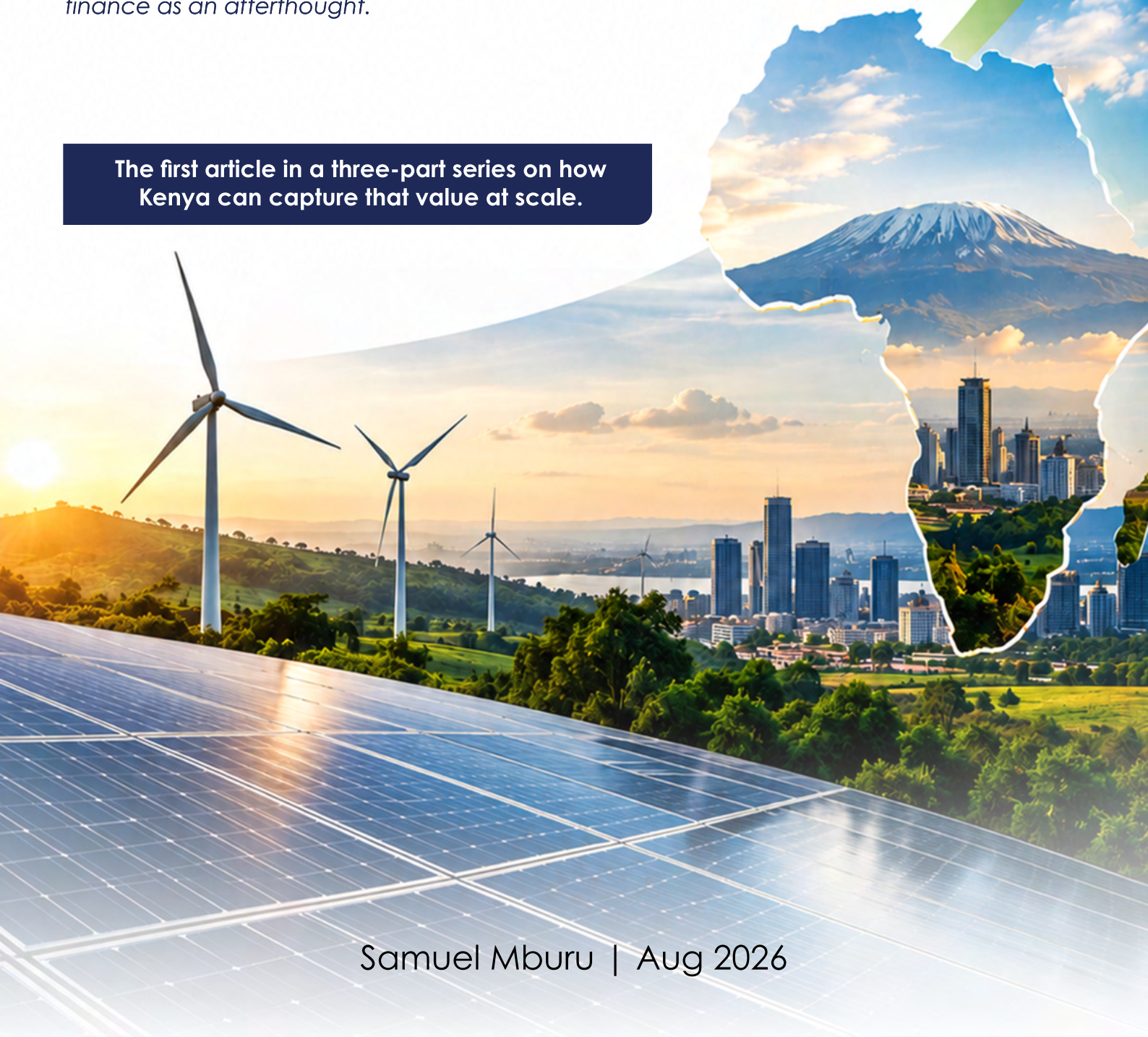


Kenya's Carbon Finance Moment: **The African Opportunity and the Rwanda Benchmark**

Africa's renewable-energy infrastructure should increasingly be viewed not only through the lens of electricity generation, but as a platform capable of producing multiple financial outputs: power revenues, verified emissions reductions, access to concessional climate capital and, where appropriately structured, green and sustainability-linked financing. For governments and project sponsors, the opportunity is to integrate these value pools into the financing architecture from project inception rather than treating carbon finance as an afterthought.

The first article in a three-part series on how Kenya can capture that value at scale.



The African Energy Gap as a Green Finance Opportunity

Africa contributes only approximately 3% of global greenhouse gas emissions, yet it bears a disproportionate share of the consequences of climate change, drought, flooding, energy insecurity, and food vulnerability. This climate vulnerability also creates a significant financing imperative and increasingly, an investable opportunity. The continent possesses substantial renewable energy and nature-based assets capable of generating measurable emissions reductions and attracting international climate capital. The question is no longer whether Africa can participate in this market. The question is how quickly, and on whose terms.

The case for urgency is quantifiable. Africa requires an estimated \$52.7 billion annually for climate action, yet current investment flows are a fraction of this figure. The International Energy Agency calculates that the continent needs \$25 billion per year specifically for energy access a target that, if achieved through renewable infrastructure, simultaneously generates carbon abatement value. As of 2024, Africa had issued approximately \$9.6 billion in green bonds across 76 issuances from around 40 different issuers, representing less than 1% of total global green bond volume. The gap between supply and potential is not a story of failure; it is a map of opportunity.

In this context, the financing of public sector energy projects, geothermal and hydro-electric through a combination of debt instruments, green finance grants, and carbon credit monetisation represents one of the most consequential and underutilised pathways available to African governments and their financial partners. This article examines that pathway through the lens of East African experience, focusing on what Rwanda and Kenya have already achieved, and what Kenya can replicate and scale with the right combination of regulatory will and financial architecture.

The investment-banking opportunity lies in converting these climate attributes into bankable cash flows that strengthen project economics, expand financing capacity and ultimately support access to domestic and international capital markets.

How Carbon Credits Work in the Context of Public Energy Projects

Carbon credit, in its most direct form, represents one tonne of carbon dioxide equivalent (CO₂e) that has been avoided, reduced, or sequestered. For a public sector geothermal or hydro-electric project, the logic is straightforward: by generating clean electricity that displaces fossil fuel-based power on the national grid, the project may generate measurable emissions reductions that, subject to applicable methodologies, additionality requirements, verification and registration, can potentially be monetised through carbon markets. That reduction can be quantified, independently verified, and registered with a recognised standard-setting body, most commonly the United Nations Framework Convention on Climate Change (UNFCCC) under the Clean Development Mechanism (CDM), or with voluntary registries such as Verra's Verified Carbon Standard.

Two categories of credits are relevant to public sector energy finance. Certified Emissions Reductions (CERs), issued under the CDM framework, carry the weight of a multilateral regulatory regime and are tradeable on compliance markets; markets in which companies or governments are legally required to hold credits to meet mandated

emissions caps. Voluntary Emissions Reductions (VERs), by contrast, are exchanged in the voluntary market, where corporations purchase credits to meet internal ESG targets or sustainability commitments. Compliance markets typically command higher prices; voluntary markets are larger in transaction volume but more volatile prices.

For a government entity or state-owned enterprise developing clean energy infrastructure, the integration of carbon credit revenue into project finance can serve three distinct purposes: as a source of upfront grant or concessional funding from multilateral climate finance institutions such as the Green Climate Fund (GCF); as a recurring revenue stream that improves the debt service coverage ratio of a project and thus reduces the cost of sovereign or project-level borrowing; and as a potentially monetisable environmental attribute that may be sold into eligible markets or contracted through forward arrangements, creating an additional revenue stream that can enhance the financing proposition.

Rwanda's Model: From Policy Framework to Investable Carbon Assets

Rwanda provides a useful regional case study of how policy architecture, climate-finance institutions and project development can be integrated. By 2024, Rwanda had generated more than 1.6 million carbon credits, enough to offset millions of tonnes of CO₂ globally – positioning itself as a frontrunner in what analysts have begun to describe as East Africa's carbon diplomacy.

The foundations of Rwanda's success lie in policy clarity. In 2012, the government issued the Rwanda Energy Feed-in Tariff regulations, creating a framework for renewable electricity investment. This early legislative decision, combined with other structural reforms, helped lift electricity access from just 6% of the population in 2009 to 75% by 2024. Rwanda's energy portfolio now includes the Ruzizi III hydroelectric project, which is part of the Programme for Infrastructure Development in Africa (PIDA), involving Burundi, Democratic Republic of Congo and Rwanda. The project added 145 MW to a national grid that stands at 332.6 MW of installed capacity, with hydro and methane gas accounting for a significant share of generation.

What distinguishes Rwanda, however, is not merely its renewable energy ambition but its institutional follow-through. In 2023, Rwanda launched its first national carbon market framework, establishing a structured cap-and-trade system and improving transparency in project validation and credit issuance. This framework now supports Rwanda's credibility in international carbon markets and makes it an attractive destination for green investment. The government has distributed nearly 20,000 advanced cookstoves under the Green Gicumbi project, restored 1,100 hectares of degraded forest, rehabilitated wetlands, and harnessed methane gas from Lake Kivu to generate 56 MW of electricity, all contributing to Rwanda's credit issuance pipeline.

Rwanda's national carbon market framework is also structured to support Article 6 of the Paris Agreement, which enables countries to trade internationally transferred mitigation outcomes. This means Rwanda can earn revenue not only from the voluntary carbon market but from bilateral agreements with countries and entities seeking to meet their own

Nationally Determined Contributions (NDCs). The Rwanda Green Fund (FONERWA), formally recognised by the UNFCCC, facilitates direct access to international climate finance for government ministries, districts, and civil society. A model for channelling multilateral climate capital into domestic project pipelines.

For Kenya's policymakers and investment banks operating in the public sector advisory space, the Rwanda model offers a replicable architecture: legislation that establishes the enabling environment; state-led project development that generates measurable climate outcomes; registration under credible standards; and institutional infrastructure that can intermediate between those climate outcomes and international capital markets.

Part 2 of this series turns to Kenya's own platform — Olkaria, Menengai and KenGen's carbon credit track record and sets out the three financing levers available to convert that platform into sovereign value.

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