Green finance in Uganda: Unlocking sustainable growth

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Introduction

Green finance broadly refers to the strategic allocation of financial resources toward projects and initiatives that foster environmental sustainability and mitigate the adverse impacts of climate change. This refers to funding for a range of activities, such as renewable energy initiatives, climate-resilient infrastructure, sustainable agriculture, and pollution reduction. According to the World Economic Forum (2020), the concept also extends to financial products and services that embed environmental, social, and governance (ESG) considerations into lending, investment strategies, and decision-making processes, promoting responsible financial practices and encouraging the adoption of low-carbon technologies. Thus, serving as a powerful catalyst for economic transformation.

In the last years, green finance has experienced exponential growth mostly driven by the urgent need to mitigate the effects of climate change and accelerate the transition to a more sustainable global economy. Key mechanisms which have underpinned this tendency include:

i. **Carbon markets –** By assigning a monetary value to carbon emissions and creating a system where emissions can be traded as credits, carbon markets are a pivotal mechanism to reduce greenhouse gas (GHG) emissions. These markets operate on the principle of cap-and-trade or carbon offsetting, enabling entities to either limit their emissions within an established cap – compliance markets– or purchase carbon credits to offset excess emissions – voluntary markets–. The structure encourages investment in cleaner technologies and promotes sustainable practices by making the cost of pollution tangible.

ii. **Sustainable investment funds** – These funds allocate capital to companies and projects that meet defined ESG standards. Hence, aiming to promote corporate responsibility, lower environmental risks, and support long-term financial and social growth. In 2020, global sustainable investment surpassed $35 trillion, making up more than a third of total assets under management (GSIR, 2020). This strategy helps reduce exposure to risks related to climate change, labour issues, and governance failures that could affect financial performance. They have also shown resilience, frequently outperforming traditional funds during volatile market periods.

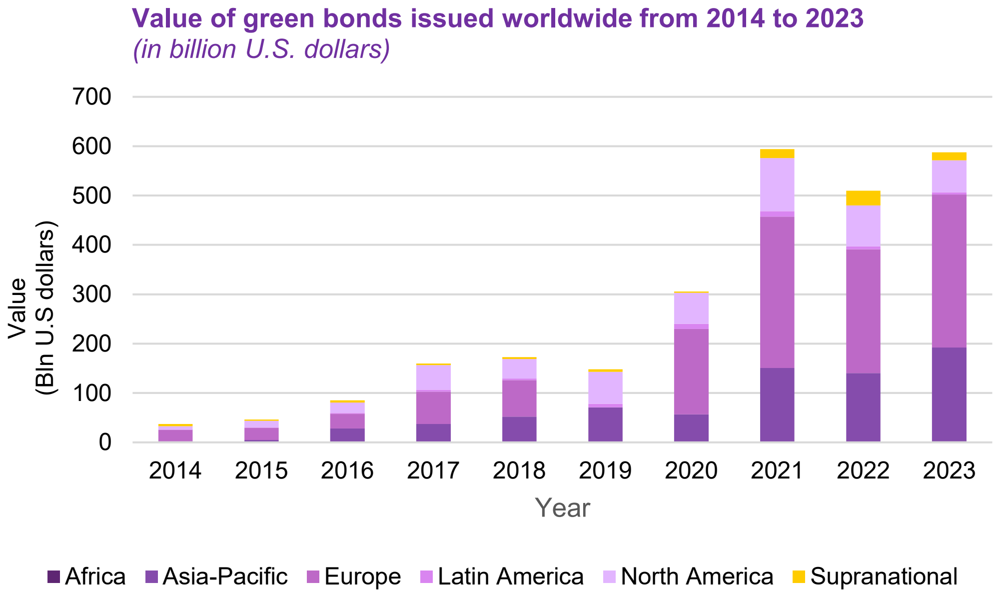
iii. **Debt-for-nature (DFN) swaps** – In essence, these are financial arrangements in which a portion of a country's foreign debt is forgiven or reduced in exchange for commitments to invest in environmental conservation projects. Through this mechanism, a creditor country or institution agrees to cancel part of the debtor nation's debt, and in exchange, the debtor country redirects the equivalent amount -often in local currency- towards decarbonising the economy, investing in climate-resilient infrastructure, or protecting biodiverse forests or reefs. This approach not only provides financial relief but also strengthens a nation’s capacity to address climate change and ecological challenges.

Globally, debt-for-nature swaps have proven instrumental in preserving some of the world’s most biodiversity-rich regions, particularly in Latin America and Sub-Saharan Africa. Since the 1980s, over $1 billion in debt has been swapped for nature conservation, with countries like Costa Rica and Madagascar benefiting from significant environmental protection through these mechanisms (World Economic Forum, 2024).

iv. **Green bonds** – Green bonds are debt securities issued to raise funds for projects with positive environmental impact. Like traditional bonds, issuers -either governments or organisations- raise capital from investors, offering regular interest payments and repaying the principal at maturity. The key difference is that their proceeds are specifically used for sustainable projects. Therefore, channelling capital into initiatives that address environmental challenges while providing solid financial returns.

Over the past decade, these have emerged as a cornerstone of the green finance landscape. For instance, the global issuance of green bonds increased from $37 billion in 2014 to a peak of $633 billion in 2021 (Figure 1). Although a slight decline followed in 2022, when issuances dropped to $487 billion, the market quickly recovered, reaching $620 billion in 2023. This upward trajectory emphasises the critical role that green bonds play in driving investments toward sustainability.

Figure 1: Value of green bonds issued worldwide from 2014 to 2023



Source: *Author's elaboration using data from https://www.statista.com/statistics/1289406/green-bonds-issued-worldwide/.*

Incentives and constraints: Effects on profitability and sustainability

Analysing the ***incentives*** and ***constraints*** that shape decision-making by farmers, traders, and agri-businesses throughout the supply chain provides valuable insights for two main purposes: *i)* understanding the current situation, and *ii)* designing policies to enhance agricultural profitability and sustainability. ***Incentives*** for an action (a behaviour, practice, investment, *etc.*) refer to the benefits that a decision-maker accrues from undertaking that action, while ***constraints*** refer to the barriers that prevent decision-makers from making a choice they might otherwise pursue, were the barrier not present.

As global investors seek to balance financial returns with environmental responsibility, green finance instruments, such as those previously discussed, are set to expand considerably. This evolution reflects a broader understanding that sustainable financial practices are not merely supplementary but are becoming a core component of building low-carbon, future-proof economies. Hence, positioning as core pillars of the global efforts to address climate change and promote eco-friendly development that withstands economic and environmental challenges.

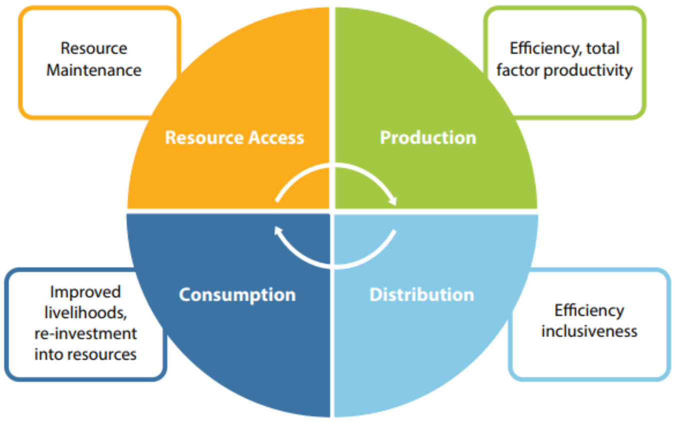
The latter is especially relevant for Africa, which is uniquely positioned at the crossroads of opportunity, growth, and profound climate vulnerability. Many African economies are heavily dependent on climate-sensitive sectors such as agriculture, energy, and minerals extraction. Yet, the continent's abundant natural resources present significant potential for transformative sustainable growth. Leveraging green finance can enable these countries to develop climate-resilient infrastructure, enhance renewable energy access, and promote sustainable land management practices, thus harmonising economic growth with environmental conservation. Moreover, with the region experiencing some of the most severe impacts of climate change, including prolonged droughts and flooding, the urgency for innovative financial solutions that prioritise sustainability is more pressing than ever.

Green finance in Uganda: Overview

Green finance in Uganda has been gaining traction as the country recognises the importance of aligning economic development with environmental sustainability to facilitate a successful transition to a green economy. While the potential benefits of green growth are vast – offering far-reaching economic, social, and environmental benefits-, the financial commitment can be daunting. Acknowledging this, the country has taken notable steps to mobilise green finance as an integral part of its comprehensive development strategy, the *Uganda Vision 2040*. This proactive approach has aimed to bridge the financial gap and ensure that sustainable practices are embedded in the country's economic framework, paving the way for long-term prosperity and resilience.

As its transformative agenda anticipates, Uganda's green economy is set to drive sustainable economic growth through the eradication of poverty, social inclusion, improvements in human welfare and the creation of employment opportunities whilst preserving healthy, functioning natural ecosystems. This is further operationalised through the *Uganda Green Growth Development Strategy (UGGDS) 2017/18 – 2030/31*, a comprehensive roadmap designed to include green growth principles across key economic sectors – agriculture, energy, urban development, and natural resource management. As illustrated in *Figure 2*, the UGGDS emphasises four interconnected components for shaping a green economy: **Resource Access, Production, Distribution, and Consumption**. For instance, resource access guarantees that natural assets are preserved and adequately utilised, production improves efficiency and productivity, while distribution and consumption encompass inclusivity and reinvestment, creating a cyclical model that encourages economic growth and environment conservation.

Figure 2: Conceptual framework for Green Growth Development Strategy (UGGDS)



***Source**: The Uganda Green Growth Development Strategy, National Planning Authority (NPA): https://faolex.fao.org/docs/pdf/uga184391.pdf*

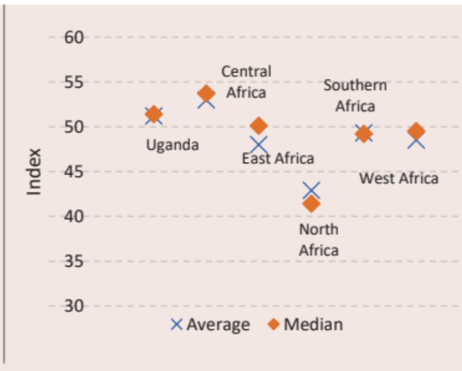
Equally, the UGGDS underscores the pivotal role of finance as a catalyst for this transformation, identifying a diverse array of instruments that currently support Uganda's green economy initiatives. Some of those include environmental taxes and levies; compliance charges; local government fees; biodiversity offsets; payment for ecosystems services (PES); international funds; revenue and benefit sharing and resource access; subsidies; and private sector contributions (AfDB, 2023). Despite limited leveraging due to their fragmented, project-based, donor-driven, and often ad hoc nature, the UGGDS attempts to harmonise and streamline these green mechanisms, promoting greater coherence and sustainable, long-term financial solutions. By aligning these efforts with global sustainability goals, Uganda can be better positioned to attract and manage the financial resources required to drive a transformative shift toward a resilient and inclusive economy.

Figures 3a and 3b provide a quantitative snapshot of the country's performance towards green growth. Figure 3a depicts the evolution of its Green Growth Index from 2010 to 2020. Over the past decade, the score has steadily increased, reflecting consistent improvements in environmental sustainability, efficient resource utilisation, and policies oriented towards green objectives. Particularly, it has climbed from approximately 49 in 2010 to over 52 by 2020, showcasing the nation's strong commitment to integrating green finance and sustainable development principles into the national strategy.

In contrast, Figure 3b offers a broader comparative perspective by placing Uganda in a continental context. While the index score is close to the East African median, it outperforms several regions, including North, West, and Southern Africa. This positions it as a frontrunner and competitive force within Africa's sustainability landscape. A key factor behind this leadership lies in the country's significant strides in the energy sector, driving both environmental and economic benefits (GGGI, 2022). Moreover, its proactive efforts in natural capital protection and efficient and sustainable resource use have been complementary. This performance is further reinforced by initiatives to enhance green finance mechanisms, particularly through the development of **carbon markets** and the mobilisation of **private sector finance**.

Figure 3a – Green Growth Index, Uganda

Figure 3b – Green Growth Index, by region



***Source**: GGGI (2022).*

Uganda's carbon market: Key insights

Uganda is one of the most active participants in Africa's carbon market, with over 33 million carbon credits issued through i) the Clean Development Mechanism (CDM) and ii) Voluntary Carbon Market (VCM) standards.

CDM: As of December 2022, the country's CDM portfolio included 189 registered projects designed to drive climate adaptation and mitigation efforts through the reduction of carbon emissions. These activities span three major areas:

Energy efficiency (96): Focusing on distributing improved cookstoves which could reduce biomass consumption and enhance indoor air quality.

Water purification (58): Centring on access to clean water through advanced purification methods

Renewable energy (6): Building small hydroelectric power plants to generate clean electricity and reduce reliance on fossil fuels.

Collectively, these CDM activities have resulted in the reduction of over 16 million tons of carbon dioxide emissions (Certified Emission Reductions, or CERs). By 2025, the government aims to cut an additional 106 million tons of emissions through these.

VCM: Uganda's engagement with the VCM is equally robust, hosting 92 registered activities across multiple standards.

Gold standard (GS): 78 activities, primarily in energy efficiency through cookstove and clean water technologies, have issued over 10.6 million credits.

Verra's Voluntary Carbon Standard (VCS): 13 projects on agriculture and energy efficiency, which have registered approximately 3.6 million Verified Carbon Units (VCUs).

Plan Vivo: The "Trees for Global Benefits" project, operational since 2003, has delivered over 2.4 million credits, emphasising community-led reforestation efforts.

Source: *Author's elaboration using 'Eastern Africa Alliance On Carbon Markets And Climate Finance (2023)' report.*

The country is posed to actively pursue future opportunities in the global carbon markets by preparing for participation under Article 6[1] of the Paris Agreement. To this extent, it is developing the necessary frameworks and regulatory

[1] Article 6 encourages international collaboration through carbon trading, enabling countries to meet their climate goals more efficiently.

measures to transition existing CDM activities and scale up new initiatives. Therefore, attracting investment and bolstering climate resilience. It is worth mentioning that the latest Nationally Determined Contribution (NDC) highlights the instrumental role of carbon markets in achieving Uganda's climate objective. With a mitigation target of 24.7% below the Business-As-Usual (BAU) emissions by 2030, the nation will require approximately USD 28.1 billion; most of it expected from climate finance tools, carbon market mechanisms, and investments from the private sector. This aligns closely with the broader role of the private sector in green financing. While its contribution has been growing, it remains relatively low compared to its potential (Carbon Market Report, 2022).

Private sector financing for climate and green growth

The cost of climate inaction in Uganda is forecasted to increase dramatically, far outweighing the investment needed to adapt to current climate pressures. Estimates indicate that the annual cost of inaction, which by 2025 is projected in the range of $3.1-5.9 billion, could rise to $18-27 billion in 2050, driven primarily by unmet irrigation and biomass demand (MWE, 2015). Addressing this challenge will require Uganda to mobilise 'new and additional' financial resources over the next years, drawing on effort from all stakeholders, including international financial institutions, multilateral development banks, and most critically, the *private sector*.

Current flows

According to the African Development Bank Report (2023), Uganda registered an average climate finance inflow of $785 million in 2019/20 – a significant improvement from the $146 million received between 2010-2011. These funds were mainly directed toward agriculture, forestry, and other land uses, cross-sectoral, and energy systems, collectively accounting for 73% of the total financing. However, the contribution from the private sector remained low, sourcing only 3.4% (nearly $26.5 million). This stands in contrast to regional counterparts like Djibouti (24.2%), Kenya (19.9%) and Rwanda (11.2%). Most of the country's climate finance instead comes from the public sector 26.9% and multilateral development finance institutions 61.0%, with the remaining from bilateral and other institutions.

To address this imbalance, and in line with the improvement of the GGI, the Government of Uganda is fostering innovative financial mechanisms to stimulate green investments and broaden the private sector participation. Initiatives such as the Yield Uganda Fund, managed by Pearl Capital, the Uganda Energy Credit Capitalization Company, and the Agricultural Credit Facility administered through the Bank of Uganda, are essential in this effort. These mechanisms are promoting access to funding and providing crucial support for small and medium enterprises (SMEs) - the backbone of Uganda's economy. SMEs are suited to led green innovation, create jobs, and generate wealth, making them instrumental players in achieving sustainable development. To unlock their potential, affordable and accessible financing remains essential, enabling SMEs to champion green growth while contributing to Uganda's socio-economic transformation.

Other instruments such as green and sustainable bonds, which have been deployed indirectly through multilateral development banks to support targeted projects like hydropower and rural electrification, further reinforce the scenario. Furthermore, private equity and venture capital, as well as blended finance mechanisms – including guarantees and credit lines – have shown promise in de-risking green investments across key economic sectors such as energy, agriculture, and transport. However, to scale up these effectively, Uganda must address underlying challenges and leverage opportunities. Simplifying regulations, introducing incentives, strengthening institutional capacities and improving governance will also be key to ensuring that green finance projects are viable and impactful.

Challenges for strengthening green finance in Uganda

Despite holding immense potential to drive sustainable development and address the pressing challenges of climate change, the implementation and further strengthening of green finance in Uganda face significant hurdles that undermine its effectiveness and scalability. Addressing these barriers requires targeted policy interventions, innovative financial instruments, and stronger partnerships across public and private sectors. This section outlines some of the key barriers that are not only hindering the mobilisation of adequate resources but also impacting on the inclusivity and accessibility of existing green finance mechanisms. Hence, making it difficult to realise the full potential of sustainable growth in the country.

High cost of capital and limited financial market development

Uganda's financial sector struggles to provide affordable capital for green investments, largely due to high credit risk and an underdeveloped market. With average lending rates at 21.3% over the past decade and inflation averaging 5.9%, the real cost of borrowing is prohibitively high, deterring businesses from pursuing green initiatives (AfDB, 2023). This, paired with the information asymmetry, which widens the gap between lenders and borrowers, and the sector's limited capacity and appetite to offer long-term financing, reduces the efficiency of financing mechanisms, complicating investments in capital-intensive green projects - such as renewable energy or sustainable agriculture. Tackling the latter requires deepening financial markets, introducing blended finance instruments, and building institutional capacity which attract and manage green-focused investments.

Limited local demand and weak regulatory frameworks for innovative green mechanisms – carbon markets

As highlighted before, Uganda has made remarkable progress in generating carbon credits. However, the domestic consumption of these remains negligible when compared to regional counterparts such as Kenya, where mandatory offset requirements for businesses have been integrated to boost local demand (The National Council for Law Reporting, 2024). This reliance on international buyers has exposed the market to global fluctuations and price volatility, creating an unstable foundation for long-term growth. Furthermore, the absence of regulation for carbon markets across the country, including weak project validation and monitoring systems, has undermined investors' confidence whilst raising concerns about the reliability of the carbon credits generated within it.

Regulatory uncertainty and governance gaps

Uganda's volatile tax policies and fiscal regime pose create an unpredictable investment environment. This is particularly problematic for green finance projects which tend to require long-term planning typically spanning 3-5 years. Instability deters potential investors, undermining the viability of blended finance mechanisms, and hampering public-private partnerships. Additionally, the high tax burden – which according to the AfDB (2023) report is estimated at 45-55% of the final product price - further discourages investment by rising operational costs. Governance challenges, including limited institutional capacity, exacerbate these issues, leading to delays and inefficiencies in project implementation.

Low awareness and technical capacity shortfalls

There is significant lack of technical expertise, awareness, and comprehensive understanding of the benefits of green finance among key stakeholders in Uganda, including businesses, financial institutions, and policymakers. This knowledge gap leads to missed opportunities for investments in transformative projects such as renewable energy, sustainable agriculture, and energy efficiency. Furthermore, both public and private sectors often struggle with the technical capacity to design, implement, and manage complex green finance initiatives. For instance, a study by SEED (2022) highlighted that many Ugandan institutions lack the expertise to identify and access green finance mechanisms, develop bankable projects, effectively negotiate financing agreements, or evaluate project outcomes, which could support their growth and sustainability efforts. This technical deficit is particularly pronounced in rural areas, where much of Uganda's green project potential lies untapped. Overcoming the latter requires targeted interventions, capacity-building and training programs, as well as knowledge-sharing platforms that foster collaboration and thrive innovation in green finance.

Nevertheless, amidst these challenges lie numerous opportunities awaiting exploration. By identifying those and implementing strategic policy recommendations, Uganda can position itself to overcome existing barriers, attract investments, and accelerate the transition toward a green and resilient economy.

Policy recommendations

For Uganda, green finance offers a transformative opportunity to propel sustainable development while addressing the urgent environmental challenges that threaten its primary economic sectors. With a heavy reliance on climate-sensitive industries such as agriculture and energy, mobilising green finance is vital for enhancing resilience to climate-related shocks, ensuring food security, improving energy access, and safeguarding infrastructure against future climate risks. This shift in financial strategy presents new pathways for *inclusive* economic advancement and positions Uganda to align with global sustainability efforts. To harness these opportunities, the country must reinforce its regulatory frameworks, design attractive incentives for private sector participation, and nurture partnerships that draw in international investment. Such steps will not only strengthen Uganda's stance in the green finance ecosystem but also bolster its role as a leader in regional and global sustainability efforts, promoting progress that extends beyond national borders.

Develop and align an in-detailed climate finance strategy

A comprehensive Climate Finance Strategy, which aligns with the existing Uganda’s Green Growth Strategy (UGGS), could be developed to streamline the implementation and monitoring of green finance initiatives across the country. It should build on the conceptual framework of the UGGS, further incorporating detailed financial mechanisms, investment targets, and stakeholder roles to enhance resource mobilisation for climate action. For instance, by emphasising an integral approach that includes public, private, and international funding sources, it can help to address gaps in technical capacity and regulatory challenges.

Additionally, this strategy must focus not only on clear priorities for green investments, such as renewable energy, sustainable agriculture, and water resource management, but also on specific action plans to promote innovative financial instruments -like green bonds, blended financing, and carbon markets. Hence, ensuring that these mechanisms are adapted to Uganda's unique economic and institutional context.

By aligning the new Climate Finance Strategy with UGGS, the country can create a unified vision for green growth that maximises synergies between existing initiatives and new opportunities, fostering a cohesive and impactful approach to green development.

Enhance the uptake of innovative green finance mechanisms

Uganda must prioritise the adoption and scaling of green finance mechanisms to mobilise resources for developing a green economy. Some of these include debt instruments (green and SDG bonds), carbon finance, and debt-for-nature swaps; all of which have the potential to bridge the financial gap in climate-resilient investments and align with global sustainability goals.

While green bonds have been used indirectly through multilateral development banks (MDBs) to support a limited set of projects -such as the Baseruka Hydropower Project and Rural Electrification Access - there is substantial potential to expand their use across the country. By offering tax incentives and regulatory support, their issuance can be encouraged, targeting a wider range of initiatives, from renewable energy to nature protection. A supportive policy framework, accompanied by the operationalisation of clear policies which provide specific technical capacity and favourable market conditions, would enhance investor confidence. Thus, helping to meet the financing needs of large-scale green initiatives.

Similarly, strengthening the existing carbon market can unlock revenue streams and drive climate action. However, developing a robust ecosystem with clear regulations for carbon credit generation, certification, and trading is imperative. This would incentivise businesses to reduce greenhouse gas emissions by monetising their green efforts, stimulating local demand while leveraging international markets to finance additional green projects.

Lastly, debt-for-nature and climate swaps present a unique opportunity to reduce Uganda’s debt burden while advancing environmental conservation. To ensure a successful uptake, the country must establish enabling conditions, including targeted awareness campaigns, capacity-building initiatives, and streamlined regulatory processes. By aligning current policies with global best practices, Uganda can unlock the transformative potential of these mechanisms, positioning itself as a leader in green finance within the region.

Foster public-private partnerships

Public-private partnerships (PPPs) are instrumental for de-risking green investments and scaling up climate-resilient projects in Uganda. By sharing financial burdens and operational responsibilities, whilst leveraging the strengths of both the public and private sectors to fund and implement sustainable initiatives, PPPs can unlock significant financing for green growth and promote socio-economic development. This is particularly crucial in

Uganda, where high borrowing costs and infrastructural challenges deter private sector engagement. Focusing on areas like renewable energy, climate-smart agriculture, and early warning systems for climate disasters, could have a significant impact. For instance, collaborations between the government and private companies can drive investments in solar farms, mini-hydro plants, and off-grid energy solutions, addressing both energy access and environmental concerns. Furthermore, agroforestry initiatives and irrigation systems can benefit from shared expertise and funding under PPP arrangements.

To foster effective PPPs, the country requires a conducive environment through clear regulatory frameworks, incentives for private participation, and mechanisms for accountability and transparency. Strengthening institutional capacity to manage and oversee partnerships is equally vital, ensuring that projects are efficiently executed and deliver measurable benefits.

Strengthening governance and monitoring frameworks for green finance

Uganda should establish robust governance structures to ensure the efficient and impactful implementation of green finance. This involves developing monitoring frameworks tailored to climate-related investments, along with transparent oversight and tracking mechanisms. These are essential for enhancing the evaluation and effectiveness of financing initiatives such as REDD+ (Reducing Emissions from Deforestation and Forest Degradation) and Nationally Appropriate Mitigation Actions (NAMAs). By doing so, the country can improve accountability and build trust among diverse stakeholders, including investors, donors, and local communities.

To achieve the above, it is instrumental to define clear criteria for project selection, implementation, and evaluation, ensuring that funds are allocated to high-impact initiatives aligned with the current climate strategy. Operationalising these frameworks requires investment in capacity-building programs for government agencies and financial institutions, equipping them with the technical expertise needed for governance and monitoring. Moreover, the adoption of digital tools and platforms to track fund allocation and project outcomes in real-time can further strengthen transparency and reduce inefficiencies.

Advance regional collaboration for climate financing

Uganda should look for strategies to enhance regional collaboration within the East African Community (EAC), mobilising cross-border climate finance. Joint initiatives, such as regional green bonds or unified carbon credit markets, can attract larger-scale investments and encourage economies of scale in project implementation and evaluation. Engaging with neighbouring countries on shared climate-related challenges will foster unique opportunities for sustainable growth across the region, streaming international funds, facilitating knowledge-sharing and centralised coordination for climate financing efforts.

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