



Climate Action
Platform Africa



KONRAD
ADENAUER
STIFTUNG

Economic and Political Incentives for Climate Action: Creating a Business Case for the Private Sector



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Abbreviations and acronyms	
AAI	Alliance for African Industrialisation
ACB	African Central Bank
ACET	African Center for Economic Transformation
ACV	Africa Climate Ventures
AfCFTA	African Continental Free Trade Area
AfDB	African Development Bank Group
AFR100	African Forest Landscape Restoration Initiative
AI	Artificial Intelligence
AIB	African Investment Bank
AIMS	African Institute for Mathematical Sciences
ALSF	African Legal Support Facility
AMF	African Monetary Fund
ARC	African Risk Capacity
ARISE IIP	ARISE Integrated Industrial Platforms
ASCE	Abundant, Sustainable, Cheap Energy
ATI	African Transformation Index
AU	African Union
BAU	Business-As-Usual
BEPS	Base Erosion and Profit Shifting
CBAM	Carbon Border Adjustment Mechanism
CCM	Compliance Carbon Market
CDC	Center for Disease Control and Prevention
CDR	Carbon Dioxide Removal
CmiA	Cotton Made in Africa
CO ₂	Carbon Dioxide
COP	Conference of Parties
CPG	Climate Positive Growth
CRDCs	Climate-resilient Debt Clauses
CRP	Conservation Reserve Program
CRVEs	Certificates of Verified Emission Reduction or Removal
CSTI	Centre for Science and Technology Innovations
CTF	Clean Technology Fund
DAC	Direct Air Capture
DACCS	Direct Air Carbon Capture & Storage
DRC	Democratic Republic of Congo
DRM	Domestic Resource Mobilisation
DSSI	Debt Service Suspension Initiative
EAC	East African Community
ECOWAS	Economic Community of West African States
EDGE	Excellence in Design for Greater Efficiencies

EMDE	Emerging Markets and Developing Economies
EMEs	Emerging Market Economies
EPC	Engineering, Procurement, and Construction
EPZ	Export Processing Zone
ESG	Environmental, Social, and Governance
EU	European Union
EU-CBAM	European Union's Carbon Border Adjustment Mechanism
EUDR	EU Deforestation Regulation
EU-ETS	EU Emissions Trading System
FDI	Foreign Direct Investment
FEED	Front-end Engineering Design
FID	Final Investment Decision
FIT	Feed in Tariff
FMP	Free Movement of Persons
FSC	Forest Stewardship Council
G20	Group of Twenty
GDIZ	Glo-Djigbé Industrial Zone
GDP	Gross Domestic Product
GHG	Green-house Gas Emissions
GOTS	Global Organic Textile Standard
GSEZ	Gabon's Nkok Special Economic Zone
GTI	Guided Trade Initiative
ICPF	International Carbon Price Floor
IDA	International Development Association
IFIs	International Financial Institutions
IMF	International Monetary Fund
IRENA	International Renewable Energy Agency
ISO	International Organisation for Standardisation
KAS	Konrad Adenauer Stiftung
KPIs	Key Performance Indicators
kWh	Kilowatt-Hour
LCOE	Levelised Cost of Energy
LEED	Leadership in Energy and Environmental Design
LICs	Low Income Countries
LNG	Liquefied Natural Gas
LRF	Land Restoration Fund
LT-LEDs	Long-Term Low Emissions Development Strategy
LTR	Land Tenure Regularisation
MBTU	Million British Thermal Units

MDB	Multilateral Development Bank
MRV	Measurement, Reporting, and Verification
MtCO ₂ eq	Million Tonnes of Carbon Dioxide Equivalent
MW	Megawatts
MWh	Megawatt-hour
NbS	Nature Based Solutions
NCCAP	National Climate Change Action Plan
NDC	Nationally Determined Contributions
NGOs	Non governmental Organisations
NRT	Northern Rangelands Trust
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
PASE	Pan-African Stock Exchange
ROI	Return on Investment
SA	South Africa
SADC	Southern African Development Community
SCSPs	Soil Carbon Sequestration Projects
SEZ	Special Economic Zone
SLB	Sustainability-Linked Bond
SME	Small and Medium-sized Enterprises
SOC	Soil Organic Carbon
STEM	Science, Technology, Engineering and Mathematics
UK	United Kingdom
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa.
UNESCO	United Nations Educational, Scientific and Cultural Organisation
US	United States
USD	United States Dollars
USDA	U.S. Department of Agriculture
VCM	Voluntary Carbon Market
WRI	World Resources Institute
WTO	World Trade Organisation

Reading Guide

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This collection of essays examines Africa's evolving position in the global economy and its growing role in shaping a sustainable and inclusive future. The essays are organised into four core sections: beginning with Africa's economic foundations, moving through opportunities for green growth, exploring international cooperation, and concluding with the importance of collective action.

The foreword and synthesis anchor the central theme of the collection: Africa's development and industrialisation are integral to global progress on climate and economic transformation. Each section outlining key supporting arguments as follows:

Section 1: Africa's Economic and Development Position in a Changing Global Context

Establishes the foundation for understanding Africa's current economic landscape and the opportunities that lie ahead. This section considers how trade and investment can drive sustainable growth, how governments can create fiscal space to finance development priorities, and how Africa's resources, innovation, and demographics contribute to global prosperity. Together, these essays outline the economic realities that underpin Africa's role in the world economy.

Section 2: Recognising and Realising Africa's Potential

Explores how Africa can translate its economic promise into measurable progress. It discusses the practicalities of investing in climate-smart industries, the contribution of integrated industrial zones to sustainable development, and the role of national leadership and citizen engagement in driving change. This section also highlights Africa's growing innovation and entrepreneurship in developing climate solutions that are both effective and locally relevant. These essays demonstrate how strategic action can unlock the continent's potential for green growth.

Section 3: Expanding the Team and Expanding the Toolbox

Examines Africa's engagement with international systems and markets. This section analyses how African countries can participate in and benefit from emerging carbon market mechanisms such as the EU Emissions Trading System and the Carbon Border Adjustment Mechanism. It also explores how global trade can contribute to climate protection when aligned with equitable and transparent policy frameworks. This section underscores the importance of global partnerships, cooperation, and the use of new policy tools to secure Africa's place in the global low-carbon economy.

Section 4: The Power of Collective Action

Focuses on the importance of collaboration in achieving sustainable transformation. It highlights how African governments are leading on policy and coordination, how inclusive approaches can protect indigenous and local communities, and how partnerships built on trust and shared purpose can strengthen implementation. The essays reaffirm that Africa's green industrialisation will succeed through collective leadership that brings together governments, the private sector, and communities.

Taken together, the essays present a clear and logical exploration of Africa's pathway toward sustainable industrialisation and climate-aligned growth. They move from establishing the economic context, to showcasing practical opportunities, to exploring global integration, and finally to reaffirming the importance of collective effort in delivering lasting progress.

Foreword and Synthesis



Prof. Yemi Osinbajo

Immediate Past Vice
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This collection of essays, *Economic and Political Incentives for Climate Action: Creating a Business Case for the Private Sector*, arrives at a decisive moment. It shifts the conversation away from tired narratives of aid dependency and climate vulnerability towards a sharper, more hopeful truth: Africa is not merely a victim of climate change or a passive recipient of external solutions. It is a solution space — rich in ideas, talent, and investable opportunities.

The central argument is straightforward and urgent: aligning economic growth with climate resilience is not a sacrifice — it is a strategic advantage. Climate Positive Growth (CPG) in Africa is both feasible and financially attractive. From sustainable industrialisation and innovative clean-energy models to emerging carbon-removal initiatives, African entrepreneurs and firms are already demonstrating that environmental stewardship and profitable business models can go hand in hand.

Realising this potential at scale demands intentional, coordinated action. African governments must strengthen regulatory frameworks that give investors clarity and confidence. Markets, trade policies and climate instruments should be designed to channel capital towards projects that deliver measurable business returns, emissions reductions, and inclusive development outcomes. In short, we must align incentives so that private investment flows to where it yields the greatest climate and socio-economic impact.

Equally important is representation. Africa must be a co-architect of the global climate economy — present at the table where the rules are written, not sidelined by them. That requires collaboration across borders and sectors to co-create fair frameworks, share lessons, and design incentives that empower domestic public and private actors to build an enabling environment for sustainable growth.

This effort cannot rest on a few champions. It must be collective. Local entrepreneurs, young innovators, communities, policymakers, and investors all have a role to play. The solutions will not primarily come from outside; they are already emerging from within — from founders designing scalable green businesses, to policymakers re-imagining industrial policy, to communities shaping resilient livelihoods.

The moment is now. African priorities must be central not as an afterthought, but because the continent's green, inclusive growth is indispensable to the world's climate future. This volume documents work already underway and maps practical routes forward. I hope that it challenges our assumptions, sharpens our strategies, and — most importantly — mobilises us to act boldly and together. I wholeheartedly recommend this collection to all.



Africa's economic and development position in a changing global context



Trade and Investment to Drive Sustainable Development in Africa

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United Nations Special
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Development Agenda

Introduction

Africa is at a pivotal moment in its development trajectory, set against the backdrop of the current geopolitical and geoeconomic landscape characterised by political polarisation, trade tensions among major economies, protectionist policies, regional conflicts, isolationist politics, resource nationalism, shifting energy policies, uncertainties around official development assistance, and economic realignments. The global economy is evidently shifting from multilateralism and open markets towards fragmented blocs. These emerging trends have a direct impact on the pathway of sustainable development in Africa.

Africa's rich natural resources and youthful population present a unique opportunity for the continent to leapfrog into a more sustainable and inclusive future. However, despite these advantages, African countries face numerous challenges including extreme poverty, rising debt levels, unemployment, political instability, high food and energy prices, severe climate impacts, limited access to capital, technology, and markets, as well as underdeveloped infrastructure— particularly in transport, energy, and digital connectivity. Trade and investment remain central to addressing these challenges, as they provide avenues for job creation, industrialisation, poverty reduction, export growth, and infrastructure development. Deepening regional cooperation and undertaking comprehensive policy reform packages are key to unlocking Africa's potential and fully leveraging trade and investment for sustainable growth.

The Current Landscape of Trade and Investment in Africa

Africa's trade and investment landscape has been adversely affected by the proliferation of restrictions on cross-border investment flows, alongside barriers to trade worldwide since the early 2020s, compared with the two preceding decades¹. This is evidenced by the reduced frequency of new investment and trade agreements, the widespread adoption of inward FDI screening mechanisms (with the number of countries implementing such measures more than doubling in the past decade), and the rising incidence of outward FDI screening by major economies². Advanced economies are responsible for around 70 percent of the trade-distorting policy measures introduced between 2022-2024, while developing countries have borne most of the effects¹. During 2000-2019, global trade in real terms expanded at an average rate of about 5 percent per year. That pace slowed to about 2.5 percent per year during 2020-2024. Moreover, after peaking in 2008, the ratio of trade to GDP in developing countries has since trended downward¹.

**Africa's trade
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1 World Bank (2025a). Global Economic Prospects 2025. Washington, DC: World Bank.

2 UNCTAD (2024). Economic Development in Africa Report 2024.

The widening of fiscal deficits and the speed at which debt rose in Africa far exceeded changes in previous waves of debt.

Despite these challenges, Africa's overall GDP is forecast to grow by 3.8% in 2024 and 4.0% in 2025, slightly above the global average, supported by increased trade flows and strategic investments in key sectors such as transport and digital infrastructure³. Africa is experiencing a gradual economic recovery with growth expected to accelerate from 3.4% in 2024 to 3.8% in 2025. FDI inflows to the continent reached \$53 billion in 2023, a 3% decline from the previous year, reflecting global uncertainty but also the region's underlying resilience.² UNDP's *Africa Investment Insights identifies* 157 opportunity areas across 16 African countries, particularly in manufacturing, agriculture, and infrastructure, highlighting the continent's attractiveness to long-term investors⁴. On the trade front, Africa exported approximately \$720 billion in goods in 2023, while importing about \$800 billion, with crude oil, gold, and agricultural commodities dominating exports³.

The widening of fiscal deficits and the speed at which debt rose in Africa far exceeded changes in previous waves of debt. Long-standing challenges including those related to ineffective fiscal and monetary policies, insufficient domestic revenue mobilisation, underdeveloped financial markets, public spending inefficiency, high risk perception, currency fluctuations, limited private sector involvement and weak adaptation to sectoral and technological change still constitute obstacles facing many African countries' ability to improve their current trade and investment landscape.

A need for an accelerated shift towards regionalisation

The evolving geoeconomic and geopolitical trends call for recalibrated partnerships and proactive regional positioning. Deepening regional economic cooperation re-emerged not only as critical in the context of enhancing trade resilience and minimising dependency on trade concentration with few countries, but also in the context of digital connectivity, health services, food security and other key areas. One of the key factors for fostering trade and investment in Africa is the rapid expansion of regional cooperation.

The African Continental Free Trade Area (AfCFTA), which came into effect in January 2021, has the potential to be a game-changer for the continent. This agreement aims to create a single market of over 1.4 billion people for goods, services, and investments across 54 African Union member states, covering over 1.3 billion people. By eliminating tariffs on 90% of goods, the free flow of services and investments, reducing trade barriers, and harmonising standards across member states, AfCFTA promises to foster intra-Africa trade, which remains disproportionately low compared to trade with external partners. As of now, intra-Africa trade stands at only about 16% of the continent's total trade⁵, a stark contrast to the European Union, where intra-regional trade makes up more than 60%⁶. If fully and effectively implemented, measures to facilitate trade and FDI under the AfCFTA stand to boost exports from Africa by more than 30 percent and intraregional exports by more than 100 percent by 2035¹.

3 Afreximbank. (2024). African Trade and Economic Outlook 2024.

4 UNDP (2022). Africa Investment Insights Report.

5 UNCTAD (2023). Economic Development in Africa Report 2023: The Potential of Africa to Capture Technology-Intensive Global Supply Chains

6 Eurostat (2024). International Trade in Goods Statistics Explained

It is vital to address the factors that have hindered effective regional economic cooperation in Africa. One major issue is the overlapping memberships in multiple regional economic communities, which often leads to conflicting regulations

This could significantly enhance industrialisation, attract investment in high-growth sectors, and raise incomes in Africa by 7 percent in the same period^{7,8}.

In addition to AfCFTA, there are several regional economic communities in Africa, including the East African Community (EAC), the Economic Community of West African States (ECOWAS), and the Southern African Development Community (SADC), that seek to reduce trade barriers and promote regional cooperation.

It is vital to address the factors that have hindered effective regional economic cooperation in Africa. One major issue is the overlapping memberships of multiple regional economic communities, which often leads to conflicting regulations, institutional fragmentation, duplicated mandates, and coordination challenges⁹. Infrastructure deficits—including inadequate transport networks, limited energy access, and poor digital connectivity—have also hindered the smooth movement of goods and services, increasing trade costs and weakened competitiveness within regional economic communities in Africa¹⁰. Political instability further undermines integration; the recent exit of Mali, Niger, and Burkina Faso from the Economic Community of West African States (ECOWAS) due to military coups has disrupted regional cohesion and undermined collective efforts¹¹. Financial constraints also persist, with many regional economic communities suffering from irregular member contributions and over-reliance on donor funding, which undermines sustainability and delays implementation of related programmes¹². Finally, a lack of public awareness and private sector engagement in regional integration initiatives reduces accountability and limits buy-in from the very actors expected to benefit from these frameworks¹³. Addressing these structural and political bottlenecks is essential to realising the full potential of African regionalism.

Addressing barriers to investment and trade in Africa

African countries need to prioritise boosting investment and productivity while adapting to a difficult international economic landscape. Besides seeking ways to take advantage of untapped opportunities for regional cooperation, African countries must undertake comprehensive packages of reforms that remove structural bottlenecks and enhancing macroeconomic stability.

A stable macroeconomic environment through well-designed fiscal, monetary, financial sector, and trade policy reforms is a prerequisite for attracting private capital and sustaining trade flows.

Employing debt relief tools, using foreign exchange guarantee mechanisms, accelerating investment in infrastructure, improving the business environment (through reducing bureaucratic hurdles and stimulating competition) and fostering human capital development significantly can enhance export performance and investment attractiveness.

7 World Bank (2020). The African Continental Free Trade Area: Economic and Distributional Effects.

8 World Economic Forum (2023). An Action Plan to Accelerate Global Business and Investment in Africa.

9 UNECA & AfDB (2016). Africa Regional Integration Index Report.

10 World Bank (2023). Regional Integration Removes Barriers to Development in Africa.

11 Reuters (2024). Junta-led Sahel States Rule Out Return to West African Economic Bloc.

12 UNECA (2020). Assessing Regional Integration in Africa IX: Next Steps for AfCFTA Implementation.

13 World Economic Forum (2023). Why the Private Sector Must Drive African Integration.

Equally critical are strong legal institutions that enforce contracts and protect investor rights. Countries that implement transparent and enforceable public private partnerships laws are considered more successful in attracting foreign direct investment¹⁴.

Private investors often cite regulatory uncertainty, market fragmentation and political instability as key barriers to investment in African trade-related sectors. Credit enhancement and guarantee schemes can provide credit assurances and effectively offer project de-risking, thereby encouraging private investors. Such assurances strengthen investor confidence, drive private-sector involvement through co-financing and risk-sharing mitigating perceived risks in investments. Instruments such as partial-risk guarantees, export credit facilities, and political risk insurance help reduce the cost of capital and improve bankability^{15,16}. Investment promotion agencies are increasingly using these tools to channel capital into high-potential sectors such as agribusiness, transport, and light manufacturing¹⁷. Multilateral Development Banks and Development Finance Institutions must also provide guarantees to cover risks, thereby improving the creditworthiness of projects. Insurance products like political risk insurance further protect against losses caused by political events, facilitating private investment in high-risk regions.

Replicable frameworks such as export processing zones (EPZs), special economic zones (SEZs), and industrial parks have demonstrated success in facilitating trade and industrialisation. These models provide investors with streamlined regulations, tax incentives, and infrastructure services that enhance competitiveness and productivity¹⁸.

Conclusion

While Africa is seeking to redefine its role in global trade and investment amid an increasingly difficult global economic environment.

While Africa seeks to redefine its role in global trade and investment amid an increasingly challenging global economic environment marked by rising trade restrictions and geopolitical tensions, its development narrative needs to be redefined. It is not one of vulnerability but rather a story of immense opportunities amid challenges. The “old aid” rhetoric needs to be abandoned and replaced with an investment-driven model for sustainable development. Trade and investment remain the main drivers of Africa’s sustainable growth development¹⁹. Through effective policy reforms that enhance macroeconomic stability and deepen regional economic cooperation, African countries can integrate fully into global markets and boost their economic resilience.

14 African Legal Support Facility (ALSF) (2023). PPP Legal and Institutional Frameworks in Africa. World Bank Group. African Legal Support Facility (ALSF) (2023). PPP Legal and Institutional Frameworks in Africa. World Bank Group.

15 UNECA (2022). De-risking Investments in Africa. United Nations Economic Commission for Africa.

16 Abdel-Latif H. (2025), Khandelwal, K., & Zhang, L. Understanding Trade Dynamics in Sub-Saharan Africa (WP/25/45). International Monetary Fund.

17 World Bank (2025b). Africa’s Pulse, No. 31, Spring 2025. Washington, DC: World Bank.

18 WTO (2024). World Trade Report 2024: Trade and Inclusiveness – How to Make Trade Work for All. Geneva: World Trade Organization.

19 Kharas H. and Mohieldin M. (2025), Four Priorities for Success at the Sevilla Fourth International Conference on Finance for Development, Centre for Sustainable Development at Brookings.

Fiscal Space: Strategies For Expansion

**Vera Songwe and
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**African countries'
tax receipts average
under 16% of GDP,
compared to an
OECD average of 33%.**

Africa's Fiscal Crunch: How Debt, Climate, and Declining Revenues Are Undermining Africa's Development

Fiscal space – the room a government has to make discretionary spending choices without jeopardising its long-term financial stability or access to capital markets – is a critical determinant of a nation's ability to invest in development and achieve long-term growth.

When a government's tax receipts and other revenues do not match the spending needs and pressures it faces, its options inevitably narrow onto only the areas of highest political priority. Long-term investment – essential for growth, but where the returns may not be immediately visible – will often be the casualty: areas such as infrastructure, higher education, climate resilience and nature conservation. Core development priorities, such as health and school education, may be sacrificed to pay more immediate bills, such as servicing debt.

Countries with little fiscal space are especially vulnerable to crises. When an extreme weather event hits – flood, drought, hurricane or wildfires – there are few resources available for disaster relief and recovery.

Today, many African countries have little or no fiscal space for discretionary spending in these areas. Since the Covid pandemic they have been hit by a perfect storm of lower growth rates, reduced tax revenues, rising interest rates, and rising debt levels.

African countries' tax receipts average under 16% of GDP, compared to an OECD average of 33%. This is less than pre-pandemic levels¹. Debt, meanwhile, has soared: the average debt-to-GDP ratio among African countries is a little over 60%, up from 42% in 2016 (and 23% in 2008)². Interest rates on government borrowing (for 10-year sovereign bonds) are generally now above 10%, compared to 2-5% in high income countries³. In sub-Saharan Africa, interest payments as a percentage of budget revenues stand at an average of just under 10%⁴. In many cases this is more than is being spent on health or education.

This combination of low tax revenues and high debt servicing is putting immense pressure on most African countries. And they are being exacerbated by the accelerating impacts of climate change.

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- 1 OECD (2024), Revenue Statistics in Africa 2024. https://www.oecd.org/en/publications/2024/12/revenue-statistics-in-africa-2024_a51701c6.html#
 - 2 IMF Datamapper: Government Debt (% of GDP). https://www.imf.org/external/datamapper/GGXWDG_GDP@AFRREO/SSA/OEXP/OIMP/COM. Accessed 27 May 2025.
 - 3 Investing.com: Bonds. <https://uk.investing.com/rates-bonds/>. Accessed 27 May 2025.
 - 4 World Bank data: Interest payments (% of revenue) https://data.worldbank.org/indicator/GC.XPN.INTP.RV.ZS?name_desc=false&locations=ZG. Accessed 27 May 2025.

The World Meteorological Organisation estimates that climate change is costing African countries 2-5% of GDP annually and many are diverting up to 9% of their budgets responding to climate extreme.

The World Meteorological Organisation estimates that climate change is costing African countries 2-5% of GDP annually and many are diverting up to 9% of their budgets responding to climate extremes⁵. This sets up an increasingly vicious circle⁶. Worsening climate impacts demand higher spending on disaster relief and climate resilience. Countries have to borrow more. But climate impacts are also worsening future growth prospects, leading to a higher cost of debt and higher debt service payments – and therefore less fiscal space for investment in growth or resilience.

For all these reasons – and with international development aid on a rapidly declining path – expanding fiscal space has become a priority for most African governments. Action needs to be taken on both taxation and debt.

Unlocking Growth from Within: The Potential of Domestic Resource Mobilisation and Reducing Illicit Financial Flows

Most African countries governments today acknowledge that they need to raise more from domestic taxes – what is often called ‘domestic resource mobilisation’ or DRM. This is of course easier said than done. The political consequences of raising taxes are never comfortable and may sometimes look dangerous. But equally there are examples of countries, such as Senegal, Botswana and Rwanda, which have implemented significant tax reforms and significantly boosted their revenues as a result.

The general formula, the IMF recommends, comprises broadening the tax base (the activities and sectors which are taxed), eliminating tax reliefs and exemptions, and improving tax administration, including digitalisation of tax returns and customs and effective enforcement mechanisms⁷. Fossil fuel subsidies, which tend to be expensive and badly targeted at those on lowest incomes, should be reduced. Corruption needs to be tackled. And ‘medium-term financial frameworks’ should be adopted to help governments plan and manage their public finances, including clear fiscal targets, improved budget transparency and more efficient spending.

The IMF estimates that low-income countries could generate additional tax revenues worth nearly 7% of GDP through these kinds of measures⁸. The prize, in terms of resources available for investment in growth and climate resilience, would be huge.

There is an important international component to DRM. Considerable revenues are lost to African countries as a result of illicit financial flows and the under-taxation of multinational corporations.

5 World Meteorological Organization (2024), State of the Climate in Africa 2023.

<https://wmo.int/publication-series/state-of-climate-africa-2023#>.

6 Expert Review on Debt, Nature and Climate (2024). Tackling the Vicious Circle. Interim Report. <https://debtclimate.org/reports/tackling-the-vicious-circle-the-interim-report-of-the-expert-review-on-debt-nature-and-climate/>.

7 IMF and World Bank (2024). Stepping up domestic resource mobilisation: A new joint initiative from the IMF and World Bank. <https://www.imf.org/en/Research/IMFandG20>.

8 Benitez J.C., Mansour M. and Vellutini C. (2023). Building tax capacity in developing countries. Staff Discussion Note SDN/2023/006. IMF. <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2023/09/15/Building-Tax-Capacity-in-Developing-Countries-535449>

It is estimated that African countries lose approximately \$90 billion a year in illicit flows, mainly from tax evasion and avoidance, bribery, corruption and criminal activities.

It is estimated that African countries lose approximately \$90 billion a year in illicit flows, mainly from tax evasion and avoidance, bribery, corruption and criminal activities. This represents a little under 4% of its GDP⁹. National and international efforts to prevent and reduce such flows, such as the detection and prosecution of cross-border tax evasion, anti-money laundering laws and practices, and regulations on the transparency of company ownership, all need to be strengthened and given higher priority.

African countries experience particular losses from global companies' ability to shift their accounting of profits to the lowest-tax jurisdictions. The OECD's Inclusive Framework on Base Erosion and Profit Shifting (BEPS) provides an important basis for the fair taxation of multinationals. But progress to make the Framework operational and effective has been slow and needs to be accelerated.

Easing the Debt Burden to Finance Africa's Climate Future

At the same time, it is becoming increasingly recognised that many African countries cannot get onto a path of sustainable growth without action being taken to address their high levels of sovereign debt. In the report of the Expert Review on Debt, Nature and Climate we recently co-chaired, entitled *Healthy Debt on a Healthy Planet*, we show how this can be done in ways which will also address climate and nature vulnerabilities¹⁰.

First, borrower countries and their creditors need to make greater use of contingency clauses in debt contracts. These ensure that emerging market and developing countries can postpone major outlays or avoid a rapid rise in debt costs in the immediate aftermath of an emergency such as an extreme weather event. Two options that provide flexibility to borrower countries and are relatively easy for the market to price are 'maturity extension' clauses that allow a borrower country to extend the maturity of its debt by two years at a pre-defined interest rate, and 'interest capitalisation' clauses that allow a borrower country to capitalise the interest in the event of unexpected shocks. Such clauses offer protection against both foreseeable and unforeseeable shocks. Repayments are deferred, not reduced or cancelled. They also benefit creditors, as the alternative might be a default and drawn-out restructuring.

Another alternative is to explicitly define eligible shocks, as climate-resilient debt clauses (CRDCs) and hurricane bonds have done. Unlike non-specific generic contingency clauses, such provisions generally do not carry a significant price penalty or lower the value of an exit instrument in a restructuring, as they can only be exercised in narrowly defined circumstances and on a limited number of occasions – typically when a disorderly default would otherwise be likely. They do not generally change the net present value of the loan or bond.

9 UNCTAD (2021). Tackling Illicit Financial Flows for Sustainable Development in Africa. https://unctad.org/system/files/official-document/aldcafrica2020_en.pdf.

10 Expert Review on Debt, Nature and Climate (2025). *Healthy Debt on a Healthy Planet: Towards a Virtuous Circle of Sovereign Debt, Nature and Climate Resilience*. <https://debtnatureclimate.org/reports/healthy-debt-on-a-healthy-planet-towards-a-virtuous-circle-of-sovereign-debt-nature-and-climate-resilience/>.

The IMF, multinational development banks and creditor governments should now be encouraging the systematic uptake of these kinds of shock-absorbing clauses, both when new loans are issued and when countries undertake debt restructuring or refinancing.

The IMF, multinational development banks and creditor governments should now be encouraging the systematic uptake of these kinds of shock-absorbing clauses, both when new loans are issued and when countries undertake debt restructuring or refinancing.

Second, borrower countries can use debt-for-development swaps to help release resources for development priorities – including climate resilience and nature conservation – without increasing debt. A debt swap usually involves a development finance institution providing a guarantee which allows government debt to be refinanced at a lower interest rate, on condition that the savings generated are directed to an agreed purpose. In the case of debt-for-nature or debt-for-climate swaps, the resources are earmarked for nature conservation or climate resilience projects or programmes, but other uses of kinds of swap, for example for education spending, have also been undertaken. A clear set of key performance indicators (KPIs) need to be defined to provide accountability for the outcomes.

There are two challenges to scaling up debt swaps. They only work for pockets of high-yielding debt where a country is otherwise solvent. If a country has a lot of expensive and unsustainable debt, a restructuring or refinancing is more appropriate to create long-term fiscal space. And debt swaps tend to be bespoke instruments which take time to negotiate, giving them high transaction costs relative to the additional funds released. For this reason efforts are now under way to create standardised templates to reduce their costs. This is welcome.

Third, the international community needs to grasp the nettle of debt relief. New debt restructuring and refinancing programmes need to be made available to two different group of countries: those facing a rising risk of insolvency, and those whose debt is not fundamentally unsustainable, but face short-term liquidity problems. In both cases, we believe that the urgency of the climate crisis makes it vital that debt relief is attached to the implementation of well-costed climate resilience and nature conservation plans.

Countries in or at high risk of debt distress and judged to need their debt restructured should be able to receive additional debt relief in return for binding nature- and climate-related commitments that are expected to enhance resilience and thereby reduce future economic risks and stimulate growth.

For countries with high debt levels, but not yet classified as in debt distress, we propose the creation of a ‘class-based’ debt refinancing initiative to enable such nature- and climate-related investments. Refinancing existing debt at lower interest rates offers a means to create fiscal space and improve access to finance by reducing the cost of borrowing. All creditors – domestic and international, concessional and market-rate, public and, when applicable, private – would provide refinancing at IDA-like terms over a 10-year horizon. The refinancing could be released in stages, as participating LICs fulfil their commitments to undertake accompanying reforms and use the additional fiscal space and borrowing power to make nature- and climate-related investments that could enhance resilience and stimulate growth.

This proposal would operate in similar way to the Debt Service Suspension Initiative (DSSI) established in 2020 at the height of the COVID-19 pandemic. The mechanism would target a narrower group of countries (low-income or least developed countries). Private creditor participation would be compulsory not voluntary: participating countries would be expected to negotiate refinancing on comparable terms with their private

sectors creditors and reschedule their debt to these creditors on similar terms if these negotiations fail. And the proposal would be seeking a refinancing rather than a debt rescheduling from all creditors (hence treating bilateral and multilateral creditors the same). This may lead private creditors to incur losses on the value of their claim, which could therefore be considered a default on that debt category. However, since eligible countries would have no market access (and potentially no sovereign credit rating), this condition would not be too onerous for the debtor country.

From Risk to Resilience: Unlocking a Virtuous Circle for African Development

Raising the tax take in African countries, and addressing high and unsustainable debt, are pre-requisites for climate-smart development in the decades ahead.

Raising the tax take in African countries, and addressing high and unsustainable debt, are pre-requisites for climate-smart development in the decades ahead. But Africa also needs to commit to pursuing such development. The 'vicious circle' of rising climate impacts, lower growth, higher debt and falling fiscal space can be escaped. There is an alternative 'virtuous circle' available in which investment in low-carbon and climate-resilient development reduces risk, speeds growth and reducing the cost of debt, creating additional fiscal space. If countries commit to this path, and the international community supports them through new and additional sources of financing, both public and private, there is yet hope for the future.

Global Prosperity - Powered by Africa

Jean-Paul Adam

Jean-Paul Adam,
Director, Policy,
Monitoring and
Advocacy, United
Nations Office of the
Special Adviser on
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Africa's persistent development challenges ranging from low productivity and capital shortfalls to fragmented markets are often treated as barriers to growth. Yet, when addressed systemically, these challenges reveal opportunities to position Africa as a global engine of inclusive prosperity. This essay examines how strengthening country systems, improving productivity, and leveraging development banks can unlock Africa's vast potential. It explores how clearing bottlenecks to institutional capital and remittances, as well as advancing intra-African trade, can convert domestic resilience into a platform for global relevance. By tackling these interconnected areas, Africa's recurrent problems may yet become the foundation of a more equitable global economy.

Introduction

Once again, we are having a conversation on how to deal with the latest expressions of global malaise. Uncertainty and unpredictability mark the trajectory of the global economy.

Uneven growth and inequality are not new phenomena. But as we face up to the latest manifestation of global disparities where Official Development Assistance flows are falling and the Sustainable Development Goals are off-track, we need to properly examine once again the root causes of the perpetuation of this imbalance.

The development gap has underpinned the rationale for development aid for decades. While some progress has been made- what are the missing ingredients? In the majority of cases, development aid has failed to address the interrelated priorities of strong country systems and productive capacity. By strong country systems, we refer to the ability of state institutions to control and direct the flow of economic and financial flows towards productive assets. The lack of systems for investment in productive assets, and the lack of domestically generated and deployed capital and credit, continue to be emblematic of development efforts by Africa in particular.

Africa faces a paradox of development. It has huge energy potential (both renewable and fossil fuel based) while almost 600 million people are not connected to electricity¹, and only 25% of rural communities have reliable access. It has two thirds of the worlds undeveloped arable land and yet has the highest rate of food insecurity globally. And finally, it has the least financing capacity, even though between 500-600 billion USD are potentially available for mobilisation per annum².

This triple paradox also represents a three-pronged opportunity. Starting with financial systems anchored in strong country systems, we can create a framework to move beyond reliance on development aid. And unleashing Africa's energy and food systems can form the basis of productive growth with globally positive repercussions.

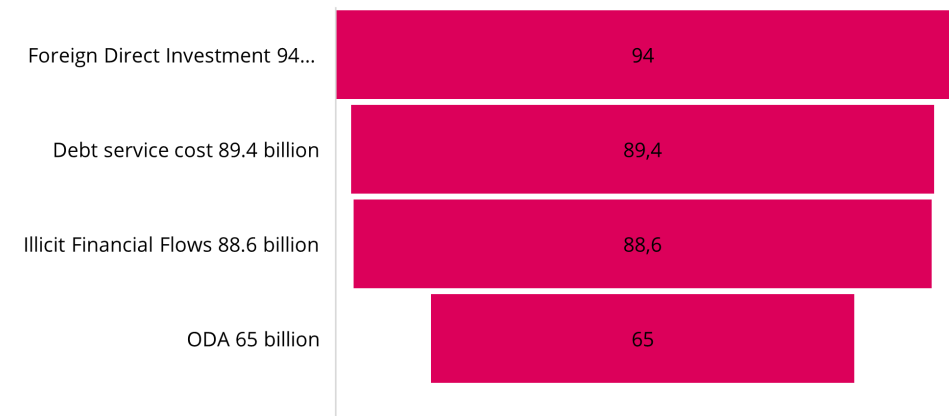
Africa faces a paradox of development. It has huge energy potential (both renewable and fossil fuel based) while almost 600 million people are not connected to electricity.

1 UNSDG Database - [UNSDG](#)

2 [Solving paradoxes of Africa's development: financing, energy and food systems | Office of the Special Adviser on Africa](#)

Turning Africa’s recurrent problem into a global Opportunity

Figure 1. A comparison of major inflows and leakages for Africa in billion USD (Most recent data)



Source: OSAA staff compilation from UN Trade and Development (2024), World Bank Development indicators (2024), OECD (2023)

Africa’s paradox is due to a mix of factors, including the legacy of colonialism and the failure to build resilient and inclusive institutions. Tackling this paradox addresses the reality of limited resources available for traditional development aid, while also situating Africa as the centre for global productive growth.

The two largest sources of inflows for Africa are Foreign Direct Investment (FDI) at 94 billion USD and Official Development Assistance (ODA) at 65 billion USD.

The two largest sources of inflows for Africa are Foreign Direct Investment (FDI) at 94 billion USD and Official Development Assistance (ODA) at 65 billion USD (Figure 1 above). This contrasts with Illicit Financial Flows at 88.6 billion USD, while the high cost of debt servicing represents a record 89.4 billion USD in 2024.

The estimated \$500–600 billion in capital leaving the continent annually, largely un-mobilised represents however additional existing pools of domestic resources that remain under-utilised. These flows include — pension funds, sovereign wealth, and diaspora remittances. Unlocking and channelling this capital into strategic sectors could meet Africa’s development needs while stimulating broader global economic activity.

The global economy is currently marked by low investment and sluggish growth, as highlighted in the IMF’s 2024 World Economic Outlook. Yet, Africa stands out with the highest regional growth rates, projected to be 3.8% in 2025³, albeit unevenly distributed. This paradox presents a unique opportunity: targeted investment in Africa’s energy and food systems can catalyse productive growth not only on the continent but globally, by enhancing resilience and supply chain stability.

3 [Regional Economic Outlook for Sub-Saharan Africa, April 2025 | Recovery Interrupted](#)

Moreover, the inefficient deployment of capital within Africa undermines both regional and global economic effectiveness. This inefficiency is compounded by the continent's rapidly growing population. Africa's demographic dividend is a double-edged sword: it can be a global opportunity or a global risk.

Strategic investments in digital infrastructure, education, and skills development are essential to harness this potential. Doing so would not only empower Africa's youth but also contribute to a more dynamic and inclusive global economy.

Developing strong country systems

Strong country systems are essential for effective Domestic Resource Mobilisation (DRM). Robust institutions and governance frameworks enable countries to better capture existing financial flows, such as taxes, remittances, and savings, which leak through inefficiencies or illicit financial flows.

Effective country systems also ensure that resources are allocated more strategically, supporting national development priorities and reducing reliance on external aid. This institutional strength is a prerequisite for deepening domestic capital markets, which in turn enhances financial inclusion and provides long-term financing options for infrastructure and social investments.

Moreover, predictable and transparent systems are key to attracting private sector investment. When investors trust that policies are stable and funds are well-managed, they are more likely to commit capital, creating a virtuous cycle of growth and investment that benefits both Africa and the global economy.

Enhancing Productivity

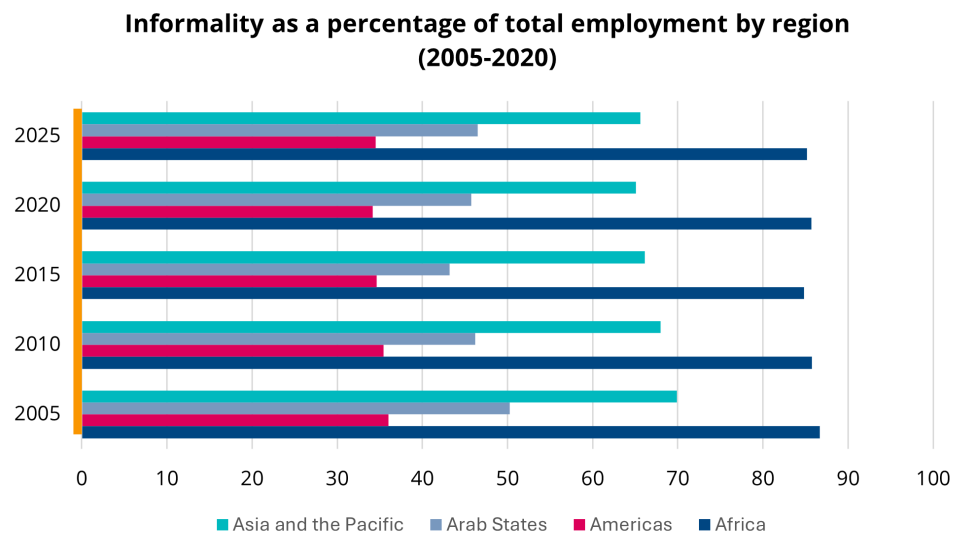
Africa's productivity remains significantly below the global average—output per worker in Sub-Saharan Africa is estimated to be less than 25% of the global average⁴. Improving productivity is therefore not only essential for Africa's development but also a potential engine for global growth. To play this catalytic role, Africa and its partners can enhance productivity through:

1. Technology transfer, especially digital technologies, to modernise sectors and improve efficiency;
2. Education, skills, and capacity building, to equip its growing workforce with tools for innovation and competitiveness;
3. Reliable access to financing, to support entrepreneurship and scale productive enterprises.

Informality currently defines Africa's workforce- more so than any other region as indicated in figure 2 below). This informality is both a symptom of weak country systems and a source of perpetuation of this weakness. These investments outlined above will also support the gradual formalisation of Africa's workforce, further developing domestic capital formation, domestic resource mobilisation and regional and global economic integration.

4 World Bank, 2025- Africa's Pulse, No. 31, Spring 2025: [Improving Governance and Delivering for People in Africa](#)

Figure 2: Informality characterises productive employment in Africa

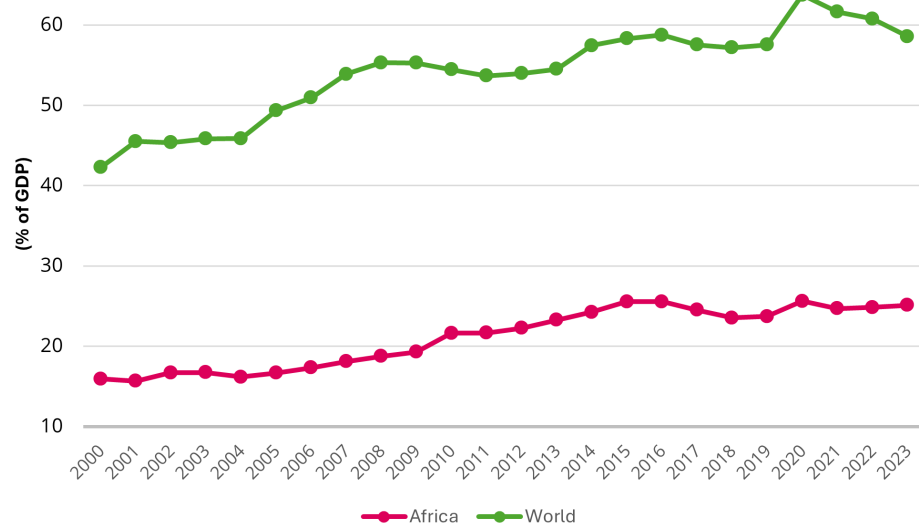


Source: OSAA staff calculations based on ILO-STAT.

Development Banks at the forefront of deploying capital to productive sectors

Strengthening the capacity of national and regional development banks is vital for sustaining investment in Africa's productive sectors, with Africa lagging behind peers in terms of private sector access to domestic credit (figure 3).

Figure 3: Widening Gap in Access to Domestic Credit: Africa's Private Sector Credit Remains Below Global Levels (percentage of GDP, 2000–2023)



Source: OSAA staff calculations based on World Bank World Development Indicators.

These institutions are uniquely positioned to catalyse domestically driven growth by aligning financing with national development priorities.

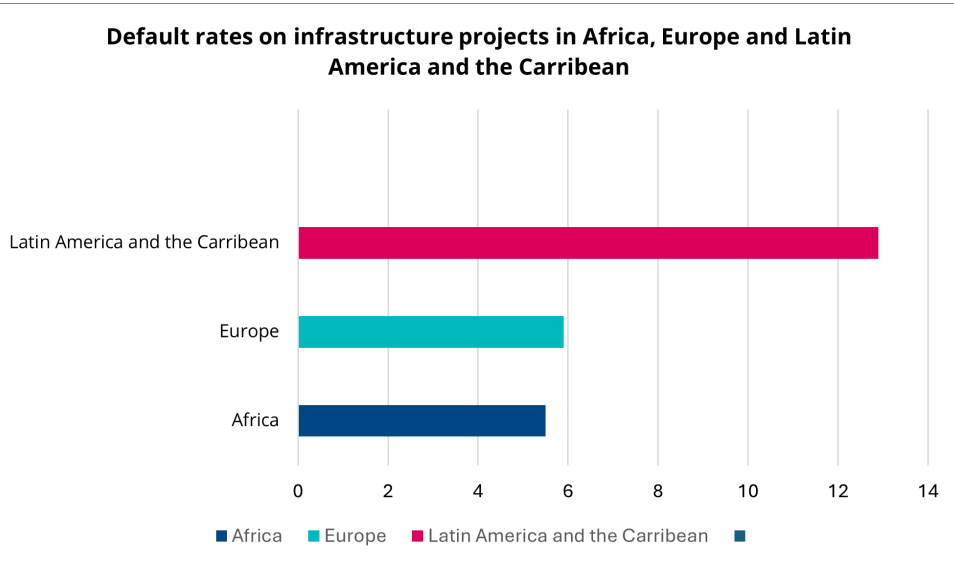
These institutions are uniquely positioned to catalyse domestically driven growth by aligning financing with national development priorities. They also serve as effective intermediaries for channelling external capital into local economies. A compelling example is the Development Bank of Rwanda’s 2023 Sustainability-Linked Bond (SLB). Backed by the World Bank, this bond mobilised international financing while tying returns to sustainability targets, including ESG improvements and support for women-led businesses⁵.

To scale such innovations, multilateral development banks (MDBs) must play a stronger role in de-risking investments, making them more attractive to private capital. Equally important is the use of local currency lending, which reduces exchange rate risk and enhances financial stability. Empowered development banks can thus become engines of inclusive, resilient, and sustainable growth across the continent.

Clearing the path for institutional investment and remittances

Significant sources of finance are currently not sufficiently deployed in Africa because of unfounded fears of risk—amplified by global risk systems used by credit rating agencies. In fact, actual default rates on infrastructure projects show a lower default rate in Africa than in any other region, even while Africa pays a disproportionately high rate to access international capital (Figure 4 below).

Figure 4: Africa has the lowest default rate on infrastructure projects



Source: Moody’s Data Analytics 2022: [BP61798_Examining-Infrastructure-as-an-Asset-Class.pdf](#)

5 World Bank, 2023- World Bank approves first sustainability bond- Rwanda private capital mobilisation

De-risking is essential to unlock institutional investment in Africa, particularly from pension funds and sovereign wealth funds. These investors manage trillions globally but require stable, predictable environments to commit long-term capital. Africa's current risk perception.

De-risking is essential to unlock institutional investment in Africa, particularly from pension funds and sovereign wealth funds. These investors manage trillions globally but require stable, predictable environments to commit long-term capital. Africa's current risk perception—driven by macroeconomic volatility, weak governance and institutions, and shallow financial markets—limits this potential. De-risking mechanisms, such as guarantees, blended finance, and policy reforms, can mitigate these concerns and channel institutional capital into productive sectors.

These flows, if better harnessed through diaspora bonds, digital platforms, and matched funding schemes, can provide critical financing for infrastructure, SMEs, and social services.

To realise this opportunity, key actions include:

- > Strengthening regulatory frameworks and financial governance;
- > Expanding risk-sharing instruments with MDB support;
- > Developing local capital markets and instruments in local currency;
- > Creating investment vehicles tailored to diaspora and institutional investors.

These steps are vital to transform Africa's financial potential into a driver of sustainable, inclusive growth.

Intra-African trade- Source of resilience and platform for global growth

Intra-African trade, driven by the African Continental Free Trade Area (AfCFTA), offers a powerful platform for resilience and global growth. Full implementation could generate \$450 billion in income gains by 2035, lifting 30 million people out of extreme poverty and boosting intra-African trade by over 80%⁶.

This growth can enhance Africa's prosperity while creating new markets and supply chains that benefit the global economy. A focus on sustainable value chains—especially in agriculture, manufacturing, and services—can ensure that capital is deployed effectively, maximising decent job creation and inclusive development.

Africa's critical energy transition minerals (like cobalt, lithium, and rare earths) offer a unique opportunity for win-win global partnerships, supporting the global green transition while driving local industrialisation. Additionally, carbon markets can be leveraged to finance Africa's low-carbon growth, enhancing climate resilience and attracting green investment. These combined strategies position Africa as a key player in shaping a more sustainable and equitable global economy.

Conclusion: We've heard this before- but why has it not happened yet?

Africa represents an opportunity that never seems to be realised. Of course, the reasons for the lack of progress are complex. But at the most fundamental level, the issue has been the starting point.

6 World Bank, 2020, [The African Continental Free Trade Area- Economic and distributional effects](#)

With the right strategies, Africa can catalyse a new era of shared global prosperity. Strong country systems are the foundation: they enable more systematic domestic resource mobilisation, reduce leakages, and build investor confidence.

Financing is the obvious starting point, but by focusing on external drivers of capital- FDI and ODA- we have failed to unlock the institutional drivers of change at a national level. Africa already generates significant resources. But these resources are not mobilised.

Tapping into these resources allows more effective deployment of capital for growth. Africa is the first beneficiary- but the global impact of this opportunity will arguably be as pronounced when factoring in Africa's demographics.

With the right strategies, Africa can catalyse a new era of shared global prosperity. Strong country systems are the foundation: they enable more systematic domestic resource mobilisation, reduce leakages, and build investor confidence. This must be paired with bold investment in Africa's productive capacity—especially in sustainable energy and food systems, which align with global priorities for climate resilience and food security.

African governments have a central role to play, but they cannot do it alone. Development partners, international financial institutions (IFIs), civil society, and private investors must step up. Their role is threefold:

1. **Support strong country systems**, especially domestic resource mobilisation, using digital tools to enhance efficiency and transparency.
2. **Transform productive sectors** by investing in value chains, technology transfer, and skills development.
3. **De-risk African economies**—IFIs and MDBs must increase concessional finance for long-term sectors like health and education, while deploying guarantees and blended finance to unlock private capital in energy and food systems.

An integrated approach will accelerate impact—but even incremental progress matters. Past aid efforts often fail by focusing too heavily on external capital. True transformation begins by asserting control over existing flows and deploying them effectively.

2

Recognising and realising Africa's potential



Making Climate-Smart Business Work in Africa: Understanding the Investment Realities

James Mwangi

Co-Founder and
CEO, Africa Climate
Ventures (ACV)

The climate crisis is not merely an environmental challenge; it is an opportunity for Africa. The continent lies at the heart of some of the most innovative solutions to climate change, and its potential to become a cost-competitive provider of climate solutions is undeniable. However, critical action is required to overcome the structural and market barriers that hinder the full realisation of this potential.

At Africa Climate Ventures (ACV), we are capitalising on this opportunity to build and scale African, climate-smart businesses that can thrive in large, emerging global green markets. We believe that Africa's next economic transformation will be climate-led, driven by ventures that unlock the continent's vast natural comparative advantages. Our current portfolio and upcoming deployments reflect this thesis.

Through Great Carbon Valley in Kenya, we are partnering with global climate tech companies such as Tencent and Climeworks to deploy leading direct air capture technologies, positioning Africa at the frontier of carbon removal and ensuring that the region participates in shaping a new global carbon asset class. Our investment in Safi Organics, a Kenyan biochar innovator, demonstrates how local ventures can simultaneously deliver climate removals, improve soil health, and enhance smallholder farmer productivity, unlocking growth at the intersection of low-carbon agriculture and carbon markets. We are also backing scalable, demand-side solutions: with Koko Networks, a pioneer in clean cooking, ACV is enabling expansion into Rwanda, advancing health, gender equity, and deforestation reduction while creating investable carbon credit streams.

Taken together, these ventures show how Africa can anchor global climate markets not only as a beneficiary of climate finance, but as a competitive supplier of solutions and credits to the world. Yet to realise the region's vast untapped potential, we must look beyond the obvious and focus on actions that will unlock the full promise of a green economy for Africa.

Climate Action as a Path to Solving African Development Challenges

Africa's development challenges are vast, but they present equally enormous opportunities for climate-smart businesses. These businesses are not just about reducing carbon footprints—they are about building systems that lift millions out of poverty creating solutions for food security, energy access, and sustainable land management. From Koko Networks Rwanda clean cooking solutions that help to reduce indoor air pollution and deliver cost savings to low-income households to Safi Organics organic biochar fertiliser that helps rebuild the soil, enhance food production and increase yields for smallholder farmers, climate-smart businesses are directly addressing some of Africa's most intractable challenges.

It is important to recognise that climate action in Africa is not merely a moral imperative or a response to global demands; it is an economic and business opportunity. We refer to this as "Climate Positive Growth".

Africa is well-positioned to be at the forefront of climate-smart businesses, but nothing about this outcome is automatic.

It is important to recognise that climate action in Africa is not merely a moral imperative or a response to global demands; it is an economic and business opportunity. We refer to this as "Climate Positive Growth"—a model in which economic progress and climate resilience go hand in hand. It is no longer a question of whether the continent can benefit from the green transition, but how we can do so at scale. Through investments in renewable energy, sustainable agriculture, and the circular economy, Africa has the opportunity to create millions of green jobs, improve energy access, and enhance environmental sustainability. All of this, while contributing to the global effort to mitigate climate change.

For instance, according to IRENA's 2023 report, Renewable Energy and Jobs – Annual Review, the global renewable energy industry employed approximately 13.7 million people in 2022, with Africa's renewable energy sector poised for significant growth. This reflects the sector's potential to create millions of jobs, primarily in solar and wind energy¹. This is just one example of how climate-smart businesses can contribute to Africa's economic development. Additionally, the African Development Bank (AfDB) projects that the renewable energy sector in Africa could generate up to \$50 billion annually by 2030. This potential underscores how energy access and carbon finance can be powerful drivers of economic growth in Africa².

However, while the potential is clear, the pathway to realising it is not guaranteed. There are significant barriers that must be overcome to unlock Africa's climate-smart future.

This Outcome Is Possible—But Not Inevitable

Africa is well-positioned to be at the forefront of climate-smart businesses, but nothing about this outcome is automatic. If we are to truly capitalise on Africa's potential as a climate-smart economy, deliberate action is required from governments, innovators, and financiers alike. The global economic architecture, as it currently stands, does not naturally deliver investment to the African climate frontier. Without focused interventions, Africa risks being left behind in the green transition and, more alarmingly, locked out of the benefits that such a transition can bring.

For instance, we know that large-scale financing for African climate solutions remains a major hurdle. The cost of capital in Africa is often prohibitively high compared to other regions, and capital flows are not directed towards the sectors with the most significant impact potential. According to the IEA, achieving Africa's energy access and climate goals requires an annual investment of approximately USD 133 billion between 2026 and 2030. However, current annual investment in renewable energy stands at only USD 9.4 billion, highlighting a significant funding gap. This shortfall underscores the urgent need for increased investment to scale up clean energy solutions across the continent.

However, it is not just about addressing gaps in financing. There is a need for a broader shift in how investors view African markets and the kinds of risks they perceive. For instance, the view of Africa as a "risky" investment destination is outdated. The reality is that the climate-smart economy in Africa offers opportunities to tap into large, underserved markets with high marginal impact and long-term demographic tailwinds. With the right structures in place, these investments can yield meaningful returns—not financially, but also in terms of climate and development outcomes.

¹ [Renewable Energy and Jobs – Annual Review](#)

² Mission 300: Africa's \$50 Billion Push to Power 300 Million by 2030

At ACV, we are leveraging momentum from existing portfolio investments and upcoming pipeline deployments to transform capital into high-impact returns, jobs, resilience and carbon reductions. We are on track to deliver ~20 million tonnes of climate mitigation impact by 2032.

Structural Headwinds That Africa Cannot Fully Control

The global economic system does not currently operate in Africa's favour when it comes to climate finance. Key mechanisms such as carbon markets, climate finance instruments, and international regulatory frameworks are largely shaped beyond Africa's control. These global frameworks often fail to consider the unique challenges and realities faced by African nations. For instance, while carbon markets are designed to incentivise emissions reductions, they often do not fully reflect the local context, resulting in higher costs for African businesses. Similarly, international climate finance instruments, though well-intentioned, tend to be complicated, with unclear terms and high transaction costs, making it difficult for many African businesses to access the capital they need.

According to the Climate Policy Initiative's Landscape of Climate Finance in Africa 2024 report, Africa received only 3.3% of global climate finance flows in 2021/22, despite being home to approximately 17% of the world's population³. This disparity in financial flows is one of the key reasons why many African businesses face higher costs to access capital, particularly for projects aimed at tackling climate change. Additionally, the pricing of climate risks often disadvantages African countries. With higher perceived risks, African countries are forced to bear higher costs for financing climate solutions.

Realise only as a challenge but as a market opportunity to attract new capital through blended structures, venture building and first-mover risk-taking. We mobilise catalytic capital into early-stage climate-first ventures that can demonstrate bankable models, reducing perceived risk over time. Africa must also engage more actively in shaping global rules, ensuring that the continent's priorities are better represented in international frameworks. It is essential that Africa strengthens its voice in global negotiations and advocates for reforms in climate finance mechanisms to better reflect the realities faced by the continent.

Call to Action for African Governments: Create Investment-Ready Environments

Governments play a unique role in shaping environments where early-stage climate-smart businesses can thrive. For venture investors, regulatory clarity, streamlined approvals for carbon projects, and long-term policy stability are just as critical as access to capital. Governments can catalyse private investment by establishing robust policy frameworks, blended finance instruments that provide early risk cover, act as anchor customers for innovative climate solutions, and build enabling infrastructure that makes scaling possible. Clear and predictable rules for nascent, rapidly growing sectors, from carbon markets to e-mobility, will be critical if Africa is to attract the next generation of climate-smart ventures. ACV views these actions as indispensable for translating global capital flows into investable, scalable ventures across the continent.

Governments must play an active role in creating the conditions for climate-smart businesses to thrive. One of the most important roles they can play is in de-risking climate investment.

³ [Landscape of Climate Finance in Africa](#)

**African innovators
are uniquely
positioned to design
solutions grounded
in local realities.**

Kenya has made significant strides in creating an enabling environment for climate and renewable energy investments. Carbon markets are being hardwired into national regulations: 2024 Carbon Markets Regulations are in force; draft 2025 Carbon Trading and Non-Market regulations to license marketplaces and formalise the national carbon registry with National Environment Management Authority (NEMA) are well underway. The country's Feed-in Tariff (FiT) policy for renewable energy projects, which guarantees a fixed price for renewable energy producers, has also helped to attract substantial investment in wind and solar projects⁴. As of 2024, Kenya has an installed geothermal capacity of almost 950 MW and combined wind and solar power capacity of almost 880 MW, making it one of the leaders in renewable energy in Africa. Other countries, such as South Africa and Morocco, have also introduced innovative policy frameworks that have helped to unlock private investment in clean energy.

However, more is needed, and governments must refine these policy and implementation frameworks to offer greater clarity such as on carbon rights, missing policy instruments such as carbon registry, address institutional gaps such as overlapping or fragmented mandates which can slow down project approvals and monitoring, and expand these frameworks further to include emerging sectors such as sustainable agriculture, electric mobility, and the circular economy.

Call to Action for Innovators: Solve Real Problems at Scale

African innovators are uniquely positioned to design solutions grounded in local realities. Whether in clean cooking, regenerative agriculture, or distributed renewables, African entrepreneurs are developing solutions that address the continent's most pressing needs. These solutions must be viable, scalable, and aligned with African market dynamics.

Take the example of clean cooking solutions, which are tackling one of Africa's most urgent health, environmental and social challenges. Nearly 950 million people in sub-Saharan Africa still rely on traditional biomass for cooking, driving deforestation, indoor air pollution, and carbon emissions⁵. Innovative solutions such as Koko Networks Rwanda bio-ethanol clean cooking fuel are not only improving household health and gender outcomes, but also unlocking new carbon revenue streams through high integrity credits. Similarly, emerging solutions such as Safi Organics biochar fertiliser production from agricultural waste are showing promise: they improve soil health and food security while also creating durable carbon removal assets that can plug Africa directly into global carbon markets. These businesses are growing rapidly, but there is still significant room for scaling.

For innovation to thrive, however, innovators need access to capital, capacity-building support, and an enabling policy environment. African governments and international partners must work together to create the conditions for these businesses to scale and reach their full potential.

⁴ [Impact of the Kenya ReFiT Policy](#)

⁵ [Science Direct \(2024\)](#)

Call to Action for Financiers: Rethink the Risk-Return Equation

The perception of Africa as a "risky" investment destination has long been a barrier to financing climate-smart businesses. However, this perception is increasingly outdated. In reality, the climate-smart economy in Africa offers investors an opportunity to tap into large, underserved markets with high marginal impact and long-term demographic tailwinds. With the right structures, these investments can deliver outsized returns—not just financially, but also in terms of climate and development outcomes.

Investors are increasingly embracing the unique opportunities that Africa presents. For instance, pay-as-you-go innovators such as M-KOPA have demonstrated that clean energy access models can scale profitably in underserved markets while Apollo Agriculture has proven that tech-enabled smallholder finance can transform food security and resilience. ACV is backing frontier climate solutions such as biochar that are pioneering high-integrity African carbon assets. These ventures illustrate that the risk-return equation in Africa is shifting: with the right structures, investors can access large markets while also driving measurable climate, economic and development impact.

There is also room for investors to explore new ways of partnering with governments, development finance institutions, and local businesses to overcome challenges posed by the current investment landscape. The African Development Bank's Facility for Energy Inclusion and initiatives such as Global Energy Alliance for People and Planet (GEAPP) demonstrate how blended finance can crowd in private capital⁶. In Kenya, the government's carbon markets and green industrialisation strategy is opening new pathways for co-investment in high integrity carbon projects. By collaborating and aligning incentives across public and private actors, investors can unlock new avenues for financing climate-smart businesses and scale successful models across the continent.

Conclusion

Africa stands at a crossroads. It can either continue to be sidelined in the global green transition, or it can embrace the potential of climate-smart business to transform its economies and societies. The latter necessitates that governments, innovators, and financiers act with urgency and clarity. Together, building a climate-smart economy that is not only resilient to climate change but drives inclusive development for Africa's future.

⁶ [African Development Bank – Multinational Facility for Energy Inclusion \(2025\); Global Energy Alliance for People and Planet \(2025\)](#)

ASCE: What you can do for your country

Julio Friedmann

Chief Scientist, Carbon
Direct

In times of rapid and profound change, like ours, one can lose sight of the basics. One can also easily miss real opportunities.

Africans are the owners and stewards of immense natural and human resources. These include energy resources of all kinds, including untapped wind, solar, geothermal, and fossil fuels. The workforce is young, scrappy, inventive, and driven. These resources make Africa, especially sub-Saharan Africa, a potential dynamo of global clean energy and manufacturing.

Simultaneously, many Africans have profound needs, which include basics like infrastructure, energy, and clean water. This places economic development at the heart of investment to use these resources for growth and improved welfare and makes energy access and wealth creation priorities for African leaders and their constituents.

Simultaneously, the world continues to grapple with the reality of climate change. The global need for urgent mitigation, including both GHG reductions and removals, people-centered adaptation, and increasingly a global market that demands clean products only grows. This places African populations at risk without new fuel, power, and wealth.

Simultaneously, a recent wave of innovation has made miracles possible. New materials and processes, astonishing progress in AI and automation, low-cost manufacturing, logistics, and education places humanity at the edge of a bright and verdant future. This represents a jump-start on the largest markets of human history.

Africans and Africa stand to benefit directly from these simultaneous truths – if they navigate the issues that restrict progress and opportunity.

Africans and Africa stand to benefit directly from these simultaneous truths – if they navigate the issues that restrict progress and opportunity. This is especially true now, as the US retreats, Europe stalls, and China has issues of its own. Abdication of global leadership creates opportunities for both self-determination and rapid, profound growth.

In particular, a focus on the continent's energy resources – abundant, sustainable, cheap energy (ASCE) – is not only a critical pathway to good growth, but the fastest and surest pathway.

At their root, all problems are energy problems

Energy access stands at the heart of core human missions. Richard Smalley, the Nobel-winning chemist and innovator, laid the foundations for this moment 20 years ago¹. He recognised that nearly all human development priorities – clean water, modern medicine, food, education – can be addressed with abundant, sustainable, cheap energy (as I've discussed elsewhere)².

¹ [Future Global Energy Prosperity: The Terawatt Challenge](#)

² [How to harness abundant, clean energy for 10 billion people](#)

Electricity is a particularly critical energy need, as many have recognised, including the Modi government in India and previous governments in China.

- > Energy is abundant and widely available at the earth's surface, including renewable, nuclear, and fossil resources.
- > Energy should be sustainable, to attract more investors and market share and minimise human health and environmental problems.
- > Energy must be cheap to deliver benefits, ideally less than \$30/MWh or \$3/MBTU.
- > Energy access includes many forms of energy, including electricity, industrial heat, and fuels for cooking and transport.

Electricity is a particularly critical energy need, as many have recognised, including the Modi government in India and previous governments in China. The African Development Bank and World Bank agree, as reflected in their ambitious Mission 300 initiative³, which would triple the interconnect rate and connect 300 million Africans to reliable electricity by 2030. Though difficult to achieve, Mission 300 would reduce the number of Africans without electricity by 50% and the world by 40%. It acknowledges that “electrifying everything” starts with bringing electricity to those who lack it⁴. The benefits would be huge: for development, human health (displacing charcoal) and for climate (likely cheaper and faster than extensive new natural gas infrastructure).

To succeed, they must be anchored in programmes that drive **transformational growth**, with ASCE as the engine that enables growth.

This means commercial off-takes

Commercial off-takes are the foundation on which infrastructure is built. For electricity access, including grid upgrades, expansion, and generation. This looks like industrial demand – without firm, long-term off-takes for electricity, banks won't invest, and builders won't build.

Green industrial development and CO₂ removal projects can provide off-takes agreements, including for clean building materials (steel, aluminium, cement, glass), fuels (hydrogen, ammonia, methanol), and carbon credits (nature-based or engineered). Nations and companies around the world, ranging from Japanese power generators to US tech firms to the World Economic Forum First Movers, are signing long-term offtake agreements, some as long as 20 years. In the past, similar agreements underpinned the build out of LNG in the US and East Asia, as well as India's recent industrial-led growth. The same is possible for Africa leaders, who can make deals for the offtake of CO₂ removal and clean products.

Nailing down off takes and investments is not easy. Often, key parties are unaware of the extraordinary human capital in Africa. Unaware of recent progress and shifts on the ground, they may over-index on foreign exchange risk or corruption concerns. That lack of awareness can add to capital costs, collapsed deals, unsustainable debt, and capital flight.

³ [Mission 300 is Powering Africa](#)

⁴ [Energy, Poverty & the Energy Transition](#)

Carbon Direct, where I serve as Chief Scientist, has assessed hundreds of CO₂ removal projects and supported dozens of clean fuel and industrial projects.

Carbon Direct, where I serve as Chief Scientist, has assessed hundreds of CO₂ removal projects and supported dozens of clean fuel and industrial projects. We have helped over 100 companies invest money and purchase clean products around the world, including some in sub-Saharan Africa. To get more traction from Fortune 500 companies and build trust with buyers and investors, governments, companies, financiers, and philanthropies should take concrete steps to increase awareness of human capital, governance progress and ASCE resources. Specific steps would help to manifest off-takes and investment that could lead to transformational growth and development.

- > **Focus on implementation:** Rather than focusing on process, outcomes must be the focus. This will likely include workforce capacity building, notably for project managers and developers, with bespoke training from experienced project leaders. In addition, governments should be willing to contract deep expertise in specific projects – especially those with innovative technology – to help assure the project moves through the stages of project maturation and front-end engineering design (FEED) including pre-FEED and ultimately achieves final investment decision (FID). After that, the project must be built to delivery and then ship product. Note: traditional market-focused consultancies and EPC contractors cannot provide this kind of project assurance.
- > **Departure from business as usual:** If the goal is transformational growth, then governments should not seek to invest in “a better iron lung”. They should support LPG fuelled stoves over “clean cook-stoves” with traditional biomass, and they should support electric cook-stoves over LPG stoves. Solutions must be low-cost, build new markets domestically and internationally, and create better outcomes in health and economics.
- > **Build on clear successes:** Helios invested \$50M in IXAfrica⁵ to develop data centers, including a small (4.5 MW) plant in Nairobi announced in 2024 with Schneider Electric⁶. Microsoft and G42 announced plans⁷ in 2024 to invest \$1billion in Kenya for data centers powered by clean energy (new geothermal). No other announcements have followed. Given data-center demand for clean power and advances in AI training & compute practices, more announcements might have followed but have not. Active workforce development and aggressive recruitment might yet lead to expansion on these notable successes, which would also expand clean energy generation, grid build-out, and energy access through economic growth.
- > **Structural shifts in incentives:** Many African governments focus on tax base first and growth second. While understandable, structural shifts are necessary. For example, Special Economic Zones⁸ help stimulate targeted industries – a valuable and worthy goal. In comparison, reducing import taxes broadly would stimulate many kinds of industries and lower consumer prices and the cost of industrialisation. Benefits would also come from shifts to incentives within governments and companies, which should maximise reward for key outcomes and minimise punishment for error or process fouls.

5 [Helios Investment Partners invests \\$50 million in IXAfrica](#)

6 [IXAfrica Data Centres and Schneider Electric launch AI-ready data center in Nairobi, Kenya](#)

7 [Microsoft and G42 to build geothermal-powered data center in Kenya](#)

8 [Unlocking the Potential of Special Economic Zones](#)

- > **Clear communication, domestic and international:** Leaders should undertake targeted charm offensives. They should host visitors, journalists, and media from other nations (Japan, Gulf States, Singapore). They must tell the stories about their extraordinary workforce, clean energy resources, improving infrastructure, commitment to outcomes and up benefits. They should approach COP30 as a chance for deal flow and foreign direct investment, rather than solely a place to voice legitimate grievance and need.

Ultimately, there is no substitute for leadership. Individual leaders will have to stay the course through difficult political and economic times. Successive leaders should adopt the best elements of their predecessors rather than abandon prior initiatives wholesale. Sound analysis grounded in science and numeracy can help these leaders chart a course with confidence, and they should seek such fact-based and science-based analysis early in their tenure.

New agreements with leading international firms, anchored in bilateral agreements, can help. Nations that will guarantee offtake and (possibly) underwrite finance, nations like Japan, Korea, Gulf States, and Eurozone stalwarts, have legislated commitments to green industrialisation and CO₂ removal.

New agreements with leading international firms, anchored in bilateral agreements, can help. Nations that will guarantee offtake and (possibly) underwrite finance, nations like Japan, Korea, Gulf States, and Eurozone stalwarts, have legislated commitments to green industrialisation and CO₂ removal. They cannot achieve these outcomes at home, perhaps due to high domestic costs, lack of resources, or workforces that are either aging or untrained. They see opportunities for clean manufacturing – of fertiliser, steel, chemicals, batteries – anchored in developing nations. While large tech companies like Microsoft can provide some catalytic investments, there are simply not enough large voluntary actors to do the job without active engagement with governments and heavy manufacturers.

The special case of CO₂ removal

CO₂ removal (CDR), and associated sale of carbon removal credits, represent a special case. They can be clear engines of growth by providing environmental services rather than energy or goods. Key nations have already demonstrated indigenous technology generation, workforce maturation, revenues, and community benefits from developing CDR projects, companies and technologies. Already, wealthy nations like Switzerland and Singapore have arranged deals under Article 6.2 of the Paris Accord that brought these and other benefits to African nations and communities.

In the case of CDR credits, **quality** is the key attribute for sale. It is true that cases of fraud, over-crediting, and misuse of funds have led to exposes and erosion of trust in conventional offsets and traditional carbon market registries – and erosion of sales. It is also true that high quality credits continue to sell, especially those that bring ancillary benefits in the form of biodiversity, improved water, empowering women, energy access, and indigenous self-determination. Quality is not the province of rhetoric, but of physics, chemistry, and biology. This takes science, analysis, and partnerships with groups that can help separate good from bad and sense from non-sense.

To support quality projects and support decision makers, Carbon Direct and Microsoft have jointly published criteria for high quality CO₂ removal⁹ five times, and as has just published quality criteria for low-carbon building materials¹⁰.

There is a risk that leaders may over-index on tax revenues and burdensome process in growing CO₂ removal projects. While CDR is an engine of growth, leaders must work overtime to ensure that quality is maintained and local benefits delivered without adding undue costs, complexity, and bureaucracy.

The Opportunities are Real

The opportunities in CDR are real – as are those in clean manufacturing, clean fuels, and electricity access. If leaders can sustain focus, commitment, and creativity, they can build a just, verdant, vibrant future for their populations and their nations.

“Our greatest responsibility is to be good ancestors”

Dr. Jonas Salk, creator of the polio vaccine.

⁹ [High-Quality Carbon Dioxide Removal](#)

¹⁰ [Carbon Direct and Microsoft Release Criteria for High-Quality Environmental Attribute Certificates to Accelerate Decarbonisation of the Built Environment](#)

Green Proof: How Integrated Industrial Zones Are Redefining Development in Africa

Gagan Gupta

CEO and founder
at ARISE &
Chairman Equitane

An estimated \$2.8 trillion is required to bridge Africa's climate finance gap by 2030¹. Public funds alone will not suffice. The private sector must play a central role—not as a sideline participant, but as a principal driver of climate-compatible development. That involvement can come in many forms: from high-emission sectors contributing through the polluter-pays principle, to forward-looking enterprises embedding sustainability at the core of their operations. Yet these decisions often carry a financial premium—who bears that cost? The answer lies in innovation, systems thinking, and a willingness to reimagine value. In this landscape, ARISE offers a compelling blueprint.

ARISE Integrated Industrial Platforms (ARISE IIP) is pioneering a new model of African industrialisation—one that prioritises long-term sustainability alongside economic competitiveness. Instead of layering green initiatives onto legacy systems, ARISE is designing industrial ecosystems from the ground up, rooted in environmental integrity and shared prosperity. This is not a philanthropic endeavour. It is a strategic commitment to Africa's future—one where value chains are localised, communities are empowered, and growth is regenerative.

Turning Constraints into Catalysts

Africa's industrial history has often been shaped by missed opportunities. Too many raw materials are exported without value addition. Infrastructure deficits impeding growth.

Africa's industrial history has often been shaped by missed opportunities. Too many raw materials are exported without value addition. Infrastructure deficits impeding growth. Supply chains that bypassed local economies. But these are not insurmountable challenges. For ARISE, they are opportunities to build better.

Rather than fragmented investments, ARISE designs integrated industrial platforms where power, transport, water, logistics, and training systems are developed holistically. These ecosystems reduce operational costs, lower risk, and offer the kind of efficiencies that isolated zones cannot. Most crucially, they ensure that value is created—and stays—within Africa.

Most importantly, it ensures value stays local. By enabling in-country transformation of raw materials, ARISE creates employment, retains wealth, and deepens national capabilities. It's not just about attracting capital—it's about building ecosystems that serve communities and economies for generations.

¹ [COP28: Bridging the climate finance gap in Africa and beyond | World Economic Forum](#)

In Benin, the Glo-Djigbé Industrial Zone (GDIZ) is redefining the country's cotton and cashew sectors.

A New Standard of Industrialisation

Gabon's Nkok Special Economic Zone (GSEZ) exemplifies this approach. Instead of exporting unprocessed timber, Gabon now transforms sustainably harvested wood into veneer, plywood, and furniture. This transition has created over 17,500 jobs², contributed \$1.4 billion in economic value³, and elevated Gabon's reputation as a leader in sustainable forestry, all while only 1 million hectare under FSC standards.

Moreover, a life cycle assessment shows that timber products that are locally transformed in the Congo Basin and exported directly to Europe as finished products result in more than a 75% reduction in carbon footprint compared to traditional export models. This demonstrates the environmental and economic advantage of local value addition.

In Benin, the Glo-Djigbé Industrial Zone (GDIZ) is redefining the country's cotton and cashew sectors. Here, raw commodities are being processed into finished products—from garments to food-grade exports. In 2024 alone, Benin Cashew SA shipped 555 containers of value-added cashew products⁴. That same year, Benin marked a milestone with its first-ever 'Made in Benin' garments exported to the U.S. under the U.S. Polo Assn label⁵. Beyond production, GDIZ is becoming a center of human capital development, training thousands of women and youth in the textile sector. These gains have earned recognition from the World Bank and Financial Times.

These are not isolated successes. ARISE is replicating this model across Togo, Côte d'Ivoire, Nigeria, Rwanda, Chad, Republic of Congo, Democratic Republic of Congo, Sierra Leone, Kenya and Tanzania—tailoring each platform to national priorities and resource endowments. The result is a network of green industrial hubs capable of catalysing structural transformation across the continent.

Embedding Sustainability, Not Bolting It On

Sustainability is not a box to check—it is the foundation of ARISE's work. Each platform is guided by four core principles: carbon neutrality, circular economy, responsible supply chains, and social inclusion.

Carbon neutrality is more than an aspiration. ARISE is actively pursuing decarbonisation and sustainable industrialisation, from securing project design funding through major climate funds to piloting hybrid energy systems across its zones.

A key enabler of this ambition is Spiro, ARISE's affiliate focused on electrifying mobility across Africa. Spiro is deploying electric two-wheelers and charging infrastructure across cities, offering a clean alternative to fuel-powered vehicles. In doing so, it reduces urban pollution, creates green jobs, and makes transport more affordable for households, proving that environmental gains can go hand-in-hand with economic impact.

² <https://www.impact.arisenet.com/>

³ <https://www.impact.arisenet.com/>

⁴ [Célébrons le succès : 555 conteneurs et bien plus pour Benin Cashew SA - GDIZ Benin](#)

⁵ [GDIZ exports its first 'Made in Benin' garments for the American brand U.S. Polo Assn - GDIZ Benin](#)

Timber waste is converted into particle boards, textile waste is recycled for reuse, cashew waste is converted into biochar. Waste is re-purposed, biomass is converted into energy or into products, and water is recycled. International certifications such as FSC and ISO 14001 ensure that supply chains meet rigorous environmental and social standards.

Diversity and Inclusion or social inclusion. ARISE's platforms prioritise training and employment for women and youth, integrate local SMEs into supply chains, and invest in vocational centers that equip workers for the green economy. This is not symbolic but integrated in our ESG and HR policies to maximise local content representative of diversity and inclusion at the design and structuring of the Project / Business .

Aligning Incentives for Shared Prosperity

At the heart of ARISE's model is alignment. Host governments are not bystanders; they are equity partners. It also protects business from sudden regulatory changes.

Vocational training centers like GDIZ's Textile Training and Production Center are helping to build a globally competitive workforce, numbers already trained 5,000 young Beninese. At the same time, local enterprises are being embedded into regional and global value chains, creating economic multipliers that extend well beyond the industrial zone.

These efforts are business investments designed for the long term—where commercial success is directly linked to social and environmental impact.

From Climate Aid to Climate Business

Africa has too often been viewed as a beneficiary of climate aid. ARISE offers an alternative: Africa as a hub for climate-smart business.

Africa has too often been viewed as a beneficiary of climate aid. ARISE offers an alternative: Africa as a hub for climate-smart business. By investing in the infrastructure, institutions. In order to achieve trust and transparency, ARISE reports its sustainability KPI as per GRI standards, gets rated by third party company like sustainability. They have also received green fund by bank of KIGALI.

This model makes Africa's green transitions investable. It enables blended finance, opens access to carbon markets, and supports the issuance of green bonds. The role of the private sector here is not supplementary - it is central.

Yet, the success of these initiatives also depends on public leadership. Governments must create enabling environments with predictable regulation, clear land tenure systems, and incentives that reward ESG-aligned investment. Climate action will only scale if it is economically viable—not framed solely as aid or compliance.

A Vision Already in Motion

Sustainable industrialisation in Africa is no longer a theory waiting to be tested, it is a strategy in motion, delivering measurable results. ARISE's integrated platforms have not only reimagined how value chains can be built in harmony with people and planet—they have also been globally recognised for doing so.

Across multiple countries, ARISE has embedded a culture of compliance, governance, and environmental accountability.

Across multiple countries, ARISE has embedded a culture of compliance, governance, and environmental accountability. Our operations scored 21.8 in the ESG “Low to Medium” category⁶, reflecting robust systems including a certified Environmental Management System, a progressive ESG Governance Framework, an anti-bribery and corruption policy, and supplier environmental standards that cascade through entire value chains.

Infrastructure built under this vision is setting new national benchmarks. The LEED-certified PIA building in Togo—the first of its kind in the country—has earned recognition from the U.S. Green Building Council⁷. In Benin, flagship firms like Benin Cashew SA have achieved EDGE Advanced Certification, while others like Soya and Cotton operations have secured Organic, Proterra, GOTS, CmiA, and Global Recycled Standard certifications, affirming their global competitiveness.

Our innovations extend beyond compliance. The Arise Carbon Collect system is pioneering how industrial emissions are measured and managed at scale. This, combined with international recognition at COP28, the World Economic Forum, COP16, Oslo Forest Forum, and the FARM Conference in Paris, shows that African industrialisation can lead—not follow—in the global sustainability agenda.

Supply chain management has been enhanced through end-to-end traceability systems and international certifications, including FSC certification covering 917,837 hectares of forest (generating \$636M in wood exports)⁸, Rainforest Alliance certification supporting 3,500 farmers producing 5,000 metric tonnes of cashews, GOTS certification for textiles, and organic certification for 50,000 metric tonnes of soy beans⁹. Our comprehensive supplier code of conduct, backed by regular audits, ensures sustainable practices across operations that have created over 20,000 jobs in timber alone and are projected to generate 5,000 jobs in cashew processing.

Africa does not need to mimic the industrial revolutions of the past. It has the tools—and now the evidence—to leapfrog into a future defined by resilience, equity, and regeneration. The journey is already underway. What remains is to scale it—with conviction, collaboration, and capital.

6 [Arise Integrated Industrial Platform ESG Risk Rating](#)

7 [Fostering Sustainable Ecosystems - Sustainability Report 2023](#)

8 Internal Report

9 [Fostering Sustainable Ecosystems - Sustainability Report 2023](#)

Africa's Bold Bet on Climate Innovation

**Martin Freimüller &
Fiona Mugambi**

Octavia Carbon

Africa stands at a pivotal moment in history. As industrialised nations retrofit their carbon-intensive systems in the face of climate breakdown, Africa faces a radically different challenge and opportunity. We have the chance to chart an entirely new development trajectory that places climate innovation at the heart of our economic transformation. While others work to unwind the past, Africa can build the future.

This leap is already happening. Kenya exemplifies the promise of a climate-aligned industrial path with a power grid that draws approximately 90% of its electricity from renewable sources¹, including geothermal, hydro, wind, and solar. Just as the country transformed digital finance through M-Pesa and is now accelerating progress in e-mobility, it is poised to lead a new wave of industrial innovation grounded in environmental sustainability and technological sovereignty.

Among the most promising examples of this shift is Direct Air Capture (DAC), designed to remove carbon dioxide directly from the atmosphere. Unlike emissions reductions, DAC targets legacy carbon already in the air, and plays an important role in balancing hard-to-abate emissions². Its significance is not only environmental. DAC is also an industrial infrastructure. The carbon it captures can be stored permanently underground, such as through mineralisation in Kenya's abundant basalt formations, or used as a feedstock for sustainable fuels and renewable carbon commodities.

At Octavia Carbon, we are pioneering this vision from the heart of Kenya's Rift Valley. As the Global South's first DAC company, we are building, testing, and deploying this technology in ways that reflect the country's resources and realities. In just two and a half years, we have grown from an idea into a deep-tech company employing more than 60 people, the majority of whom are Kenyan engineers, technicians, and scientists, with the deployment of our pilot mini-plant, over 100 new job opportunities have been created in our local community. These are not abstract metrics, but concrete indicators that the climate economy can create jobs, spark innovation, and build domestic capability.

**Development is
not only measured
by jobs but also by
inclusion.**

Development is not only measured by jobs but also by inclusion. We have reached over 500 schoolgirls through STEM engagement and mentorship programmes, deliberately ensuring that the benefits of climate innovation extend beyond labs and plants into the hearts of communities. Far from incidental, this reflects a philosophy that deep tech, when locally built and owned, can become a powerful force for inclusive growth. When young girls in rural Kenya see carbon removal tech built by people who look like them, speak like them, and live like them, something changes. Aspiration becomes agency.

1 International Energy Agency (IEA), [Kenya 2024 Energy Policy Review](#)

2 IEA, [Direct Air Capture: A Key Technology for Net Zero](#)

Kenya is uniquely positioned to lead in carbon removal at scale and at low cost. The country benefits from two critical natural endowments.

Kenya is uniquely positioned to lead in carbon removal at scale and at low cost. The country benefits from two critical natural endowments. Its abundant geothermal energy, particularly in the form of waste heat, can power DAC systems significantly reducing its energy needs. Its extensive basaltic rock formations in the Rift Valley can store megatonnes of carbon dioxide (CO₂) through permanent mineralisation. Along with its high skilled talent, these make Kenya the world's best place to scale these technologies at low-cost.

At Octavia Carbon, we are pioneering low-cost DAC systems that harness geothermal waste heat; – an abundant but underutilised resource in Kenya. By integrating geothermal waste heat into our DAC operations, we reduce reliance on grid electricity, easing pressure on the national energy supply at a time when clean cooking and e-mobility are driving new demand. In turn, this creates industrial demand for geothermal heat, helping to justify investment in additional wells by unlocking new, complementary revenue streams. DAC's utility, however, extends well beyond capture and storage. The CO₂ it extracts can be transformed into valuable commodities, for example, it can be combined with green hydrogen to produce sustainable fuels such as e-methanol or aviation fuels. Additionally, captured CO₂ can be used in processes like concrete curing in the construction sector or serve as a feedstock for synthetic reduction agents that replace fossil carbon in steel-making, thereby supporting the decarbonisation of high-emitting industries such as steel and cement. In this way, DAC serves both as a climate solution and industrial infrastructure, positioning Kenya and the broader region to participate as producers of high-value, renewable carbon commodities and other climate-aligned goods and services. It offers a credible pathway toward an industrial development that is rooted in climate logic and built on Kenya's own comparative strengths. However, innovation alone is not enough. Whether breakthrough scales or stalls often depends on the surrounding ecosystem. This is where governments play a pivotal role. In past sectors like clean cooking and e-mobility, African policymakers often came in after private actors had already created momentum. With carbon removal, the stakes are too high for such delays.

Public procurement programmes are already active in Switzerland³ and across the European Union. The EU Innovation Fund and the Carbon Removal Certification Framework are beginning to shape how durable removals are understood, validated, and scaled⁴. In Japan, government-backed investment programmes are providing early-stage capital to carbon removal ventures as part of a broader net-zero strategy⁵. And in Brazil, a new national carbon market law allows for the issuance of CRVEs (Certificates of Verified Emission Reduction or Removal) for a wide range of approaches, including both nature-based and engineered solutions such as Direct Air Capture – making Brazil one of the first countries in the world to include durable removals in its national compliance system⁶.

3 Swiss Federal Office for the Environment (FOEN), [Carbon Capture, Removal and Storage](#)

4 European Commission, [Carbon Removals and Carbon Farming, Carbon Removal Certification Framework \(CRCF\)](#)

5 GX League (Japan), [METI Net-Zero Strategy](#)

6 Brazil's National Carbon Market Law, [Government Summary](#)

The question is no longer whether carbon removal will become a pillar of industrial policy, but where—and by whom—it will be shaped.

Switzerland has also partnered with Norway in a bilateral agreement to procure durable carbon removal credits, setting a precedent for cross-border collaboration on high-integrity CDR. Such agreements could serve as benchmarks for how international partnerships might bring investment into Kenya's emerging carbon removal ecosystem.

Kenya, which has historically held the lion's share of Africa's carbon credit supply, now has an opportunity to cement its vanguard position by moving up the value chain. Formally recognising durable carbon removal within strategic frameworks such as the National Climate Change Action Plan would not only reinforce Kenya's role as a regional hub for deep climate technologies, but also signal to international investors and high-integrity carbon credit buyers that the country is ready to supply the next generation of high-quality carbon credits. Such recognition would strengthen Kenya's credibility as a global climate solutions provider, grounded in its geothermal advantage, policy ambition, and growing innovation ecosystem⁷.

The question is no longer whether carbon removal will become a pillar of industrial policy, but where—and by whom—it will be shaped. To avoid being locked out of this emerging global market, African governments must act now. This action needs not to take the form of tax incentives or heavy-handed intervention. Instead, it should focus on enabling experimentation and accelerating learning. Kenya, for instance, can launch a regulatory sandbox for emerging carbon removal technologies, allowing pilot projects across the CDR ecosystem to operate under controlled conditions while informing the development of fit-for-purpose rules. Low volumes and innovation risk are not reasons to delay integration, but rather to accelerate it.

While the sector may not yet be ready for twin targets or binding commitments in national climate plans, it is ready for strategic inclusion. Recognising carbon removals in key planning instruments, such as Kenya's National Climate Change Action Plan (NCCAP) and Long-Term Low Emissions Development Strategy (LT-LEDS), would send a strong signal to investors, innovators, and global buyers. It would catalyse investment into green industrialisation, establish Kenya as a credible player in the global carbon market, and ensure that the dividends of climate leadership flow to a young, skilled, and under-leveraged national workforce.

To ensure this momentum leads to long-term, systems-level transformation, Kenya should embed durable carbon removal expertise within its existing national climate governance architecture. The Climate Change Directorate currently houses a multi-stakeholder Climate Change Committee under the Ministry of Environment, Climate Change and Forestry. This platform should be expanded to include CDR practitioners, policy experts, and innovation leaders. Integrating these voices would ensure that government strategies reflect the operational realities, innovation needs, and long-term potential of carbon removal in Kenya's climate and industrial future.

Beyond the national strategy, Africa must also begin to play a more assertive role in shaping global carbon governance. Historically, the continent has been treated primarily as a supplier of offsets, and not as a participant in the development of market rules.

⁷ [Carbon Removal Purchase Agreement Between Norway and Switzerland, 2025](#)

The goal is not to be included for inclusion's sake. It is to ensure that the global climate economy reflects African priorities, protects African interests, and builds African power.

That dynamic must change. African innovators can claim a seat at the table where global standards (including Article 6.4 modalities, benefit-sharing mechanisms, and measurement, reporting, and verification (MRV) protocols) are being defined by building and operating home-grown carbon removal technologies. We are already engaging with regional and global stakeholders to ensure that African voices are heard and shape the outcomes.

The goal is not to be included for inclusion's sake. It is to ensure that the global climate economy reflects African priorities, protects African interests, and builds African power. That requires agency, investment, and early action. We cannot afford to wait until rules are set, markets are closed, and technologies are locked elsewhere. We must lead, or we will be left behind.

The climate crisis is not only an environmental emergency; it is also a development inflexion point. Our choices will determine whether the next era of industrial growth in Africa is extractive and unequal or regenerative and inclusive. Climate innovation is not separate from sustainable development; it is sustainable development.

The future of climate tech will not be owned by any single region. It will be shaped by those willing to act early, invest with conviction, and collaborate across public and private lines. We invite governments, policymakers, and global partners who share this vision to help shape it with us, not from the sidelines, but at the table. We need global actors to treat Africa as a hub of innovation.

3

Expanding the team and expanding the toolbox



How to Integrate African Countries into the EU Emissions Trading System: The Case of Morocco

Jochen Andritzky,
Nils Hesse¹

Zukunft-Fabrik.2050 &
Die Dezentrale.

Emerging Markets and Developing Economies (EMDE) often face lower marginal costs of reducing carbon emissions, attributed to the fact that the more developed a country is, the less carbon intense a unit of GDP produced is.

Effective climate mitigation demands global cooperation, as the location of emissions reductions is irrelevant to the atmosphere. Since abatement costs are often lower in Africa than in the EU, linking these regions to the EU Emissions Trading System (EU ETS) can unlock significant efficiency gains. Such integration offers a triple win: supporting global climate goals, fostering sustainable development, and enhancing cost-effectiveness for all parties involved. Many advanced economies have set ambitious carbon emission reduction targets. At the same time, these countries often face increasing marginal cost as low hanging fruits have already been picked. In contrast, many emerging and developing countries are expected to grow strongly, causing significantly higher CO₂ emissions. The IMF estimates that CO₂ emissions of middle- and low-income countries increase by 35 to 45 percent by 2030, mostly driven by GDP growth in these regions. Globally, projections show an increase in CO₂ emissions by 2030 of more than 20 percent vis-à-vis 2019.

Capturing gains from comparative advantages

Emerging Markets and Developing Economies (EMDE) often face lower marginal costs of reducing carbon emissions, attributed to the fact that the more developed a country is, the less carbon intense a unit of GDP produced is. In the underlying calculations, the IMF assumes lower GDP losses from carbon pricing in EMDEs than in advanced countries, although the effect varies depending on the economic structure.

The reasons for higher costs in advanced markets could be (i) declining margins, in other words the easy gains of carbon reductions such as phasing out coal combustion have already been picked; (ii) lower efficiency of certain green technologies, e.g. fewer sunshine hours in some advanced economies; and (iii) costs from stranded assets, as green technologies have to displace brown technologies, which is more expensive than greenfield investments.

¹ We would like to thank Timo Bracht and Ulrich Hueck (desertec foundation), Baran Doda and Stephanie La Hoz Theuer (ICAP), Daniel Gros (Bocconi), Sascha Lehmann (Fraunhofer Institute), Michael Pahle (PIK), Sanjay Patnaik (Brookings), Georg Sahler and Anselm Duchrow (GIZ), Dirk Weinreich (BMW), Natascha Weisert (UNIDO) and Karl Zimmermann (Umweltbundesamt/Deutsche Emissionshandelsstelle) for their valuable comments and feedback, as well as Fiona Löwe (KfW) and Natascha Weisert (UNIDO) for soliciting further contacts and feedback. Stefan Tari provided excellent research assistance. We also thank participants of the Global Solution Summits 2024 for further helpful comments. A version of this paper has been published in *Intereconomics* Vol. 60 No. 1, 2025, pp. 49–54. This paper presents the opinions of the authors and not necessarily of Zukunft-Fabrik.2050.

David Ricardo’s theory of comparative advantage suggests that efficiency gains are larger when trading partners are more different. Today, however, carbon emission reductions are barely tradeable internationally. Trade therefore promises significant efficiency gains. These gains could generate a three-sided win-win, likewise for EU countries as well as for African countries, and for the climate overall.

The development dilemma

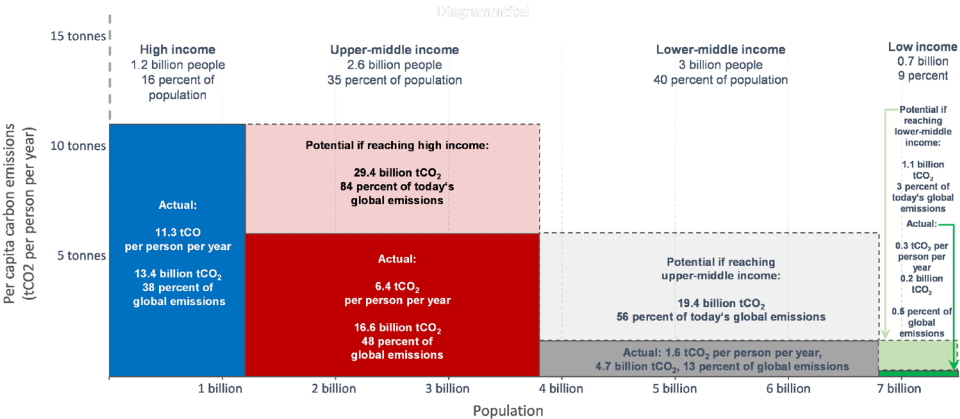
From a global perspective, the differences in domestic policy priorities are mind-boggling.

From a global perspective, the differences in domestic policy priorities are mind-boggling: While EU policies try to squeeze out the last little bit of emission reductions through carbon pricing and subsidies for green technologies, growth in emerging and developing parts of the world frequently deploys brown technologies, often because they are less capital intense. This infrastructure, which is rapidly scaling up in the high-growth environment of emerging countries, will remain in service for decades to come.

This contrast throws effective development policy into a dilemma: The rise of emerging and developing regions may thwart global climate mitigation efforts. For instance, China’s emissions have more than quadrupled during its amazing growth sprint over the last three decades. Would all upper-middle (lower-middle) income countries achieve the level of income of high-income (upper-middle) countries at their prevailing CO₂-intensity, global CO₂ emissions would rise by 12.8 (14.7) billion tCO₂, all else equal (Figure 1). Both these numbers are in the range of total emissions caused by high-income countries, offsetting their efforts to reach climate neutrality.

This dilemma will not go away easily. The [G20 pledge](#) for development banks to stop financing coal power projects is an attempt to avoid a repeat. However, coal remains the most affordable source of energy production in many countries, partly given it is a less capital intense technology. Less than 5 percent of global investment in energy transition goes to developing countries, which require about US\$1.5 trillion per year in energy transition investment until 2030². With higher incomes, emissions also rise in other sectors such as industry, transport, and housing.

Figure 1: CO₂ Emissions, Emission Intensity, and Income Level



Sources: Lenaerts/Tagliapietra/Wolff 2021, OWID and own calculations.

2 See Bhattacharya, Songwe and Stern (2024)

Hence, the thought of utilising emissions trading as a mechanism for development finance is a new and elegant way to better align the two conflicting policy objectives of climate mitigation and sustainable development across sectors.

How it could work

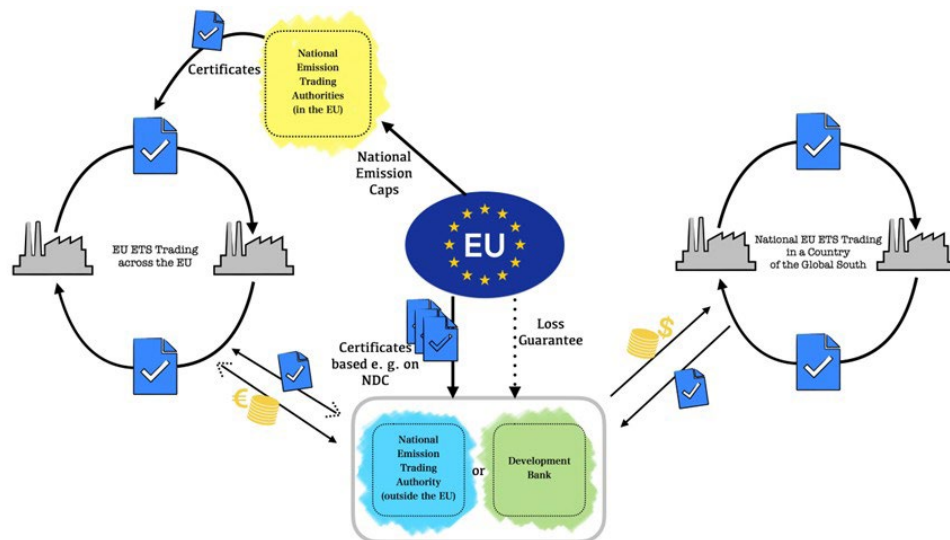
In case of a country joining the EU ETS covering the energy and industrial sectors, the emitters in these sectors will have to acquire EU emission certificates for their emissions (unilateral linking)³. The cap on EU ETS certificates would be adjusted in line with the expansion of the EU ETS, as has been done in other cases when countries access the EU, such as Croatia in 2013.

The expansion to the cap in the EU ETS does not mean that the emission cap is being relaxed – it means that more emissions are covered by a trading system that is the most efficient and effective way towards lower emissions. As the EU expands to the ETS2, more sectors, such as road transport, building emissions and smaller industrial installations could get included.

The certificates would be put into circulation via a central counterpart in the country that has joined the EU ETS, for instance a local development bank or an institution similar to national emission trading institutions in the EU, such as the German Emissionshandelsstelle (DEHSt). This institution would allocate the certificates to the emitters and receive a trade monopoly. Figure 2 illustrates the setup

The expansion to the cap in the EU ETS does not mean that the emission cap is being relaxed – it means that more emissions are covered by a trading system that is the most efficient and effective way towards lower emissions.

Figure 2: How would joining the EU ETS work?



Source: own illustration.

The increase in the cap could be calibrated in different ways. A generous way would be to increase the cap along a “business-as-usual” (BAU) scenario under baseline economic growth, which in Africa is typically higher than in the EU.

If the allocated amount in the respective country is based on the BAU, no scarcity exists

3 Burtraw, Dalles, Karen Palmer, Clayton Munnings, Paige Weber, and Matt Woerman. 2013. „Linking by Degrees.” Resources for the Future Discussion Paper. <https://www.rff.org/publications/working-papers/linking-by-degrees-incremental-alignment-of-cap-and-trade-markets/>

If the allocated amount in the respective country is based on the BAU, no scarcity exists and the certificates would have zero value in local trading.

and the certificates would have zero value in local trading. Again, all else equal, even if this BAU scenario is less ambitious than the EU's goal for reducing emissions, it does not mean that there would be more emissions globally. It just means that emission reductions take place where it is most efficient within an enlarged region.

Under the Nationally Determined Contributions (NDC) of the Paris Agreement, countries have set out their own ambitions to reduce carbon emissions ("unconditional scenario") and a second, more ambitious goal assuming financing from advanced economies ("conditional scenario"). It could be reasonable to increase the cap along the unconditional scenario. This means two things:

- > **Certificates are scarce and have a positive price.** Since the unconditional scenario has lower emissions than the BAU scenario, there will be fewer certificates than needed without any climate ambition, hence the certificate price in the local market will be above zero. Since the local emission trading institutions receive the certificates for free, it could sell or auction it and receive a price for it. This revenue could be redistributed, such as to shield poor consumers from the impact of carbon pricing in the energy sector. Since electricity is typically subsidised, mechanisms for the redistribution typically exist. Given the local market is disconnected from the EU ETS, the carbon price in the non-EU country can be different from the EU ETS. Different mechanisms, such as a price cap, could be used to prevent unduly high carbon prices. A loss guarantee by the EU could insure the country against a situation in which it fails its NDC target, for instance if growth is unexpectedly higher, and would have to purchase additional certificates on the EU ETS market.
- > **The EU ETS price rewards any carbon savings.** If the country achieves higher carbon reductions and therefore does not use the corresponding amount of EU ETS certificates, the country could sell them in the EU ETS. As the ETS price reflects the marginal price of saving a ton of carbon emission, the carbon saving is achieved at a lower price – an efficiency gain from trade. While the proceeds from this is a financial transfer from the EU to the respective country, it still leaves the EU better off, too. The carbon trading institution could retain part of this efficiency gain, e.g. by applying a levy on any sale of certificates from local entities to the EU ETS. Just like the [EU Modernisation Fund](#) today receives a fixed share of proceeds from EU ETS allowances auctioned, the revenue from auctioning certificates or their trading with the EU ETS would accrue with a designated development finance institution.

Compared to the current situation, this would massively improve incentives to invest in capital-intensive green technologies in non-EU countries. Given high capital costs in these countries, currently green technologies are often not deployed, notably in the energy sector where the Levelised Cost of Energy (LCOE), a measure for the cost of a kilowatt hour produced, is significantly lower for green technologies.

Is a global price for CO₂ emissions fair?

No, it isn't. And the proposal does not mean CO₂ prices will get equalised. The IMF's proposal for an International Carbon Price Floor (ICPF) for key large-emitting countries proposes different price floors of \$25, \$50 and \$75 per ton CO₂ for low-income, middle-income and high-income countries⁴. The rationale for this differentiation is fairness, not efficiency. The debate goes as follows:

- > **Pro uniform carbon price.** A uniform carbon price would be more efficient from a perspective of global growth. According to the IMF's calculations, a uniform global carbon tax achieving the same carbon reduction as under differentiated prices would yield a higher global real GDP by about 0.3 percent in 2030. However, growth in low- and middle-income countries would suffer vis-à-vis the differentiated prices. These countries could get compensated, while the world remains to be better off.
- > **Contra uniform carbon price.** Fear of losing out has often deterred countries from free trade of CO₂ certificates. The IMF writes: "Given their lower per capita income, smaller contribution to historical emissions, and generally higher emissions intensity of production, lower price floor requirements for emerging market economies (EMEs) may be appropriate and needed to encourage their participation"⁵.

To ensure price differentiation, the proposed mechanism – while trading the same EU ETS certificates – maintains two segregated markets: An institution with a sustainable development mandate – such as a development finance institution – would receive a monopoly for trading emissions certificates between the non-EU country and the EU market. Symmetric to the levy that the emissions trading institutions would impose on certificate sales, the purchase of additional certificates could be discounted from the EU ETS price. Also, the sectors included in the trading mechanism could be adjusted, for instance excluding building emissions or road transport, where demand is inelastic and the levers for decarbonisation are to be found elsewhere (such as building electric roadside charging infrastructure).

Overcoming reservations

Linking emission trading systems is not new and has often failed, for a myriad of reasons, mostly technical than political.

Linking emission trading systems is not new and has often failed, for a myriad of reasons, mostly technical than political. The key difference of joining the EU ETS is that countries can adopt a well-established institutional setup, albeit a rather complicated one. The advantage is that issues such as double counting and fraud with carbon offsets can better be avoided.

4 Black, Simon, Ian Parry, James Roaf, and Karlygash Zhunussova. 2021. "Not Yet on Track to Net Zero: The Urgent Need for Greater Ambition and Policy Action to Achieve Paris Temperature Goals." Staff Climate Note 2021/005 (October), International Monetary Fund, Washington, DC. <https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/10/29/Not-Yet-on-Track-to-Net-Zero-The-Urgent-Need-for-Greater-Ambition-and-Policy-Action-to-494808>.

5 Parry, Ian, Simon Black, and James Roaf. 2021. "Proposal for an International Carbon Price Floor among Large Emitters." IMF Staff Climate Note 2021/001, International Monetary Fund, Washington, DC. <https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/06/15/Proposal-for-an-International-Carbon-Price-Floor-Among-Large-Emitters-460468>.

This will require capacity building and monitoring services provided by the EU. But overall, the well-designed institutions of the EU ETS would be offered as a global public good, just like in the past low-inflation reserve currencies and hence the institutional setup of a foreign monetary policy was adopted by some countries. In times of geoeconomic fragmentation, the EU ETS adoption would form partnerships between the EU and other countries – and hence has also non-economic benefits.

EU member states may be opposed to the expansion of the EU ETS as they fear a dilution of certificate prices. This is unlikely at the outset, since the additional free allowances are not large enough to distort the EU ETS. Establishing a different mechanism to allocate free allowances in the non-EU country could be seen as undermining the current, more stringent approach to reduce free allowances in the EU earlier. Ultimately, the political pledge of domestic climate neutrality resonates well with parts of the electorate who may oppose anything that puts this objective into question. For them, high carbon prices and falling emissions in the EU are a sign of virtue, regardless the effect on global emissions. These arguments are all political. Economically, they are nonsensical. At times when the economic inefficiency of climate policies starts to dominate in the public debate and voters turn against climate policies, economic arguments are more likely to convince than the moral pledge of local carbon neutrality at any price.

What countries could become members?

Few emerging or developing countries are immediately prepared to adopt a system as complex as the EU Emissions Trading System (ETS).

Few emerging or developing countries are immediately prepared to adopt a system as complex as the EU Emissions Trading System (ETS). Ongoing efforts to support Ukraine in establishing an ETS under its Association Agreement with the EU highlight the many challenges involved. Nonetheless, a growing number of countries are currently developing carbon pricing instruments, including emissions trading systems⁶. Africa, with its abundant solar potential, stands out as a promising region for future application—provided that persistent governance challenges can be addressed.

Several African countries are exploring carbon pricing mechanisms, though most are currently focused on carbon taxes. Morocco has been among the most proactive, having introduced a carbon tax in 2019. South Africa followed with its own carbon tax in 2019. A few countries—including Nigeria, Gabon, and Côte d'Ivoire—have expressed interest in emissions trading systems. Nigeria announced plans for an ETS in 2022, though the current status of the initiative remains uncertain.

Several Sub-Saharan African countries with relatively strong governance and climate ambition—such as Botswana, Ghana, Rwanda, Kenya, Senegal, and Mauritius—could be promising candidates for engaging with an expanded EU ETS framework. Ghana, for instance, has outlined an ambitious conditional NDC and is active in Article 6 carbon market negotiations, while Rwanda has integrated carbon market readiness into its national climate strategy.

Botswana's strong institutional framework and history of sound fiscal management also position it well for engaging in market-based climate cooperation, especially if technical support and capacity building are aligned with development goals. Kenya has a dynamic renewable energy sector and is actively exploring carbon market instruments, while

6 World Bank. 2024. "State and Trends of Carbon Pricing 2024." <https://www.worldbank.org/en/news/press-release/2024/05/21/global-carbon-pricing-revenues-top-a-record-100-billion>.

Senegal has integrated market mechanisms into its updated NDC and is participating in pilot activities under Article 6. Mauritius, with its advanced regulatory environment and commitment to a low-emission development strategy, also stands out as a potential partner for market-based mitigation cooperation.

The incentive of receiving generous allowances of EU ETS certificates, which can be thought of as a type of currency, could speed up adoption. Countries joining the EU ETS would gain from its credibility compared to local schemes. If sharing the EU's ambitions for reducing emissions, joining the EU ETS would obviate the need to negotiate any exception from the EU's Carbon Border Adjustment Mechanism ([EU-CBAM](#)).

An example: What if Morocco were to join the EU ETS?

Morocco is highly committed to climate mitigation, having pledged to reduce its greenhouse gas emissions by 18 percent until 2030 compared to a BAU scenario. Conditional on additional international support, it could reduce emissions by 45 percent until 2030⁷. In 2022, the EU and Morocco launched a Green Partnership on energy, climate and the environment⁸. In line with the partnership commitments, the EU has pledged €50 million for greening of Morocco's economy and energy sector as part of the EU cooperation program in 2023, which has an overall volume of €624 million⁹. Morocco is rated Ba1 by Moody's and investors face considerable strains in funding green investment.

In 2022, Morocco emitted a total of 66.7 million tonnes of CO₂, with the energy and industry sectors contributing 45 and 11 percent, respectively.

In 2022, Morocco emitted a total of 66.7 million tonnes of CO₂, with the energy and industry sectors contributing 45 and 11 percent, respectively (Table 1). In a BAU scenario, the emissions in these sectors are to rise by more than 60 percent in the energy sector and more than double in the industry sector. These emissions compare to the current [EU-wide cap](#) set for 2021 (including UK) of 1,571 million allowances to emit a ton of CO₂ or equivalent which is reduced by 2.2 percent per year. Hence, Morocco's 2022 emissions in the energy and industrial sectors correspond to about 2 percent of the EU's ETS allowance.

At 37.5MtCO₂eq these two sectors in Morocco emit just slightly more than the free allowances allocated to the EU's three most polluting steel mills¹⁰, and slightly more than the EU's entire production of bulk chemicals¹¹.

Assuming the emissions price of €50 per MtCO₂eq in today's prices, the value of certificates needed by Morocco's energy and industry sectors under the unconditional scenario are currently valued at €2.9 billion per year. Hence, the proceeds from selling EU ETS certificates if Morocco manages to reduce emissions as much as under the conditional scenario equals to €2.9 - €1.9 = €0.9 billion per year in 2030. A 50 percent levy would mean that the emitters who deploys green instead of brown technology

7 IEA. 2023. "Climate Resilience for Energy Transition in Morocco." <https://www.iea.org/reports/climate-resilience-for-energy-transition-in-morocco>

8 European Commission. 2022. "The EU and Morocco launch the first Green Partnership on energy, climate and the environment ahead of COP27." Press release, 18 Oct 2022. https://neighbourhood-enlargement.ec.europa.eu/news/eu-and-morocco-launch-first-green-partnership-energy-climate-and-environment-ahead-cop-27-2022-10-18_en

9 European Commission. 2023. "EU launches new cooperation programmes with Morocco." Press release, 2 Mar 2023. https://ec.europa.eu/commission/presscorner/detail/da/ip_23_423

10 ThyssenKrupp Hüttenwerk in Duisburg, 14.8MtCO₂eq; Tata Steel IJmuiden, 10.2MtCO₂eq; ArcelorMittal Atlantique et Lorraine Dunkerque, 9.6MtCO₂eq; all as of 2022. European Commission. 2021. Commission Decision 2021/C 302/01. [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021D0728\(01\)](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021D0728(01))

11 33.2MtCO₂eq. Source: [European Environment Agency](#).

would receive proceeds of about half a billion euros per year, with the rest accruing to the emissions trading institution for development purposes. However, it is hard to say what the marginal price of carbon reductions under these targets will be. In any case, these amounts are likely much more significant than the support provided by the EU under existing agreements

Table 1. Example Morocco

	Energy sector	Industry sector	Both sectors
Emissions			
2022 actual	30 MtCO ₂ eq	7.5 MtCO ₂ eq	37.5 MtCO ₂ eq
2030 Business-As-Usual scenario	50 MtCO ₂ eq	18 MtCO ₂ eq	68 MtCO ₂ eq
2030 under unconditional targets	41 MtCO ₂ eq	15 MtCO ₂ eq	56 MtCO ₂ eq
2030 under conditional and unconditional targets	27 MtCO ₂ eq	10 MtCO ₂ eq	37 MtCO ₂ eq
	Energy sector	Industry sector	Both sectors
Value of ETS certificates at €50/MtCO₂eq			
2030 Business-As-Usual scenario	€2.5 bln	€0.9 bln	€3.4 bln
2030 under unconditional targets	€2.1 bln	€0.8 bln	€2.9 bln
2030 under conditional and unconditional targets	€1.4 bln	€0.5 bln	€1.9 bln

Sources: Climate Action Tracker, Policy Center for the New South, Moroccan Ministry of Energy Transition and Sustainable Development, own calculations.

The proceeds from EU ETS certificates would be a game changer for investments in green technologies.

The proceeds from EU ETS certificates would be a game changer for investments in green technologies. Today, such investments are hampered by green technologies, such as solar plants, being relatively more capital intense, while proceeds from the local sale of electricity often remain below the cost of production. The savings in CO₂ emissions from renewable energy vis-à-vis brown technologies would free ETS certificates with a value of around €0.04 per kWh at an ETS certificate price of €50 per MtCO₂eq.

Older installations, such as the 160 MW NOORo I CSP Project at the Ouarzazate Solar Complex south of Marrakesh commissioned in 2016 produce clean electricity at a levelised cost of energy (LCOE) of €0.26 per kWh¹². The new [Noor Midelt I Solar Plant](https://solarpaces.nrel.gov/project/noor-i), while suffering from long setbacks, is expected to reach a LCOE of €0.07 per kWh during peak hours, one of the lowest globally. The project requires an investment of about \$2.3 billion financed by The World Bank, the IBRD, the Clean Technology Fund (CTF) with loans from the African Development Bank, the European Investment Bank, the French Development Agency, and KfW (\$852 million)¹³.

¹² Sources: <https://solarpaces.nrel.gov/project/noor-i>, <https://esfccompany.com/en/articles/solar-energy/noor-ouarzazate-the-world-s-largest-concentrated-solar-power-plant-csp-built-in-morocco/>.

¹³ See <https://www.nenergybusiness.com/projects/noor-midelt-solar-power-project-morocco/>

If the project could benefit from the sale of ETS certificates for the 700,000 tonnes of CO₂ saved per year, a significant revenue stream of €35 million at an ETS certificate price of €50 per MtCO₂eq would be added to the operation.

Summary

Climate mitigation requires a global approach. Thinking backward, in the long run we will have a system of global emissions trading just as we have today a system of convertible currencies.

Climate mitigation requires a global approach. Thinking backward, in the long run we will have a system of global emissions trading just as we have today a system of convertible currencies – something that sounded like a moonshot 75 years ago before the Bretton Woods Agreement in 1944. Emissions trading is not only economically efficient, but also effective given it caps emissions. Trading produces larger efficiency gains when comparative advantages are larger, suggesting large efficiency gains from emissions trading between the EU and non-EU economies. To harvest these gains, access to the EU ETS would avoid the obstacles and drawbacks of linking national schemes. In the end, both partners would benefit – and the global climate, too.

The free or discounted allocation of emission certificates, if channelled through appropriate institutions, would support development and make green investments in Africa profitable. In addition, countries joining the EU ETS under similar ambitions would be spared from the EU Carbon Border Adjustment Mechanism. The efficiency gains would in part get reflected in the certificate prices, moderating emission costs in the EU. Most importantly though, a larger share of global emissions would be captured by emission trading systems, the most efficient and effective way towards global net zero.

Just like countries adopting a foreign currency, a well-designed institution, like the EU ETS, should become a global public good.

How International Trade Contributes to Climate Protection

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International Trade as a Catalyst for Sustainable Development and Climate Action

Trade between partners with different advantages like natural resources or technological knowledge has been a fundamental instrument for prosperity in the world and has increased significantly in the last decades. Especially in the period before the 2009 economic crisis, lower transport and telecommunications costs, driven by technological progress, trade liberalisation, and the rise of important emerging economies and China in particular helped numerous countries around the world expand their specialisation advantages and increase their welfare and standard of living. As a result, in 2024, the volume of goods and services traded internationally was more than 8 times higher than at the beginning of the 1980s. Over the same period, however, the continuous exploitation of natural resources, increasing mobility and rising energy demand associated with higher income, among other things, led to a doubling of global greenhouse gas emissions. The associated climate change represents one of the greatest challenges facing the international community today, endangering future development, peace, and prosperity and calling for global solutions. Although numerous countries worldwide have implemented strict climate protection measures, coordinated measures at the global level are still missing. Against this background, international trade can be an essential link between economic development and climate protection in different countries of the world.

International Trade as a Driver of Climate Solutions

In the first place, trade in goods and services plays a vital role in delivering technological solutions and thus enabling climate protection in developing countries. According to IMF data, in 2023 goods related to climate protection accounted for almost 11 percent of German exports, the export value amounting to 185 billion USD. In China, the value of exported climate protection related goods was even higher, at 234 billion USD. Solar panels, wind turbines, electrolyzers: The specialisation of certain countries in climate protection goods enhances affordability, while international trade ensures their availability in regions that focus on different industries or lack the necessary technology for their production.

International trade can enable specialisation based on absolute or comparative advantages in terms of CO₂ efficiency. This is already happening today, as countries with a cost advantage in the production of renewable energy become attractive production locations for energy-intensive products. The so-called “renewables pull” effect describes this phenomenon where energy-intensive industrial production is relocated to countries with lower marginal cost of renewable energy sources. A key prerequisite for this is that these countries are able to leverage their locational advantages. This is usually the case in developed economies, while developing countries are dependent on foreign investment, know-how, and technology. In order for the necessary capital to reach these countries, government guarantees and/or investment protection agreements may be required to offset the often prevailing investment uncertainty in a fragile political environment. The result is usually a

clear improvement for all parties involved: by expanding local production opportunities, jobs are created and economic development is pushed forward, and at the same time, the foreign companies involved utilise the countries' cost advantages, which are usually due to their geography. The price of climate protection falls, and faster progress can be made in reducing global carbon emissions. One example is Germany's Climate Policy Sector Guidelines for Export Credit and Investment Guarantees.

How trade policy can hinder, or accelerate climate action

However, the role of trade policy for climate protection via better specialisation can be further extended beyond the cost efficiency argument by creating incentives to integrate CO₂ efficiency consideration into the optimisation of profits and utilisation of production location advantages. The current course of trade policy, however, takes climate-related goals into account only to a very small extent. What is more, trade in goods and services not only increases transport related global CO₂ emissions; it also makes it possible to circumvent strict climate protection regulations. Thus, international trade is an enabler of what is called "carbon leakage". Furthermore, trade policy currently favours products with high CO₂ intensity by setting trade barriers particularly low for those products. Shapiro (2021)² points out in his analysis of trade barriers that trade policy implicitly subsidises CO₂ emissions at around 85-120 USD per ton emitted CO₂, resulting in a total of 500 billion USD of indirect subsidies for CO₂ emissions via preferential treatment of CO₂ intensive products in setting trade barriers. Thus, the design of trade and investment policy has a crucial role to play in global climate protection by creating incentives for the integration of climate-related arguments into investment, production and trade decisions. The good news is that, according to WTO data, tariffs on environmental goods (including climate protection goods) are already lower than average tariffs. However, in low-income countries they are still as high as 7.3 percent (as opposed to high-income countries, where the average tariff rate on such goods is 1.4 percent), thus increasing the cost of these goods. What is needed is a further reduction of tariffs on goods required to bring climate protection forward in developing countries.

Furthermore, trade, industrial and investment policy measures can foster climate protection in developing countries by providing assistance for the implementation of climate-related projects by international firms.

Furthermore, trade, industrial and investment policy measures can foster climate protection in developing countries by providing assistance for the implementation of climate-related projects by international firms. Instead of subsidising fossil fuels, financial incentives could be provided for climate friendly production and green public procurement could assure significant demand for climate friendly goods. Incorporating climate-related goals into trade agreements, as is currently the case in the European Union (EU), assures that the link between trade and climate protection is considered when designing trade policy.

However, trade agreements should not be overloaded, as including too many goals beyond trade liberalisation reduces the chances of implementation. It is of equal importance to ensure trade policy does not favour the location of production in less climate ambitious countries but rather protects from carbon leakage. The carbon border adjustment mechanism (CBAM) introduced by the European Union (EU) is one example, although it

1 Samadi, S.; Fischer, A.; Lechtenböhmer, S., 2023, The renewables pull effect: How regional differences in renewable energy costs could influence where industrial production is located in the future, in: Energy Research & Social Science Vol. 104.

2 Shapiro, J., 2021, The Environmental Bias of Trade Policy, in: The Quarterly Journal of Economics, Volume 136, Issue 2, May 2021, Pages 831–886

is far from perfect. Starting in 2026, carbon emissions on basic imported goods such as steel and aluminium will be taxed at the EU border at a rate comparable to the emissions payments of local producers. One way to increase the climate impact of this instrument could be to transfer the CBAM revenue from imports coming from developing countries back to those countries in the form of financing of climate protection projects. This would enable a more efficient use of the financial resources as climate protection is less costly in many developing countries than in EU Member States.

Trading Emission Rights

Beyond conventional trade in goods and services, defining an international carbon budget would potentially create new opportunities to tackle the global challenge of climate change.

Beyond conventional trade in goods and services, defining an international carbon budget would potentially create new opportunities to tackle the global challenge of climate change. In a global emissions trading system, including trade between countries, emission rights that can be used or sold if not needed are limited according to the climate targets and are therefore a scarce and valuable resource. Developed countries need this resource in addition to raw materials, intermediate goods, personnel, capital, energy, etc., to continue industrial production. The more progress they make in developing technology further, the fewer emission rights are needed to produce one unit of value added. Emerging countries can use the rights to develop fossil-based industries, or they can sell the rights as a resource and use the income to support low carbon economic growth. The idea of such an international exchange of emission rights is laid down in Article 6 of the Paris Climate Agreement.

As with trade in goods and services, trade in emission rights is not only beneficial for the trading partners, who obtain what they need most (emission opportunities or income), but also has additional benefits. Tradable emission permits will be allocated where they are most beneficial, that is where reducing emissions is most difficult and most expensive. This means that emission targets can be reached with less effort – or the same effort allows more ambitious targets.

However, mutual beneficial trade with emission rights requires an adequate framework of conditions:

- > Emission rights must be specific and limited. This includes an efficient verification system. Otherwise, there would be no trade within a defined emission budget but a loophole to create new permits and to undermine existing climate goals.
- > The distribution of emissions rights has to be agreed on as this is more than an environmental target but defines a significant potential for future income. Finding a distribution that is mutually acceptable is one of the greatest unsolved challenges of the global climate negotiations of the last three decades.
- > Income from carbon trading must be used beneficially. As with any resource wealth, countries with weak governance systems pose the risk of misuse of funds, failing to support economic growth or falling into the pockets of an autocratic oligarchy.

In the first years of carbon mitigation efforts, trade has not been as essential as it will be in the future. If the Paris targets are to be reached, reduction targets have to become more ambitious, and scarcity of emissions rights will increase. Therefore, mitigation costs will become more critical, efficiency will become more important and the quality of allocation of emissions will be much more relevant. Trading emission rights can help to achieve this.

There are several examples of carbon emission rights trading systems. The European Emissions Trading Scheme (ETS) includes a huge share of emissions from the energy and manufacturing sectors.

Practical Examples of Carbon Emissions Trading

There are several examples of carbon emission rights trading systems. The European Emissions Trading Scheme (ETS) includes a huge share of emissions from the energy and manufacturing sectors. It allows companies to choose between paying for emissions or reducing them and thus reduces the costs of climate policy in the European Union. Another example were the project-based instruments established by the Kyoto Protocol. The basic idea of Joint Implementation and Clean Development Mechanism was to set-up specific projects to reduce carbon emissions in a country without own reduction targets and to transfer the emission reductions to the balance of the industrialised partner country. In Europe, these instruments were linked to the ETS, therefore there was an incentive for companies to reduce emissions in third countries to fulfil the own reduction targets. The instrument led to know-how transfer and was supported by standard setting institutions that helped to reduce emissions. However, a number of projects raised doubts about the additionality of the greenhouse gas reductions and damaged the reputation of this form of cooperation.

Although the example of the Kyoto Protocol was far from perfect, the basic idea was included in the Paris Agreement. Article 6 describes a trading mechanism between Member States. It has taken a decade to define the general rules of the new instrument. The implementation of the instrument will have to prove that emerging economies will benefit from the trade-based international cooperation – and linking it to the ETS in Europe is necessary to create additional incentives for the companies to develop the greenhouse gas mitigation potential internationally. Reducing emissions globally requires a global approach to identify the best opportunities. Trade is the central link between global ambitions and seeking decentralised innovative and efficient solutions.

Addressing Competitive Distortions in Carbon Pricing

If trade in emission rights is not possible, different aspiration levels and different mitigation options will lead to persistent carbon price differences, which lead to distortion of competition for carbon-intensive industries and producers of carbon-intensive products. To avoid these market distortions, a joint carbon framework could be introduced in a group of countries. As this is politically difficult, sectoral agreements could provide a relevant first step to agree on ambitious climate targets that are not harmful for competitiveness. A climate club for aluminium, for example, could be set up by the relevant aluminium producers with a single carbon price or an internal trading mechanism.

A series of sectoral climate clubs could ensure progress in advancing international ambitions while avoiding economically harmful competition distortions. Even if the carbon price were fixed without a carbon trading system, trading in goods would remain unaffected and could play its important role in increasing prosperity.

The EU CBAM: a two-way street between the EU and Africa

A climate policy

Adrien Assous

Executive Director,
Sandbag.

The Carbon Border Adjustment Mechanism CBAM is often misunderstood as a trade policy whereas it is actually a climate policy. Its only objective, as stated in Article 1 of the CBAM Regulation, is to replace the current system of free allocation of emission allowances to EU-based manufacturers under the EU carbon market.

This free allocation system has been in place for industrial processes ever since the market started in 2005 and has led to stagnating emission intensity levels for EU industry. For example, the emission intensity of the EU steel sector has practically not changed in the last 18 years!

Replacing free allocation is an essential piece of the EU's increased climate ambition. It will make processes and products that currently receive those permits (highly polluting clinker, blast furnaces etc.) less competitive, and those that don't (timber, organic fertilisers, circularity...) more competitive. Thanks to the CBAM, EU industry might, at last, decarbonise.

Costs, but also benefits

Causing EU industry to pump less greenhouse gas into the atmosphere is one benefit the CBAM brings to third countries, but it's not the only one. As the phaseout of free emission permits in the EU carbon market increases production costs in the EU, the selling price of CBAM-covered goods in EU markets (steel, aluminium, cement etc.) will naturally increase, benefiting both EU-made and imported products. With the CBAM, importers will therefore pay more but also earn more, thanks to higher selling prices in EU markets.

At Sandbag, we have modelled the combined effect of these higher costs and higher revenues.

At Sandbag, we have modelled the combined effect of these higher costs and higher revenues. In a business-as-usual scenario where goods imported into the EU were as carbon-intensive as they are now, we estimated that €11.3 billion will be paid by importers in CBAM fees each year, of which over half (€6.3 billion) would be recovered thanks to higher selling prices in the EU, leaving only €5.0 billion net costs to importers. Moreover, if the exporting countries set up a domestic carbon tax, that tax may be deducted from CBAM fees. If all countries applied a €50 domestic tax per tonne of CO₂-equivalent, it would reduce CBAM net costs to only €0.7 billion for third countries globally. Meanwhile, the CBAM (and related phase-out of free emission permits) will also cost European producers.

Limited impact on Africa

In Sandbag's analysis, we looked at how different regions will be impacted by the CBAM and estimated that African imports will need to pay about €1.5 billion in CBAM fees, with net costs being around €670 million. That is for the whole continent, and without changing production methods. In such case Aluminium imports would actually become more profitable (€+86 million) whereas iron and steel (€-373m) and fertilisers (€-307m) will bear the highest net costs. Some countries would see net benefits from the start, with imports from Mozambique, Ghana and Cameroon becoming more profitable, whereas imports from Egypt, Algeria and South Africa become less profitable.

The CBAM's impact on Africa might improve if it is extended. Public consultations have been run by the European Commission, firstly on adding to the CBAM coverage embedded emissions of upstream product

The above scenario assumes third countries continue exporting to Europe exactly the same products, made in the same way as today. But the CBAM also rewards changes in third countries. For example, by introducing a carbon tax of just half of Europe's own carbon price, the continent overall would see a net positive impact of the CBAM, with €134 million in net income received from the EU.

We explored another kind of response by third countries, whereby exporters minimise CBAM costs by simply selecting low-emission goods for export to Europe while keeping high-emission goods at home. This strategy, which we called "resource shuffling", only exploits what some already consider as loopholes without requiring any major industrial transformation. It doesn't bring any climate benefits either, so the EU will probably try and contain such strategies. Nevertheless, resource shuffling will probably still be possible to some extent. In the CBAM's current form, resource shuffling would increase profits for African exports of aluminium (€+118m) and cement (€+90m), and still reduce profits (but less than in business-as-usual) for iron and steel (€-257m).

More CBAM is better

The figures presented above concern the scenario of a CBAM that is limited to its current scope. But it is likely that the CBAM will be extended.

The CBAM's impact on Africa might improve if it is extended. Public consultations have been run by the European Commission, firstly on adding to the CBAM coverage embedded emissions of upstream products (also called precursors) of goods already covered by the CBAM. These could be for example, coke, lime and ferro-silicon in the case of steel products, and alumina and pre-bake anode for the case of aluminium products. Secondly, a possible addition would be to so-called "indirect" carbon which is emitted through the use of fossil-based electricity by the plants manufacturing CBAM goods. This would impact steel products, especially from electric arc furnaces, and even more aluminium, for which indirect emissions are often ten times larger than direct emissions at manufacturing plants.

In some sectors, the impact of such extensions would be significant for African exporters. For example, annual net gains for aluminium exports would almost double to €160m in the business-as-usual scenario, and to €300m if a carbon price is introduced.

Opportunities ahead

Sandbag's analysis consisted of fairly simple scenarios using production routes and resources already available in each country, and trade data as they were in 2023, but it ignored the most obvious and desirable effect of the CBAM outside the EU: promoting new sustainable production methods in third countries.

By adopting sustainable value chains, African countries would minimise CBAM costs while still reaping the benefits of phased-out free emission permits in the form of higher selling prices in EU markets. When free permits have been removed, EU industry will need to fully decarbonise its large economy to avoid carbon costs, whereas African exporters can avoid CBAM costs by means of a relatively smaller transformation. This transformation will be even easier in sectors where Africa is comparatively better endowed than Europe with resources useful to the green transition.

Adopting more sustainable value chains would not only reduce CBAM costs but also make new African production facilities more competitive domestically if carbon pricing schemes were introduced in their home countries in the future, and internationally if CBAM-like policies were set up in their other export markets as well.

4

The Power of Collective Action



Stronger Together – African Governments Driving Transformation

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ACET's analysis at the country level shows that structural barriers frustrate national efforts to transform. Fragmented markets, policy misalignment, underdeveloped supplier base and poor hard and soft infrastructure

African Collaboration is essential for transformation. While African economies have been growing in the last three decades, it has not been enough to sustain their development. Strong and lasting development requires countries to focus beyond growth and on economic transformation; and to have real impact, countries must work together across borders to bolster their domestic efforts.

The African Center for Economic Transformation (ACET) defines economic transformation as Growth with DEPTH: **diversification** of products and exports; **export** competitiveness in global markets; increase in the **productivity** of all resource inputs, especially labour; **technology** upgrades for production; and improvements in human **well-being**¹. ACET's African Transformation Index (ATI)² tracks countries' progress across these five dimensions over several decades. The 2023 ATI revealed that while some countries have made significant progress on economic transformation, overall, Africa is regressing with an average ATI score of 30.3 out of 100³. Generally, African economies have become less diversified and less export competitive—diminishing their ability to respond to and recover from external shocks.

ACET's analysis at the country level shows that structural barriers frustrate national efforts to transform. Fragmented markets, policy misalignment, underdeveloped supplier base and poor hard and soft infrastructure, alongside more severe and frequent climate events, undercut even the best policy frameworks. Furthermore, few African countries today can muster the investment scale, technology access and institutional depth required for economic transformation.

These challenges are made even worse by growing geopolitical issues, declining aid levels, and unsustainable and riskier debt. The recent imposition of sweeping 'reciprocal' tariffs has highlighted deep fractures in the global trade architecture. Tariffs on African textiles, diamonds and more will potentially lead to disruptions in key export sectors, which cannot be easily remedied due to a stalling WTO dispute-settlement mechanism.

At the same time, bilateral aid and concessional finance levels are dropping precipitously as major traditional bilateral donors like the US and UK cut official development assistance by US \$39.8 billion (of which \$4.2 billion affects Africa)⁴.

1 African Center for Economic Transformation. 2014. Growth with DEPTH.

2 Africa's Transformation Index. <https://acetforafrica.org/ati/>

3 African Center for Economic Transformation. 2023. African Transformation Index. Tracking Africa's economic successes and setbacks <https://acetforafrica.org/ati/>

4 <https://www.afdb.org/en/knowledge/publications/african-economic-outlook>

Adding to these issues, Africa is navigating rising debt costs, with up to 25% of government revenue in some African nations spent on debt repayments. There are at least 22 African countries either in or at high risk of debt distress⁵. The World Bank estimates that sub-Saharan Africa's debt-to-GDP ratio averaged 60 percent in 2023 – up from 35 percent in 2010, crowding out vital investments. The G20 Common Framework, established to help countries navigate their debt crisis, is not working, with only four African countries (Chad, Ethiopia, Ghana, and Zambia) applying to date, due to risks of credit downgrades and reluctance of private creditors (who now hold close to 40% of the African debt) to join the framework. Yet, Africa's borrowing rates on sovereign bonds range from 7-12%, while developed nations (in Europe) pay just 1-2%⁶.

Taken together, these external financial challenges make it nearly impossible for African countries to truly transform, and the continent's fragmentation limits its bargaining power to change the global system and boost competitiveness in world markets. It is becoming more and more clear that national leadership is necessary but insufficient. It must be bolstered by regional collaboration that ensures countries can overcome these constraints and benefit from regional public goods. In an economically interconnected world—and despite the ongoing retraction in multilateralism—regional cooperation and strong leadership offer Africa the strongest pathways toward economic transformation.

Stronger Together

African leaders have always understood that collective self-reliance and regional integration are essential to breaking the cycle of poverty.

African leaders have always understood that collective self-reliance and regional integration are essential to breaking the cycle of poverty. From the 1960s inauguration of the Organisation of African Unity to today's African Union (AU), and the adoption of the Lagos Plan of Action through to the Abuja Treaty, each milestone has underscored the power of collaboration.

Africa's most significant advance on regional integration, to date, is the establishment of the African Continental Free Trade Area (AfCFTA). The AfCFTA has been signed by 54 countries and ratified by 48 – it signals a renewed momentum for African-led collaboration. The AfCFTA, fully implemented, is expected to create a single market of 1.8 billion people (60 percent of whom are under the age of 25)⁷ - positioning Africa as a dynamic and youthful economic powerhouse. Significant progress has been made in rolling out the AfCFTA's Guided Trade Initiative (GTI), a pilot launched in 2022, designed to enable commercially meaningful trade under the AfCFTA framework while stress-testing its operational, institutional, legal, and policy environments.

5 World Bank. 2024. Poverty, Prosperity, and Planet Report 2024: Pathways Out of the Polycrisis. Washington, DC: World Bank. doi:10.1596/978-1-4648-2123-3. License: Creative Commons Attribution CC BY 3.0 IGO

6 African Center for Economic Transformation. 2025. Advancing African Agency Through Borrower Coordination. <https://acetforafrica.org/research-and-analysis/reports-studies/reports/advancing-african-agency-through-borrower-coordination/>

7 Echandi, Roberto; Maliszewska, Maryla; Steenbergen, Victor. 2022. Making the Most of the African Continental Free Trade Area: Leveraging Trade and Foreign Direct Investment to Boost Growth and Reduce Poverty. © World Bank. <http://hdl.handle.net/10986/37623> License: [CC BY 3.0 IGO](https://creativecommons.org/licenses/by/3.0/)

Alongside the AfCFTA, African countries are collaborating in a number of global and regional fora to ensure they maximise their impact.

The GTI initially targeted eight countries, but currently, participation has expanded to 30⁸ member states, reflecting growing confidence in AfCFTA's potential to drive economic cooperation.

Alongside the AfCFTA, African countries are collaborating in a number of global and regional fora to ensure they maximise their impact. At the UN Climate COP, African negotiators have formed strategic coalitions to advocate for scaled-up adaptation finance, technology transfers, and debt-for-nature swaps. African-led Coalitions such as the Alliance for African Industrialisation (AAI) showcase how regional partnership can translate global commitments into industrial development, ensuring that Africa's call for a just transition is matched by investment in green manufacturing and job creation. And initiatives such as the Africa Green Stimulus Program and the Africa Green Mineral Strategy exemplify how coordinated crisis response can lead to fairer representation in global capital markets, unlock concessional finance, align recovery spending with green objectives, and safeguard strategic industries.

These pan-African coalitions demonstrate that Africa's true strength lies not in individual demands, but in what the continent can accomplish when it unites and speaks with one voice.

Challenges to African Integration and Collaboration

Political vision: President Paul Kagame warned at the 2017 AU summit⁹ that "Africa has a crisis of implementation". Weak monitoring and enforcement strategies, whether through formal systems or more informal peer pressure groups, heighten the consequences of non-implementation. Even where regional and continental agreements are agreed and ratified, implementation, and thus impact, is often limited. To unlock Africa's full economic potential, countries must unite behind a cohesive, region wide policy vision anchored in collaboration and integration. Rather than crafting isolated national development plans or visions, leaders must develop plans aligned with regional protocols—setting clear, measurable targets for industrialisation, export diversification, and sustainable growth. Countries must think regional and act local. Africa's leaders know that they must collaborate on regional priorities, but it is not straightforward; they must balance political incentives with national priorities making regional cooperation complicated. Alongside policy realignment, member states must accelerate investments in cross-border infrastructure—transport corridors, digital networks, payment systems, and integrated energy grids. These are not luxuries but critical lifelines to slash trade costs and deepen integration.

The Political economy: Integration and intra-African trade are mutually reinforcing. In 2023, intra-African trade grew by 3.2 percent—a notable slowdown from the 10.9 percent growth recorded in 2022¹⁰. Nevertheless, in the face of macroeconomic challenges and unfavorable global economic headwinds, intra-African trade has been resilient. It accounted for approximately 14.9 percent of total African trade in 2023, up from 13.6 percent the previous year.

8 Cynthia Nyasimbe Esonam, Senior Advisor to the AfCFTA. 2025. <https://africafeeds.com/2025/04/30/afcfta-expands-to-30-countries-under-guided-trade-initiative/>

9 Paul Kagame. 2017. Recommendations for the institutional reform of the AU. <https://au.int/sites/default/files/pages/34915-file-report-20institutional20reform20of20the20au-2.pdf>

10 Africa Trade Report. 2024. Transforming Africa's Trade. Africa Export Import Bank. https://media.afreximbank.com/afrexim/African-Trade-Report_2024.pdf

Despite this momentum, it is not as robust as it could and should be. Several political-economy challenges are emerging that could further slow progress.

Despite this momentum, it is not as robust as it could and should be. Several political-economy challenges are emerging that could further slow progress. A few examples of these are the following - Nigeria's large domestic market and well-resourced private sector have prompted concerns that it could dominate GTI quota allocations, potentially marginalising smaller partners and their producers¹¹; within the EAC, Tanzania's decision to maintain tariffs above 20 percent on textiles and garments—despite broader AfCFTA liberalisation—illustrates how strong domestic industry lobbying can fuel resentment among more liberalised economies¹²; in January 2024, the EAC issued firm-specific import-tariff quotas for industrial sugar use—granting preferences to a handful of large manufacturers, with little public explanation of the selection criteria¹³. Proactively addressing these political-economy dimensions will enhance integration.

Knowledge and skills: Robust institutions and skilled people are essential for integration. Africa has made good progress toward achieving universal primary education. But half of African children enter adolescence without basic literacy or numeracy skills, 30 million remain out of school, and 35 percent lack access to secondary or technical education¹⁴. Public education spending in Africa is low, averaging about 5 percent of GDP – with just over 1 percent in the Central African Republic. Countries need to invest in education especially STEM and technical and vocational training. The private sector needs to invest in research and development hubs and finance ministers need to incentivise the creation of such hubs to drive technology and green industrialisation. Finally, countries must support Pan-African centers of excellence—such as the African Institute for Mathematical Sciences (AIMS) and the Africa Center for Disease Control and Prevention (Africa CDC)—to generate research, innovation, and public-health capacity that serve the entire continent.

Migration: As people move across borders, they forge new economic and social links that bind countries into a more integrated region. Half of Africa's 1.5 billion population is under 20. It is estimated that Africa's population will be 2.4 billion by 2050 and possibly 4.2 billion within a century. While recent economic growth on the continent is welcome, much of it has been jobless growth, lacking the structural shifts needed to drive economic transformation. Thus, Sub Saharan Africa's youth population remains largely unemployed (9 percent) and underemployed (11 percent), with overall labour under-utilisation for youth in the region reaching roughly 20 percent¹⁵. This means nearly one in five young people are either out of work or stuck in under-hours jobs, fuelling social unrest and placing immense pressure on public services. Leaders on the continent must prioritise decent job creation and facilitate mobility of skilled labour.

11 Ayele, Y., Tayo, T., and Mendez-Parra, M.2024. Nigeria's participation in the Guided Trade Initiative: an economic assessment. ODI Working paper. London: ODI (<https://odi.org/en/publications/nigerias-economic-assessment>).

12 Morrissey Oliver and Zgovu Evious.2024. Implications of AfCFTA Tariff Reductions for EAC Exports to Africa. Credit Research Paper No. 24/03. Centre for Research in Economic Development and International Trade, University of Nottingham. <https://www.nottingham.ac.uk/credit/documents/papers/2024/2403.pdf>

13 <https://globaltradealert.org/state-act/84486-kenya-temporary-import-tariff-rate-quotas-on-sugar-for-several-manufacturing-firms>

14 AfDB 2024. African Sustainable development Report. <https://www.afdb.org/en/knowledge/publications/tracking-africa%E2%80%99s-progress-in-figures/human-development>

15 ILO.2024. Global Employment Trends for Youth2024. Sub-Saharan Africa. https://www.ilo.org/sites/default/files/2024-08/Sub-Saharan%20Africa%20GET%20Youth%202024_0.pdf

The AU's Free Movement of Persons (FMP) Protocol lays out strategic levers to transform migration into a powerful engine for growth including:

The AU's Free Movement of Persons (FMP) Protocol lays out strategic levers to transform migration into a powerful engine for growth including: a binding framework for mutual recognition of qualifications; guaranteed access to member state labour markets; interoperable digital platforms for skills matching and remittances; and harmonised social security agreements. Together, these measures can shift migration from a policy challenge to a strategic asset to drive integration—provided African leaders move quickly to secure ratification beyond the current four signatories.

Recommendations

Economic transformation in Africa hinges on a shared, long-term policy vision that is firmly rooted in regional collaboration. This has been clearly outlined in Agenda 2063¹⁶. National development plans or visions must be forged through a regional lens—think regional, act local. Below are three strategic priorities where leadership truly makes the difference.

Reinforce and expand the mandate of the African Union. From a strategic vantage point, empowering the AU requires both increased financial commitment and a broader regulatory mandate. Currently, African Member States finance only 38 percent (US \$200 million) of the AU's 2025 budget, leaving 58 percent (US \$353.7 million) to donors and international partners¹⁷. In contrast, EU Member States cover roughly 90 percent of their union's budget through own resources such as customs duties, VAT levies, a GNI contribution, and a plastics-waste charge¹⁸.

To achieve true self-sufficiency, African governments must fully honour their financial commitments under the AU Charter. They should also transfer select authorities to the African Union, empowering it with enforceable powers to hold member states accountable to ratified protocols and policies. This would secure predictable funding for AfCFTA implementation and strengthen Africa's bargaining position in global finance and trade negotiations.

Most importantly, the continent's Big Five economies—South Africa, Egypt, Algeria, Nigeria, and Ethiopia—whose combined GDP of US \$1.4 trillion equals half that of the other 48 member states—must assume visionary leadership roles that coordinate cross border regulations, policy harmonisation, and resource mobilisation to drive this reform agenda in their subregions and across the continent.

Collaborate to deliver regional public goods. No single country can build all the necessary infrastructure or specialise in every value chain. African leaders must therefore coordinate joint projects that deliver regional public goods.

Good examples include the Inga Hydro-power development in the Democratic Republic of Congo which holds up to 42,000 MW of potential capacity; the 1,300 km Lobito Corridor railway from Angola through DRC and the Zambia, when completed will open a fast, reliable trade artery for critical minerals, agricultural goods and freight from

16 African Union Agenda 2063. <https://au.int/en/agenda2063/overview>

17 African Union 2025. Budget of the AU 2025. https://au.int/sites/default/files/decisions/44091-EX_CL_DEC_1265_-_1278_XLV_E.pdf?utm_source=chatgpt.com

18 European Parliament. 2025. The Union's Revenue 2025. https://www.europarl.europa.eu/erpl-app-public/factsheets/pdf/en/FTU_1.4.1.pdf

Alongside this, countries need to agree on strategic areas of specialisation across key value chain to facilitate global competitiveness.

land-locked Southern African states to global markets; and the Pan-African Payment and Settlement System platform which connects 15 central banks and over 150 commercial banks, demonstrating real-time, local-currency settlements that eliminate hard-currency bottlenecks and reduce gross settlement exposures by up to 80% through multilateral netting¹⁹. These initiatives and others need to be replicated across the continent and/or scaled up to facilitate rapid economic transformation.

Alongside this, countries need to agree on strategic areas of specialisation across key value chain to facilitate global competitiveness. For example in West Africa, the cotton four (Benin, Burkina Faso, Mali and Cote D'Ivoire) can focus on production, other countries on textile production and others on fashion and clothes production. Similar regional value chains can be developed for pharmaceutical, critical minerals and agro-inputs value chains – to name a few. To realise this ambition, countries will need to broker consensus on investment priorities, harmonise regulations to remove bottlenecks, and share technical capacity to ensure that supply and value chains span borders seamlessly. Regional Economic Communities working in partnership with AfCFTA can help facilitate these processes. With many countries around the world pushing to negotiate bilateral agreements with African countries, the window for action is fast closing.

Hasten the establishment of the African Financial Institutions. Africa has powerful institutions and coalitions such as the AfCFTA, African Development Bank, Alliance of African Multilateral Financial Institutions, and the AU agencies including African Risk Capacity (ARC) Group and the Africa Adaptation Initiative (AAI). All of these play a key role in addressing the impacts of climate change, bolstering private investment, promoting sustainable economic development, and enhancing industrial transformation across the continent.

To unlock Africa's full economic potential, however, we must urgently fast-track the creation of the continent's key financial institutions—the African Central Bank (ACB), African Monetary Fund (AMF), African Investment Bank (AIB), and Pan-African Stock Exchange (PASE). Although frameworks for the ACB and AIB are in place, progress has been painfully slow: the draft Statute for the African Monetary Institute (the ACB's precursor) was only endorsed by finance ministers in early 2025, and the protocol for establishing the AMF has yet to secure the ratifications it needs to enter into force.

Without these institutions, and the coordinated monetary policy and regional lending capacity they promise—Africa will continue to rely on external finance and fragmented markets that weaken government's negotiating clout and leave them exposed to global shocks. Simultaneously, launching the PASE must be treated as a strategic imperative. The PASE would unify fragmented capital markets, vastly improve liquidity, reduce the cost of capital, and mobilise domestic savings into productive investments. Today there are a handful of regional stock markets - each serving a tiny fraction of African enterprises. If we do not act now to ratify outstanding treaties, vest these bodies with clear enforcement powers, and seed them with adequate capitalisation drawn from member-state contributions, we risk delaying critical AfCFTA implementation and undermining our ability to compete effectively with the rest of the world. The moment for half-measures has passed and time now calls for a fully empowered, financially self-reliant African Union.

19 <https://www.reuters.com/markets/currencies/african-payments-system-papss-plans-launch-fx-market-platform-this-year-2025-03-12>

Conclusion

Multilateralism is in a state of crisis—and Africa cannot allow a crisis of this nature go to waste. Now is the moment for decisive, collective leadership. It is imperative that the continent marshals its regional institutions for delivery and speaks with a consolidated voice to rewrite the rules of engagement on trade, climate finance, technology transfer, and debt restructuring. If we fail to act, we risk ceding our agency and watching another generation's potential slip away.

The pieces are mostly in place; we need to now fast-track implementation. Through bold, unified action—anchored in African agency and reinforced by genuine global solidarity—we can and must secure a fairer, more sustainable future for the continent.

Insights on Inclusive Climate Action:

Dr Cecilia Wandiga

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Centre for Science
and Technology
Innovations (CSTI¹)

This article does not focus on the court mechanisms needed to ascertain indigenous land rights in carbon credit projects.

Carbon Credits and Indigenous Land Use Challenges faced by the Ogiek and Masai people in Kenya compared to the Sámi people in Finland and Norway

International trade transactions are based on clearly defined property rights and valuations. Carbon credit voluntary markets are a new international trade mechanism that is contingent on land use being restricted to carbon sequestration activities². Carbon trading effectiveness is intrinsically tied to land use practices based on Western private ownership land governance laws that are often in direct conflict with communal land rights customary laws of indigenous peoples³. In Western legal systems, change of land use is assigned to an individual property owner but in, African legal systems, indigenous people own the land as a multigenerational communal group and collectively decide on land use, especially on sacred sites⁴. Africa, endowed with significant natural resources and extensive communal land tenure systems, stands at the crossroads of immense climate finance potential and complex socio-political dynamics concerning land rights. With communal land systems accepted as customary law in African court systems, the examination of challenges raised provides Global South lessons for indigenous land rights in the Global North.

This article does not focus on the court mechanisms needed to ascertain indigenous land rights in carbon credit projects. Instead, emphasis is on the due diligence considerations that carbon credit developers and investors should examine in order to reduce conflicts and the risk of contract nullification by governments.

Comparing the Ogiek, Maasai and Sámi Peoples Land Ownership vs Carbon Rights

There is no common set of daily activities amongst indigenous people. The Ogiek people of Kenya are forest dwellers who use their land for hunting, bee keeping (honey production), and practicing small-scale agriculture⁵. The Maasai are semi-nomadic people who live on both sides of the border in Kenya and Tanzania.

1 <https://orcid.org/0000-0001-7650-2363>

2 Ecosystem Marketplace. (n.d.). 2025 State of the voluntary carbon market (SOVCM). Retrieved June 16, 2025, from <https://www.ecosystemmarketplace.com/publications/2025-state-of-the-voluntary-carbon-market-sovcm/>

3 Redvers, N., Chan, J., Odochao, S., Pratt, V., Sim, J., Gougsa, S., Kobei, D. M., & Willetts, L. (2025). Carbon markets: a new form of colonialism for Indigenous Peoples? The Lancet Planetary Health, 9(5), e421–e430. [https://doi.org/10.1016/S2542-5196\(25\)00086-5](https://doi.org/10.1016/S2542-5196(25)00086-5)

4 Gilbert, J. (2017). Land grabbing, investments & indigenous peoples' rights to land and natural resources: Case studies and legal analysis. <https://iwgia.org/images/publications/new-publications/land-grabbing-indigenous-peoples-rights.compressed.pdf>

5 Kobei, D. (2022, April 20). At home and at peace in the Mau forest of Kenya—Understanding the Ogiek experience. <https://www.theearthandi.org/post/at-home-and-at-peace-in-the-mau-forest-of-kenya-understanding-the-ogiek-experience>

They primarily occupy savannah grasslands and use their lands for cattle herding. Sámi people are sometimes described as coastal but also live in interior regions of Finland, Norway, Sweden, and Russia. Land is used for reindeer herding, fishing, hunting and gathering small game, berries and edible plants. Common to all three indigenous groups is their control of large tracts of land that are suitable for carbon credit project development. Some own grassland, others own forestland.

Carbon Rights are the legal right to claim and sell carbon credits. In Western systems, carbon rights are typically held by private landowners with verified title deeds that include land and airspace rights, in some cases also sub-surface rights. For example, an Oregon (US) or Westerwald (Germany) timberland owner can partner with a carbon registry to earn credits from avoided logging. Land Trusts and Corporations can also lease their carbon rights for 25 years to a carbon developer, while still farming the land. In this case each party has clearly defined roles and responsibilities as well as solid legal contracts with lawyers.

For state-owned land (e.g., national parks, reserves), the government or public agencies often retain the carbon rights and may auction them or use them to meet national climate targets and financial goals.

For state-owned land (e.g., national parks, reserves), the government or public agencies often retain the carbon rights and may auction them or use them to meet national climate targets and financial goals. The government becomes the custodian of the land and certifies there is no use that will interfere with the development of carbon rights. The Queensland Government's Land Restoration Fund (LRF) in Australia, has financed carbon credit projects on grasslands used for both wildlife conservation and cattle ranching⁶. Operated by the U.S. Department of Agriculture (USDA), the Grassland Conservation Reserve Program (CRP) is a voluntary initiative where producers enroll grazing land for long-term conservation while still allowing sustainable grazing⁷. Using this government stewardship lens, shared grazing and wildlife land or shared forest land would be an ideal investment because the landowner can also issue a sovereign guarantee. The reality for indigenous people in Kenya and the Sami people is unfortunately different.

Communal land systems operate on shared, overlapping, and often undocumented rights, making them hard to fit into carbon market rules—which assume one legal entity (“owner”) who can commit the carbon for decades. Undocumented rights cannot be signed as part of a contractual guarantee. Government has been the de facto custodian of communal forests and grazing lands but is also the conservator with eminent domain authority to evict if an asset (carbon rights) is in danger.

The government of Kenya has been evicting the Ogiek from the Mau forest despite court protection being granted by the African Commission on Human and Peoples’ Rights in 2012 and the African Court on Human and People’s Rights in 2017^{8,9}. Finland and Norway have

6 Queensland Government. (2025). The Land Restoration Fund | Environment, land and water. <https://www.qld.gov.au/environment/climate/climate-change/land-restoration-fund>

7 USDA Farm Service Agency. (2024, August 9). USDA accepts more than 2.2 million acres through 2024 grassland, general and continuous Conservation Reserve Program offers. <https://www.fsa.usda.gov/news-events/news/08-19-2024/usda-accepts-22-million-acres-2024-grassland-general-continuous>

8 Muiruri, S. (2023, November 3). Eviction of the Ogiek People Despite Winning a Repatriation Case Against the Government of Kenya. <https://naturaljustice.org/eviction-of-the-ogiek-people-despite-winning-a-repatriation-case-against-the-government-of-kenya/>

9 UN OHCHR. (2025, June 4). Kenya: UN expert urges immediate halt to land demarcation violating Ogiek rights and African court judgments | OHCHR. <https://www.ohchr.org/en/press-releases/2025/06/kenya-un-expert-urges-immediate-halt-land-demarcation-violating-ogiek-rights>

begun to address the Sámi people's land rights through formal legislation^{10,11}. However, it is not easy to untangle overlapping land rights and land uses. Grazing, water, forest products, and sacred sites may be used by different groups, creating conflicts over who can commit land to a carbon project. Long-term contracts (20–40 years) can restrict communal land use, undermining livelihoods if grazing patterns, crop needs, or climate conditions change¹². Indigenous people have different societal hierarchies and do not always favour equal distribution of earnings. Deciding how to distribute carbon credit revenues fairly among households is politically sensitive and prone to elite capture. Lastly, valuation is complex even for elite carbon trading experts.

Land Valuation vs Carbon Credit Valuation

The assigned value of credits cannot be determined by an individual or group. Valuation is based on carbon accounting methodologies that vary by certification body, and the carbon price is determined by carbon buyers.

The assigned value of credits cannot be determined by an individual or group. Valuation is based on carbon accounting methodologies that vary by certification body, and the carbon price is determined by carbon buyers¹³. Expectations are that anyone participating in a carbon credit project has full understanding of the project's land use restrictions and informed consent about the price of credits received as fair market value¹⁴. In contrast, most indigenous people are not in daily contact with financial markets, banking systems, carbon marketplaces, or carbon purchase contract agreements. Proof of stake for carbon credits is established by quantifying an improvement (more trees or more grassland) or reduction (greenhouse gas emissions) over a defined land boundary compared to a baseline and annual increments over a fixed duration. Most carbon credit buyers do not payout before the first 5 years which means an indigenous community will spend 5 years wondering why they have been restricted from grazing or entering a forest area if they are not getting any money. From their perspective, they have lost land rights, grazing rights, forest rights, and livelihood rights with no compensation. This leads to explosive contestation of agreements.

Not all carbon credit projects have equal value. First, the Voluntary Carbon Market (VCM) is highly fragmented. In 2022, there were more than 170 different credit types². While much smaller than the compliance carbon market (CCM), it is expanding fast, valued at about £1.58 billion (\$2 billion USD) in 2022, with projections up to £394 billion (\$500 billion USD) by 2050¹⁵.

10 Carstens, M. (2016). Sami land rights: the Anaya Report and the Nordic Sami Convention. *Journal on Ethnopolitics and Minority Issues in Europe*, 15(1), 75–116. https://www.ecmi.de/fileadmin/redakteure/publications/JEMIE_Datensätze/Jemie-datensätze_2016/Carstens.pdf

11 International Centre for Reindeer Husbandry (ICR). (n.d.). Sámi - Norway. Retrieved August 4, 2025, from <https://reindeerherding.org/sami-norway>

12 Helgesen, I. S., Johannesen, A. B., Bostedt, G., & Sandorf, E. D. (2024). Climate change and reindeer herding – A bioeconomic model on the impact of climate change on harvesting profits for Saami reindeer herders in Norway and Sweden. *Ecological Economics*, 223, 108227. <https://doi.org/10.1016/j.ECOLECON.2024.108227>

13 World Bank Group. (2025). Carbon pricing dashboard: Up-to-date overview of carbon pricing initiatives. <https://carbonpricingdashboard.worldbank.org/>

14 Howard, R. J., Tallontire, A., Stringer, L., & Marchant, R. (2015). Unraveling the notion of “Fair Carbon”: Key challenges for standards development. *World Development*, 70, 343–356. <https://doi.org/10.1016/j.WORLDDEV.2015.02.008>

Credit prices vary significantly ranging from under £3.94 (\$5 USD) to over £78.83 (\$100 USD), depending on market confidence in credit quality.

Credit prices vary significantly ranging from under £3.94 (\$5 USD) to over £78.83 (\$100 USD), depending on market confidence in credit quality¹⁵. In the U.S, universities and research institutes form the bedrock of analysis for carbon trading regimes that benefit indigenous communities. However, in Kenya, universities and research institutions have been excluded from carbon project designing under the argument that research is not a commercial activity (feedback given to this author at various meetings). The reality is that data collection for high quality carbon credits is time consuming and cannot be completed in 6 months by foreign consultants. Data collection and analysis for carbon credits is also beyond the capacity of most indigenous communities¹⁶.

There are two issues that emerge when detailed research and analysis is not performed locally¹⁵:

- > **Land Suitability – “Soils ain’t soils” principle:** The suitability of land for Soil Carbon Sequestration Projects (SCSPs) varies greatly by soil type and existing land use. In low-productivity agricultural areas, SCSPs or afforestation may represent the highest and best use, whereas high-value agricultural or development land is usually better used for its current purpose, regardless of future carbon prices. The UK’s National Food Strategy found that **17% of non-intensive farmland** (producing <3% of national output) could be converted to woodland without affecting food security. A similar analysis would be needed for communal land systems with the inclusion of an analysis on optimal grazing zones during inclement weather.
- > **Unaccounted Soil Health Benefits:** Beyond carbon revenues, **increased Soil Organic Carbon (SOC)** improves fertility, drought resistance, and yields, while reducing erosion. A 2019 meta-analysis found average yield increases of **10% for maize** and **23% for wheat** when SOC improves, closing a substantial portion of yield gaps. Raising SOC from 0.5% to 1% could cut synthetic nitrogen use by **50%**, and to 2% could cut it by **up to 70%**. Practices like biochar application and organic amendments not only restore SOC but also create **dual revenue streams** by storing externally captured carbon from DACCS or biochar projects. Afforestation within a communal land area cannot be based on 100% afforestation because the community will need space to live and farm as well as to harvest wood for personal use.

Biochar as a Solution to Land Disputes

The current approach to carbon credit projects creates different risks with reindeer herding being unique because it occurs in both forests and grasslands:

Community	Primary Asset	Secondary Assets	Threat Profile
Ongiek & Sámi (Forest)	Above-ground biomass carbon (trees)	Biodiversity credits, watershed protection	High eviction risk due to fixed high-value carbon stocks
Maasai & Sámi (Grassland)	Soil organic carbon	Wildlife credits, rotational grazing tourism	Lower eviction risk but lower market valuation without specialised MRV

15 Royal Institute of Chartered Surveyors (RICS). (2024). Impact of carbon markets on the rural economy.
16 Sierra View Solutions, & American Farmland Trust. (2023). Agricultural Carbon Programmes: From program chaos to systems change. <https://farmlandinfo.org/wp-content/uploads/sites/2/2023/08/AFT-SVS-Agricultural-Carbon-Programmes.pdf>

Using these parameters, a ChatGPT 4.0 generated case study is presented as a business justification for pursuing carbon credits on communal land:

Problem: Why Communities End Up with \$2 in Practice

The gap between intrinsic valuation and actual payout is driven by:

- > **Information asymmetry:** Communities don't know the carbon value of their land.
- > **Intermediary capture:** Multiple middlemen (brokers, NGOs, developers) each take cuts.
- > **Front-loaded contracts:** Large upfront payments to developers, minimal ongoing benefit to communities.
- > **Undisclosed credit sales prices:** Communities may be told credits sold for \$3/t when buyers actually pay \$15–\$30/t.
- > **Overhead-heavy models:** 70–90% of revenue absorbed by project costs, consultants, marketing, and registry fees.

Solution: How to Unlock Fair Value

- > **Baseline valuation before contract:** Independent MRV (measurement, reporting, verification) to estimate credits & price potential.
- > **Revenue transparency:** Contracts should disclose buyer names and prices.
- > **Tiered profit-sharing:** Percentage of net revenue, not a fixed per-hectare lease fee.
- > **Stacked credits:** Combine carbon with biodiversity, water, and cultural credits to increase per-hectare value.
- > **Blended finance:** Use concessional climate/development finance to subsidise community benefit without eroding developer ROI.

If a community shifts from being a **passive land lessor** to being an **active producer of a carbon-sequestration** product like biochar, they typically gain **much more control over carbon rights** and can significantly increase per-person revenues.

1. Carbon Rights & Control

In land-based nature-based solutions (NbS):

- > Carbon rights often attach to the land, and the project developer or government may be seen as the rights holder.
- > Communities risk being sidelined unless they have formal title or strong legal protections.

In product-based carbon sink (like biochar):

- > The carbon rights are linked to the product and its production process, not the land per se.
- > Whoever produces and certifies the biochar holds the carbon sink claim, **even if the biomass source is from communal or leased land.**

- > Communities can register themselves (or a co-op) as the “project proponent” in carbon standards like **Carbon Standards International** which offers Artisan Sink and a Biochar Tool the community can manage^{17,18}.

2. Revenue Potential of Biochar vs. Passive Land Projects (Kenya data used for calculations)

Revenue Potential: Hypothetical Calculation

Assumptions:

- > **100,000 ha communal rangeland** in a restoration + rotational grazing carbon project
- > Verified sequestration: **3 tCO₂e/ha/year**
- > Verified over **20 years**
- > Carbon price: **\$10–\$20/tCO₂e** (realistic voluntary market range; compliance markets higher)
- > Developer keeps **40%**, community gets **60%** after costs

Annual Credit Yield:

$$100,000 \text{ ha} \times 3 \text{ tCO}_2\text{e/ha} = 300,000 \text{ tCO}_2\text{e/year}$$

Gross Annual Revenue at \$15/t:

$$300,000 \times \$15 = \text{\$4.5M/year}$$

Net to Community (60% share):

$$\$2.7\text{M/year} \div 10,000 \text{ people} = \text{\$270 per person/year} (\approx 135 \times \text{the \$2 lifetime payment reported in the video})$$

Even at **\$5/t**, net community payout could be $\approx$ \$90 per person/year which is still vastly more than \$2 over 40 years but the community does not have access to this information. Most don't even know the valuation of the land they are using and paying for a large-scale land value survey is very expensive.

Compare the *Nbs model* (passive grazing-land sequestration) with **biochar production**:

Assumptions for Biochar Scenario

- > Feedstock: crop residues, invasive species, or forestry waste from within/near the community
- > Production: 10,000 tonnes biochar/year ($\approx$ 30,000 tCO₂e/year sequestered)
- > Price: \$100–\$150/tCO₂e (current premium for high-quality biochar sinks in voluntary markets)

17 Carbon Standards International. (2025). Carbon Standards | Biochar & Carbon Dioxide Removal. <https://www.carbon-standards.com/en/home>

18 Carbon Standards International. (n.d.). Smallholders and Smartphones: How PlantVillage and Biochar Life are transforming carbon removal in East Africa. Retrieved August 4, 2025, from <https://www.carbon-standards.com/en/blog/blog-268-smallholders-and-smartphones.html>

- > Cost: \$40/tCO₂e (production, certification, distribution)
- > Net margin: ≈ \$60–\$110/tCO₂e
- > Revenue split: community-run co-op retains **80%**, external partner **20%** (for equipment financing, marketing)

Annual Net to Community:

- > At \$100/tCO₂e: 30,000 × \$60 net margin × 80% = **\$1.44M/year**
- > At \$150/tCO₂e: 30,000 × \$110 net margin × 80% = **\$2.64M/year**

Per Person (10,000 people):

- > \$100/tCO₂e: **\$144/year per person**
- > \$150/tCO₂e: **\$264/year per person**

Why Biochar Revenue Can Be Higher than Land-Based NbS

- > **Higher unit price:** Biochar credits often fetch \$100–\$200/t, while rangeland carbon is \$5–\$20/t.
- > **Ownership clarity:** The product (biochar) is tangible and produced locally — no ambiguity about who “owns” the carbon sink (carbon rights).
- > **Stacked revenue:** Biochar can be sold as a soil amendment, water filtration medium, or construction additive in addition to its carbon credit value.
- > **Local jobs & skills:** Operation of kilns, MRV (measurement, reporting, verification), product sales, and machinery maintenance stay in the community.

Strategic Advantage for Communities

Moving to **biochar or other carbon sink products:**

- > Flips the power dynamic — the buyer is purchasing from the community, not on behalf of the community.
- > Enables integration into **circular economy** and **green construction supply chains**.
- > Gives room for **premium branding** (e.g., “carbon-negative construction materials made in [Kenya/Norway/Finland/Sweden] by indigenous-led co-ops”).

Universities and research institutions are uniquely positioned to set up fieldwork training stations where they can work with indigenous communities and train them to develop products and assess the agro-ecological impacts of their carbon sink products and land use practices.

Positive Models Can Emerge from the Bad Lessons

The global pursuit of climate resilience and sustainable development has intensified international trade interactions, particularly in the domain of carbon credits. Carbon credits have emerged as a critical financial tool designed to mitigate greenhouse gas emissions through market mechanisms. Their effectiveness, however, is intrinsically tied to land use practices and systems of land governance. Africa, endowed with significant natural resources and extensive communal land tenure systems, stands at the crossroads of immense climate finance potential and complex socio-political dynamics concerning land rights.

International trade increasingly involves carbon credits as tradable commodities. Nations or companies that reduce emissions can sell these reductions as credits to entities needing to offset emissions.

International trade increasingly involves carbon credits as tradable commodities. Nations or companies that reduce emissions can sell these reductions as credits to entities needing to offset emissions. The mechanism not only encourages lower emissions globally but also drives economic value toward sustainable land use practices. This concept aligns with initiatives like the European Union's (EU's) Global Gateway, which underscores the importance of private-sector participation to accelerate ecological transitions in developing regions, such as Sub-Saharan Africa¹⁹. EU Regulations such as the Carbon Border Adjustment Mechanism (CBAM) and the EU Deforestation Regulation (EUDR) will have a direct impact on the export value and agricultural practices across Africa^{20,21}. Carbon credit and trading markets are designed to offer financial support for emission reduction and afforestation activities that would otherwise have no commercial value.

Yet, while carbon credit schemes offer economic incentives, their successful implementation depends fundamentally on clear and equitable land rights. In Africa, land use systems are predominantly communal or customary.

Unlike Western individual property rights models, communal lands involve collective ownership and decision-making processes influenced heavily by local traditions and spiritual values. These systems pose unique challenges for carbon credit projects, which typically require clearly defined land tenure to secure long-term investments and assure project sustainability.

Effective land use governance is crucial. Without secure land tenure, carbon credit projects risk becoming instruments of marginalisation, leading to the negative phenomenon dubbed “blood carbon,” where external developers exploit local communities. The Northern Rangelands Trust (NRT) in Kenya serves as a cautionary example, where efforts initially intended for conservation resulted in tensions and accusations of exclusionary “fortress conservation” methods²². Fortress conservation is a term used to describe an approach in

19 Tagliapietra, S. (2024). The European Union's Global Gateway: An institutional and economic overview. *The World Economy*, 47(4), 1326–1335.

20 The Commonwealth. (2025, April 16). Blog: Sustainable Trade at a Crossroads: Sub-Saharan Africa and the EUDR. <https://thecommonwealth.org/news/blog-sustainable-trade-crossroads-sub-saharan-africa-and-eudr>

21 The African Climate Foundation. (2024, March). Implications for African Countries of a Carbon Border Adjustment Mechanism in the EU. <https://africanclimatefoundation.org/research-article/implications-for-african-countries-of-a-carbon-border-adjustment-mechanism-in-the-eu/>

22 Survival International. (2023, March). Blood Carbon: how a carbon offset scheme makes millions from Indigenous land in Northern Kenya - Survival International. <https://www.survivalinternational.org/articles/carbon-offset-scheme-makes-millions-from-Indigenous-land-Northern-Kenya>

Positive frameworks exist, demonstrating that carbon credits can significantly improve livelihoods and create sustainable investment opportunities when correctly structured. The Mwaluganje Elephant Sanctuary in Kenya provides an exemplary case.

which humans and wildlife are kept separate from each other through very strict, often armed, enforcement of spaces²³. Conflicts arise when priority is given to the needs of wildlife and community access to resources such as water, grazing, and movement are forbidden. In the NRT scenario, carbon credit revenues exacerbated tensions between "haves" (guardians) and "have nots" (pastoralist grazers) in the community. This highlights the importance of redefining mediation and community inclusion to remedy past inequalities through carbon finance.

Positive frameworks exist, demonstrating that carbon credits can significantly improve livelihoods and create sustainable investment opportunities when correctly structured. The Mwaluganje Elephant Sanctuary in Kenya provides an exemplary case. Here, community members collectively manage the sanctuary and earn revenues through eco-tourism and innovative projects such as paper-making from elephant dung²⁴. Crucially, land ownership is clearly documented, and revenues are transparently shared, reflecting an equitable model beneficial both environmentally and economically²⁵. Although not a carbon credit project, the Mwaluganje Elephant Sanctuary demonstrates how to transform conflict between humans and wildlife into a financially viable co-dependent relationship for elephant conservation and land use management.

Another successful example lies in Rwanda's Land Tenure Regularisation (LTR) program^{26,27}. Rwanda addressed historical land tenure issues by clearly mapping and titling land, greatly improving security and reducing conflicts. Such a framework fosters stable environments attractive to investors in carbon credit markets by securing the legal foundations necessary for sustained climate finance projects.

The current challenge to scaling carbon project development is that Rwanda is a small country both in terms of geographic size and population. Median local income is below \$200/mth which leaves little flexibility for diverting household financial resources to projects where returns will not emerge for 5 years.

Looking beyond Africa, comparative insights from indigenous communities in Finland and Norway offer valuable lessons. The Sámi peoples, indigenous to Northern Europe, have secured their land use rights through robust legal frameworks, including the proposed Nordic Sámi Convention. This convention, while still under negotiation, aims explicitly at protecting indigenous rights to land use, recognising the cultural and economic significance of traditional reindeer herding. The Sámi experience demonstrates that acknowledging indigenous autonomy and integrating traditional knowledge into national and international legal frameworks enhances sustainability and reduces conflicts, thereby creating a conducive environment for carbon finance initiatives.

23 Sustainability Dictionary. (2024). Fortress Conservation → Area. <https://lifestyle.sustainability-directory.com/area/fortress-conservation/>

24 Wanzala, J. (2014, June 16). Elephant dung piles on profits for village (Kenya). Standard Media.

25 Oceans2Earth Foundation. (2014). The [Mwaluganje Elephant] Sanctuary 2. <https://www.elesanctuary.org/thesanctuary2.html>

26 African Development Bank Group. (2017, January 20). Land tenure regularization in Rwanda: Good practices in land reform. <https://www.afdb.org/en/documents/document/land-tenure-regularization-in-rwanda-good-practices-in-land-reform-93890>

27 Centre for Public Impact. (2017, December 21). Land reform in Rwanda. <https://centreforpublicimpact.org/public-impact-fundamentals/land-reform-in-rwanda/>

Similar to the Sámi, South Africa's Rooibos Benefit-Sharing Agreement illustrates how indigenous intellectual property can be integrated into international trade systems to foster equitable development^{28,29}. Here, Khoi and San communities receive a percentage of revenues from rooibos tea, acknowledging their traditional knowledge. This approach ensures that communities benefit economically from their resources while maintaining autonomy and preserving cultural integrity. Although this article focused on Africa and the Nordics, indigenous people and communal land carbon projects also abound in Asia and Latin America.

Summary

For Africa, these international examples underline the importance of an enabling regulatory environment. Policymakers and private-sector actors must recognise communal and indigenous land rights as fundamental elements of successful carbon credit initiatives. Clear documentation, equitable revenue sharing, and culturally sensitive governance structures are key pillars in this process.

From an international trade perspective, Africa's position as a significant repository of natural carbon sinks, such as forests and grasslands, offers substantial opportunities. However, unlocking this potential requires addressing land rights comprehensively. Initiatives should embrace models like community land trusts, easement agreements, and benefit-sharing contracts. Such approaches combine local traditions with international legal standards, ensuring investments not only mitigate climate change but also uplift local economies.

The Konrad-Adenauer-Stiftung (KAS) rightly emphasises a shift from viewing climate finance solely through development aid lenses toward more business-centred models. This shift aligns with market realities where climate action must be economically viable to attract private sector involvement.

As a UNESCO associated climate research institute and scientific trust, the Centre for Science and Technology Innovations (CSTI) approaches scientific discovery and technology development using an ethnoscience lens³⁰. The integration of carbon credit schemes with equitable land use frameworks exemplifies this business case, promising returns that attract private investment while safeguarding community interests and indigenous rights.

In conclusion, the nexus between international trade, carbon credits, and land use holds immense potential for climate action and sustainable economic development in Africa. By learning from successful models globally, particularly those respecting indigenous rights and equitable revenue sharing, stakeholders can forge pathways that reconcile market interests with local traditions. Robust legal frameworks, transparent governance, and inclusive practices are essential to leverage carbon credit markets effectively, ensuring they contribute positively to climate resilience, economic prosperity, and social equity.

In conclusion, the nexus between international trade, carbon credits, and land use holds immense potential for climate action and sustainable economic development in Africa.

28 Spoor & Fisher. (2022, July 20). Spoor & Fisher assist SA Rooibos Council in historic benefit-sharing. <https://spoor.com/spoor-fisher-assist-sa-rooibos-council-in-historic-benefit-sharing-agreement-with-national-khoisan-council-and-south-african-san-council/>

29 Trenchard, T. (2024, April 25). Sharing the revenue from South Africa's rooibos tea with the indigenous Khoisan people. Geographical. <https://geographical.co.uk/culture/sharing-the-revenue-from-south-africas-rooibos-tea-with-the-indigenous-khoisan-people>

30 Zidny, R., & Eilks, I. (2022). Learning about pesticide use adapted from ethnoscience as a contribution to green and sustainable chemistry education. Education Sciences 2022, Vol. 12, Page 227, 12(4), 227. <https://doi.org/10.3390/EDUCSCI12040227>

Working for Communities, with Communities

Wanjira Mathai

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One of the most satisfying parts of my work is that I get to engage farmers, educators, entrepreneurs, leaders of grassroots tree-planting networks, climate activists, and policymakers in several countries across Africa. We are not only awash with talent, creativity, and gumption, but we're the world's fastest growing and most youthful continent, and our people are among the most hopeful. As the global community seeks to accelerate action on the climate crisis, I see Africans stepping up with innovative ideas, visions, perspectives, and practical solutions to enhance lasting climate resilience, strengthen communities, and shape prosperous and inclusive futures for their countries.

What they often lack, though, is access to capital in the form of grants, loans, or equity investment. Ideally, the capital invested would be patient—committed to long-term support and prioritising ecological and social impact over short-term financial returns. Investment offers a relatively untapped opportunity in Africa to deliver climate and biodiversity benefits and create and sustain new jobs and livelihoods with multiple beneficiaries: a transformation from climate “aid” to climate “business.” It's in this context that Restore Local, an ambitious initiative by my organisation, the World Resources Institute (WRI), is thriving. We are currently piloting it in three sub-Saharan African regions: Kenya's Greater Rift Valley; the Lake Kivu & Rusizi River Basin (spanning Burundi, Congo-DRC, and Rwanda); and Ghana's Cocoa Belt.

Small business owners, non-governmental organisations, community-based groups, women's tree-planting networks (“foresters without diplomas” as my mother, Nobel Peace Laureate Wangari Maathai called them)

Small business owners, non-governmental organisations, community-based groups, women's tree-planting networks (“foresters without diplomas” as my mother, Nobel Peace Laureate Wangari Maathai called them), and youth climate activists, are all using nature to reduce poverty, secure livelihoods, and accelerate the re-greening of Africa. These “Champions” of WRI's Restore Local program are all part of the Africa-led “[AFR100](#)” movement, which aims to restore 100 million hectares of land across the continent by 2030¹. These women and men are returning prosperity to their communities and to the land.

What's so exciting about [Restore Local](#) is that it is proving that economically viable models can build climate resilience, fortify communities, and, at the same time, protect nature. Crucially, inclusive finance is embedded in the model. With support from [financing mechanisms](#), local organisations are matched with resources through platforms like TerraMatch. TerraMatch not only facilitates funding connections but also [includes a robust program for collecting data, tracking progress, and measuring ecological and social impact](#)—ensuring transparency, accountability, and continuous learning.

¹ African Forest Landscape Restoration Initiative: AFR100, World Resources Institute, accessed May 2025: <https://www.wri.org/initiatives/african-forest-landscape-restoration-initiative-afr100>

So far, this approach has supported nearly 200 Champions across Africa. In Restore Local's three focal landscapes, they have planted more than 17 million trees and begun restoring 27,000 hectares.

So far, this approach has supported nearly 200 Champions across Africa. In Restore Local's three focal landscapes, they have planted more than 17 million trees and begun restoring 27,000 hectares. Together, they are proving that locally led restoration is both efficient and effective. More than 56,000 jobs have been created (part- and full-time, with a majority for women and youth), and we know that in Africa, young people especially are yearning for new employment options.

It's a strong start, but it's only the beginning. WRI estimates that an area equal to the size of Australia, about 750 million hectares, is available for restoration across Africa², [where 65 percent of the continent's farmland is unproductive](#), eroded, or otherwise degraded³. Restoration is a critical tool in the fight against climate disaster. It mitigates climate change while cushioning communities against the worst impacts.

Like Africa's landscapes, restoration projects are diverse—and they require equally diverse forms of support to thrive. Some projects in the Restore Local portfolio focus on environmentally friendly farming practices, such as cultivating a variety of crops and native plants to improve soil health, instead of relying on mono-cultures. Others emphasise agroforestry—integrating trees into farms alongside crops—or practicing silvopasture, which involves strategically adding appropriate trees to existing grazing lands to provide shade for animals and boost soil carbon. Importantly, silvopasture is not about converting native grasslands into forests, but rather about enhancing the productivity and resilience of already-managed grazing systems. Still other projects work to regenerate native forests that are home to iconic plants and animals, helping to restore biodiversity and ecological balance.

Restoring land at this scale requires thousands of local leaders to step up. In Kenya, three female entrepreneurs, Jane Maigua, Charity Ndegwa, and Loice Maina, co-founded Exotic EPZ, which produces macadamia nuts. Exotic EPZ works with 4,500 farmers in 12 counties across Kenya who have planted nearly 200,000 macadamia nut trees, along with native species. Harvesting the nuts provides a steady stream of income for the farmers, while the trees improve the soil and sequester greenhouse gases⁴.

In Western Ghana, the Fanteakwa Cooperative Union brings together more than 2,000 farmers to rehabilitate exhausted cocoa farms, which are the lifeblood of Ghana's economy. Union members work alongside local communities to restore productive farms, strengthen livelihoods, increase economic security, and build the social resilience of cocoa-farming households. They also encourage young people to engage in agribusiness and support local chocolate manufacturing, helping ensure more of the value from cocoa processing remains in Ghana.

2 "Accelerating Africa's Locally Led Restoration Movement", Bezos Earth Fund, accessed May 2025, <https://www.bezosearthfund.org/initiatives/africa-restoration>

3 Mathai, Wanjira, "Small Farmers and Entrepreneurs Offer New Hope for Africa's Degraded Land", Insights commentary, World Resources Institute, April 16, 2023, <https://www.wri.org/insights/farmers-restore-africas-degraded-lands>

4 Mathai, Wanjira, "Small Farmers and Entrepreneurs Offer New Hope for Africa's Degraded Land", Insights commentary, World Resources Institute, April 16, 2023, <https://www.wri.org/insights/farmers-restore-africas-degraded-lands>

Historically, the cocoa industry drove erosion and degradation as farmers cleared land for their crops. Incorporating new trees on the farms will revitalise the area and produce healthier, richer soil.

Historically, the cocoa industry drove erosion and degradation as farmers cleared land for their crops. Incorporating new trees on the farms will revitalise the area and produce healthier, richer soil. Farmers throughout the cocoa belt have seen crop yields decline, soils degrade, and fires ravage the landscape.

A key pillar of our work at Restore Local is the recognition that scaling restoration across Africa is impossible without local leadership, wisdom, and passion. That's why we not only support existing local Champions—we're actively expanding the network to include many more. Central to this model is inclusive finance that is flexible, accessible, and long-term. Restore Local provides multi-year grants that also cover critical but often overlooked elements like monitoring and maintenance. This ensures projects are not just started—but sustained. And as capital is returned from the 20 percent of Restore Local projects that receive low-interest loans and equity investments, it's reinvested to reach and empower even more Champions. We're developing innovative financing mechanisms for non-profit organisations so that financiers interested in results can pay Champions for every tree they plant and maintain over the long run⁵. This is how we grow a restoration movement that is truly led by the people closest to the land.

With access to capital, more women, youth, and entrepreneurs could restore more degraded lands in Africa, while enhancing their economic security and that of their communities and, by extension, nations. We need to scale up these restoration efforts to meet the ambitions of globally agreed and national climate and development goals.

Some financial partners might think that Restore Local is too risky, or the projects too small. Our experience points in the opposite direction. Studies have shown that locally-led and managed initiatives are up to 20 times more likely to experience long term success and bring economic and environmental benefits to communities than top-down efforts.

However, we know that time is not on our side. Irregular rainfall, prolonged droughts, and extreme heat threaten to upend agricultural systems and societies throughout Africa. Reports indicate that 17 out of 20 of the most climate vulnerable countries are in Africa. All my life I've been aware of just how precious green vegetation is. Nature is the source of everything good. The vision we have, to re-green Africa, is both possible and vital. And it's happening right now. Inclusive finance is making it possible. Those of us in positions of leadership—with access to capital, networks, supply chains, and a belief in the promise of Africa's environment and its people—need to step up and step in, too!

To scale this transformation, we must strengthen the capacity of local Champions to lead restoration efforts, ensure policies and incentives are enacted to support their leadership, and improve systems that track and demonstrate progress. This means directing more resources, tools, and trust to communities that depend on forests and protecting them every day. It also means growing a broader movement—one that centers economies rooted in local stewardship of forests and other ecosystems and recognises community-led action as an essential cornerstone of equitable and durable, climate-smart development.

5 TerraFund Dashboards (meta data on homepage), accessed June 2025, <https://www.terramatch.org/dashboard>

Final Word:

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Adenauer-Stiftung

At the core of this publication lies a fundamental question; How can investments in climate-friendly technologies become economically viable and therefore more attractive? This question guided the contributions of all the authors of this publication whose ideas, perspectives, best practices and policy recommendations enrich these pages. I am deeply grateful to everyone who shared their insights or presented their own convincing climate business case.

As different as the essays may be, a shared sentiment runs through them all: Africa stands at a crossroads. The continent's climate vulnerability is undeniable, but so is its potential to lead a global green transformation. The insights from this publication make one thing clear: climate action in Africa is no longer just a moral imperative; it is a strategic economic opportunity. To fully seize this potential, the right political actions must be taken, not only by African countries themselves but also by their partners in Europe and beyond.

The policy incentives discussed in this publication include de-risking mechanisms such as blended finance instruments or credit guarantees and insurance schemes that lower the cost of capital and improve bankability of emission-reduction projects; regulatory clarity and long-term planning through stable policy frameworks, Feed-in-tariffs or the integration of African carbon markets with the EU Emissions Trading System; fiscal and tax incentives supported by a broadened tax base and digital systems for domestic resource mobilisation; the establishment of special economic and export processing zones; the issuance of green bonds; and the strengthening of Public-Private Partnerships through transparent and enforceable legal frameworks. Also, improved market access and trade facilitation especially via the AfCFTA will be key to enabling Africa's green transition and positioning the continent as a global leader in sustainable growth.

Targeted investments in human capital and innovation as well as the facilitation of skilled labour mobility through the ratification of the AU Free Movement protocol will improve workforce readiness for low emission and decarbonised industries. Lastly, the establishment of regulatory sandboxes for emerging technologies like carbon removal and biochar can support innovations and unleash the entrepreneurial spirit of young and talented Africans.

From a European perspective, the mental shift from aid to investment is critical. This includes a transition from traditional development aid to investment-driven partnerships in the sector of green technologies and low emission business ideas, and targeted support of African-led initiatives that align with the climate and economic goals of Europe. More thought has to be given into the CBAM that will eventually enter into force in 2026. While countries aligning with EU-CBAM standards can avoid penalties and access premium markets, channelling some CBAM revenues back to African countries for the funding of climate projects would be a strong counter argument to negative perceptions of the EU efforts to avoid carbon leakage. Embedded climate and sustainability clauses in trade agreements between Europe and Africa would also send an important signal.

Finally, Europe's support must be grounded in respect for African agency, alignment with local priorities, and a shared commitment to climate action. By implementing conducive policies for Africa's transformation and sustainable development, Europe not only strengthens its partnership with the continent but also contributes to a more resilient and equitable global future.

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