Voluntary Carbon Markets in Africa

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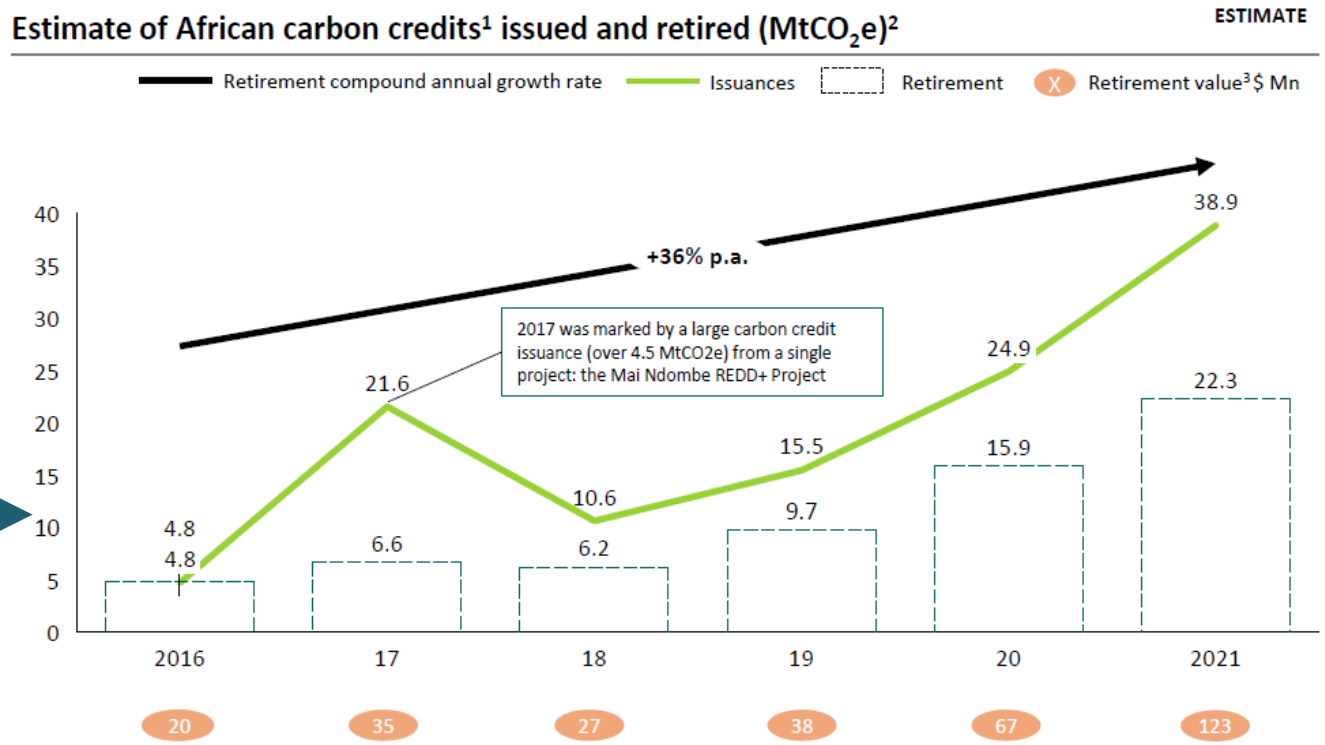
Climate financing sources

- Equity
- Debt
- Grants
- Guarantees
- Carbon markets
  - Compliance
  - **Voluntary**

Voluntary carbon markets in Africa are already growing…



>36%
compound annual growth rate for carbon credit retirements from 2016 to 2021

~$123 Mn
retirement value in 2021

1. One carbon credit represents one tonne of carbon dioxide equivalent (CO2e) avoided or sequestered.
2. MtCO2e = Million metric tonnes of carbon dioxide equivalent.
3. Retirement value is calculated as the African retired volume in that year multiplied by the average price of Africa-sourced credits in that year (regardless of vintage).

Source: Africa Carbon Markets Initiative (ACMI), September 2022

The Africa Opportunity

Voluntary carbon markets grew at a compound annual growth rate of **over 31%** from 2016 to 2021 (based on carbon credit retirements).

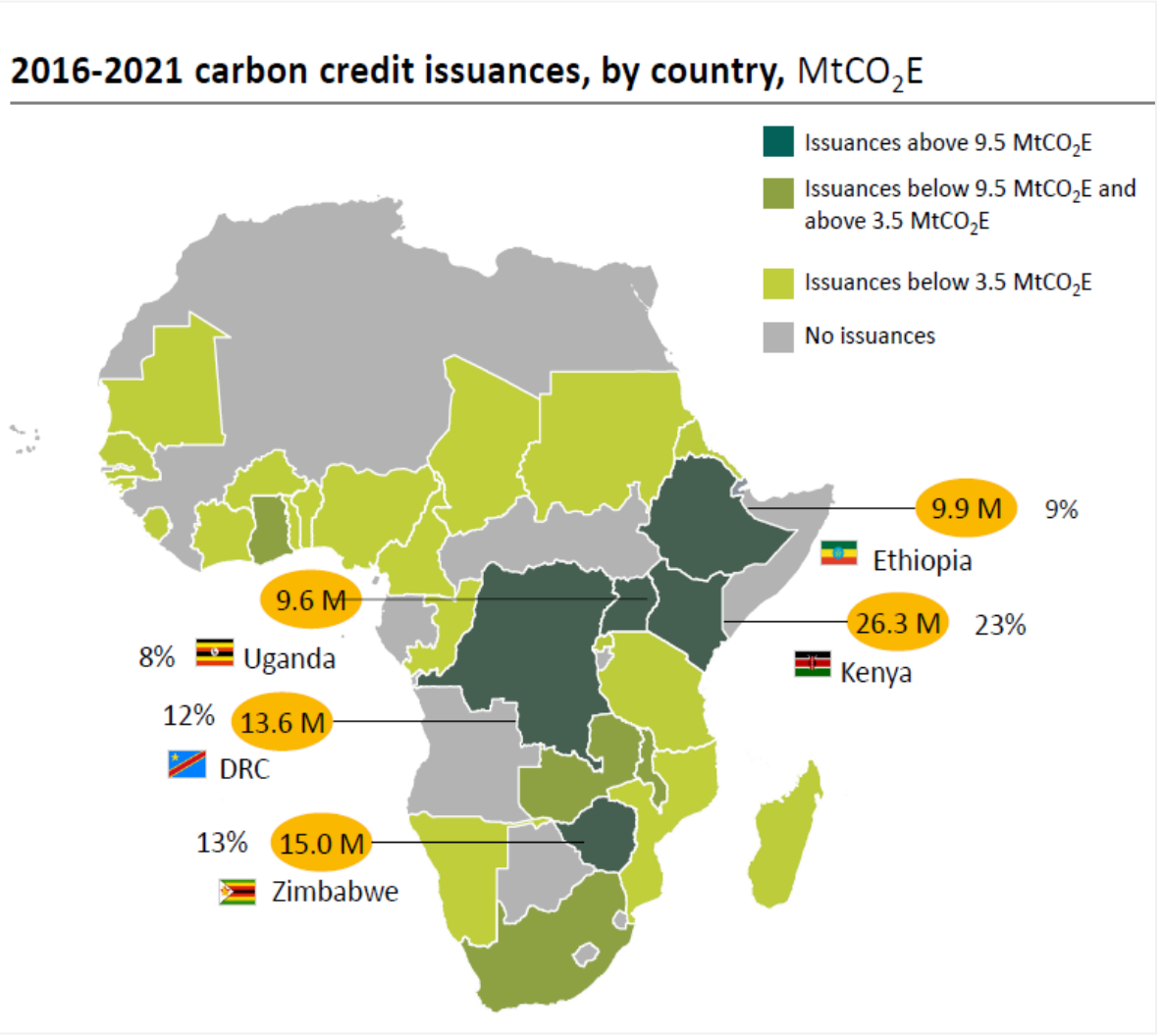
African voluntary carbon markets are growing at a slightly **faster pace** than global markets (36% CAGR from 2016 to 2021 vs. 31% for global markets)

Prices are expected to rise given supply constraints and lead time to generate credits.

As companies increasingly commit to net zero, the market is expected to **grow 15x** to 2030

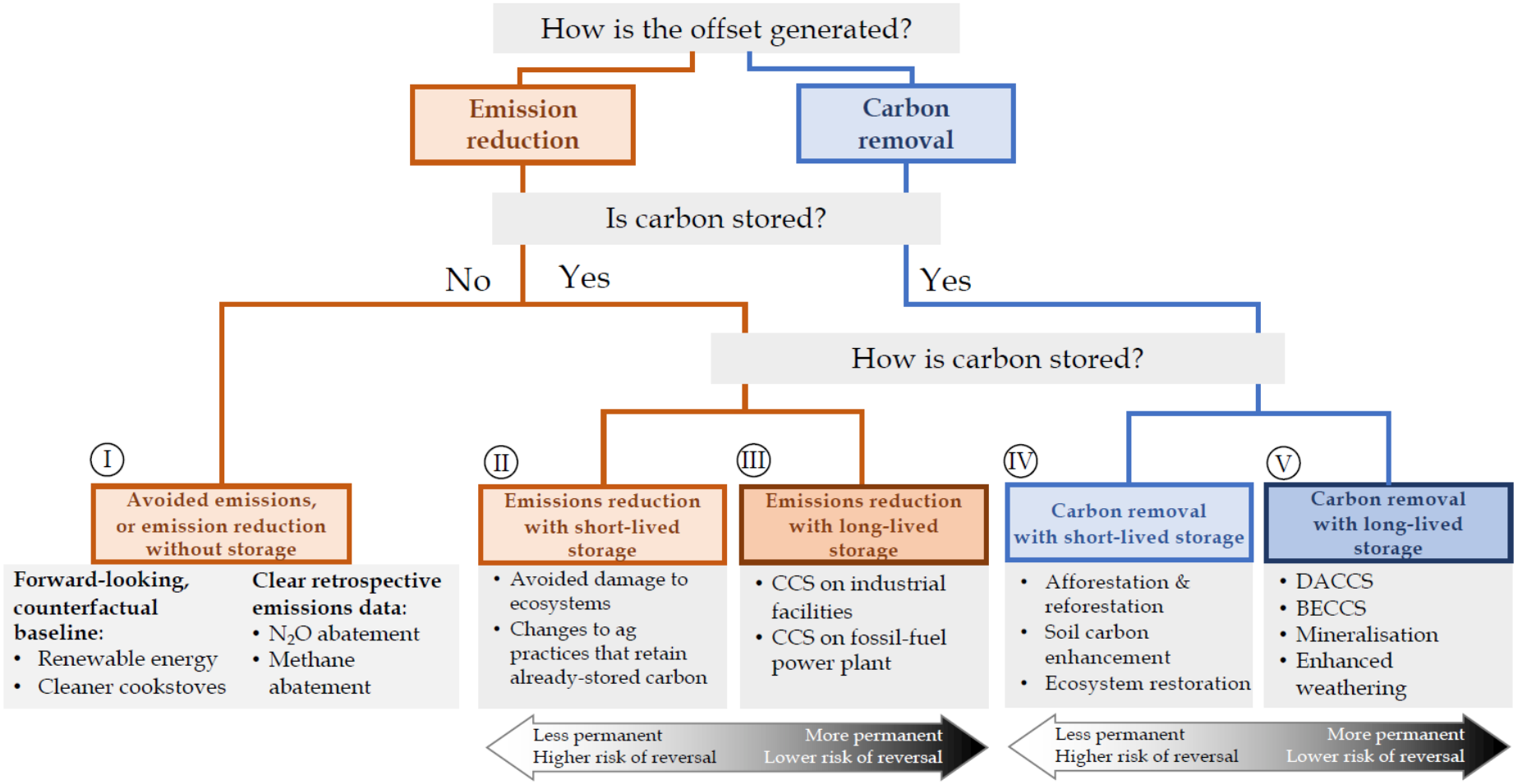
Most African countries are producing a **fraction** of their total maximum annual potential.

There is opportunity to **coordinate** carbon market development with African climate and development priorities.



Source: Africa Carbon Markets Initiative (ACMI), September and November 2022

Taxonomy of voluntary carbon credits



Source: Myles Allen et al., The Oxford Principles for Net Zero Aligned Carbon Offsetting (Oxford, UK: University of Oxford, September 2020), https://www.smithschool.ox.ac.uk/publications/reports/Oxford-Offsetting-Principles-2020.pdf

Carbon credits: Typology and pricing

Types of Carbon Credits

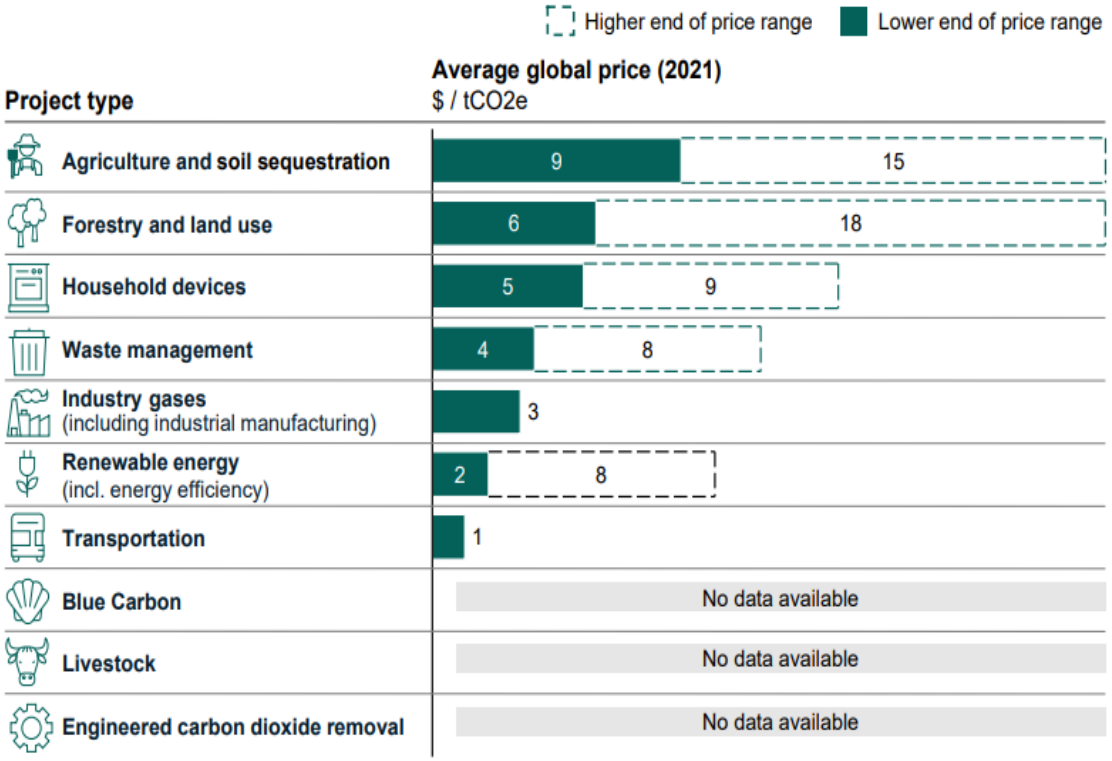
- **CORSIA*** eligible reflects carbon credits eligible for the International Civil Aviation Organization's CORSIA program.
- **Renewable energy** reflects renewable energy carbon credits that avoid GHG emissions.
- **Nature based** reflects nature-based carbon credits from projects that either avoid or remove GHG emissions.
- **Avoidance** is a basket assessment that reflects carbon credits from projects that avoid GHG emissions.
- **Removals** is a basket assessment that reflects carbon credits from projects that remove GHG emissions from the atmosphere.

These carbon credits can be secured though **a range of projects and activities** such as agriculture, carbon capture and storage, carbon capture and utilization, energy efficiency, forestry, fuel switch, fugitive emissions, industrial gases, manufacturing, renewable energy, transport, waste and blue carbon.

**CORSIA = carbon offsetting and reduction scheme for international aviation*

Source: State and Trends of Carbon Pricing, World Bank, 2022

Prices by project type



Source: Africa Carbon Markets Initiative (ACMI), November 2022

Carbon credit projects and challenges to address in Africa

Types of carbon credit projects

● Avoidance offsets ● Removal offsets

Examples of new or nascent opportunities for Africa

Nature-based solutions

Forestry and land use

- Afforestation / Reforestation
- Revegetation(ARR)
- Improved Forest Management (IFM)
- Conservation (REDD+, other)
- Peatlands
- Savannah fire management

Agriculture and soil sequestration

- Cover crops
- Fertilizer / N2O
- Grassland and sustainable land management
- No- and low-till agriculture
- Agroforestry

Blue carbon

- Saltmarsh
- Mangrove
- Seagrass
- Kelp forests
- Bottom-trawled sediments
- Seaweed farms

Renewable energy (incl. energy efficiency)

- Biomass
- Geothermal / Hydro / Solar / Wind
- Energy efficiency
- Waste heat recovery
- Fossil fuel decommissioning
- Distributed renewable energy

Household devices

- Clean cookstoves
- Solar home systems

Transport

- EV charging
- Synthetic fuels

Livestock

- Rotational grazing
- Food additives

Waste management

- Waste management
- Landfill gas (e.g., landfill methane)
- Wastewater treatment

Industry gases (incl. industrial manufacturing)

- N20 from nitric acid and adipic acid plants
- Ozone-depleting substances
- Carbon capture and storage
- Coal mine methane

Engineered Carbon Dioxide Removal (CDR)

- Direct Air Capture (DAC)
- Bio-Energy with CCS (BECCS)
- Biochar

Challenges to address to scale voluntary carbon markets in Africa

Supply (Generation) and standards

Project development:

- (a) **Limited number of project developers** operating in Africa and **low capacity of existing developers** (gaps in carbon market expertise, implementation capabilities, local expertise and core business capabilities)
- (b) **High capital intensity for project development**
- (c) **Low economic viability** for many projects due to insufficient carbon credit revenues or high opportunity costs
- (d) **Complex / unfavourable regulatory landscape** (e.g., related to land rights/ concessions, credits ownership, Article 6, split between nationally determined vs. voluntary contributions)
- (e) **Fragmented** ownership of / access to credit generating assets
- (f) **High degree of local relationships and/or community buy-in** required to ensure project success
- (g) **Distrust of project-based REDD+** opportunities vs. jurisdictional projects
- (h) **Lower ease of doing business** in some areas due to factors such as lack of infrastructure

Validation / certification:

- (i) **Methodologies not always relevant** for Africa (e.g., limited methodologies related to pastureland or diesel replacement, technology use not designed for Africa)
- (j) **High cost and long lead times** for certification, validation and verification
- (k) **Insufficient local validation/verification capacity** including lack of African-based validation/verification bodies (VVBs) and local expertise

Intermediation and financing

- (l) **High reliance on relationships, brokers and traders** to bring supply to market
- (m) **High intermediation costs,** reducing revenue share for carbon credits suppliers
- (n) **No standardized processes for rating/assessing important carbon credit co-benefits** (e.g., community impact)
- (o) **High reliance on continuous cash flow for small project developers** (small developers cannot wait for higher prices or delay credit sales)

Financing:

- (p) **Limited mechanisms to de-risk and enable investment in project development and supply** (e.g., futures contracts, project supply-chain financing, insurance)
- (q) **High cost of capital** for financing

Demand

- (r) Concerns on the **integrity of certain credit types** (e.g., emissions reduction/ avoidance related to fossil fuel transition)
- (s) **Shifting and confusing demand trends that could impact common African carbon credit types** (e.g., confusion around the role of avoidance credit types for high integrity offsets)
- (t) Pricing **may not accurately reflect the value** of Africa carbon credits and their co-benefits (e.g., energy access, biodiversity)
- (u) **Limited local demand (except for South Africa) across the credit ecosystem** (e.g., compliance markets, local voluntary purchasing)

Source: Interviews and surveys with experts

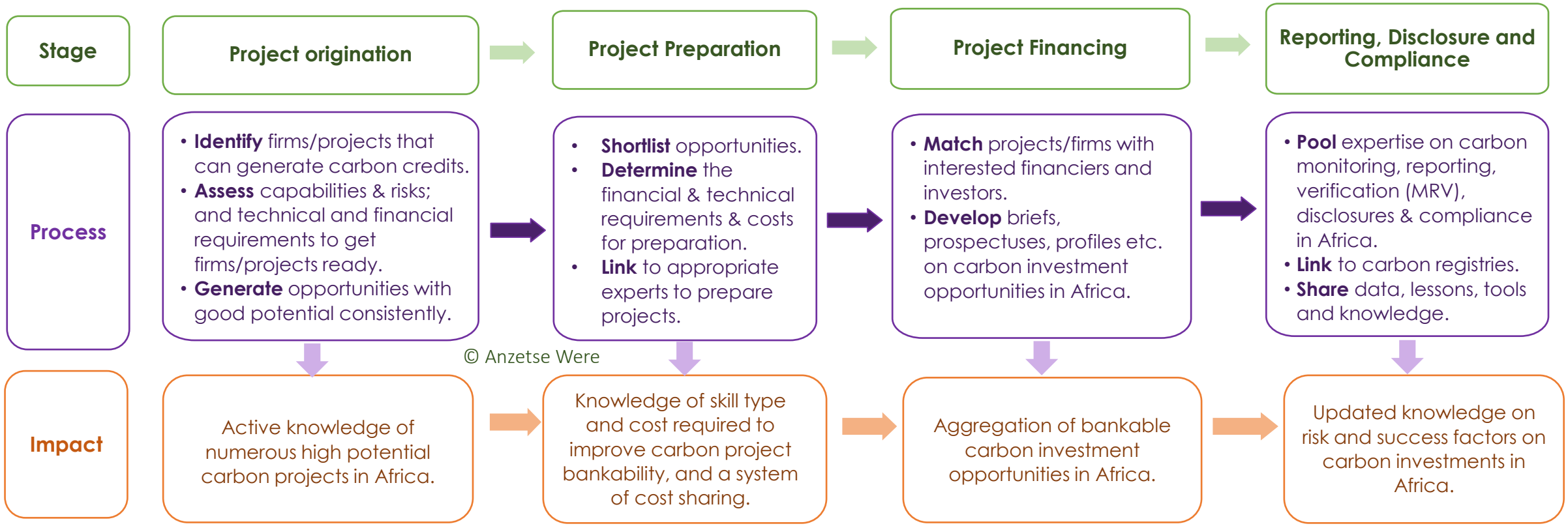
● Significant challenges

Source: Africa Carbon Markets Initiative (ACMI), November 2022

The Financial Architecture of Carbon Finance in Africa

- Some of these challenges can be addressed by investing in the financial architecture of carbon trading in Africa.
- Institutions with incentives to deepen carbon finance in Africa can adopt an intellectual approach beyond just securing deals to one focused on **building the financial architecture** that facilitates the scaling of carbon finance.
- This requires an **alignment** of mandates, compensation, performance indicators, bonuses, and business models to integrate architecture development in the process of carbon finance strategy design and implementation.

Financial Architecture for Carbon Finance Pipeline Development



Source: Anzetse Were, How to develop a green project pipeline in Africa, British International Investment September 2022

Pillars for a Conducive Environment for Carbon Trading in Africa

- As African governments get more engaged in domiciling carbon trading, there is an opportunity to be deliberate in taking an **ecosystem view** that fosters a conducive environment for carbon trading.
- The focus should centre the climate priorities of African governments and deliberately integrate the concerns, welfare and interests of **indigenous and local communities**.
- The recommendation is that the initial focus be on **building a dynamic carbon trading market** rather than an extractive focus that sees carbon trading as an immediate source of revenue.

Government Roles: Access, Efficiency and Stability

- Government Carbon and Carbon Finance Policy Coordination
- Carbon-related Legislation, Law and Reform
- Carbon-related Financial and Fiscal Incentives
- Government Carbon Finance and Sector Technical Capacity Building and Upskilling

Enablers

- Awareness Raising: Supply and Demand Side
- Carbon Finance and Sector Specific Data Infrastructure (i.e. a Carbon Exchange)
- Deepen Local Climate Financiers, Capital Markets and Institutions

Scaling and Retaining Carbon Finance

- Institutions for Carbon Project Origination and Preparation to generate carbon credit supply
- Carbon Finance Professional Service Providers (i.e. Carbon registries, Verifiers/ Accreditors, MRV experts, Carbon Finance Data collection & analysis)
- Blended Finance at Institution and Transaction level