



London
Stock Exchange Group

LSEG Africa Advisory Group

Report of Recommendations

Developing the green
bond market in Africa



Foreword



Welcome to the launch of a series of report recommendations from London Stock Exchange Group (LSEG). They were conceived nearly three years ago with the founding of our LSEG Africa Advisory Group (LAAG), which was designed to provide a platform for regular and collective dialogue through which to develop stronger relations with senior decision-makers, regulators and business leaders across the continent. I'm honoured to have been LAAG's Chairman for the past year and to have seen at first hand its commitment to provide thought leadership on the direction of policy and activity.

Let me start by offering my personal gratitude to its members, who continue to work (on a pro bono basis) to identify ways in which African capital markets could be expanded and enhanced, with our help and support. The work was carried out in conjunction with academic input from Cambridge Judge Business School and the involvement of many other stakeholders in London and across Africa, so this has been a genuinely collaborative effort with one key objective in mind: to create mutually beneficial situations, in partnership with local market infrastructures, by which to increase global investment flows and create deep and sustainable capital markets for Africa.

I believe we all share that same mission and hope that by sharing these recommendations, we offer not only practical advice and constructive solutions, but can also, ultimately, influence policy through shared engagement – with your help.

Three years ago, LAAG started to look at some of the specific challenges (and opportunities) associated with structural and capacity constraints to growth in African markets. Based on prominence and urgency, five key topics and workstreams were shortlisted, and these now form the basis of these papers. In summary, they address capital raising challenges for SMEs, developing the green bond market for infrastructure projects and developing offshore local currency bond markets, as well as focusing on the importance of country market classification and corporate information dissemination.

We should be clear from the outset that, while no effort has been spared to ensure empirical grounding, our research and conclusions are not intended to be either exhaustive or all-inclusive. In many cases, the most appropriate actionable suggestions and policy recommendations are also not new. But we do see value in pulling them together and presenting them in this usable format.

In conclusion, our intention is that these reports should initiate discussion and of course, LSEG remains ready and able to play its role. We look forward to bringing you on board too and we will appreciate all further interest and feedback.

A handwritten signature in black ink that reads "Suneel Bakhshi".

Suneel Bakhshi
Chairman, International Advisory Groups
London Stock Exchange Group

Our thanks

We extend our thanks to the participating students from the University of Cambridge for their contributions to the research, carried out as part of the Cambridge Judge Business School MBA Students Project, GCP 2018.

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1. Executive summary

Studies suggest that Africa will be more severely affected by climate change than any other continent, given its geographical position and limited capacity to adapt. To prepare for the effects of climate change, Africa faces significant financial requirements over the next few decades.

Meeting these challenges will require the continent to take advantage of a diverse range of 'green' capital raising tools and sources of funding, which are issued in exchange for the delivery of positive environmental measures. This paper focuses on the green bond market, given its relatively advanced development compared with other forms of green financing.

The challenges faced by issuers and investors that are identified in this paper include:

- Lack of clear guidelines on green bond issuance
- Lack of awareness of green bond opportunities, including among issuers
- Lack of pipeline of projects for investment
- Lack of government incentives to support market development.

Based on these challenges, the following recommendations have been suggested:

- Increase green finance awareness to widen market participation
- Introduce clear domestic green bond issuance processes and principles
- Introduce supportive government policies
- Establish a yield curve through sovereign issuances (or through multilateral development banks)
- Use innovative green financing to tap into a wider investor base
- Issue international green bonds.

2. Introduction

With most African countries having ratified the Paris Agreement, the continent is currently facing a double-edged challenge: it must drastically increase its citizens' access to basic power services and simultaneously meet its commitments under the Agreement.



4%

The proportion of global climate finance flows available in 2013 that reached sub-Saharan Africa

To meet these commitments, African countries will need to look at scaling down their exposure to the fossil fuel industry. At the same time, growth will need to be achieved in other sectors to replace the revenues no longer being earned from fossil fuels. Sustainable alternatives to traditional power production will need to be developed, financed and implemented to meet low-carbon energy demands. Governments will need to make public policy shifts in favour of a greener and more climate-resilient economy. Government involvement is also vital for encouraging the green finance market through the creation of policy that makes holding green assets more attractive.

A report by the United Nations Environment Programme identifies Africa as the continent that will be the most severely affected by climate change, given its geographical position and limited capacity to adapt. As a percentage of GDP, climate-related damage in Africa is projected to be higher than in any other region in the world and more than twice as high as in Europe, Asia and the Americas (see Figure 1, opposite). The continent's financial requirements to adapt to climate change are projected to be between US\$20bn and US\$30bn annually until 2030. Yet paradoxically, of the US\$331bn in global climate finance flows available in 2013, only 4% reached sub-Saharan Africa.

To combat environmental damage and manage the global targets set by the Paris Agreement, a heavy investment in infrastructure and a managed transition to a low-carbon economy is needed. This can only be achieved through diversification of finance mechanisms and sources of funding. A significant proportion of the required funding is expected to be generated by the private sector, and there is thus a need to re-tool key parts of the financial system and apply new international standards for investment.

Green financing is gaining significant global prominence as a focused financing complement. It is used to create targeted pools of capital and innovative financing products to raise funds for environmentally friendly, climate-resilient projects to manage the transition to a low-carbon economy. Among the various green financing instruments, the development of the green bond market has been widely viewed as the most accessible and suitable instrument for meeting Africa's requirements. However, the market remains relatively underdeveloped in Africa compared with other emerging markets. In section 7 of this paper, we will examine the Chinese green bond market and the steps it took to achieve its successful development.

Many African governments and domestic institutions are now beginning to recognise the importance and benefits of green financing. Institutions in a few countries in Africa, including Nigeria, Morocco and South Africa, have already issued green bonds.

African countries are gaining momentum to align with the burgeoning activity within the green finance space. In addition to the countries that have issued green bonds, Kenya and Egypt have taken steps to establish standards, harmonise public and private sector efforts and build capacity within the green economy. New pieces of legislation and initiatives are regularly being introduced across the continent.

This paper provides a summary of the green bond market in Africa, with supporting primary research from Morocco, Nigeria, Kenya and South Africa. These countries are at various stages of development in terms of their green economy but share similar goals of significantly expanding their sources of green capital.

“The green bond market remains relatively underdeveloped in Africa compared with other emerging markets”

FIGURE 1

Climate damage (as a percentage of GDP)



Source: AfDB, 2011

3. Overview of green bonds

The term ‘green finance’ refers to financial instruments whose proceeds are used for environmental or climate change projects, including equity, debt, grants, commodities, and credit or interest rate derivatives.

Climate finance is an emerging form of green finance available for projects in developing countries that help reduce emissions or adapt to climate change. (Note: for the purposes of this paper, the terms ‘green’ and ‘climate’ finance are referred to collectively as green finance.) A range of financial products have become available for financing and investing in green projects, but the most rapid growth has been in the issuance of green bonds. This paper will therefore focus primarily on the green bond market.

Bonds are an attractive financing tool for infrastructure projects, providing a low-cost and long-term source of capital. For low-carbon and climate-resilient infrastructure, having access to low-cost capital is particularly important, as it generally requires more upfront capital than the more traditional sources of debt used to finance infrastructure.

The first green bond was issued by the European Investment Bank (EIB) in 2007. A decade later, green bond issuance reached a record of US\$155bn globally and it has been nearly doubling in amount each year over the last several years. Emerging market countries have contributed significantly to the growth of the green bond market, with China, India and Mexico among the top 10 issuers in 2017.

Green bond principles

Green bonds were initially issued based on voluntary guidelines and standards set by the issuer. After they gained global popularity, in 2014 the International Capital Market Association (ICMA) introduced a well-defined framework for issuing green bonds, known as the green bond principles (GBP). The GBP are voluntary process guidelines that recommend transparency and disclosure and promote integrity in the development of the green bond market by clarifying the approach for issuance of a green bond. There are four core components:

- **Use of proceeds:** determining which project or asset can be categorised as green and using the proceeds accordingly to finance them
- **Project evaluation and selection:** determining how the project or asset eligible for such finance is selected
- **Management of proceeds:** ensuring that the proceeds are spent on the eligible assets or projects and tracking the use of the proceeds on a regular basis
- **Reporting:** ensuring the transparency of the information the investors disclose to the issuers.

Green bond certification process

A green bond certification process also exists, bringing further clarity to pre- and post-issuance. It consists of the following steps:

- **Prepare the bond:** identifying assets that meet the relevant sector criteria, compiling supporting information and creating a green bond framework that sets out the approach for the use of proceeds
- **Engage a verifier:** engaging an approved verifier for second-party verification on pre- and post-issuance certification, giving assurance that the relevant green bonds standard requirements are met
- **Issuance of certified green bond:** the verifier’s report is submitted to a green bond certified agency and the bond is issued with the certified green bond mark to international investors
- **Certification post-issuance:** within 12 months of the issuance, the green bonds are to be certified by a third-party verifier of classification of the qualifying asset class
- **Annual verification:** the use of proceeds must be certified annually by third-party verifiers and an attested report is to be submitted to a certified green bonds agency and investors
- **Green rating:** an evaluation of the green bond or related framework against a third-party methodology, to further qualify the environmental impact of the investments.

Green bond investor base and pricing

Green bonds often attract a very diverse investor base, with several specific investors mandated only to invest in green securities. Therefore, green bonds allow issuers to diversify their creditor base. Active green bond buyers include sovereign wealth funds, asset managers and investment consultants, foundations and endowments, faith-based investors, investment banks, corporations, insurers and public pension funds. Many of these institutions have minimum thresholds for green investments and are increasingly looking at emerging market opportunities.

Additionally – and this is an important factor for potential issuers – the green label can bring a pricing advantage. Most existing reports show that green bonds can potentially achieve tighter pricing and can fetch up to an extra five basis points for the issuer.

4. The green bond landscape in Africa

Because of the threat of climate change, the environment and social sustainability are at the centre of several African countries’ capital markets masterplans. Capital raising opportunities through green bonds have been gaining considerable traction across the continent.



1st

In December 2017, Nigeria became the first country in Africa – and only the fourth in the world – to issue a sovereign green bond

Many African governments have indicated their intention to facilitate and undertake green bond issuances at the sovereign level, supported by various country-specific initiatives to encourage further issuances of green bonds.

Additionally, with the support of multilateral development banks (MDBs) and other development agencies, there have been a variety of continent-wide initiatives to develop the green bond market. These include funds aimed at investing in green assets, with the African Development Bank (AfDB) and the International Finance Corporation (IFC) leading the way. There is no shortage of industries in Africa in need of green financing – in power generation alone, research by AfDB suggests that Africa is generating up to 20 times less renewable electricity than similarly sized continents, including Asia.

While many African countries have made commitments to launching green bond markets, four have taken a leading role and are at various stages of market development. These are Morocco, Kenya, Nigeria and South Africa.

Morocco

Morocco’s leading position within Africa’s green market was demonstrated by its hosting of the COP22 summit in 2016. IFC recently identified US\$68m of green investment opportunities in Morocco. This represents a very small fraction of the opportunities, but studies reveal that many of the larger subset of opportunities remain unavailable. This may change over time and unlock further opportunities.

As part of its commitment to the development of climate finance and in line with the Kingdom’s renewable energy objectives, the Moroccan Capital Market Association has also introduced guidelines on complying with green bond issuance principles, produced with the support of IFC. The guide presents the key elements of green bonds and their main implications. It is aimed at both issuers and investors and aims to promote the development of this new segment in the Moroccan capital market.

Three global financial institutions – the European Bank for Reconstruction and Development (EBRD), the Agence Française de Développement (AFD) and the European Investment Bank (EIB) – announced their partnership to back sustainable energy developments in Morocco.

The Moroccan Agency of Sustainable Energy issued the first green Moroccan bond in November 2016 for 1.15bn dirhams (US\$117m). The bond will finance utility-scale solar power facilities in Morocco, including three projects totalling around 160MW of solar PV which are expected to commence operation in 2018.

The issuance by Banque Centrale Populaire (BCP), one of Morocco’s largest banking groups, has already received investments of €100m (US\$113m) and €35m (US\$40m) from World Bank Group member IFC and private sector financing group Proparco respectively. The 10-year maturity bond will enable banks to support long-term investments in green assets by channelling private funding into climate finance. This financing is expected to help save 938,000 tonnes of carbon dioxide emissions per year. BCP has commissioned the UK Green Investment Bank plc to produce a Green Impact Report on these projects.

Nigeria

Nigeria, known for its oil-rich resources, has also been developing its sustainable finance capabilities. In December 2017, it became the first African nation and the fourth in the world (after Poland, France and Fiji) to issue a sovereign green bond. Ratings agency Moody’s gave an ‘excellent’ grade to its original issuance, as the government had created the structures needed to track how the proceeds were being used.

“There is no shortage of industries in Africa in need of green financing”

4. The green bond landscape in Africa (continued)

The bond has been certified under the Climate Bonds Standard for Solar and Land Use Change Criteria. It will finance solar generation, contributing to the achievement of 13,000MW of off-grid PV, as well as afforestation projects. The certified green bond is the first offering of a wider NGN150bn (US\$420m) green bond programme. The wider eligible project categories outlined in the framework are:

- **Mitigation:** energy efficiency, resource efficiency, improved electricity grid, renewable energy and clean technology
- **Adaptation:** sustainable forest management.

Initiatives continue to take place. In June 2018, the Climate Bonds Initiative, in partnership with the FMDQ OTC Securities Exchange and Financial Sector Deepening Africa, launched the Nigeria Green Bond Market Development Programme. This aims to support the issuance of corporate/non-sovereign green bonds and, ultimately, to develop the domestic green bond market in Nigeria.

South Africa

South Africa faces substantial infrastructure financing requirements; the National Development Plan estimates that around US\$65bn will be needed over the next three years for infrastructure investment in energy, clean water transportation, waste management and climate adaptation.

The country is recognised as Africa's most developed green bond market. In October 2017, the Johannesburg Stock Exchange (JSE) became the first African exchange to launch a Green Bond Segment and Green Listing Rules, helping to promote further green bond issuance. South Africa has welcomed issuances by institutions at various levels, ranging from development finance institutions to municipals and corporates.

In particular, Cape Town municipality's green bond issuance has been seen by issuers and investors as an overwhelming success. The bond was transparent, outlining projects in electric buses, energy-efficient buildings, water management alternatives, sewerage effluent treatment and the rehabilitation and protection of coastal structures, and the City of Cape Town referenced the significant marketing and reputational opportunity that existed for first movers in the market.

The result was a significant oversubscription of 4.3 times that required only two hours and 29 investors to make the necessary offers. The high rate of oversubscriptions for this and other South African issuances shows that there is significant investor demand for African green bonds. It also suggests that South Africa is not utilising the full capacity of the market.

While the City of Johannesburg has also issued a green bond, it was self-labelled as green and did not carry the verification and accreditation standards that the City of Cape Town green bond did.

Additionally, the JSE and FTSE Russell have announced a partnership to develop a new index series to meet the demand from institutional investors seeking to integrate ESG considerations into their investments. This will further expand the country's green finance offering.

Kenya

Kenya is viewed as another major destination for renewable energy investment in Africa. In 2017, Nairobi launched a three-year programme to build green bond capability in Kenya and East Africa. Prominent institutions such as the Central Bank of Kenya, the Capital Markets Authority and the National Treasury have endorsed the programme. Currently, the Kenyan green bond programme is aimed at the following work streams and outputs to support the issuance and development of the green bond market in Kenya:

- **Creating a pool of Kenya-based licensed third-party certifiers**
- **Developing a pipeline of green investments and engaging with local and international investors**
- **Supporting the demonstration of green bond issuance from leading banks and corporations**
- **Developing a cooperative fixed income fundraising structure that facilitates two- and three-tier banks and corporates to pool their green assets and reach a sizeable issuance of US\$30-50m. The pooling of qualifiable asset classes further optimises transaction costs and makes the green bond issuance attractive when compared with vanilla bonds.**

Key drivers for the implementation of green bonds in Kenya have been:

- **Vision 2030: a national long-term development policy that aims to transform Kenya into a newly industrialising, middle-income country providing a high quality of life to all its citizens by 2030 in a clean and secure environment. It plans to reduce greenhouse gas emissions by 30% of the current levels by 2030**
- **Investing in projects that help to meet the objectives set by the Paris Agreement to reduce carbon emissions.**

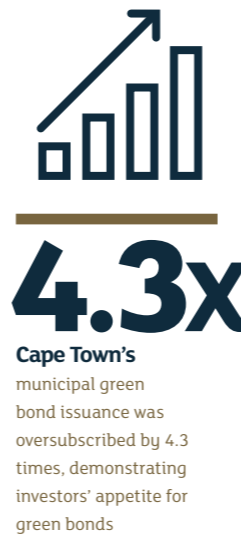
Kenya therefore appears to be on track to issue its first green bond in the near future. The governor of the Central Bank of Kenya, Patrick Njoroge, has said publicly that a sovereign debt issue "down the road" is fast approaching, following the private sector initiative from a number of banks to develop the green bond framework.

Multilateral development banks

AfDB has been active in Africa in the green bond market since 2010, with a record AAA investment-grade green bond issuance of US\$500m in October 2013.

5. The challenges of green bond financing in Africa

A combination of secondary research and interviews conducted across Africa has established several key challenges that are hindering the development of Africa's green bonds market. Each country within Africa faces unique challenges in developing green bond markets, but many of these challenges are common to several markets.



For issuers:

— **Lack of clear guidelines on green bond issuance:** African countries are in various stages of their green bond market development. On the whole, most lack clear guidelines on the process and criteria of green bond issuance; many of these bonds do not meet international standards, which would inhibit institutional investor involvement in any issuances. This serves as a major deterrent among potential issuers, which fear they could tarnish their reputation in case of an inappropriate green bond issuance, where use of proceeds may not be considered green according to international best practices. Some of these challenges are related to ensuring that the use of proceeds from green bonds is strictly guided by sustainability principles, to guard against greenwashing

— **Issuers' lack of awareness of green bond markets:** issuers lack understanding of the green bond market. This is closely linked to the previous point about the lack of established principles and guidelines. Naturally, this has deterred issuers from educating themselves about the benefits of green bonds issuance, such as enhancing their international reputation. The low number of professionals in Africa with experience in helping with the issuance and management of green bonds, such as underwriters and lawyers, is a direct consequence of this

— **Lack of a yield curve:** the low number of African green bonds, by sovereigns or MDBs, has not allowed for the establishment of a full yield curve across multiple maturities to allow further issuances by corporates or municipals. A yield curve would raise awareness among potential issuers of factors such as coupon and subscription ratio. Other countries have experienced a trickle-down effect on issuance where a sovereign has taken the lead as the most secure institution. At present, Nigeria is the only country in Africa to have issued a sovereign green bond.

For investors:

— **Lack of clear guidelines on green bond issuance:** similarly to issuers, investors are deterred by the lack of clear principles behind green bond issuance. Their main worry is limited transparency about the reporting structure and the use of proceeds

— **Investors' lack of awareness of markets:** primary research among market participants established investor distrust in information providers due to the lack of specific green bond issuance guidelines, and even the existence of conflicting evidence. Risk-averse investors also have limited capacity and have not prioritised analysing potential green investments

— **Limited pipeline of projects:** many market participants identified that there is a lack of bankable projects and robust project pipelines that would encourage them to enter the market. Additionally, without the market being established by sovereigns or municipals, relatively small investments (from potential corporate issuers) do not appeal to large institutional investors

— **Lack of fiscal incentives:** at present, green bonds in Africa have no tax incentives attached to them, unlike in other countries around the world such as China and the US, who are leaders in the green bond market. There is, however, evidence of the current landscape changing. The Capital Markets Authority in Kenya has expressed confidence that tax incentives are likely to be introduced on green bonds in some African countries; they already exist on Kenyan infrastructure bonds.

6. The opportunities of green bond financing in Africa

There are many benefits to issuers and investors in promoting the green bond market, which has led to many countries placing a strong emphasis on making the necessary reforms to establish this market. However, there is still much to be done in Africa to increase market education so that the wider financial community understands the potential opportunity.

For issuers:

- **Reputational benefits:** green credentials augment the reputation of the issuer by creating an environmental and social impact, along with being a part of the broader sustainability strategy. The City of Johannesburg and the City of Cape Town (see page 10) received international coverage for their green bonds
- **Pricing:** pricing advantages can be observed as a result of the green label. Internationally, green bonds have been oversubscribed, with a constant upsurge in investor appetite. Reports from Barclays Research indicate that investors pay a premium to acquire green bonds, at least in the secondary market. The model finds an approximate 20 basis points (bps) difference between the spread of green bonds and comparable issues, partly attributable to opportunistic pricing based on strong demand from environmentally focused funds. While the cost advantage is not yet evident in Africa in the nascent green bond market, it is possible that, once the market attracts a wider investor base both domestically and internationally, a better pricing for green bonds versus regular bonds may emerge, provided demand is sustained
- **Investor diversification:** green bond issuance and labelling enables issuers to tap into a diversified investor base as they attract new investors with green mandates. Improving diversification of the bond issuer investor base reduces exposure to bond demand fluctuations
- **Long-term financing:** long-term funding allows issuers the possibility of greater growth over time and fosters financial stability, as it is not influenced by short-term political and economic uncertainties. In addition, green bonds attract a long-term investor base aligned to the maturity of the project's life.

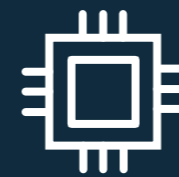
For investors:

- **Reputational benefits:** investing in the labelled green bond market enhances not only the issuer's, but also the investor's reputation, as it demonstrates a commitment to the environment. It is notable that some investors are even willing to publicise their investments in green bonds as a way of bolstering their own reputation and visibility
- **Portfolio diversification:** through green investments, investors are able to diversify their portfolio away from companies that are heavily exposed to environmentally hostile activities and meet their growing ESG requirements while benefiting from strong yields. With renewed commitments to combat climate change, institutional investors – whose assets under management are expected to rise from US\$93tn to US\$140tn in 2019 – are increasingly demanding green projects and are looking to developing countries, where climate-smart investments are most needed, for long-term assets, high returns and positive impact
- **Investing in a secure and desirable asset type:** the green bond market shows signs of stronger resilience to volatility because of its size, novelty, diversified investment focus and the more likely participation of long-term investors. The lower risk is also categorised by the term 'too green to fail' due to the unavoidable financing requirements associated with climate change. In addition, while an oversubscription is not necessarily a direct indication of appetite, a green bond investor can take confidence in the overall strong market demand for green bonds.

“Green bonds attract a long-term investor base aligned to the maturity of the project's life”

7. Case study: developing China's green bond market

Like Africa, China has faced serious environmental challenges as a result of intensive economic development and a rapidly urbanising population. This rapid economic expansion has led to the high pollution of air, water and land, forcing China to look for a sustainable economic model.



36%

The proportion of the total global investment in renewable energy in 2015 that was attributable to China

Although China and African countries are at significantly different stages of economic development, lessons can be learned to help Africa overcome some of the hurdles faced by other economies.

In March 2015, it was estimated that China will need to invest over US\$1.5tn in green projects, of which only around 15% will be provided by the public sector. In December 2015, China launched its catalogue for green bonds and national guidelines, spurring RMB238bn (approx. US\$36bn) in Chinese green bond sales in 2016 – a figure that represented 40% of global issuance.

Some of the changes China has brought in include:

- **New requirement pilot initiative for green corporate bonds on the Shanghai Stock Exchange, requiring disclosure of the use of proceeds and independent professional verification**
- **Guidelines and an evaluation scheme**
- **Tax incentives**
- **Supportive policies for development of the market, including preferential risk weighting, exemption from loan-deposit ratio caps for loans funded by green bonds, and a fast-track approval procedure for green bonds.**

These measures have had a substantial impact. Despite only entering the market in 2015, by the end of 2016 China was the world's biggest issuer of green bonds, spurred by the development and implementation of official green bond guidelines and policy initiatives. Going over and above the production of a framework, the country has created a mandatory regulatory regime to more effectively address its specific national targets.

In 2015 alone, China invested US\$103bn in renewable energy. This represented 36% of the world's total and more than the US (US\$44.1bn), the UK (US\$22.2bn) and Japan (US\$36.2bn) combined.

“Despite only entering the market in 2015, by the end of 2016 China was the world's biggest issuer of green bonds”

8. Recommendations

In African markets where bond markets are nascent, green bond market development can be part of the general bond market development process, and Africa has the opportunity to leapfrog more developed markets. Green bond transactions could still take place even if the general bond market is underdeveloped, provided that a set of measures are put in place by governments.

Climate Bonds Initiative, a specialist climate change advisory firm, has identified that “the urgency of the climate change challenge and infrastructure investment needs mean countries cannot wait until they have mature bond markets to channel investments to green”.

As such, the following recommendations are suggested for the development of green bond markets in Africa:

8.1. Increase green finance awareness to widen investor participation

Financial education for market participants is essential to increase multi-stakeholder green awareness in emerging markets. Engagement with African stakeholders suggests that strategies aimed at increasing financial literacy must be developed at national level, in consultation with the relevant market participants and technical advisors. Once both issuers and investors have a better understanding of the enormous benefits green financing brings, they will be encouraged to participate.

8.2. Introduce clear green bond issuance processes and principles

Already well documented in green market development papers is the importance of establishing clear and globally recognised green bond principles across the African countries. Being globally aligned is crucial for the establishment of transparency and trust among local and international investors. Lack of clarity as to what projects are eligible or where the proceeds are going is deterring both issuers and investors from actively participating. Inspiration can be drawn from China, where the provision of such principles had a dramatic effect on the issuance of green bonds and, ultimately, on the country's environment.

An important component of a country's green bond market is the establishment of a green bond segment on the local exchange. These specialised segments allow investors, issuers and other third parties direct access to information, as well as a specialised avenue for listing and investing requirements. In developed markets, segmentation has helped concentrate expertise in bond pricing, analysis and secondary market trading where dedicated trading platforms for bonds are available.

8.3. Introduce supportive government policies

Tax efficiency is a major incentive for domestic investors and a key consideration of major asset managers, so it may work as a driver for international investors. Currently, a withholding tax exemption is available to Kenyan investors on infrastructure bonds. Similar tax benefits should be introduced for green bonds in each country, taking into account the important purpose such bonds serve. In addition, carbon credits may be incorporated into this framework to attract large corporate investors.

8.4. Establish a yield curve through sovereign issuances (or through MDBs)

Scale in the green bond market can only be reached by introducing government-sponsored incentive structures for green bonds. Domestic markets need to be boosted with more demonstration green bonds and investment. The establishment of a yield curve for African green bonds is needed in order to raise awareness and boost confidence among issuers. African governments, as the most stable institutions, should each commit to issuing a sovereign green bond. This could also be done through step-by-step tranching – from shorter maturity and smaller amounts to longer maturity and bigger amounts. As countries such as India have already proved in local bond markets, a sovereign issuance of a bond could lead to a trickle-down effect for municipalities, and eventually corporates, to issue.

Governments could further contribute by issuing credit-enhanced bonds. Public credit enhancement, such as guarantees, subordinated debt and insurance, would reduce risk exposure for private investors. The Overseas Private Investment Corporation offers a specific green credit enhancement programme that provides guarantees to green bond issuances. Existing credit enhancement schemes that are in place for infrastructure, such as the EU's Project Bond Initiative, could also be extended to green bonds.

Initial issuance can come from national treasuries, municipalities and other city-affiliated entities, development banks and blue-chip corporates. Initial investment can come from public pension funds, sovereign wealth funds and public sector treasuries, as well as through establishing a specific public investment fund for green infrastructure.

8.5. Use innovative green financing to tap into a wider investor base

In order to further widen investor participation, financial innovation in green finance is needed. Even in AAA-rated funding, there is scope for creativity to bring new capital into the sector. An example is IFC's Forest Bond issuance in 2016. Proceeds were spent on normal activities; however, investors had the option to receive a cash coupon in the form of carbon credits from a Reducing Emissions from Deforestation and Degradation project. This would tap into a further category of investors.

8.6. Issue international green bonds

As the need for green financing grows, African sovereigns or municipalities could consider an international issuance (similar to COP23 hosts Fiji), which would raise significant global investor awareness of the opportunities that exist domestically. This would also enhance credibility, by meeting global best practices, while tapping a diverse investor base. The establishment of an international yield curve will ultimately allow domestic issuers easier access to overseas investors, where they may benefit from tighter pricing. African governments could interact with global investors through non-deal roadshows to further boost their global visibility. An international issuance would probably attract global institutional investors to invest in more domestic green securities, as they may consider enhancing their exposure to African debt.

“Scale in the green bond market can only be reached by introducing government-sponsored incentive structures for green bonds”

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