance the construction of green-certified student properties, which will provide housing for 5,000 students in Nairobi. Structured as a project bond, and the first with a deferred drawdown structure, the program is also the first ever to achieve green certification in Kenya, which ensures that it contributes to reducing carbon emissions.

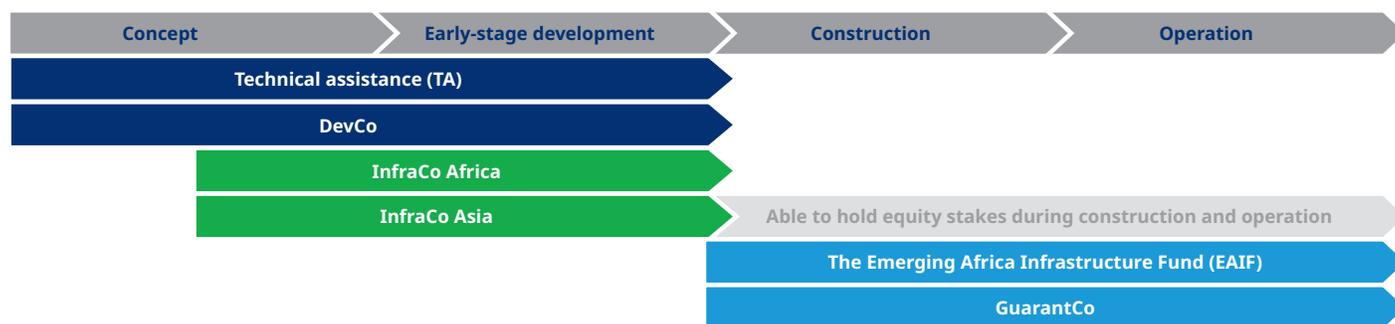
The timing of the Acorn bond did not appear auspicious. The real estate market in Nairobi was having problems. There were numerous empty residential and commercial units, and many institutional investors who had been investing in the real estate sector were hesitant about increasing their exposure to it. Acorn had to convince such investors that student housing was a subsector of the market that did not and would not have an oversupply problem. In addition, Acorn was offering better-quality

housing than students in Nairobi could usually obtain, and it did so at a competitive price. The residences were also equipped with Wi-Fi, good security systems, cleaning services and gyms.⁷¹

Acorn also had to contend with the fact that there had recently been some corporate bond defaults in Kenya. Corporate bond issuance on the Nairobi Securities Exchange had been growing up until 2015, when Chase Bank and Imperial Bank failed to make payments on their bonds. Soon after, a number of other corporate bonds defaulted, with significant losses to bondholders. This exposed weaknesses in corporate governance and regulatory oversight, causing investors to limit their bond purchases almost entirely to government bonds.⁷²

Acorn was able to overcome these obstacles largely because of the support it received from the Private Infrastructure Development Group (PIDG), a multilateral development finance organization backed by the governments of seven countries and the World Bank. PIDG was established in 2002 to help overcome the obstacles to private sector involvement in infrastructure development in developing countries. As illustrated below in Figure 47, PIDG can provide support for projects over their entire lifecycle through its various facilities.⁷³

Figure 47.



⁶⁹ Acorn had an 85% subscription for the bond placing. All investors received full allocations.

⁷⁰ At the time of issuance, it was the 23rd green bond from Africa and the first from Kenya.

⁷¹ Acorn has created two brands. Qejani provides basic accommodations for student on a tight budget (monthly rentals are as low as US\$70 to US\$90 per month, with four students sharing a room.). Qwetu provides somewhat more expensive housing with a range of amenities. Acorn charges a monthly rent of around KSh33,000 (US\$300) depending on location and amenities provided. Over the medium term, Acorn plans to launch Palma brand rental units targeting young professionals.

⁷² Acorn chose to use one of the major international credit rating agencies to rate its bond since regional rating agencies that had rated these corporate bonds had failed to flag in advance their deteriorating credit quality.

⁷³ See <https://www.pidg.org/about-us/>.

Three PIDG facilities provided support for the issuance of the Acorn Green Bonds:

- The PIDG Technical Assistance Facility covered most of the expenses associated with the listing of the bonds (roughly US\$600,000) with a partly reimbursable grant.
- GuarantCo provided investors with a partial credit guarantee to cover 50% of principal and interest due on the bonds on a pro rata basis.⁷⁴ (This does not provide as much protection against bond default as a first-loss guarantee, but it does substantially reduce expected losses in the event of a default.)
- The Emerging Africa Infrastructure Fund (EAIF), another PIDG group, was the anchor investor in the bonds, with a participation of KSh1.279 billion.

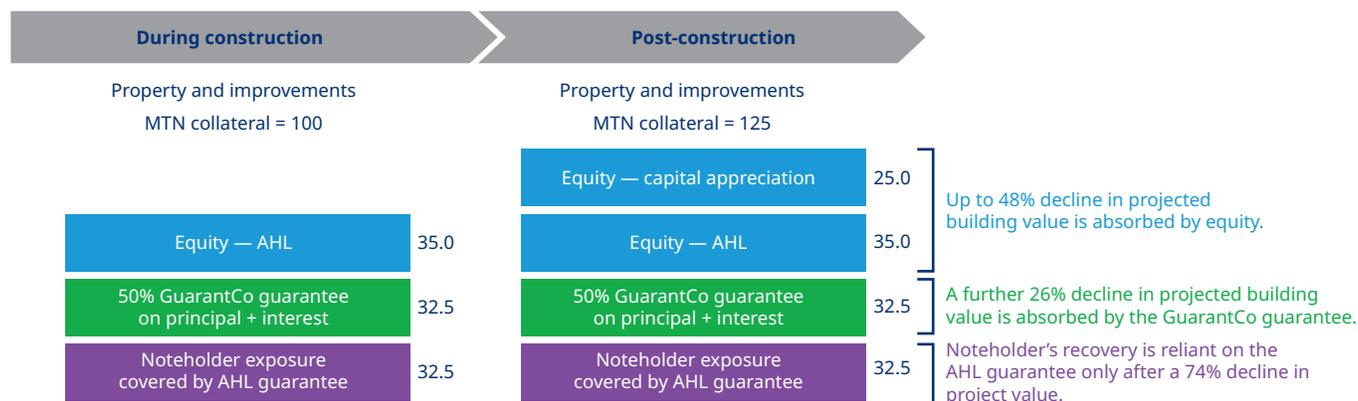
understood this was an unconditional guarantee that would significantly reduce any losses in the event of a default on debt payments, the guarantee was a major selling point for the bonds, as investors were keen to reduce their downside risk.

GuarantCo also supported Acorn in a roadshow to domestic institutional investors in Kenya.⁷⁵ During the roadshow, GuarantCo emphasized to these investors that with its guarantee, along with the cushion provided by project sponsor and equity investors, the risk of any losses on the bonds was greatly reduced. This credit enhancement structure is illustrated in the following diagram.

GuarantCo seeks to set market rates for its guarantees. In this case, the fee was around 300 basis points (bps), which was charged only for the 50% of principal and interest covered and only as the funds were drawn.

Investors needed to be educated about the protection provided by the GuarantCo guarantee. But once they

Figure 48.



Source: Information Memorandum: Acorn Project (Two) Limited Liability Partnership, available at <https://acornholdingsafrica.com/wp-content/uploads/2020/06/Acorn-Project-Two-LLP-Information-Memorandum-final101183596.2.pdf>.

⁷⁴ GuarantCo is the guarantee arm of PIDG. It seeks to mobilize private sector investment to assist developing countries in providing infrastructure vital to boosting their economic growth and combating poverty. GuarantCo is a provider of contingent credit solutions aimed at enhancing the availability and role of local-currency finance for infrastructure projects and developing local capital markets. See <https://guarantco.com/>.

⁷⁵ Standard Bank tested investor interest in the bonds in South Africa and Europe but found little interest. Currency risk was cited as a major concern. There was a feeling that it was better to invest in Kenyan government securities given the pricing Acorn was seeking for their bonds.

An initial effort to structure a local-currency bond for Acorn had proved too expensive given the “carry cost” of traditional bond financing. Normally, when bonds are issued, all the funds are made available at issuance. However, during a project’s construction phase, funds are needed gradually over time. Thus, having excess borrowed funds on hand creates what is called “negative carry”; that is, the cost of paying for borrowed funds until they are needed.⁷⁶ Using a phased drawdown of the funds committed by bond buyers reduced the financing costs. Getting local investors to accept the drawdown feature of the bonds did not turn out to be difficult. Investors even found it attractive, in that it helped them fund their investments with their net-positive cash inflows rather than the sale of other assets.⁷⁷

Acorn chose to get a rating from Moody’s Investors Service and began to work with them in November 2018, a year before the bonds were sold.⁷⁸ Largely due to the credit enhancement provided by the partial credit guarantee through the A-rated GuarantCo and a corporate guarantee from AHL, Moody’s rated Acorn’s MTN program B1 on its global local-currency scale.⁷⁹ This is one notch higher than Kenya’s sovereign rating of B2.

Demand for the Acorn Green Bonds was also bolstered by Acorn’s tax status. Pursuant to the Finance Act, 2019 (No. 23 of 2019), effective January 1, 2020, interest income accruing from all listed bonds, notes or securities with a maturity of

at least three years used to raise funds for infrastructure, projects and assets defined under green bonds standards and guidelines is exempt from Kenya’s income tax.⁸⁰

Acorn also decided to have the bond certified as “green.”⁸¹ This was achieved through compliance with the Climate Bonds Standard put forth by the Climate Bonds Initiative (CBI). Certification requires that the buildings being financed be constructed and managed to achieve water, energy and materials-use efficiency in compliance with IFC’s EDGE principles for green buildings.⁸² Since Acorn had been receiving funds from OPIC, it already had considerable experience adhering to OPIC’s environmental impact requirements.⁸³ Thus, it was not difficult for Acorn’s bonds to qualify as “green.”

Acorn’s issuance was also facilitated by the Green Bonds Program Kenya, an effort launched in 2017, designed to develop a domestic green bond market in Kenya.⁸⁴ Government agencies, already familiar with the concept of green bonds due to this program, were supportive of Acorn’s efforts.⁸⁵

Although the green certification did not appear to matter to Kenyan investors, it did significantly increase the bond’s visibility since this was the first green project bond issuance from Kenya. In its marketing, Acorn stressed that there were financial benefits to meeting the EDGE construction standards via the savings achieved on water and energy

⁷⁶ Typically, bank financing is used during the construction phase of a project, and these construction loans are paid off (often with some of the equity also being taken out of the project) with a bond issued once construction is completed and the project is performing satisfactorily.

⁷⁷ The first drawdown amount of KSh786 million was issued in November 2019. A second was made in April 2020.

⁷⁸ In Kenya, if a bond is listed, it does not have to be rated. However, ratings are required for a private placement in order for pension funds to invest in them. Acorn chose to use Moody’s rather than a local rating company as the latter had failed to provide timely signals of earlier Kenyan bond defaults and local investors had lost confidence in them.

⁷⁹ Another layer of comfort is a debt service account funded with three months interest and an assignment of rental income toward payment of the debt. In addition, Acorn waived immunity over its assets in the event of a default.

⁸⁰ Also attractive for investors was that Acorn already had three operational buildings at the time the bonds were sold, all of them at 95%–100% occupancy.

⁸¹ Green bonds have been issued all across the world, with the European Investment Bank issuing the first green bond in 2007, followed by the World Bank in 2008. Corporates and municipalities entered the market in 2013. The bonds also attract a wide range of investors seeking to positively impact the environment and allow traditional investors like pension funds to diversify their portfolios.

⁸² See <https://edge.gbci.org/>.

⁸³ OPIC had required that Acorn follow EDGE guidelines. Acorn actually had to make changes on a few of its buildings to qualify, and this was costly. But this subsequently made it easier for Acorn to qualify for green bond funding.

⁸⁴ See <https://www.greenbondskkenya.co.ke/>. This is an initiative of the Kenya Bankers Association, Nairobi Securities Exchange, Climate Bonds Initiative (<https://www.climatebonds.net/>) and Financial Sector Deepening (FSD) Africa (<https://www.fsdafrika.org/>), which is supported by the UK government. The overall Green Bond Program Kenya is supported by the International Finance Corporation, the World Wildlife Fund–Kenya and the Dutch, along with Dutch and German DFIs, FMO and KfW.

⁸⁵ Capital Markets Authority of Kenya’s (CMA’s) regulations say that a ratings agency must be registered by the CMA before it can rate local issuances. Since Moody’s was not registered, the CMA gave Moody’s a special waiver to rate the Acorn bonds. This is one example of how supportive the government was to Acorn’s use of a green bond.

usage in its buildings, both during construction and in the operation of the buildings.

Given the five-year maturity of the notes and the fact that they do not amortize, Acorn is facing refinancing risk. Its plan is to start fundraising soon for a real estate investment trust (REIT), which it will market primarily to the initial bondholders.⁸⁶ (Acorn intends to retain at least a 20% stake in the proposed REIT.) This REIT will then acquire ownership of the student housing once construction is completed and the majority of units have been leased, thus providing funds to pay off the bonds. (The bond will not mature until 2024. Some projects will be completed and sold before then, allowing for partial redemptions based on the sale of these assets. This will reduce refinancing risk.)

Demand for the Acorn Green Bonds was strong. Except for EAIF, all the investors were Kenyan or regional entities, with eight investing in the first offering.⁸⁷ There were some discussions with international investors, but there appeared to be little interest from outside Kenya, largely due to the exchange-rate risk and the difficulties of hedging this risk given the deferred drawdown feature of the notes.⁸⁸

The bonds provide a 12.25% fixed rate of interest. Because Moody's rated the bonds on the national rating scale at Aa2.ke, Kenyan investors likely viewed the Acorn bonds as only slightly riskier than Kenyan government bonds but with a yield spread at the time of issuance of roughly 200 bps over government bonds of similar average life.⁸⁹ The bonds also offered domestic investors a rare opportunity to diversify their bond portfolios away from government securities.

Impact

Acorn's student housing will help fill the gap between the supply and demand for affordable housing for university students in Kenya. It will also create jobs during the construction of the housing and in the continued operation and management of these facilities. By adhering to high standards of efficiency in the use of water, energy and materials in construction and operations, the Acorn student housing has reduced its negative environmental impacts compared to traditionally constructed housing.

According to Acorn's 2019 Sustainability Report, Acorn:⁹⁰

- Provided housing for 2,300 students
- Created 342 jobs
- Achieved a 25% reduction in capital cost per student bed
- Certified 80% of existing buildings as green under EDGE standards
- Saved 20% on energy, water and materials used in construction

⁸⁶ Acorn is working with Renaissance Capital on the REIT. They plan to use two REITs under the Kenyan REIT legislation. The development REIT, or D-REIT, will undertake all the development work, while the income REIT, or I-REIT, will purchase all completed and stabilized operational properties from the D-REIT and hold them for the long term. These two REITs will provide Acorn with the most tax-efficient financing options available within the local legislative and legal context, as they will enable Acorn to access long-term permanent capital from investors such as pension funds, life and mutual funds, savings and credit societies (Saccos), and retail investors. (Real estate development is exposed to multiple significant taxes — income tax of 30% on development profits, stamp duty at 4% of value of land and property upon sale or transfer, and 5% capital gains tax on capital appreciation upon sale or disposal. And the capital gains tax is likely to go up to 12.5% in the next few years. Shareholders also have to pay 15% tax on any dividends. Real estate developers must load all these taxes onto their costs, which makes the affordable housing much less affordable. In contrast, REITs only have a 15% final tax on dividends, and even this tax is not applicable to the typical REIT investors, such as pension and life funds. See Acorn. *Inaugural Sustainability Report 2019*, available at <https://acornholdingsafrica.com/wp-content/uploads/2020/06/ACORN-Sustainability-Report-2019.pdf>.

⁸⁷ Sixty-five percent of the investment came from Kenyan investors and 35% from international investors (primarily the investment from EAIF). By investor type, 41% were banks, 24% pension funds (all Kenyan), 30% asset manager (EAIF) and 5% East African insurance companies.

⁸⁸ Acorn was able to obtain fixed pricing across the tenure of the bond, so its duration risk is low.

⁸⁹ Moody's National Scale Ratings (NSRs) are intended as relative measures of creditworthiness among debt issues and issuers within a country, making it easier for market participants to differentiate relative risks. NSRs differ from Moody's global credit-rating scales in that they are not comparable with the full universe of Moody's rated entities but only with NSRs for other rated debt issues and issuers within the same country.

⁹⁰ Acorn. *Inaugural Sustainability Report 2019*, available at <https://acornholdingsafrica.com/wp-content/uploads/2020/06/ACORN-Sustainability-Report-2019.pdf>.

Challenges

Acorn faces a couple of challenges:

- Issuing a REIT to refinance the bonds when they mature could be challenging in Kenya. To date, only one investment vehicle of this type has been launched in the local market, the STANLIB Fahari I-REIT.⁹¹ This REIT was launched in 2015 and is invested in a shopping mall and several office/light industrial properties. It has not performed well, and its current market value is only one-fourth of its initial value. Acorn has a fallback position in case it fails to achieve adequate funding for its REIT. It could likely get 10-year mortgage financing for its completed student housing projects from local commercial banks, utilizing a GuarantCo guarantee for the loan if necessary, or utilize the loan offered by OPIC (since 2019, the U.S. Development Finance Corporation).
- Soon after the MTN program was initiated, the COVID-19 pandemic hit Kenya, and the universities were temporarily shut down. So far, this has not affected Acorn's MTN negatively. Acorn is still largely in the construction phase of the project, with interest payments coming out of the project equity as planned. And the demand for student accommodation is so strong that even with the universities closing, most students are not requesting a refund of their deposits because they want to be sure to have housing once the universities reopen. Acorn closed its operating properties in mid-March 2020 following the closure of all colleges and universities in Kenya but reopened in July. Since then, more than 750 students have reentered or paid to maintain their units in the properties until universities reopen. The long-term impact on the student housing market remains to be seen.

⁹¹ See <https://ilamfahariireit.com/>.

Nigeria — Jabi Lake Mall

Background

Real estate investments and infrastructure investments are typically treated as different asset classes by investors. However, both types of investments are real (that is, physical) assets that offer the potential for long-term, stable returns with relatively low correlation with financial assets such as stocks and bonds. Real assets tend to provide more stable returns but are less liquid than financial assets (thus, often providing a liquidity premium). These characteristics make them particularly attractive to institutional investors that seek such long-term assets to balance their long-term liabilities.

Exposure to real estate can be achieved through both public and private market investment. In real estate, the primary public market investment vehicles are REITs. Because REITs are traded on stock exchanges, they provide real estate investors with a vehicle that also provides effective governance and market liquidity. The primary private market investment vehicles are real estate investment funds (usually private equity funds that specialize in real estate). REITs and funds can invest in a wide variety of properties — traditional real estate properties (office, retail, industrial and apartment), new economy real estate properties (data centers and infrastructure, such as telecommunications towers, fiber cables and energy pipelines) and natural resources (timberland and agricultural land).

Although South Africa has a rather well-developed REIT market, other SSA countries do not. A basic regulatory framework for REITs has been established in a few of these countries, but only a handful of REITs have been launched, and these have had mixed results.⁹²

Foreign investment in SSA real estate — outside South Africa — is still limited but has been increasing in recent years. Rapid economic and population growth, rapidly

increasing urbanization, and a growing middle class have created demand for real estate that is outstripping supply. This demand–supply imbalance will likely persist for some time. Although the fall in oil and commodity prices that started in 2015 slowed the growth in African real estate investing compared to the previous five years of the boom market, there are now signs of a resurgence in the sector. However, investors face a number of problems, including a lack of transparency, poor transportation and power infrastructure, difficulty obtaining permits and approvals, currency risk, political risk, and cost control. In particular, the process of obtaining and evidencing good title for land can be lengthy and time consuming. According to the law firm Linklater, one factor that has historically deterred many fund managers and investors from entering the real estate market in Africa is the continent’s lack of robust and consistent protection for property rights — either because a particular country has no formal titular property system at all or because existing systems are often difficult to navigate.⁹³

Most institutional investors enter the market through a few private equity funds that have focused on the region. Among these are funds managed by Actis, Momentum, Novare, RMB Westport and Africa Capital Alliance. Most of these funds focus on commercial properties rather than residential housing, largely due to the lack of home mortgage markets in Africa. Shopping malls are often one of the first investments fund managers consider. The major malls usually attract retailers from South Africa and abroad as their primary tenants.

Actis

Actis is the largest private capital investment firm in Africa and the largest private capital real estate investor on the continent.⁹⁴ It has US\$4.5 billion invested in Africa, spread

⁹² Centre for Affordable Housing Finance in Africa. *Residential REITs and Their Potential to Increase Investment in and Access to Affordable Housing in Africa — Report 2: Case Studies of African REITs*, 2017 available at http://housingfinanceafrica.org/app/uploads/RGSA_CAHF_-_Study-Residential-Reits-in-Africa_Case-study-Report-2017.pdf. Outside South Africa, REITs have been established in Nigeria, Kenya, Tanzania and Ghana.

⁹³ Linklaters. *African Real Estate Funds: What Are We Missing?*, available at https://lpscndn.linklaters.com/-/media/files/insights/2017/november/african_real_estate_funds_what_are_we_missing_linklaters_webberwentzel.ashx?rev=6a5a84e5-7661-4303-8e30-6e9a521f7025&extension=pdf&hash=D0A8092C3EBEC87F9EC1AE2B06C532B3.

⁹⁴ Actis was formed in July 2004 as a spinout of CDC Group (formerly the Commonwealth Development Corporation), an organization established by the UK government in 1948 to invest in developing economies in Africa, Asia and the Caribbean. The Actis management team initially acquired majority (60%) ownership of CDC’s emerging-markets investment platform. The UK’s remaining 40% share was sold to management in 2012 (with the UK government sharing in future profits of the company). CDC continued to support Actis by investing in investment funds raised and managed by Actis. As of 2020, Actis has US\$12 billion in assets under management globally.

across real estate, private equity investments, energy and infrastructure. Actis's investors come from a diverse base, including pension funds, sovereign wealth funds, development and finance institutions, and endowments in Africa, Asia, Europe and North America.

Actis has three separate investment groups that focus on energy and infrastructure, real estate, and general sectors — including consumer, education, financial services, healthcare, industrial, manufacturing and retail.

Since its inception, Actis has raised US\$18 billion in funding and employs more than 200 people, including a team of approximately 120 investment professionals working in 17 offices worldwide. Actis has executed over 300 transactions in more than 40 countries. It has more than 30 investment professionals dedicated to Africa in five offices in Egypt, Kenya, Nigeria, South Africa and London.

Jabi Lake Mall

One of Actis's major real estate projects in SSA is the Jabi Lake Shopping Mall. It is located in Abuja, Nigeria's capital city of more than two million people. The mall is sited just 10 minutes from the city's central business district. Jabi Lake Mall is currently the largest completed retail mall in Nigeria, with 24,000 square feet of shopping space — three times the size of the previous large malls in Abuja. There are two levels of parking, with a capacity for 733 cars in addition to motorcycle and bicycle parking. Construction began in November 2013, and the mall opened in November 2015. The mall cost US\$122 million to build — with 40% equity funding and 60% debt.⁹⁵ The mall is located on a five-hectare parcel of land at Jabi Lake waterfront. It was

to be part of a larger 35-hectare mixed-use development, bringing together hotels, residential apartments, offices and relaxation centers. However, construction on the additional components has yet to begin.

Actis provided equity financing for the mall via the Actis Africa Real Estate Fund 2 (AARE 2). This is a limited partnership organized under the laws of the UK as a 10-year closed-end private equity fund dedicated to investments in real estate companies and projects in sub-Saharan Africa. AREF 2 is a follow-up to the Actis Africa Real Estate Fund 1, Actis's first dedicated private equity real estate fund for sub-Saharan Africa, which closed in 2006 at US\$154 million and was fully invested by 2012. AREF 2 closed its fundraising in October 2012 with commitments of US\$278 million.⁹⁶

- Abuja's Jabi Lake Mall follows in the footsteps of other retail centers developed by Actis — the Palms Shopping Mall in Lekki, the Junction Mall in Nairobi, Accra Mall in Accra and Ikeja City Mall in Lagos.⁹⁷
- Jabi Lake Mall has been successful in attracting pan-African and international retailers to launch their products to the Nigerian market. Shoprite, the South African supermarket chain, and popular appliances store Game secured their positions as anchor tenants even before construction began in November 2013. By 2019, the mall was attracting about 500,000 shoppers every month. At the start of 2020, it had more than 100 tenants (including a multiscreen movie theater) and a 91% occupancy rate. Rents are collected in local currency, but leases are US dollar based, with tenants paying the dollar equivalent. Thus, currency devaluations can increase costs to tenants.

⁹⁵ Standard Bank played a lead role in arranging the financing. Standard Bank's roles included mandated lead arranger, lender, account bank, facility agent/security trustee and hedging counterpart. Actis provided the equity, landowner Duval Properties (a Nigerian property developer) contributed the project site and Guaranty Trust Bank (a leading Nigerian bank) provided debt financing. The International Finance Corporation (IFC) also invested US\$9.5 million to the project. Laurus Development Partners (a Nigerian company) was the project manager. Bouygues International Nigeria was the primary construction contractor.

⁹⁶ In 2015, Actis closed funding for Africa Real Estate Fund 3 (ARE3), the largest private real estate fund targeting sub-Saharan Africa raised in the market to date. The total fund size is US\$506 million. The fund obtained diverse capital commitments from pension funds, sovereign wealth funds, DFIs and endowments based in Africa, Asia, Europe and North America. One of its first investments was in the Twin Lakes Mall in Lekki, Nigeria, a city located near Lagos, the commercial capital of Nigeria and the most populous city in Africa. See Market Frontiers. "Actis Africa Real Estate Fund 3' Raises \$500 Million, Becoming Largest Fund of Its Kind," 2018, available at <https://marketfrontiers.com/actis-real-estate-fund/>.

⁹⁷ The Palms, a 20,000-square-meter mall, was developed by Actis and local joint venture partner Persianas Investments. It was anchored by South African retail giants Shoprite and Game. The mall was a product of Actis's US\$154-million Africa Real Estate Fund 1. The Palms is widely regarded as Nigeria's first modern mall. Actis exited their investment in the Palms to its partner Persianas Investments and made a new investment into its next Nigeria project, Ikeja City Mall in 2008. This mall was completed in 2011, and Actis exited its investment in the project by late 2015 at an attractive price to South African investors.

- Long-term and consistent deal flow in the commercial real estate sector relies on the availability of a clear exit strategy for investors. For new and existing investors to continue rolling out projects, the secondary real estate market needs to see growth. Given that equity for the Mall came from an Actis private equity fund that closed in 2012 with a tenor of 10 years, Actis is considering various exit routes. There could be a sale to another infrastructure fund, the project could be refinanced with increased bank loans or by issuing bonds, or the asset might be purchased by a REIT.⁹⁸ The most likely exit appears to be a sale to another real estate fund, probably one that specializes in operating rather than greenfield real estate assets.⁹⁹
- Sales at the mall increase government revenue through the value-added tax (VAT) and taxes on business income.
- Built to the highest international standards, Jabi Lake Mall is at least 25% more energy efficient than other buildings in the area.¹⁰¹

Challenges

The Jabi Lake Mall has suffered some financial setbacks since opening:

- The collapse in global oil prices in 2014 through 2016 put severe strains on the Nigerian economy because oil generated about 90% of the country's export earnings and about 70% of total government revenue. The Central Bank of Nigeria's decision to devalue the Nigerian currency, the naira, in June 2016 meant that for many investors, the dollar value of their expected returns had reduced significantly overnight. (In 2016, Nigeria's currency depreciated 55% on the official market.) For the past five years, Nigeria has also operated with multiple exchange windows. This has put foreign investors at an additional disadvantage, as the window through which they can obtain foreign exchange to make dividend and debt payments offers less attractive rates than the official window. In addition, many of the country's retailers that rely on imports to restock were unable to bear the increased costs because their income was naira based, but restocking and rental costs were dollar linked. This resulted in retailers not paying rent or even going out of business.

Impact

The Jabi Lake Mall has had several positive development impacts.

- It has contributed to filling the gap between supply and demand for quality commercial real estate.
- It has improved business infrastructure standards through the introduction and implementation of environmental and life-and-safety-standard best practices.
- It provides access to goods and services previously unavailable to consumers in its shopping area.
- It has created jobs during both construction and operation of the mall.¹⁰⁰
- It has boosted businesses in the local supply chain.

⁹⁸ Currently, there are three REITs in Nigeria, but their performance to date has been poor. However, the Jabi Mall is an attractive asset for REITs from South Africa and other countries. Actis exited Ikeja City Mall in November 2015 by selling its stake to South African investors, a REIT and a real estate capital growth fund that later converted into a REIT. It was reported that Actis exited at a fair multiple to its initial investment. See AVCA. "Actis Confirms Sale of Nigeria's Ikeja City Mall," November 17, 2015, available at <https://www.avca-africa.org/newsroom/member-news/2015/actis-confirms-sale-of-nigeria-s-ikeja-city-mall/>.

⁹⁹ One possibility is for the asset to be acquired by Actis's Africa Real Estate Fund 3, which is a long-term income fund.

¹⁰⁰ The mall created about 350 construction jobs and 900 long-term, retail sector jobs.

¹⁰¹ In mid-2019, Actis announced an agreement with CrossBoundary Energy to become the first solar-powered shopping center in Nigeria. CrossBoundary will finance a 600-kilowatt rooftop solar plant and will sell power to Jabi Lake Mall through a 15-year power purchase agreement. The power offers a cheaper energy alternative and will reduce the shopping center's CO2 emissions by more than 13,000 tons while also providing cheaper and more stable energy as an alternative to the existing grid supply. Support for the project has come from the Shell Foundation and the Solar Nigeria program, an initiative implemented by Adam Smith International, with funding from UK Aid.

The coronavirus pandemic spread to Nigeria in the spring of 2020, and Ajuba went into a limited shutdown for the month of April. Jabi Mall was closed by the lockdown except for essential services that included food grocers, pharmacies and restaurants (for takeout/deliveries only), all of which continued to trade relatively well. Actis expects that it may take six to nine months post COVID-19 for the trade levels and footfall to be restored. What may have an even greater negative impact is the associated drop in oil prices due to a slump in demand during the pandemic. The combined impact is likely to put the country into a recession this year. This could also have a negative impact on the revenues generated by the mall. Hence, Actis is actively engaging with tenants to understand their perspectives and outlooks.

Multiple countries — Climate Investor One

Background

Throughout the world, federal governments provide most of the public infrastructure. They are suited for this task since they can identify, develop and execute projects in an integrated manner. However, the financial capacity of most governments in developing countries falls far short of what is needed to meet all public infrastructure demand, and governments are thus turning to the private sector for assistance. However, private financing for infrastructure projects in emerging markets is constrained at each stage of project development by the following factors:

- There is no pipeline of “bankable” projects. Most governments lack the resources and skills needed to develop projects adequately, and there is little venture-capital-type equity to finance the early-stage development of projects.
- There are limited concessional funds from governments, DFIs, MDBs and foundations that can be used to crowd in more private financing by mitigating risk or subsidizing returns. The little funds available take considerable time and effort to mobilize.

- Commercial banks, which in the past could provide the long-tenor debt needed to make many projects financially viable can no longer make such commitments at initial financial close. This leaves project sponsors facing refinancing risk.
- A lack of project refinancing certainty exists due to relatively small and underdeveloped domestic capital markets in developing countries. And accessing global capital markets is difficult.

Because these difficulties facing project sponsors at each stage are interlinked, there are efforts underway to develop “life-cycle” solutions that can smooth the way to attract greater private sector financing for infrastructure in the developing countries.

Climate Investor One¹⁰²

- Climate Investor One (CI1) is an innovative approach to infrastructure financing for renewable energy infrastructure. The country focus of CI1 is developing countries, with roughly 70% going to low-income

¹⁰² Climate Investor One was originally named the Climate Development and Finance Facility.

countries and lower-middle-income countries and 30% to upper-middle-income countries. It is also focusing on countries that are experiencing sizable energy deficits while also being overly reliant on fossil fuels.¹⁰³

- Climate Fund Managers (CFM), formed in October 2015 by FMO (the Dutch development bank) and Phoenix InfraWorks, developed the design and is responsible for C1 implementation and its day-to-day operations.¹⁰⁴ CFM has offices in The Hague, Netherlands, and in Cape Town, South Africa.
- CI1 provides complete life-cycle project financing using a blended finance structure. It combines three investment funds into one facility to finance a project's entire operational life.
- At the early project development stage, CI1 provides, through its development fund (DF), reimbursable grants to cover up to 50% of development costs, including, but not limited to, feasibility studies, scoping studies, financial modeling, legal support and impact assessments. The DF seeks capital preservation and not profits.¹⁰⁵
- Once projects are ready to be implemented, CI1 provides equity financing for construction through a construction equity fund (CEF), which can provide up to 75% of total construction costs in tandem with

the project sponsor.¹⁰⁶ The use of equity only during construction eliminates the need for the project sponsors to source debt during the construction phase and enables the project to start construction quicker with a simpler and more flexible capital structure.¹⁰⁷

- Once construction is completed and the project is operational, CI1 plans to mobilize long-term debt financing through a refinancing fund (RF). The RF would have right of first refusal on up to 50% of the long-term refinanced debt of the projects after they enter commercial operation. The price for refinancing would be set by the other 50% of external investors and local banks. The refinancing facility would consist of investors seeking long-term de-risked infrastructure debt. This way, it would attract a new tranche of investors to clean energy in developing countries.
- The DF is funded with donor capital, whereas the CEF is composed of three tiers of capital to attract multiple investor classes, including donor governments, DFIs, MDBs, commercial banks and institutional investors. The RF is to be funded by DFIs, private sector banks and institutional investors. CI1's catalytic donor capital is augmented fourfold by commercial capital from 10 commercial institutions from Africa, Europe and the UK.¹⁰⁸

¹⁰³ The target size carved out for African investments is 20%–40% of total investments. If committed capital is recycled twice, this would mean roughly US\$465 million to US\$930 million of investments in Africa over the funds' lifetime. See <https://www.afdb.org/en/documents/document/project-summary-note-equity-investment-in-construction-equity-fund-as-part-of-climate-investor-one-platform-107304>.

¹⁰⁴ See <https://climatefundmanagers.com/>. Sanlam InfraWorks, a formal cooperation between Phoenix InfraWorks and Sanlam, a South African financial services group and the largest insurance company in Africa, took over Phoenix InfraWorks' 50% share of CI1 in 2017. See <https://www.fanews.co.za/article/company-news-results/1/sanlam/1055/fmo-phoenix-infracworks-and-sanlam-investments-tackles-climate-change-through-the-launch-of-zar-5-3bn-innovative-global-climate-fund/22483>.

¹⁰⁵ The donor capital used to fund this stage would be converted to equity stakes for successful projects that would in turn be bought out by the construction finance facility at commercial rates. Thus, the development facility would be an evergreen facility, recycling the returns made from the construction finance facility buyouts to fund the development of subsequent new projects. See <https://www.climatefinancelab.org/project/fmo-climate-development-finance-facility/>.

¹⁰⁶ There is a cap of US\$5 million on development costs and US\$75 million on construction costs.

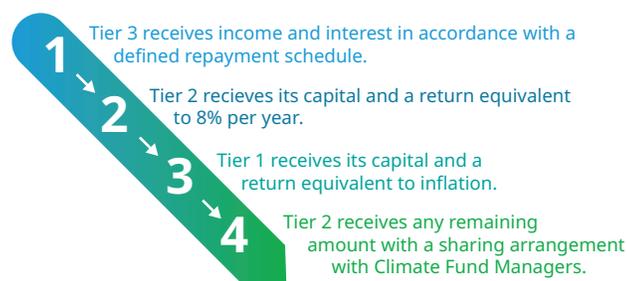
¹⁰⁷ "The process of structuring debt is complex, time consuming and often costly. In addition, the covenants imposed by lenders put a degree of inflexibility into the financing structure, which makes it difficult for the project company to withstand variances from forecasts in the early years. The use of equity only from the CI1 Construction Equity Fund is designed to remove this complexity time lag and rigidity, and thereby increase the probability of a project reaching successful operations." See Green Climate Fund. *Funding Proposal — FP099: Climate Investor One*, 2018, p. 46, available at <https://www.greencimate.fund/sites/default/files/document/funding-proposal-fp099-fmo-burundi-cameroon-djibouti-indonesia-uganda-kenya-malawi-madagascar.pdf>.

¹⁰⁸ The Lab. "Green Climate Fund Approves USD 100 Million Investment in Climate Investor One," October 4, 2018, available at <https://www.climatefinancelab.org/news/green-climate-fund-approves-usd-100-million-investment-in-climate-investor-one/>.

- CI1’s DFs and CEFs have a total life of 20 years. It is expected that approximately 30 projects can be constructed over the lifetime of CI1. The committed capital (currently US\$850 million) is intended to be recycled at least twice over this period.¹⁰⁹

As each phase of the project (development, construction and operation) is financed by a separate fund, CI1 can create investment vehicles that meet different investors’ risk appetites. The risky development phase is funded by donor capital. (The money is reimbursed only if the project goes forward into the construction phase.) The financing for the construction phase is provided by three tiers: Tier 1 by donor capital, Tier 2 by DFIs and commercial investors, and Tier 3 by institutional investors. The financing is in a defined proportion of 20/40/40 from Tier 1, Tier 2 and Tier 3, respectively. Return of income and investment capital is allocated to the tiers in accordance with a waterfall, as shown in Figure 49 below.¹¹⁰

Figure 49.



Source: Choi E and Seiger A. *Blended Finance and Its Way Forward*, 2020.

The tiering and waterfall structure provides a different risk-return profile for each tier of capital. Without the first-loss protection of the Tier 1 capital, investing in the construction

phase would likely be considered too risky for mainstream commercial capital given the higher-risk countries CI1 is serving. The most protected Tier 3 of the CEF (which, in most cases, also has a guarantee from an export credit agency) is designed to bring in more risk-averse institutional investors and give them an opportunity to familiarize themselves with the risks and returns associated with the project. It is hoped that these same investors will be willing to then invest in the RF along with new institutional investors. The CEF derives its income from activities at project level, including dividend income from the project company, refinancing the equity investments by debt at project level once operational and exit proceeds from the disposal of a project.¹¹¹

The RF will provide long-term senior debt instruments once a project is operating successfully.¹¹² The refinancing should reduce the cost of capital and replace some of the construction financing. This process will allow the CEF to be replenished and thus available to finance additional projects that are ready for construction.

The CI1 structure addresses some key bottlenecks to increased private financing of infrastructure in developing countries:

- First, the pipeline of “bankable” projects in most developing countries is inadequate due to the limited funding available for project development. As pointed out in a recent McKinsey report, “Africa’s track record in moving projects to financial close is poor: 80 percent of infrastructure projects fail at the feasibility and business-plan stage.”¹¹³ CI1 addresses this problem by providing donor funding for project development with reimbursable grants. CFM adds further value by making use of in-house expertise on engineering, ESG and financial structuring to prepare projects for implementation.

¹⁰⁹ It is estimated that a construction equity fund (CEF) of US\$775 million will require a development fund (DF) of US\$46.5 million. Projects that are successfully developed and reach financial close with the CEF will repay the DF for its support plus a premium sized to compensate for DF support for projects that fail to reach financial close; thus, capital lost from failed projects will be replenished. The premium that will be charged can be adjusted depending on the actual success rate of the development activities. See GCF’s Funding Proposal (2018).

¹¹⁰ Choi E and Seiger A. *Catalyzing Capital for the Transition Toward Decarbonization: Blended Finance and Its Way Forward*, 2020, page 20, available at https://energy.stanford.edu/sites/g/files/sbiybj9971/f/sfi_blended_finance_and_its_way_forward_spring_2020.pdf.

¹¹¹ GCF’s Funding Proposal (2018), p. 13.

¹¹² The RF would have right of first refusal on up to 50% of the long-term refinanced debt of de-risked projects after they enter commercial operation. The price for refinancing would be set by the other 50% of external investors and local banks. See <https://www.climatefinancelab.org/project/fmo-climate-development-finance-facility/>.

¹¹³ McKinsey & Company. *Solving Africa’s Infrastructure Paradox*, 2020, available at <https://www.mckinsey.com/~media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Solving%20Africas%20infrastructure%20paradox/Solving-Africas-infrastructure-paradox.pdf>.

- Second, once developed, infrastructure projects are often severely delayed by prolonged negotiations with multiple potential sources of financing. CI1 serves as the single source of financing needed to supplement sponsors' equity. This significantly reduces the time necessary to reach initial financial close. It also enables project sponsors to focus less on capital-raising and more on project development.
 - Third, private investors are risk averse, making it difficult to attract financing in developing countries. CI1 has mobilized funding from official development sources, which it uses to reduce the risk to private investors via "blended finance" arrangements.
 - Finally, often, little thought is given at initial financial close to refinancing projects once they are operational. (Refinancing can often reduce project costs and release sponsor equity that can then be used for other projects.) CI1 addresses this by focusing on a whole-life financing structure that includes access to largely private sector debt refinancing once projects are operating successfully.¹¹⁴
 - CI1 focuses on the wind, solar and run-of-river hydropower sectors, with an average project size of 25–75 megawatts or US\$80 million to US\$100 million in total investment cost. This focus on midsize projects is necessary since it uses a "pooled" financing structure designed to finance multiple projects (thus spreading risks), and its total funding is US\$850 million. Since CI1 is the only source of financing other than the project sponsors' equity, this limits the size of projects the fund can finance. However, the CI1 structure can be "scaled up" by increasing the size of the fund and thus allowing it to be used for much larger projects.¹¹⁵ The structure could also be replicated and used to finance projects other than renewable energy.
 - Intensive work on the structure of CI1 began in May 2014 at the Global Innovation Lab for Climate Finance, a forum initiated by the governments of Germany, the UK and the US in partnership with major DFIs and key private sector institutions.¹¹⁶
 - CFM began fundraising in 2017 and had its final close on the DFs and CEFs in 2019, with total commitments of US\$850 million.¹¹⁷ Funding came from a variety of official and private sector sources.¹¹⁸ CFM expects to begin fundraising for its RF in late 2020.
- As of mid-2020, CFM had investments in the following nine projects utilizing either the CI1 development or construction funds.¹¹⁹

¹¹⁴ Africa50 is another innovative financing facility that incorporates a whole-life approach. It provides funding for project development and project funding. However, it does not differentiate between the construction financing and refinancing of operational projects. See <https://www.africa50.com/>.

¹¹⁵ It also might be "scaled down" to finance smaller projects, such as distributed power projects or municipal water projects. However, if the RF is designed to access capital market financing via project bonds, this will place a lower limit on the size of the fund.

¹¹⁶ See <https://www.climatefinancelab.org/>. The Lab published a project proposal and implementation plan in April 2015. See *Climate Development and Finance Facility: Pilot Proposal and Implementation Plan*, 2015, available at <https://www.climatefinancelab.org/wp-content/uploads/2015/04/CDFF-Pilot-Proposal-and-Implementation-Plan.pdf>.

¹¹⁷ The Green Climate Fund (GCF) was created in 2010 under the United Nations Framework Convention on Climate Change (UNFCCC). See <https://www.greencclimate.fund/project/fp099>.

¹¹⁸ Funding came from FMO, Sanlam Investments Holdings, NWB Bank, Ministry of Foreign Affairs of the Netherlands (DGIS), Atradius Dutch State Business, Aegon Asset Management, KLP (Norway), Royal Borough of Windsor & Maidenhead Pension Fund (UK), USAID's Power Africa, the European Union (through its External Investment Plan), MP Pensjon of Norway, IMAS Foundation, Swedfund, Nordic Development Fund, FinDev Canada, African Development Bank and the Green Climate Fund.

¹¹⁹ More detailed information on each of these projects is available at <http://climatefundmanagers.com/investments/>.

Figure 50.

Project	Country or region of investment	Type of renewable energy	Development fund (USD million)	Construction fund (USD million)	Electric power capacity (MW)	Development partners	Contract signature year	Expected year of commercial operations
Cleantech Solar	Pan-Asia	Solar PV (C&I)		\$101	450	Cleantech Solar	2018	2022
Red Sea Power	Djibouti	Wind	\$1.4		59	Africa Finance Corporation, FMO and Great Horn Investments Holding	2019	2021
Trà Vinh	Vietnam	Near-shore wind		\$61	48	Samtan Co Ltd.	2019	2021
Achwa 1	Uganda	Run-of-river hydro	\$0.7	\$75	42	Berkeley Energy, PAC SpA	2019	2020
Balenahalli	India	On-shore wind	\$3.4	\$32	38	AMPYR Energy India Pte Ltd	2019	2021
Capas	Philippines	Solar PV	\$0.4		25	Sindicatum Renewable Energy	2016	N/A
Dolma	Nepal	Solar PV	\$2.5		125	Dolma Himalayan Energy	2019	N/A
Hiep Thanh	Vietnam	Near-shore wind	\$3.0		78	Samtan Co Ltd.	2019	2021
Morocco	Morocco	(2) solar PV and (1) wind	\$3.0		165	TBA	2017	2022
Totals			\$14.3	\$269	1,030			

The Achwa 1 hydro project in Uganda, the first SSA project CI1 helped develop and finance, has Berkeley Energy as its development partner.¹²⁰ Through this partner, the project has indirectly secured equity from a number of DFIs, development banks, impact funds and private equity funds.¹²¹

Impact

CI1 has a number of potential positive impacts:

- Upon full deployment of capital, CI1 is expected to deliver an estimated 1,700 megawatts of additional electric power capacity, generating approximately 5,100 gigawatt-hours of electricity per annum, serve in the region of 13 million people and avoid harmful greenhouse gas emissions by approximately 1.9 million tons of CO₂ per annum.¹²² It will also generate an estimated 10,000 jobs during construction and operation phases of the projects it finances.
- CI1, if successful, could also have a major impact on how infrastructure projects are financed. In particular, it could be a model for mobilizing financing from institutional investors, especially those that have little appetite for taking on significant construction risk. Often in project financing, little preparation is made at initial financial close of projects for the refinancing of the projects once they are operating, even though refinancing can usually lower project costs and help equity investors and banks recycle their resources — both financial and managerial — to support additional greenfield projects. CI1 offers institutional investors two means to participate in projects: either coming in during the construction phase with equity (with a

relatively high level of credit risk mitigation) or during the operating phase with debt. The CI1 should help reduce the project sponsor's refinancing risk since all-equity financing during the construction phase means there is no hard time limit for the subsequent refinancing as there usually is with "mini-perm" construction loans.¹²³

The CI1 structure can be scaled and/or replicated for use with other types of infrastructure projects. CFM is already working on Climate Investor 2, which will focus on climate adaptation sectors of water, oceans and sanitation.¹²⁴

Challenges

CI1 faces some challenges.

- One of the issues CI1 has had to address is how its governance structure can ensure full alignment of interests between the various participants in its whole-life financing structure. The donors supporting the DF will want their projects, once developed, to be financed by the CEF. However, the commercial banks and institutional investors that are expected to provide some of the equity financing for construction will have to be convinced that the risk-return profile and the control rights offered by the projects are satisfactory. They are also likely to give less weight to the developmental impact of the projects or their adherence to ESG standards than do donors. And the institutional investors that are expected to provide most of the long-term debt financing for the RF will have different risk-return requirements than the commercial investors in the CEF.

¹²⁰ Climate Fund Managers press release, "CFM Partners With Berkeley Energy on Its First Africa Construction Equity Investment," May 16, 2019, available at <https://climatefundmanagers.com/2019/05/16/climate-fund-managers-partners-with-berkeley-energy-on-its-first-africa-construction-equity-investment/>.

¹²¹ Berkeley Capital, founded in 2007, is a sponsor, investor and developer of renewable power assets in emerging markets of Africa and Asia. Once projects are built, Berkeley Energy consolidates them regionally or by technology into operating portfolios that it seeks to exit. Berkeley Energy currently has three funds under management: two for projects in Asia and one for sub-Saharan Africa — the Africa Renewable Energy Fund (AREF). AREF was the first pan-African renewable-energy-focused private equity fund. It invests in small- to medium-scale independent power producers (IPPs) across sub-Saharan Africa, excluding South Africa. It was launched in March 2014 and had its final close in September 2015, having raised US\$200 million from the AfDB, the Sustainable Energy Fund for Africa (SEFA), African Biofuel and Renewable Energy Company (ABREC), ECOWAS Bank for Investment and Development (EBID), West African Development Bank (BOAD), FMO, and the Calvert Foundation (recently renamed Calvert Impact Capital). Calvert is a nonprofit investment firm based in the US and is a channel for institutions and individuals to invest in impact projects around the world. See <https://www.calvertimpactcapital.org/>.

¹²² AVCA. "Final Close of Climate Investor One's Stitching Development Fund and Coöperatief Construction Equity Fund U.A. at a Combined US\$850mn," June 21, 2019, available at <https://www.avca-africa.org/newsroom/member-news/2019/final-close-of-climate-investor-one/>.

¹²³ The change in bank project lending after the 2018 financial crisis that has highlighted the importance of refinancing infrastructure projects is described in Dupes et al. *Mini-perm Structures in PPP Contracts: Risks and Opportunities*, 2011, available at <https://halshs.archives-ouvertes.fr/halshs-00686701/document>.

¹²⁴ See <https://climatefundmanagers.com/funds/#ci2>.

- To deal with these issues, each of the CI1 funds has a governance structure that provides representation to its investors and is designed to ensure good alignment of interests and control. CFM is solely and independently in charge of the investment activities, operations and general day-to-day decision-making of the CI1 legal entities. However, CFM is a nondiscretionary manager. Thus, CFM makes recommendations regarding investments to each fund, and the investment committee of the respective fund decides whether to proceed or not. Each fund and the members of its investment committee assume the overall responsibility and liability of such investment decisions and are responsible for the alignment of interests among the investors in the fund. In addition, FMO is involved in the key oversight committees of CFM and remains responsible for overseeing and managing the interests of public investors that invest in the CI1 fund entities (also through utilizing FMO's accredited entity status). In this capacity, FMO represents such public investors' interests on certain formal fund oversight committees.¹²⁵
- A second challenge CI1 will face is raising sufficient debt funding for the RF. Once enough projects have been constructed and are operating successfully, CFM will start fundraising for the RF. This will be an important test of whether enough DFIs, commercial banks and institutional investors can be convinced to provide long-term debt financing for the specific portfolio of projects that will offered for refinancing on terms that will work. Some level of blending with donor funding may be necessary, even for operating projects, since the average ratings of the projects are likely to be below investment grade, and there will be minimal credit enhancement achieved by the pooling of a limited number of projects. Alternatively, necessary credit enhancement might be achieved through the use of financial guarantees provided for individual projects or at the portfolio level. With debt financing, there is no upside return to compensate for higher risk-taking, and the fixed-debt service requirements create clear limits on the feasibility of the financing structure. Since all the projects should be operating with long-term offtake agreements and operations and maintenance contracts with credible companies, the commercial risks of the projects should be low. However, there will still be significant country and political risks. These may need to be mitigated using various insurance policies.
- A third challenge for CI1 is the timing of project-sourcing, development, construction, refinancing and equity sales. Given that replenishment of the DF and CEF depends on successful execution of subsequent phases, the number of projects CI1 will be able to undertake during its life and the returns it will achieve for its investors will vary depending on the time it takes to carry out each phase. There are a host of uncertainties in this regard due to underdeveloped regulatory frameworks of the countries CI1 is targeting, the macroeconomic and financial instability of these countries, and the world economy, including unforeseen events, such as the coronavirus pandemic, etc. The skill of the experienced team at CFM and its regional and project offices will be critical to the success of this innovative effort.¹²⁶

¹²⁵ A summary of the key FMO roles in CI1 is provided at <https://www.fmo.nl/governance-related-to-cio-and-cfm>.

¹²⁶ GCF's Funding Proposal (2018), p. 43.

Other innovative developments in infrastructure financing in SSA

AfDB's Room2Run credit risk transfer securitization

MDBs are undertaking a number of efforts to mobilize financing from institutional investors to meet the Sustainable Development Goals, especially the financing of infrastructure projects in developing countries. However, it has been difficult to get such investment into individual infrastructure projects, especially those in poorer countries.

The AfDB recently tested an alternative approach. In 2018, it offered investors a portion of its portfolio of existing loans through a securitization, labeled Room2Run, which allowed investors to take risk on a diversified pool of loans at a level they found acceptable. The US\$1 billion synthetic securitization of private sector loans was a landmark securitization instrument, a first for any MDB.

Structured as a synthetic securitization by Mizuho International, Room2Run transfers the mezzanine credit risk on a portfolio of approximately 50 loans from among the AfDB's nonsovereign lending book to the private sector and to the European Commission's European Fund for Sustainable Development (EFSD).¹²⁷

Room2Run structures the selected portfolio of loans into four tranches. The AfDB retains full exposure to any losses on the first tranche (0% to 2%, equaling US\$20 million). Two private investors, Mariner and Africa50, provide credit protection via a risk participation agreement (RPA) on a junior mezzanine tranche (2% to 17.25%, equaling US\$152.5 million). Credit protection is being provided to a senior mezzanine tranche (17.25% to 27.25%, approximately US\$100 million,

euro-denominated) by the EFSD via an unfunded guarantee. AfDB will retain exposure to any losses on senior tranche (27.25% to 100%, equaling US\$727 million). AfDB will pay interest to the private tranche and a guarantee fee to the European Commission.

By having the private sector absorb credit risk on a mezzanine tranche of the portfolio, the transaction reduces the risk-weighted assets on the bank-retained senior portion of the structure by 65%, thus reducing the risk capital the bank must hold. This, in turn, frees up capital for AfDB, enabling it to provide approximately US\$650 million of new development lending in Africa.¹²⁸

AfDB is using the newly freed-up capacity to reinvest into new African infrastructure lending — primarily renewable energy projects in sub-Saharan Africa, including projects in low-income and fragile countries.

Mariner, the global alternative asset manager, is the lead investor in the transaction, providing 80% of the private tranche through its International Infrastructure Finance Company II (IIFC II) fund.¹²⁹ Africa50, the pan-African infrastructure investment platform, is investing alongside Mariner in the private sector tranche, providing the remaining 20% of the private capital.

By structuring the transaction as a synthetic securitization, private sector investors can cover future losses on the portfolio through a contractual structure rather than buying the loans. This allows AfDB to maintain its relationship with the borrowers, remain the lender of record and continue to service the loans as it would otherwise have done.¹³⁰

¹²⁷ The US\$1-billion reference portfolio consists of seasoned pan-African loans, comprising 50% project finance loans and 50% loans to financial institutions, including DFIs.

¹²⁸ Mizuho. *Issuer Perspective: SCI's 4th Annual Capital Relief Trades Seminar*, 2018, available at https://www.structuredcreditinvestor.com/pdf/pdf_presentation/Untitled%20attachment%2006150.pdf.

¹²⁹ Mariner Investment Group is a US-based global alternative asset manager, with US\$5.8 billion in assets under management. It is a majority-owned subsidiary of ORIX USA. See <https://www.marinerinvestment.com/>. In 2014, it set a unit to work with project finance banks to structure their infrastructure loan books and refinance them via synthetic securitizations. This risk transfer is undertaken in order to provide the banks with regulatory capital relief. Mariner worked with AfDB for four years to develop the Room2Run program. One of its investment vehicles is International Infrastructure Finance Company Fund, LP II (IIFC-II), a US\$442-million debt fund that is providing funding for the Room2Run program. Its investors comprise a diverse group of institutional investors, including public and private pension funds. This team managing the IIFC at Mariner recently transferred it to a newly created company, Newmarket Capital. See <https://www.prnewswire.com/news-releases/mariner-investment-group-closes-450-million-in-new-infrastructure-investment-strategy-241259871.html>.

¹³⁰ PRI. "PRI Awards 2019 Case Study: Room2Run," September 10, 2019, available at <https://www.unpri.org/pri-awards-2019-case-study-room2run/4848.article>.

Strategies such as Room2Run will likely be necessary to achieve the scale of sustainable private sector financing needed to reach the objectives laid out in a joint publication of the world's leading MDBs — *From Billions to Trillions: Transforming Development Finance*.¹³¹ Similar transactions with commercial project finance banks have the potential to allow these banks to increase their lending to infrastructure by transferring some of their portfolio credit risk to institutional investors.¹³²

Another effort to mobilize institutional investors by giving them access to a portfolio of MDB-financed projects is the International Finance Corporation's Managed Co-Lending Portfolio Program (MCP) for Infrastructure. Rather than transferring risk of an existing portfolio of projects, the IFC is allowing private investors to participate with it in the financing of new projects. IFC will originate, approve and manage the portfolio of loans. IFC's investment provides a first-loss position, subordinated to the participating institutional investors, improving their risk position equivalent to investment grade.¹³³ Launched in 2016, by the end of 2019, the effort had attracted commitments of US\$7.1 billion from eight major insurance companies and asset managers.¹³⁴

Africa50

One of the key problems potential investors in SSA infrastructure face is the shortage of well-developed projects ready to be financed. Facilities that provide support for project development and that can also help in the financing of these projects through their construction and operations phases can play a catalytic role, increasing the flow of financing from more commercially oriented investors. As noted above, CI1 is attempting to do this for midsize projects. The Africa50 investment platform is designed to play a similar role for larger projects in SSA.

When Africa50 was first proposed by the AfDB in 2012, its stated aim was to catalyze private investment in African infrastructure. It is attempting to do this by focusing on preparation of larger projects, with the objective of attracting co-investment from private investors and institutional investors.

Africa50 got started in 2015 with around US\$700 million in initial capital subscriptions from 20 African states and the African Development Bank. It now has US\$870 million in committed capital. The investor base has grown and currently comprises 28 African countries, the African Development Bank, the Central Bank of West African States (BCEAO) and Bank Al-Maghrib (the central bank of Morocco).¹³⁵ Ninety percent of the financial pledges to Africa50 were earmarked for project financing and the remainder for project development.¹³⁶ Africa50 has a target capitalization of US\$3 billion.

Africa50 focuses on larger-scale infrastructure projects (generally with a project value of more than US\$100 million) with a significant development impact. It is currently giving priority to energy and transport projects, which are estimated to require two-thirds of all infrastructure finance in Africa in the near term.

By bringing project development and project financing together in one institution, Africa50 can provide support at every stage of the project cycle. It assists in project development by providing financing and guarantees, doing feasibility studies, obtaining permits and approval for land acquisition, and negotiating contracts. It also focuses on mobilizing political support. Africa50 assists in project financing by taking a significant minority-equity stake in projects.¹³⁷ It also assists in project financing by helping to access preferential debt from the AfDB and DFIs. And it can invest in and sponsor private sector funds to mobilize

¹³¹ World Bank. *From Billions to Trillions: Transforming Development Finance*, 2015, available at <http://pubdocs.worldbank.org/en/622841485963735448/DC2015-0002-E-FinancingforDevelopment.pdf>.

¹³² This was recently carried out with Société Générale's US\$3.4-billion credit risk transfer operation, "Jupiter." In this transaction, the IIFC II fund took some of the credit risk from Société Générale's core infrastructure lending portfolio of more than 250 loans in over 40 countries. See <https://wholesale.banking.societegenerale.com/en/about/news-press-room/news-details/news/societe-generale-and-mariner-investment-group-complete-34b-impact-investment-risk-transfer-transaction/>.

¹³³ "MCP Infrastructure: An Innovative Structure to Mobilize Institutional Investment in Emerging Market Infrastructure Loans," available at <https://www.ifc.org/wps/wcm/connect/4c9e0868-1232-4212-b4f2-a5c39d177afa/MCPP+Infrastructure+Flier+2018.pdf?MOD=AJPERES&CVID=mcoa4bt>.

¹³⁴ IFC. "Managed Co-Lending Portfolio Program (MCP)," available at https://www.ifc.org/wps/wcm/connect/corp_ext_content/ifc_external_corporate_site/solutions/products+and+services/syndications/mcpp.

¹³⁵ See <https://www.africa50.com/about-us/financials/>.

¹³⁶ Africa50 is headquartered in Casablanca, Morocco. The current CEO is Alain Ebobisse, who previously launched and ran the IFC's US\$150-million project development fund, InfraVentures. See https://www.ifc.org/wps/wcm/connect/Industry_EXT_Content/IFC_External_Corporate_Site/Infrastructure/Priorities/InfraVentures/.

¹³⁷ Africa50's investment in the Azura-Edo project noted previously in this report is an example.

institutional investor capital. Africa50 attempts to balance profitability and development impact, targeting a modest return on its own investment on a portfolio basis to ensure sustainability.

Partnering in projects with Africa50 gives private sector investors a direct channel for engaging with African governments at a high level. This can be particularly important when investing in large projects, which normally require considerable support from governments to be successful.

Africa50's first investment was in December 2016, with Scatec Solar and Norfund, for development of a US\$150-million 100-megawatt solar power plant in Jigawa state, Nigeria.¹³⁸ Its second project, with the same partners, was a US\$450 million complex of six solar plants totaling 400 megawatts in Benban, Egypt.¹⁴⁰ The third project is a 120-megawatt power plant in Senegal operating on fuel oil that can be converted to natural gas when this is available. It has also invested in a €1.2-billion 420-megawatt hydropower plant in Cameroon and is helping with the development of Kigali Innovation City in Rwanda.¹⁴¹

Beginning as a startup in 2015, Africa50 has now attracted a relatively large staff of experienced project development specialists and has a significant pipeline of potential projects in the works. It is also beginning an effort to launch a private sector third-party fund to leverage US\$1 billion from institutional investors.¹⁴²

IFC's Scaling Solar program

South Africa's REIPPPP has provided a model for rapid scaling up of renewable energy production that other

emerging market countries can follow. Sub-Saharan Africa, with high irradiation levels continent-wide, is especially well suited to the use of solar power. However, private solar power projects under development in other countries in Africa have struggled to reach financial close. Many governments have limited capacity to prepare, structure and manage independent power producer (IPP) projects and thus have relied on unsolicited proposals and bilateral negotiations to implement projects. This makes it difficult to attract larger, more experienced developers. The costs of these projects are also high due to their perceived political and credit risks.

In response, IFC launched the Scaling Solar program in 2015, designed to help speed up the development and financing of grid-linked solar IPP projects. The IFC works with governments to create a more standardized, transparent and competitive bid process, and the World Bank facilitates financing of the projects.

Once a government has agreed to work with the Scaling Solar program, they get support from a range of World Bank Group services under a single engagement agreement.¹⁴³ The World Bank undertakes an initial legal, regulatory and technical analysis, prepares the tender process and works with bidders to qualify for participating in the tenders, and helps investors achieve financial close for their projects.¹⁴⁴ The program's objective is to make privately funded grid-connected solar projects operational within two years from start of procurement and at competitive tariffs.¹⁴⁵

So far, agreements have been finalized with Zambia (in July 2015), Senegal (in February 2016), Madagascar (in March 2016), Ethiopia (in 2017), Togo (in July 2019) and Côte d'Ivoire (in November 2019).¹⁴⁶

¹³⁸ Scatec. "New Investors Join Scatec Solar to Develop the 100 MW Nova Scotia Solar Project in Nigeria," December 19, 2016, available at <https://scatecsolar.com/2016/12/19/new-investors-join-scatec-solar-to-develop-the-100-mw-nova-scotia-solar-project-in-nigeria/>.

¹³⁹ Pombo-van Zyl N. "Africa50 Shines With Egyptian Solar Plants," *ESI Africa*, October 30, 2017, available at <https://www.esi-africa.com/news/africa50-shines-egyptian-solar-plants/>.

¹⁴⁰ Johnson G. "Sénélec : Africa50 s'associe à la Senelec pour développer les 120 MW de la centrale de Malicounda," *Agence Ecofin*, September 22, 2017, available at <https://www.agenceecofin.com/centrale/2209-50489-senelec-africa50-s-associe-a-la-senelec-pour-developper-les-120-mw-de-la-centrale-de-malicounda>.

¹⁴¹ Africa50. "Africa50 Acquires 15% of the Equity in Landmark €1.2 Billion Nachtigal Hydropower Plant in Cameroon," December 4, 2018, available at <https://www.africa50.com/news-events/africa50-acquires-15-of-the-equity-in-landmark-eur1-2-billion-nachtigal-hydropower-plant-in-cameroon-255/> and "Rwanda gets Africa50's support for Kigali Innovation City Project," Ecofin Agency, August 29, 2019, available at <https://www.ecofinagency.com/telecom/2908-40439-rwanda-gets-africa50-s-support-for-kigali-innovation-city-project>.

¹⁴² "Join Africa50 to lay the foundations for a more prosperous Africa," African Development Bank urges," *Africanews*, September 12, 2019, available at <https://www.africanews.com/2019/07/11/join-africa50-to-lay-the-foundations-for-a-more-prosperous-africa-african-development-bank-urges/>.

¹⁴³ Scaling Solar is also supported by the U.S. Agency for International Development and the Dutch and Danish governments.

¹⁴⁴ This is different from the REIPPPP program, in which project sponsors develop their projects and arrange their financing before bidding to supply power to the grid.

¹⁴⁵ An excellent source of regularly updated information on the program is available at <https://www.scalingsolar.org/>.

¹⁴⁶ Afghanistan and Uzbekistan have also joined the Scaling Solar program.

Zambia has moved forward quickly under its program. By May 2016, the government completed its first auction, choosing from seven prequalified bids. Neoen SAS, First Solar, Inc., and Enel Green Power were the winners of the initial auction.¹⁴⁷ The lowest bid was a fixed price of 6.02 cents per kilowatt-hour (kWh).¹⁴⁸ This would be the cheapest solar power to date in sub-Saharan Africa and among the lowest tariffs worldwide. (By comparison, diesel-fired power in Zambia can cost upwards of 20 cents per kWh.) Both projects secured 25-year power purchase agreements with the Zambia Electricity Supply Corporation (ZESCO).

Financial close for the first project came in December 2017, with equity provided by Neoen/First Solar and the Industrial Development Corporation of Zambia (IDC). The financing package includes senior loans of up to US\$13.3 million each from IFC, the IFC-Canada Climate Change Program and OPIC, along with an interest rate swap from IFC and a partial risk guarantee from USAID. In June 2018, Enel secured a similar financing package for the second project, adding a loan from the European Investment Bank (EIB). The first project was completed and began delivering power to the grid in February 2019. The second was operational in April 2019. The Government of Zambia agreed to undertake a second mandate with Scaling Solar in February 2017.

In July 2019, Senegal finalized financing for the country's first two Scaling Solar projects, each designed to produce 60 megawatts of power. Project sponsors were ENGIE, Meridiam and the Senegalese Sovereign Wealth Fund for Strategic Investments (FONSIS). Both projects secured 25-year PPAs with Senegal's national power utility, Senelec. The tender attracted significant international investor interest, receiving six bids for each project. Tariffs were set at 3.80 and 3.98 euro cents per kilowatt-hour — one of the lowest prices for electricity in West Africa. Financing for the projects includes senior loans worth €38 million from IFC, the European Investment Bank and Proparco (a French DFI).

In the six SSA countries with Scaling Solar programs in place, it is expected that roughly 500–1,000 megawatts of additional solar power will be produced. The use of standardized documents and processes for these projects will create opportunities for investors to scale across markets, pooling projects and refinancing them through the capital markets. This could eventually create attractive refinancing opportunities for local and international institutional investors.

The Currency Exchange Fund (TCX)

One key issue for investors considering investments in SSA infrastructure is currency risk. This risk comes in various forms — fluctuations in the exchange rate between the currencies of the investor and that of the project, access to foreign currency for projects in SSA, and limitations on the transfer of funds across borders being the primary risks. The latter two can usually be mitigated by the purchase of insurance against currency transfer and convertibility problems. However, protecting against fluctuations in exchange rates can be very difficult for infrastructure projects given the amount of financing typically involved and the durations of the exposures.

Exchange-rate risk for projects that generate revenue in a major international currency (such as the dollar or euro) normally presents little risk for foreign investors and lenders. For example, projects that produce oil or liquefied natural gas (LNG) for export will have long-term purchase agreements denominated in international currencies, usually the same currencies in which they carry debt.

Products for which the revenue is linked to local inflation (through either a formal agreement or normal market forces) generally present less exchange-rate risk, as exchange rates between the currencies of two countries appear to be linked to their inflation rates over the long term.¹⁴⁹

¹⁴⁷ France's Neoen and US-based First Solar jointly bid 6.02 cents per kWh and will build a US\$60-million 45-megawatt solar plant. Enel Green Power, a subsidiary of Italy's largest power utility, Enel, bid 7.84 cents per kWh and will build a US\$40-million 28-megawatt plant. See Lawder D. "World Bank's Zambia Solar Auction Sets African Low Price Benchmark," *Reuters*, June 13, 2016, available at <https://www.reuters.com/article/worldbank-solar-zambia-idUSL1N1951CS>.

¹⁴⁸ This is roughly equivalent to 4.70 cents per kWh if the tariff were subject to partial indexation over the life of the project, as is the case in some other IPP markets. See IFC. "How to Scale Solar Power Generation in Emerging Markets," *EMCompass*, Note 17, September 2016, available at <https://www.ifc.org/wps/wcm/connect/f47de4f2-5288-4550-98df-0c9c1843878c/EMCompass%2BNote%2B17%2BScaling%2BSolar%2BFinal.pdf?MOD=AJPERES&CVID=ixUchel>.

¹⁴⁹ This is based on the principle of relative purchasing power parity. Empirical tests of this principle have shown that it has historically held up well for developed market economies with flexible exchange rates but less well for developing countries. Also, the time required for the exchange rates and inflation rates to correlate is less predictable, and it can take years. In addition, as capital flows between countries have increased and respond to other market signals, such as interest rate and investment opportunities, they have had an increasing impact on exchange-rate adjustments beyond the impact of relative changes in inflation.

For infrastructure projects that generate revenue in local currency but have debt and equity provided in foreign currency, exchange-rate risk is an important consideration. Equity investors are usually less sensitive to this risk, as payments to investors are not contractually set by a fixed schedule or for fixed amounts. And equity investors typically seek investments with potential yields high enough to counteract a significant amount of the exchange-rate risk.¹⁵⁰ But the fixed-schedule of payments associated with debt financing make exchange-rate risk a more pressing issue.

Although exchange-rate hedging and options are commercially available for some currencies, they are only available for exposures of shorter terms than needed for infrastructure debt. They are not available for many emerging market currencies, including most of those in SSA. And they are usually perceived as being excessively expensive.

There have been efforts to develop third-party exchange-rate risk mitigation facilities for cross-border debt financing of infrastructure projects.¹⁵¹ But, currently, only one effort is actively being used, the Currency Exchange Fund (TCX).¹⁵²

TCX's objective is to shield international lenders and their local borrowers in emerging and frontier markets from exchange-rate volatility. By converting hard-currency

funding into a local-currency loan, TCX makes debt financing predictable for the borrower. TCX was founded in 2007 and is funded by 22 multilateral and bilateral DFIs, a few privately managed microfinance investment vehicles, and the Dutch and German governments.¹⁵³ It currently focuses on providing currency solutions for these investors.

TCX acts as a market maker in currencies and maturities not covered by commercial banks or other providers — notably, where there are no offshore hedge markets, no long-term hedging products and, in extreme cases, no hedge markets at all.¹⁵⁴ TCX assumes and manages the open positions it takes by having a diversified portfolio over a large number of currencies worldwide. By pooling the currency risk of multiple institutions that are active globally, it can achieve diversification levels no institution can achieve on its own. This diversification model is backed by a strong capital base provided by the investors.¹⁵⁵ TCX is rated A by Standard & Poor's, indicating that it presents low counterparty risk to its users.¹⁵⁶

TCX's activity has gradually increased over the first 13 years of operations and currently spans more than 70 currencies in sub-Saharan Africa, Eastern Europe and Central Asia, the Middle East and North Africa, Asia, and Latin America.¹⁵⁷ (In 2019, 29% of its net local currency exposure was in SSA.) TCX offers hedges with tenors up to 15 years or even longer.

¹⁵⁰ Also, the exchange-rate hedging instruments currently available are difficult to apply to equity investments. See Sarona Asset Management. *Expanding Institutional Investment Into Emerging Markets via Currency Risk Mitigation*, 2017, available at <https://www.saronafund.com/user-files/uploads/2017/05/FX-risk-mitigation-report-Sarona-April2017.pdf>.

¹⁵¹ The most prominent of these is the exchange-rate liquidity facility. See Winpenny J. *Financing Water for All*, 2003. <https://www.oecd.org/greengrowth/21556665.pdf>, Annex 1.

¹⁵² The Currency Exchange Fund (TCX) is a fund managed by TCX Investment Management Company BV, a private company established in 2007 by a group of DFIs following an initiative by the Netherlands Development Finance Company (FMO). Its office is in Amsterdam.

¹⁵³ See <https://www.tcxfund.com/tcx-investors/>. "Investors in the fund must be professional investors from outside the United States, subject to prior approval of the fund manager and existing shareholders in the TCX and subject to a minimum initial investment of \$5 million. Access to TCX hedging products is granted to TCX investors, their clients, parties introduced by TCX investors, and trading counterparties such as broker-dealers. Counterparties that have not invested in the TCX can hedge their currency risks with equity or debt instruments received from TCX investors directly with the fund after a counterparty onboarding process has been concluded and commercial and International Swaps and Derivatives Association agreements have been signed." See OECD's "Currency Exchange Fund (TCX), TCX Investment Management Company BV," available at <https://www.oecd.org/dac/peer-reviews/Currency-Exchange-Fund.pdf>.

¹⁵⁴ TCX provides long-term fixed cross-currency swaps, inflation-linked cross-currency swaps and interest rate swaps.

¹⁵⁵ TCX's swap portfolio is long emerging-market currencies and short developed-market currencies. Thus, it needs substantial long-term capital to back this position. TCX reported US\$1.32 billion in assets in 2019. See <https://www.tcxfund.com/reports/>.

¹⁵⁶ S&P Global. *The Currency Exchange Fund N.V. Affirmed at 'A/A-1' on Criteria Change; Outlook Stable; Off UCO*, 2020, available at <https://www.tcxfund.com/wp-content/uploads/2020/04/200401-SP-report-2020.pdf>. S&P views TCX's standalone credit profile as BBB but gives it an additional three-notch upgrade to reflect the support it has from its DFI and government shareholders.

¹⁵⁷ Unlike market hedge providers (usually banks) that ultimately place the risks back into the local capital markets, TCX's unique value proposition is its ability to retain, on its own balance sheet, the currency risks that arise from the hedges it provides to market participants. In frontier markets, the local capital market's ability to absorb these risks is limited and thus market hedging is usually not possible. TCX, in contrast, does not need a functioning local capital market. Its risk model is based on the portfolio-diversification effect of spreading and absorbing currency risks across all regions. On average, the higher interest rates prevailing in frontier markets more than compensate for the devaluing trend of these currencies, which allows TCX to be modestly profitable over the longer term. See *TCX Annual Report 2019*, p. 19, available at <https://www.tcxfund.com/wp-content/uploads/2020/05/TCX-2019-Annual-Report-public.pdf>.

In 2019, TCX hit a record US\$1.253 billion in long FX coverage. Although the fund is not primarily a profit-seeking entity, it has exhibited its commercial viability by earning net profits of US\$189.9 million over its first 13 years of operation.¹⁵⁸

The bulk of TCX exchange-rate protection efforts are currently devoted to microfinance and SME financing. However, its infrastructure business has been growing over time as its long-term hedging capabilities have increased. DFIs appear to be especially sensitive to the problems that can arise — both at the project level and for the national economy — when infrastructure projects that have only local-currency revenue are financed in dollars or euros. Thus, DFIs are naturally major proponents for finding ways to end such currency mismatches.¹⁵⁹ Project sponsors appear to be less concerned. This may be attributable to their focus on the higher interest rates for local-currency debt and a failure to recognize that the long-term cost of foreign debt can often turn out to be much higher. It may also be due to a misconception that borrowing in foreign currencies is required to pay for foreign equipment and services.¹⁶⁰ TCX's expansion into infrastructure has so far been with sectors such as distributed energy services companies (DESCOs) that operate at the intersection of the microfinance and renewable energy markets. In 2019, 15% of TCX's portfolio was for SE4ALL projects, which help finance mini-grids and home solar projects.¹⁶¹ Only 6% was for other infrastructure.¹⁶²

Mismatches between the currency of a project's revenues and its debt creates significant credit risk that neither lenders nor borrowers can safely ignore. Since most infrastructure projects in SSA generate only local-currency revenue, this has been a major barrier to increased foreign financing of these projects by institutional investors that could otherwise provide the long-term debt such projects require. The approach taken by TCX for mitigating

exchange rate risk — that is, pooling the currency risk of multiple institutions that are globally active — will hopefully be expanded and become increasingly available to the private sector.

Mozambique Liquefied Natural Gas Project

Mozambique does not produce any crude oil or have any refining capacity, and it relies on imports to satisfy all its oil product demand. Huge coalfields are located in the northwestern Tete Province, but efforts to develop the necessary transport system to get coal to the coast for export have repeatedly failed, and the outlook for their future development is dim. However, in 2010, natural gas was discovered in the deepwater Rovuma Basin, which lies off the northern coast of the country. These reserves could allow Mozambique to become a significant liquefied natural gas (LNG) exporter. Current estimates are that Mozambique holds 100 trillion cubic feet (Tcf) of proven natural gas reserves. This makes it the third-largest holder of proven natural gas reserves in Africa after Nigeria and Algeria.

It is now generally recognized that Mozambique's ambitions for economic and social development depend in large measure on its ability to develop its large natural gas resources. In addition to providing valuable export revenue, its abundant gas resources could be used to generate electricity and act as a catalyst for domestic industrial development. Large industrial consumers of gas could act as anchors for smaller industries looking to increase their use of gas. The aluminum industry could be one such anchor consumer. The success of a domestic aluminum export business will depend heavily on the industry's ability to secure affordable gas feedstock.¹⁶³

¹⁵⁸ TCX Annual Report 2019, available at <https://www.tcxfund.com/wp-content/uploads/2020/05/TCX-2019-Annual-Report-public.pdf> and TCX Annual Report 2009, available at <https://www.tcxfund.com/wp-content/uploads/2017/10/final-2009.pdf>.

¹⁵⁹ TXF recorded a total volume of \$16.8 billion in infrastructure financing from DFIs in Africa in 2018, with 75% of that figure denominated in dollar or euro funding. However, development banks are now increasing their focus on local currency financing to alleviate borrowers' foreign exchange risks, particularly following the end of the commodity boom. See Crear R. "Bright Ideas: DFIs Up Local Currency Lending," February 13, 2019, available at <https://www.linkedin.com/pulse/bright-ideas-dfis-up-local-currency-lending-ross-crear/>.

¹⁶⁰ TCX. "Infrastructure Finance or: Why Hard-Currency Infrastructure Funding Is So Last Century," available at <https://www.tcxfund.com/infrastructure/>.

¹⁶¹ SEforALL. *SEforALL 3-Year Business Plan*, 2020, available at <https://www.seforall.org/system/files/2020-08/SEforALL-Business-Plan-21-23.pdf>.

¹⁶² Infrastructure transactions supported by TCX hedges include a nine-year, US\$35-million equivalent Georgian lari loan to the Georgian water utility, a nine-year, US\$50-million equivalent peso loan for an Argentinian public transportation project, an eight-year, US\$20-million equivalent loan for a Nigerian university project and more than US\$100 million of long-term local-currency loans to power utilities in Uruguay, Costa Rica and Jamaica. See <https://www.tcxfund.com/infrastructure/>.

¹⁶³ IEA. *Africa Energy Outlook 2019 — World Energy Outlook Special Report — Overview: Mozambique*, available at https://iea.blob.core.windows.net/assets/1d996108-18cc-41d7-9da3-55496cec6310/AEO2019_MOZAMBIQUE.pdf.

The first major effort to recover, liquidate and export natural gas from the Rovuma Basin, the Mozambique Liquefied Natural Gas Project, is now underway, led by French firm Total SA. Construction on the project started in August 2019, and the first deliveries of LNG are forecast to begin in 2024. The project will tap an estimated 65 trillion cubic feet of recoverable natural gas. The initial plans are for two production trains with a capacity to export up to 43 million tons per annum.¹⁶⁴ The US\$23-billion project will ship LNG to markets around the world. This will be the biggest private investment in Africa so far.¹⁶⁵

Total SA is currently in the process of finalizing the first US\$15 billion in financing needed for its development. This will come from covered loans from eight export credit agencies (ECAs) and 19 commercial-bank facilities and a loan from the African Development Bank.¹⁶⁶

This and other efforts to develop Mozambique's gas resources are likely to create opportunities for institutional investors from around the world to participate in the financing. The scale of financial requirements will likely exceed the capacity of the banking sector alone, thus stimulating efforts to bring in funding from other sources. The importance of these resources to Mozambique and countries importing LNG will likely encourage the provision of various forms of multilateral and sovereign risk mitigation to reduce the significant political risks involved. And the use of long-term, hard-currency offtake contracts from creditworthy offtakes will minimize exchange-rate risks.

¹⁶⁴ See <https://www.mzlng.total.com/about-mozambique-liquefied-natural-gas-project>.

¹⁶⁵ Burkhardt P and Hill M. "Africa's Biggest Private Investment Nears \$15 Billion Finance," *Bloomberg Quint*, July 1, 2020, available at <https://www.bloombergquint.com/business/total-s-mozambique-lng-project-finalizing-15-billion-financing>.

¹⁶⁶ Standard Bank is the mandated lead arranger and bookrunner as well as the covered loan facility agent and largest lender to the Export Credit Insurance Corporation of South Africa (ECIC), which is providing commercial and political risk cover for South African firms involved in the project. The bank is also lending US\$485 million to the project. See Creamer T. "Standard Bank Signs \$485m Financing Deal for Mega Mozambique Gas Project," *Mining Weekly*, July 17, 2020, available at <https://www.miningweekly.com/article/standard-bank-signs-485m-financing-deal-for-mega-mozambique-gas-project-2020-07-17#:~:text=South%20African%20banking%20group%20Standard,led%20consortium%20in%20northern%20Mozambique>.

7. Investing for impact in African infrastructure

By Mercer

Impact investing refers to investments made with the intention of generating positive and measurable social and environmental impact alongside a financial return.¹⁶⁷ It is one of several responsible investing approaches, along with ESG integration, active ownership, socially responsible investing (screening) and sustainability-themed investing, among others.¹⁶⁸

Although impact investing could fall under the broader category of sustainability-themed investing (allocating capital to investments addressing sustainability challenges, particularly those related to the environment and society), what clearly defines it as a distinct, responsible investing approach are its core characteristics. These include:

- **Additionality:** Impact would not occur if the investment did not take place.
- **Intentionality:** Investments are made with the intention of generating a social or environmental impact; that is, to solve problems and address opportunities.
- **Measurability:** Investors are able to measure and report on social or environmental impact data.
- **Scale:** Impact is scalable.
- **Alignment:** Investments are aligned with values and/or mission.
- **Evidence-based investment design:** Evidence and impact data are used to drive intelligent investment design that will contribute social and environmental benefits.

- **Impact management:** Investors use feedback loops and communicate performance information to support others in the investment chain to manage toward impact.
- **Contribution to growth:** Investors use shared industry terms, conventions and indicators and share learnings for the benefit of others.

There is a growing focus on impact investing as an investment strategy. This is evidenced by the size of the impact investing market, which has grown from just US\$60 billion in 2014¹⁶⁹ to US\$715 billion in 2019. Of this US\$715 billion, 59% is directed to emerging markets, with 21% of this directed to sub-Saharan Africa.¹⁷⁰

Motivations for making impact investments

Investors are increasingly realizing that financial returns can be generated by allocating capital to businesses that are addressing many of the world's sustainability challenges. These include areas such as sustainable agriculture, renewable energy, conservation, microfinance, and affordable and accessible basic services, such as housing, healthcare and education¹⁷¹ — themes that are closely linked to the UN Sustainable Development Goals (SDGs).

The SDGs, adopted in 2015, are intended as a blueprint to achieving a better and more sustainable future for all by the 2030 expiration date.

¹⁶⁹ GIIN and JP Morgan. *Eyes on the Horizon: The Impact Investor Survey*, 2015, available at <https://thegiin.org/assets/documents/pub/2015.04%20Eyes%20on%20the%20Horizon.pdf>.

¹⁷⁰ The Global Impact Investing Network. *Annual Impact Investor Survey*, 2020, available at <https://thegiin.org/assets/GIIN%20Annual%20Impact%20Investor%20Survey%202020.pdf>.

¹⁷¹ Morgan Stanley Institute for Sustainable Investing. *Sustainable Signals: Asset Owners See Sustainability as Core to the Future of Investing*, 2020, available at https://www.morganstanley.com/content/dam/msdotcom/sustainability/20-05-22_3094389%20Sustainable%20Signals%20Asset%20Owners_FINAL.pdf.

Figure 51. UN Sustainable Development Goals

SUSTAINABLE DEVELOPMENT GOALS

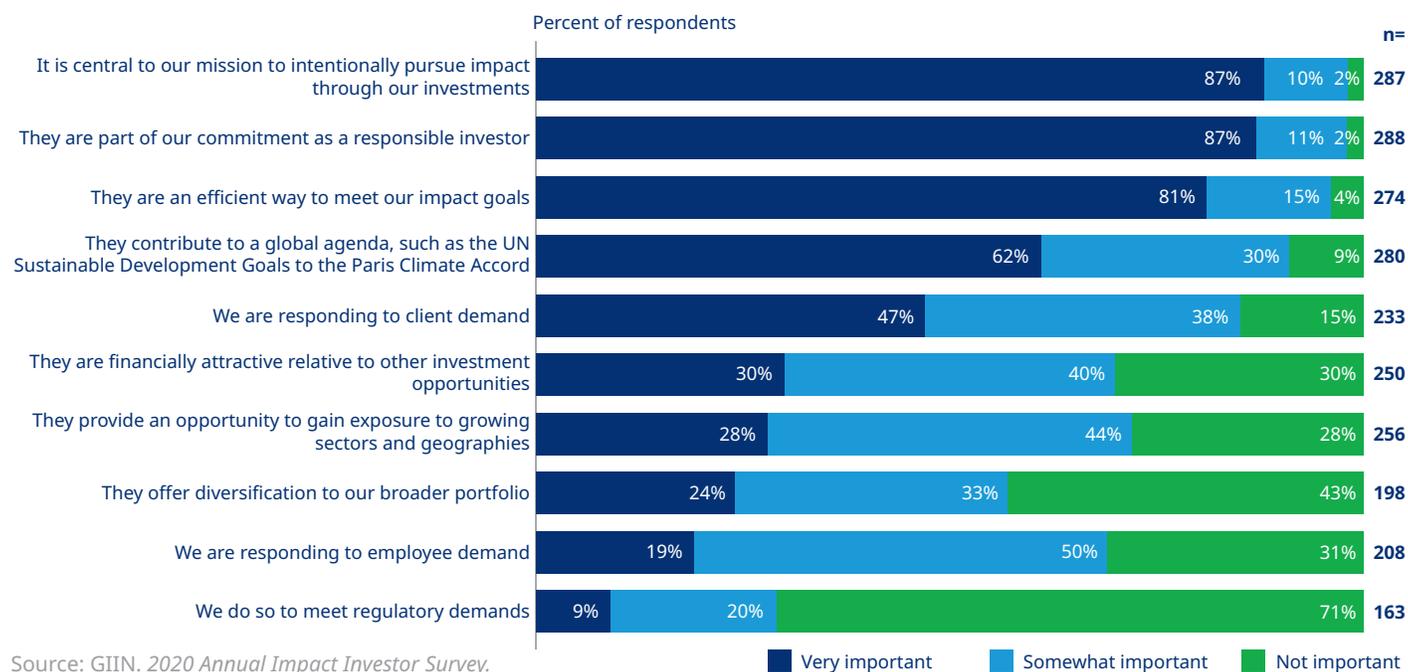


For impact investors, the most common motivation for impact investing is aligning with their mission to achieve impact as part of their commitment to being a responsible investor. Contributing to a global agenda such as the UN SDGs is another key motivation, along with responding to growing client demand for impact investments.¹⁷²

¹⁷² The Global Impact Investing Network. *Annual Impact Investor Survey, 2020*, available at <https://thegiin.org/assets/GIIN%20Annual%20Impact%20Investor%20Survey%202020.pdf>.

Figure 52. Motivations for making impact investments

Number of respondents shown beside each bar; some respondents chose “not sure/not applicable” and are not included.



Asset owners are starting to share this view, with an increasing number embracing the practice of making investments in companies or funds that aim to achieve market-rate financial returns while considering positive social and/or environmental impact. Adoption rates for sustainable investing have increased to 80% in 2019, driven by both constituent demand (81%) and financial return potential (78%).

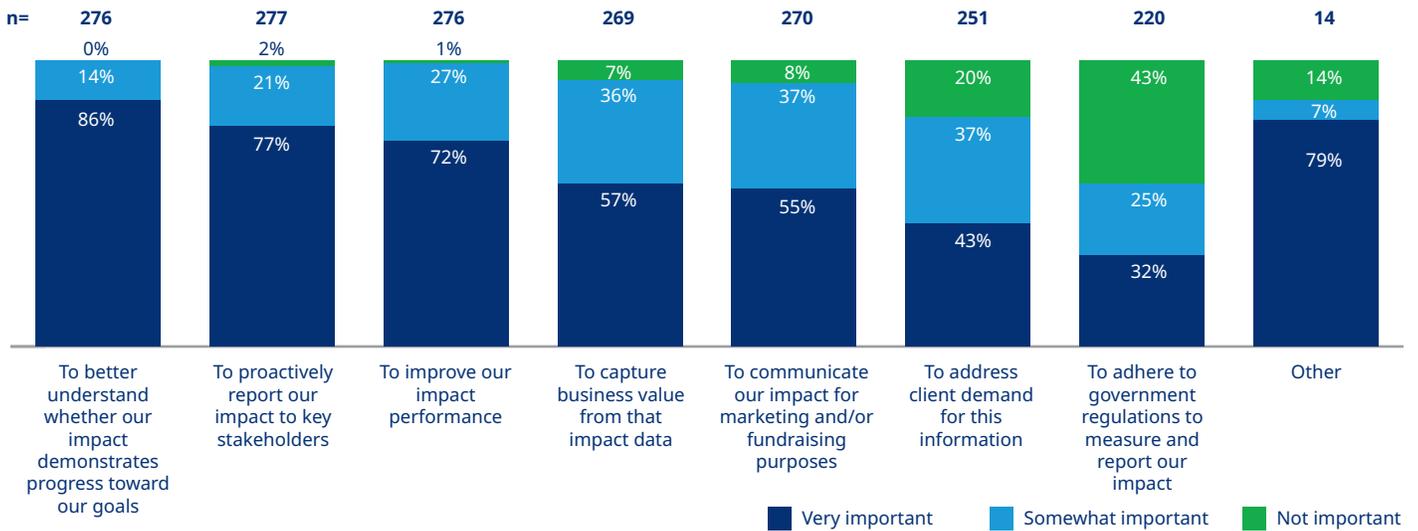
Evidencing impact

For asset owners, evidencing the social or environmental impact of their investments is increasingly important, with 86% looking to investment managers to assist with portfolio reporting on sustainability and ESG performance.

Impact investors recognize this importance, with key motivations for evidencing impact relating to better understanding whether their impact demonstrates progress toward their impact goals and proactively reporting on their impact to key stakeholders.

Figure 53. Reasons for measuring impact

Number of respondents shown above each answer option. Those respondents who chose “not sure/not applicable” have not been included.



Note: “Other” motivations include to adhere to certification schemes, to demonstrate the value of a dual mission, to gather data on impact progress, and to promote learning and awareness.

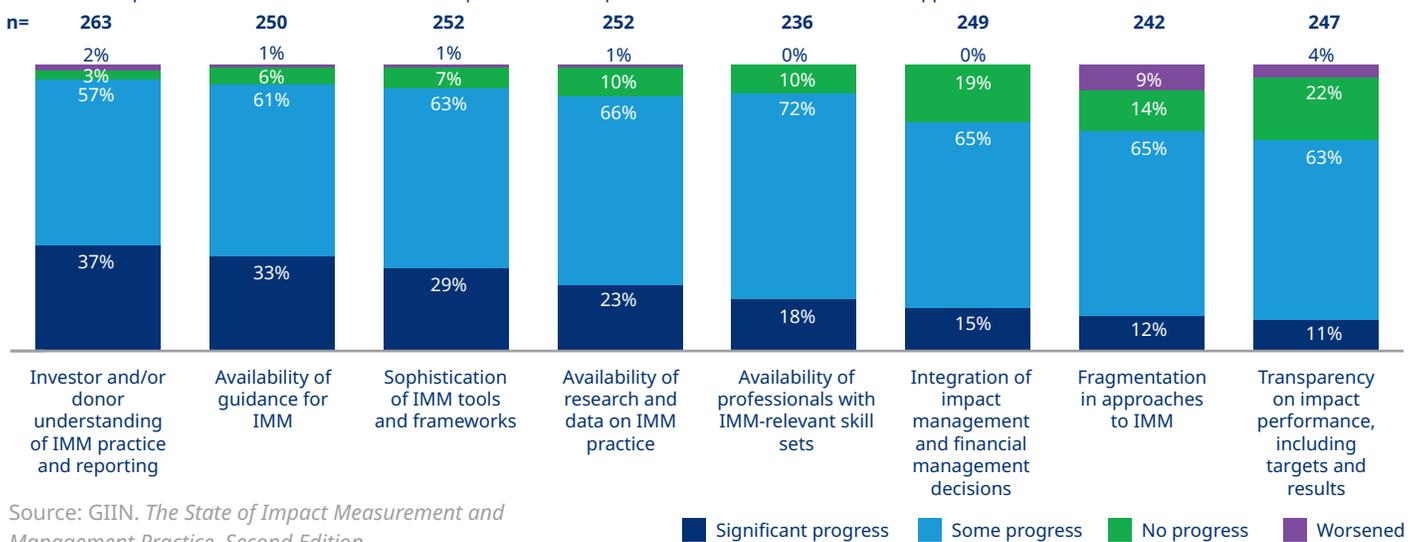
Source: GIIN. *The State of Impact Measurement and Management Practice, Second Edition.*

Impact measurement and management (IMM) practices have shown considerable progress over the past three years, most notably in relation to investor and/or donor understanding of IMM practices and reporting, the availability of guidance for IMM, and the sophistication of IMM tools and frameworks.

Although this is positive for the impact investing community, we note that challenges around establishing standardized approaches to IMM remain, with greater fragmentation in IMM approaches observed.

Figure 54. Progress in IMM practice over the last three years

Number of respondents shown above each answer option. Those respondents who chose “not sure/not applicable” have not been included.



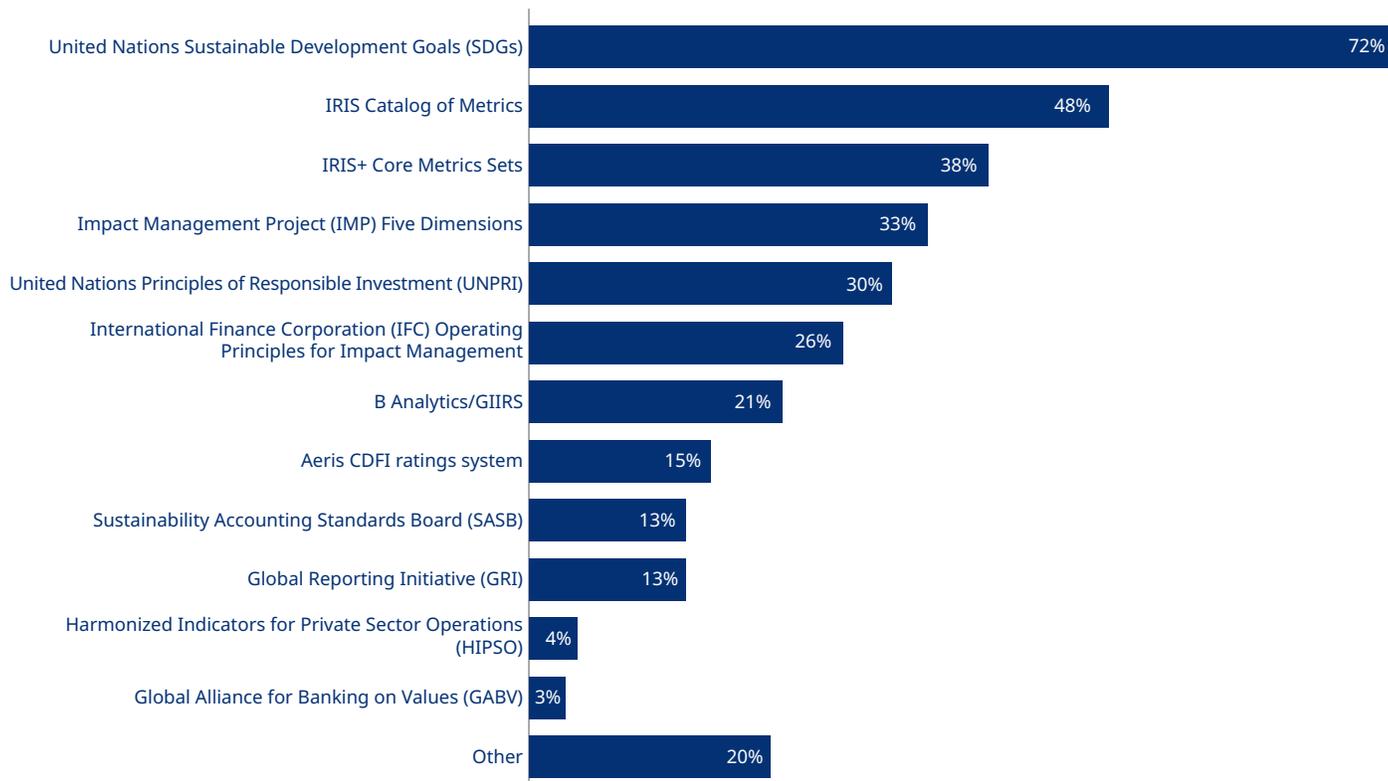
Source: GIIN. *The State of Impact Measurement and Management Practice, Second Edition.*

Despite this fragmentation, several frameworks have received more uptake than others.

Since the development of the UN SDGs in 2015, there has been strong growth in the application of this framework in measuring impact. Although the SDGs are targeted at policymakers, many asset owners and managers have adopted these goals as a framework for categorizing the world’s sustainability challenges, and they align their positive impact investments to the themes, goals and/or targets. In fact, the use of the UN SDGs has almost doubled since 2017 as these global goals have gained traction among investors and other stakeholders.

Figure 55. Tools and frameworks used in IMM

n = 257; optional question. Respondents could select multiple tools and frameworks.



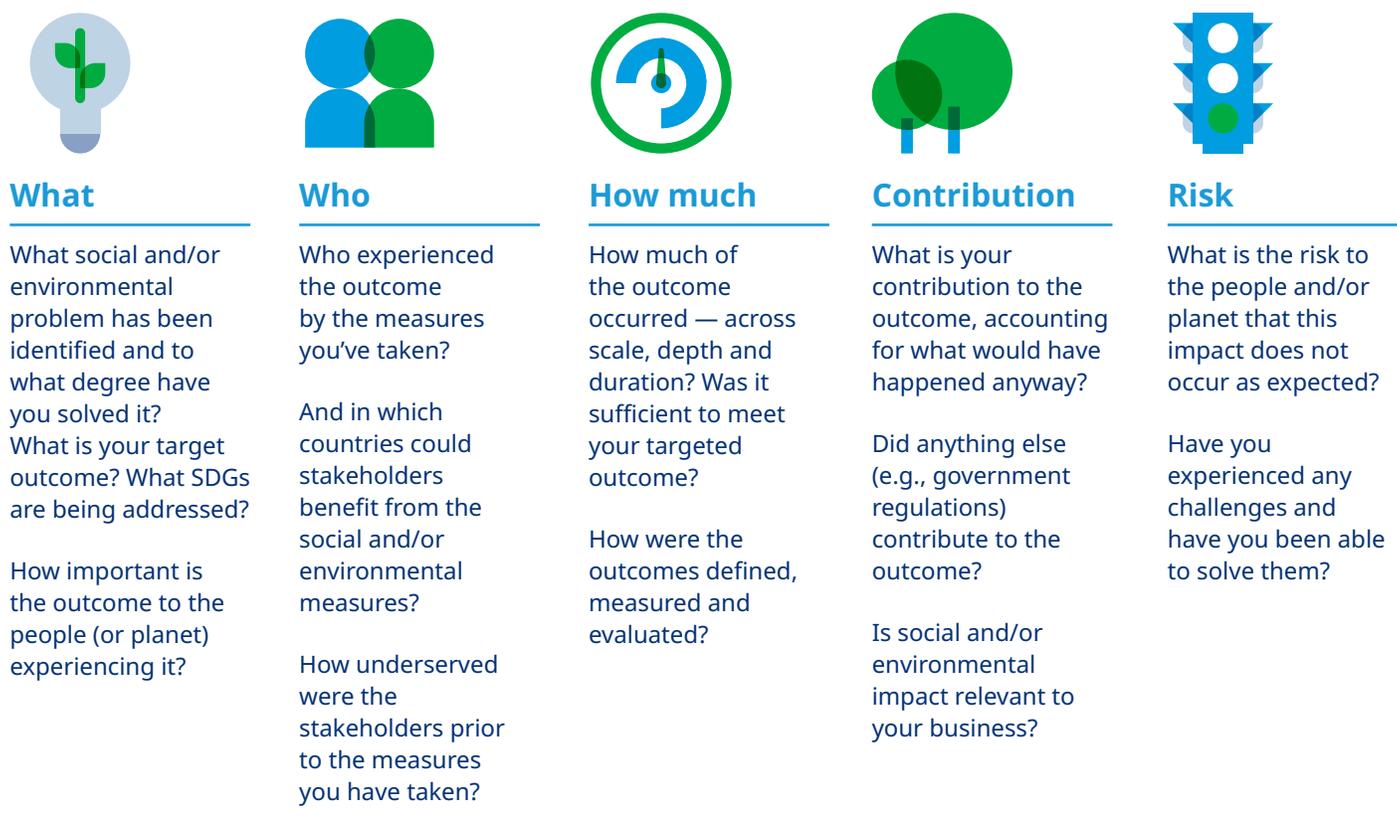
Note: “Other” includes SPTF/CERISE SP14, GOGLA and CDFI certification systems.

Source: GIIN. 2020 Annual Impact Investor Survey.

Another framework that has attracted interest from the impact investing community is the **Impact Management Project (IMP) Five Dimensions framework**, an initiative with input from more than 2,000 impact management professionals globally that aims to build consensus across the industry on how we talk about, manage and measure impact.

The foundational framework includes the five dimensions of impact, which outline **what** problem is being solved, **who** is impacted, **how much** impact is being created, the **contribution** toward impact of the investment intervention and the impact **risk**.

Figure 56. Impact Management Project Five Dimensions framework



Impact investing trends in Africa

Assessing the impact investing market's size and direction of travel in sub-Saharan Africa can be a challenge due to a lack of uniform data across the region and between countries. However, sources indicate that the current impact market is not only substantial, but it also appears set for further growth.

The Bertha Center for Social Innovation and Entrepreneurship at the University of Cape Town's Graduate School of Business publishes an annual *African Investing for Impact Barometer*, with the fifth edition, published in 2020, reflecting data through July 31, 2017.¹⁷⁵ The 2020 *Barometer* evaluated the proportion of assets managed by professional fund managers for a fee across East, West and Southern Africa; in other words, the study is focused on African investment managers domiciled on the continent rather than international managers investing into Africa.

The *Barometer* tallied up US\$29.9 billion in strategies classified as impact investments across East, West and Southern African regions, within a total of approximately US\$874 billion identified. Out of that total, US\$17.6 billion, or 59% of impact related assets, were located in Southern Africa.¹⁷⁶

In terms of the growth prospects for impact investing in Africa, the 2020 *GIIN Impact Investor Survey* found that 52% of respondents plan to increase their allocations to sub-Saharan Africa within the next five years, with a further 33% planning to maintain their allocations to the continent. Ten percent of respondents indicated they would "begin to assess" an allocation to SSA, and only 5% plan to decrease their allocations.¹⁷⁷ SSA was tied with Southeast Asia as the global geographic region with the highest proportion of respondents indicating plans to increase their allocations.

A further intriguing indicator of impact growth in Africa comes from the African Private Equity and Venture Capital Association (AVCA) *2021 African Private Equity Industry Survey*, which found that, of the 34 LPs surveyed, 65% indicated plans to increase their allocations to African private equity (PE) over the next three years, and a further 21% plan to maintain their allocations. When asked to identify the top drivers for increasing or maintaining their African PE allocations, 59% of LPs cited impact as the leading consideration behind their allocation plans, with another 56% citing an investment mandate as the key motivator.¹⁷⁸

Taken together, these various data points and trends appear to indicate that impact investors see Africa as a top destination for investment, while more traditional private equity investors also find the African impact story compelling. It would appear that growth trends should continue on the continent for the foreseeable future.

¹⁷⁵ Dhlamini X, Giamporcaro S and Makhabane T. *The African Investing for Impact Barometer 2017, 5th Edition*, Cape Town: Bertha Centre, University of Cape Town Graduate School of Business (2020), available at <https://gsbberthacentre.uct.ac.za/researching/the-african-investing-for-impact-barometer-edition-5-2017/>.

¹⁷⁶ Ibid.

¹⁷⁷ GIIN (2020), p. 31.

¹⁷⁸ African Private Equity and Venture Capital Association. *2021 African Private Equity Industry Survey*, pp. 5–6, available at <https://www.avca-africa.org/research-publications/data-reports/african-private-equity-industry-survey-2021/>.

8. Asset owner opportunities and perspectives

By Mercer

International asset owners reading this report may wish to gain a better understanding of their available options for investing in African infrastructure. Our 2018 report addressed a number of potential pathways for asset owners to gain exposure to African infrastructure, including investing with specialist asset managers or making direct investments in projects.

A key recommendation of the 2018 report was for interested parties from the public sector, DFIs, or nongovernmental or affiliated organizations to organize “club deals” of investors into syndicated investment structures, wherein one investor would lead the underwriting of a fund or co-investment and others in the group, typically smaller investors, would then follow with voluntary investments. Such a structure would be intended to reduce the costs, which would be shared *pari passu* among all investors and simplify due diligence across the investor group.

A second recommendation was for international investors to seek to partner with local institutional investors in a given country or region to co-invest into a single project or invest in a fund. Practitioners noted then, and reiterated in interviews in support of this report, that partnerships between local and international investors can offer international institutions substantial political risk mitigation. This is often over and above what could be achieved through a political risk insurance product, as the interests of local institutions and governments are typically well aligned.

In the intervening three years since the 2018 report’s publication, there have been some welcome and

favorable developments that address both of these recommendations. These developments may offer new avenues for international investors to gain exposure to productive and impactful African infrastructure investments and achieve strong alignment with local institutions. A brief overview of some promising initiatives follows.

Kenya Pension Funds Investment Consortium (KEPFIC)

Launched in October 2020 but in development for a number of years, KEPFIC is intended to enable pension plans in Kenya to jointly make long-term infrastructure and private market investments in the region. Supported by USAID’s Kenya Investment Mechanism, Power Africa, the World Bank Group, and MiDA Advisors (in partnership with USAID INVEST), the consortium is also intended to facilitate beneficial investment collaboration between Kenyan, American and other institutional investors.¹⁷⁹

Kenya’s infrastructure funding gap has been identified as US\$1.8 billion on an annual basis,¹⁸⁰ a sum that cannot be met with public financing alone. KEPFIC estimates that more than US\$1 billion of private capital can now be invested by Kenyan pension funds into infrastructure, primarily as a result of recent reforms undertaken by the Retirement Benefits Authority (RBA).¹⁸¹ Those reforms began in 2016 when the RBA allowed pensions to invest up to 10% of their total capital into private equity and venture capital and continued as infrastructure holdings of up to 10% also were permitted.

¹⁷⁹ U.S. Embassy in Kenya. “U.S. Announces New Kenyan Pension Consortium to Mobilize Investment in Large Scale Infrastructure Projects,” October 21, 2020, available at <https://ke.usembassy.gov/united-states-announces-new-kenyan-pension-consortium-to-mobilize-investment-in-large-scale-infrastructure-projects/>.

¹⁸⁰ Ibid.

¹⁸¹ KEPFIC’s “About Us” page, 2021, available at <https://kepfic.co.ke/about-us/>.

Sundeep Raichura, Group Chief Executive Officer of Zamara Group, the largest pension administrator in Kenya, and Board Chairperson of KEPFIC, noted in an interview with Mercer that, although pensions have been allowed to make such private market investments for many years, their allocations thus far have been notably low.¹⁸² RBA data for year-end 2020 bear this observation out, as Kenyan pensions had invested only 0.12% of total assets in private equity, far below the 10% maximum allowed, and there are no data available yet for infrastructure-related investments by covered pensions.¹⁸³

Mr. Raichura observed that there may be many reasons behind such low allocations to private market assets. These may include a lack of comfort with these newly investable assets among pension investors and fiduciaries, which are likely to adhere to a highly deliberative and careful process for selecting initial projects and partners for investment. A secondary factor in low allocations to infrastructure may be related to simple math: Given the capital-intensive nature of infrastructure projects, a single pension making an allocation could easily exceed the 10% regulatory threshold unless the ticket size is at a manageable level. Due diligence and technical analysis costs can also be prohibiting factors for local pensions.¹⁸⁴

KEPFIC is organized to address these key issues, primarily through a “strength-in-numbers” approach intended to share costs and risks across a number of Kenyan pensions as well as with international asset owners, connections that MiDA Advisors has been facilitating. Kenyan pensions require that regional investments be made in Kenyan shillings, whereas overseas investors typically prefer transactions to be made in hard currencies; thus, each investor group would have to invest in different vehicles within the same fund.

One model proposed by MiDA Advisors is having a selected asset manager work in a syndicated structure with both local and international investors, similar to a co-investment approach. In this model, local pensions would pool their assets into a collective investment scheme, allowing them to meet investment minimum thresholds for gaining

access to the fund and enabling them to invest alongside international investors.

Although such an arrangement could prove administratively burdensome for the asset manager, over the long term, facilitating the deepening of capital markets and engaging and educating local pensions could provide a strong source of potential growth.

Asset Owners’ Forum — South Africa

Currently being incubated under the auspices of Batseta, the Council of Retirement Funds for South Africa, and set for a formal launch in autumn 2021, the Asset Owners’ Forum is a nascent consortium of South African pension funds, investment consultancies and other financial institutions, supported by MiDA Advisors and the World Bank Group. The Forum is premised on accelerating real assets investments by asset owners in a collaborative manner, which can facilitate the reduction of due diligence and legal costs and potentially offer greater negotiating power with asset managers through pooling assets.

As in Kenya, recent regulatory reforms have been proposed to support greater infrastructure and private markets assets by pension funds in South Africa — specifically, amendments to Regulation 28 of the Pension Funds Act, drafted in February 2021 and open for public comments through the end of March.¹⁸⁵ The legislation proposes that pensions may have up to a 45% total exposure to domestic infrastructure across asset classes (for example, infrastructure debt, infrastructure equity and private equity infrastructure) and an additional 10% limit on exposure to African infrastructure outside SA. There are specific asset-class-level limits proposed on exposures to any single issuer or entity as well as across issuers and entities.

In addition, the proposed regulations set out new limits around alternative asset class investments for pensions, as along with a “delinking” of such investments, as current regulations limit “hedge funds, private equity funds, and other assets not referred to in this schedule” to a collective 15%. In particular, private equity is limited to 10% of a

¹⁸² Interview with Mr. Sundeep Raichura, March 16, 2021.

¹⁸³ Retirement Benefits Authority. Industry Brief — December 2020, p. 2, 2021, available at <https://www.rba.go.ke/download/industry-brief-december-2020/>.

¹⁸⁴ Raichura interview.

¹⁸⁵ South African Government. “Treasury on Draft Amendments to Pension Funds Act Regulations to Encourage Investment in Infrastructure,” 2021, available at <https://www.gov.za/speeches/treasury-draft-amendments-pension-funds-act-regulations-encourage-investment-infrastructure#>.

pension's total holdings, hedge funds are limited to 10% and "other assets" are limited to 2.5%.¹⁸⁶ Overall, the proposed regulations, if adopted, would allow for much greater diversification of South African pension fund portfolios and thus potentially greater protection of retirement savers' assets.

The Forum is geared toward helping pension funds take advantage of newly available investment opportunities within infrastructure and broader private markets instruments. It is also intended to provide a venue for potential collaboration with and investment alongside international asset owners.

Investor perspectives

As part of the research for this report, Mercer conducted interviews with leading African investors and stakeholders to gain their perspectives on the opportunities and risks facing prospective and current infrastructure and private markets investors on the continent. Specifically, we interviewed the following experts in addition to Mr. Sundeep Raichura of Zamara Group in March 2021:

- Mr. Joseph Boateng, Chief Investment Officer, Casey Family Programs (Casey), with total assets of US\$2.4 billion as of 12/31/2019¹⁸⁷
- Mr. Ndabe Mkhize, Chief Investment Officer, Eskom Pension and Provident Fund (EPPF), with total assets of R166.4 billion, or US\$1.54 billion, as of May 31, 2021¹⁸⁸

Both Mr. Boateng and Mr. Mkhize are seasoned investors across private markets in Africa as well as other emerging and frontier markets, and they candidly shared their perspectives on the risks, opportunities and unique aspects of investing in Africa. Mr. Raichura, as Group CEO of the largest pension administrator in Kenya, added comments from his perspective in supporting asset owners in achieving their investment goals. Some key themes emerged from these interviews, discussed in further detail below.

- **Infrastructure allocation considerations:** Mr. Mkhize noted that EPPF does not view infrastructure as an asset class in its own right and that infrastructure exposure

could come in the form of equity or debt positions as long as the investment can clear the CPI+4.5% hurdle rate set by EPPF. EPPF has an R8-billion (approximately US\$74 million) allocation to infrastructure across domestic markets, Africa excluding South Africa, and international markets, and the passage of Regulation 28 now allows EPPF to "invest with conviction" in domestic infrastructure markets according to Mr. Mkhize. EPPF invests across the infrastructure investment life cycle, with a maximum of 10% of the total infrastructure allocation allowed to be dedicated toward development projects. Post-construction/operational project investments must have long-dated cash flows and visible returns for EPPF to invest.¹⁸⁹

Mr. Boateng remarked that Casey allocates between 5% and 10% of the portfolio to infrastructure equity, although infrastructure debt could be placed within the broader fixed income bucket, allowing for greater total infrastructure exposure than the allocation limits indicate. Casey invests across the infrastructure value chain and has expanded its allocation to project development, as it perceives a strong risk-adjusted return profile in such investments. Casey's investment horizon is perpetual, in alignment with the foundation's horizon. However, it typically sees 10-year infrastructure investment life cycles.¹⁹⁰

- **Africa compared to other regions:** Mr. Boateng noted a number of real assets development projects that Casey invested in across China, Nigeria and Mozambique and said taking such development-focused positions was the only avenue for the foundation to gain access to the private market funds in question. Development-focused projects then allow Casey the opportunity to take on debt positions in projects that provide a long and protracted j-curve, which Mr. Boateng finds attractive. As the world emerges, at varying rates, from the global pandemic, Casey is seeking to invest in COVID-recovery-focused projects in Asia and Africa but to a lesser degree in Latin America. Mr. Boateng noted that the foundation had poor experiences in Latam countries outside Brazil and Argentina, which makes the region less attractive on the whole, particularly compared to Africa- and Asia-focused opportunities.

¹⁸⁸ Eskom Pension and Provident Fund. "Fund Performance — May 31, 2021," available at https://www.eppf.co.za/uploads/eppf_uploads/Fund_Factsheet_May_2021.pdf.

¹⁸⁹ Interview with Mr. Ndabe Mkhize, March 30, 2021.

¹⁹⁰ Interview with Mr. Joseph Boateng, March 5, 2021.

Mr. Mkhize focused the majority of his comments on the evolving real assets opportunity set in Africa and South Africa in particular, noting that EPPF has made a recent international investment related to hospitals in Canada. He also discussed the lessons learned during COVID about investing not only for efficiency, but also for resilience.

- **Opportunities for international investors:** All three investors noted that there is a broad willingness among policymakers and regulators in certain African countries to engage their overseas counterparts to help develop more supportive investment structures and vehicles to facilitate private investments in infrastructure. Mr. Raichura noted that Kenyan government officials had engaged an infrastructure expert from Colombia in a program facilitated by the World Bank Group. Additionally, the officials evaluated PPP programs established in Chile for best practices that might be adapted.¹⁹¹

Mr. Boateng also spoke favorably of the Colombian model for PPPs based on his experience investing in that country. In this model, the Colombian government invests alongside private capital investors as an LP without any special rights, which Mr. Boateng noted represents true “skin in the game” on the part of government. In terms of specific investment sectors that he believes will grow in coming years, Mr. Boateng stated that value-added and greenfield healthcare, as well as toll roads, are key areas for growth, alongside education- and water-related infrastructure investments.

Mr. Mkhize highlighted the August 2020 launch of a dedicated Infrastructure Fund housed within the Development Bank of Southern Africa (DBSA). The fund is intended to facilitate blended finance transactions and catalyze an additional R1 trillion (approximately US\$9 billion) based on seed funding of R100 billion (approximately US\$900 million) from the South African government.¹⁹² Mr. Mkhize is hopeful that the Infrastructure Fund, when combined with the upcoming launch of the Asset Owners’ Forum, will yield great benefits in advancing infrastructure development in South Africa.

Overall, the interviewees were pleased at the recent progress several African governments have made in learning from others’ successes and putting in place supportive programs, although all acknowledged that more work remains. The asset owner consortiums represented by KEPFIC and the AOF in South Africa provide new venues for international asset owners to seek collaborative and beneficial investment partnerships with local asset owners. The interviewees expect these will yield benefits for all involved.

- **Impact investing:** With respect to impact investing in the African context, Mr. Mkhize reflected on the role the COVID-19 pandemic played in raising awareness of the need for distributed and resilient healthcare facilities in particular. The societal impacts of hospitals operating in greenfield rural developments is immeasurable, Mr. Mkhize noted; however, the revenue profiles of hospitals were sensitive to the pandemic’s impacts, with hospitals that derive most revenues from elective surgeries suffering and those smaller systems also being negatively affected due to a lack of economies of scale. EPPF has a R3-billion allocation to impact investments, in which Mr. Mkhize noted the fund is willing to accept lower returns that still clear the CPI+4.5% hurdle rate compared to traditional investments. EPPF intends to increase the impact allocation by 50% over the course of 2021.

Mr. Boateng shared his perspective that when it comes to impact and sustainability considerations, “doing good is good business.” He believes that if investors do not take into account the social license to operate when considering infrastructure or other real assets investments, the fate of such long-dated assets may be in jeopardy. On working with external managers, Mr. Boateng indicated that he typically seeks to understand how managers are engaging stakeholders in local communities and raised the question of whether a project could be considered true rejuvenation or merely gentrification if stakeholders are not engaged. Overall, Mr. Boateng argued that actions must match the narrative for investments to be truly impactful.

¹⁹¹ Raichura interview.

¹⁹² Development Bank of Southern Africa. “Infrastructure Fund,” 2021, available at <https://www.dbsa.org/solutions/infrastructure-fund>.

9. Conclusion

This report set out to build upon the 2018 document produced by Mercer and MiDA and to make the affirmative case for Africa as an infrastructure and real assets investment destination. Whereas the prior report identified significant challenges and opportunities across key African markets, this report offers a macroeconomic perspective supported by detailed case studies of investment transactions to aid institutional investors in better understanding the nuanced opportunities and risks they might anticipate. We also provide commentary around impact investment opportunities and considerations on the continent and share asset owner perspectives on their experiences and outlooks for the future.

It is important that any prospective international investors clearly understand that Africa is not a monolith; there are 54 countries in the sub-Saharan region, with distinct cultural norms, languages, and customs. This diversity also extends to these countries' relative levels of financial market depth, supportiveness of domestic regulations and engagement of policymakers in helping to facilitate private sector participation in infrastructure. Therefore, as with any due diligence process, we encourage investors to become comfortable with the specific contexts of countries in which they are considering investing. However, it is also important that the perception of risk not become overblown.

We hope this report offers investors greater clarity and perhaps even a measure of inspiration regarding what is possible in African infrastructure and real assets investments. Although predicting the future is frequently a foolish task, the big picture across most African countries appears to indicate that there will be attractive opportunities for investment, and it may be wise for investors to begin gaining familiarity with the continent.

10. Acknowledgements

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Asset owner interviewees

Joseph Boateng, Casey Family Programs

Ndabe Mkhize, Eskom Pension and Provident Fund

Sundeeep Raichura, Zamara Group/KEPFIC

