CLEAN COOKING ALLIANCE

FINANCIAL REGULATORY PATHWAYS FOR SCALING CARBON MARKETS

POLICY BRIEF 2025

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Financial Regulatory Pathways for Scaling Carbon Markets
In support of Clean Cooking Projects in Africa

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This policy brief, prepared by the Clean Cooking Alliance (CCA), draws on and further develops the findings from CCA-commissioned research conducted by Climate Focus.

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Executive Summary

Clean Cooking Is a Critical but Underfunded Policy Challenge

Nearly 2.1 billion people - almost a quarter of the world's population - still lack access to clean cooking, contributing to 3.2 million premature deaths annually and over 1 billion tonnes of carbon emissions - on par with the aviation sector. Despite its relevance to health, gender equality, energy access, and climate goals, clean cooking remains one of the most overlooked and underfunded global challenges.

Carbon Projects Deliver Multi-Sectoral Benefits

Clean cooking carbon projects offer an effective response. By replacing or by improving the combustion efficiency, polluting fuels like charcoal, wood, and kerosene, they reduce emissions, improve indoor air quality, and ease the physical burden of cooking - particularly for women and children - while helping to forest degradation. The use of standardized methodologies and digital monitoring strengthens their credibility for investment and policy engagement.

These projects also bolster macroeconomic stability by cutting public health costs, reducing environmental damage, and increasing household productivity. They help governments raise domestic revenue, attract local currency investment, and lessen aid dependency - contributing to more resilient, inclusive, and climate-aligned economies.

Carbon Finance Is Enabling Market Expansion

Carbon finance is accelerating access to scalable solutions - such as improved biomass, ethanol, biogas, LPG, and electric stoves - many of which cost just $25–$100 per household.

Carbon revenues are helping enterprises overcome affordability barriers, strengthen business models, and deliver measurable health, gender, and climate benefits. When deployed at scale, clean cooking carbon projects represent one of the most cost-effective investments in development.

Current Financial System Engagement Remains Limited

Despite this potential, engagement from domestic financial systems remains limited. Banks, insurers, and capital market institutions are well-placed to support climate-aligned solutions but face operational and regulatory barriers - including limited capacity, unclear risk profiles, and weak enabling frameworks. This represents a missed opportunity for regulators to align domestic finance with climate priorities and unlock inclusive growth.

Stakeholder consultations and work with commercial banks through the Clean Cooking Alliance's Catalytic Finance Accelerator confirm strong interest among local financial institutions, but highlight the need for clearer regulatory guidance, technical assistance, and market-building tools to scale participation.

A Research-Informed Roadmap for Regulatory Engagement

This brief shares findings from a research initiative commissioned by the Clean Cooking Alliance to explore non-prescriptive, policy-aligned options for financial regulators - such as central banks, securities authorities, and insurance supervisors - to strengthen domestic financial system links to voluntary carbon markets. The recommendations are rooted in African regulatory contexts and informed by global sustainable finance developments.

Aligning Financial Systems with Carbon Markets

Carbon markets are gaining traction as climate finance mechanisms, but many developing countries still face structural barriers to accessing de-risked capital. Financial regulators can play a catalytic role in creating conditions for a more stable and investable carbon market.

This Policy Brief outlines regulatory pathways to integrate carbon credits into mainstream finance. Clean cooking projects are especially well suited for this given their low capital intensity, shorter revenue cycles, and close alignment with national development goals. Compared to sectors like forestry or renewable energy, they offer faster returns and localized benefits.

Three Priority Areas for Regulatory Action

Carbon credits are not yet fully recognized within most financial regulatory frameworks. Uncertainty regarding their classification, legal status, and risk treatment continues to constrain institutional engagement and limit the scale of capital mobilization.

To address these challenges, regulators may consider action across three strategic areas:

Establishing a Stable Carbon Market Infrastructure

Regulatory Guidance & Risk Management

- Issue guidance on carbon credit assets' prudential treatment.
- Include carbon credits as mitigators in bank climate risk recommendations.
- Cover carbon credits in ESG and climate disclosures.

Market Transparency & Data Integration

- Integrate carbon credit data into climate risk databases.
- Incorporate carbon credits in stress testing frameworks.

Expanding Market Participation and Financial Integration

Financial Market Expansion

- Support insurability of carbon credit value chains to mitigate investment risk.
- Classify clean cooking projects within national green taxonomies.
- Incorporate clean cooking projects in green bond frameworks.

Financing Mechanisms & Standardization

- Incentivize loans for carbon credit-related projects.
- Standardize listing, trading, and clearing criteria for carbon credits and linked products.

Ensuring Financial Stability and Risk Mitigation

Investment Security & Product Development

- Clarify carbon credits treatment in the portfolio of ESG mutual funds.
- Incubate carbon credit-linked bond instruments.
- Incubate securitized carbon transactions.

Risk Mitigation & Price Stability

- Provide backstop guarantees to deliver minimum price support.
- Provide backstop guarantees to insurers covering carbon market investments.

Context-Specific Implementation Considerations

Given the diversity of financial systems, the recommendations here are designed for flexible adoption - based on institutional capacity, supervisory mandates, and market readiness. Rather than prescribing uniform reforms, this brief proposes a framework for iterative learning and experimentation.

Global initiatives such as the Network for Greening the Financial System (NGFS) and the Basel Committee are beginning to recognize carbon-related risks. Early national action to define the regulatory treatment of carbon assets can position countries as early movers in sustainable finance oversight.

Structured Testing Through Regulatory Sandboxes

One recommended vehicle for early implementation is the establishment of a regulatory innovation sandbox. This approach enables financial authorities - including central banks, securities regulators, and insurance supervisors - to test the treatment and integration of carbon credits under controlled conditions.

The sandbox model allows for cross-sectoral coordination and practical experimentation in areas such as asset classification, disclosure protocols, and investment product structuring. It can also support collaboration across regulatory agencies, ministries of energy and environment, carbon project developers, and international partners.

By leveraging regulatory innovation sandboxes, financial authorities can guide the evolution of carbon markets toward the levels of transparency, accountability, and stability expected of other regulated asset classes. Sandboxes allow regulators to test and refine classification, risk management, and disclosure practices in a controlled environment - laying the groundwork for long-term regulatory coherence and market integrity.

Illustrative use cases include:

- Defining carbon credits as eligible financial assets or collateral.
- Structuring carbon-linked bonds or securitized transactions.
- Developing guarantee and insurance mechanisms.
- Supporting price discovery and platform standardization.

Structured regulatory experimentation provides an evidence base for formal policymaking while helping to build technical capacity and institutional readiness. Where appropriate, alignment with regional initiatives and international standards can enhance credibility and interoperability.

A Regional Opportunity for Financial Leadership

Effective regulatory engagement can improve transparency, credibility, and bankability in carbon markets. By prioritizing clean cooking, African regulators can help shape a more inclusive model of climate finance and demonstrate global leadership in designing sustainable financial systems.

Opportunities and Challenges: Carbon Markets and Climate Financing

Carbon markets have emerged as a critical mechanism for mobilizing climate finance by providing financial incentives for projects that reduce greenhouse gas (GHG) emissions. These markets and bilateral arrangements enable entities to purchase carbon credits, representing verified reductions in emissions, allowing companies and governments to offset their carbon footprints. Carbon markets foster climate action while supporting sustainable economic development by directing investment into carbon-reducing projects, such as clean cooking solutions.

Carbon credits and finance have become integral to enterprises' financial sustainability and scalability, particularly in the clean cooking sector. These revenue streams provide a critical financial cushion, enabling enterprises to expand operations, lower end-user costs, and attract investment. For example, Carbon credits benefit the African clean cooking sector by providing a revenue stream for companies and initiatives deploying cleaner, more efficient cookstoves and fuels. Clean cooking solutions reduce household air pollution, deforestation, and reliance on biomass while improving health outcomes, particularly for women and children, and climate-positive outcomes.

Major aspects that influence carbon markets and financing

Key Challenges in Carbon Markets	
Volatility and Price Instability	Carbon credit prices fluctuate due to inconsistent demand, limited market depth, and external policy changes, making them a high-risk asset for investors.
Low Liquidity and Uncertain Valuation	The lack of a standardized valuation methodology and secondary markets for trading carbon credits results in reduced liquidity, limiting their attractiveness to institutional investors.
Limited Collateral Acceptability	Carbon credits are not widely recognized as eligible collateral in financial transactions due to concerns over their future value, enforceability, and regulatory classification.
Legal and Regulatory Uncertainties	Inconsistent policies across jurisdictions, unclear ownership rights, and differing treatment of carbon credits under financial regulations create barriers to their integration into mainstream financial products.
Lack of Access to Local Currency Finance	The lack of access to local currency finance was a significant challenge. Currently, most of the funding that carbon project developers receive comes in hard currencies such as dollars or euros. Still, access to local currency financing would reduce currency risk and more effectively align with local project expenditures.

Key Challenges in Carbon Markets

Challenges in Volume Aggregation	Securitizing carbon credit volumes from carbon projects is difficult due to their dependency on specific project developers for continued operation. The high legal and administrative costs of aggregating multiple carbon market initiatives also make it difficult to pool them into a securitized instrument that would appeal to larger institutional investors.
Insurance Needs for Carbon Projects	Insurance on host country authorization has become a pre-condition to accessing certain sources of demand, such as CORSIA (Phase 1). In addition, delivery risk, which is unique to each project, must be insured. Participants expect the "insurance protection gap" to widen as climate change intensifies, making carbon projects even more expensive to insure and thus less attractive to investors.
Legal Risks and Ownership Issues	The unclear legal status and ownership rights of carbon credits in many jurisdictions remains a fundamental barrier to market maturation and their securitization.

Some of the Proposed Interventions to Address the Challenges	
Importance of Offtake Agreements	Emission Reduction Purchase Agreements (ERPAs) have become a condition for securing financing for carbon projects. ERPAs provide predictable revenue streams, reducing credit risk. Another risk is the counterparty's creditworthiness, which must be known before investing.
Financing through Special Purpose Vehicles	The use of Special Purpose Vehicles (SPVs) as the primary financial structure for carbon projects is necessary; as such, lending is only securitized against the assets held within the SPV. However, the lack of formal securities implies that debt sizing needs to account for a sufficiently large 'buffer' to shield against lower revenue streams.
Rising Importance of Compliance Markets	Demand in the voluntary market is unstable, offtake agreements linked to voluntary use are riskier, and compliance markets offer greater demand and price stability.
Need for Price Floor Facilities	Carbon investments need to be derisked by offering price floor guarantees. Such guarantees would reduce market risk, provide greater stability, and make carbon credits a more viable asset class for institutional investors.
Market Legitimacy	Central Banks' engagement in this space and sharing views and directions about carbon credits as an emerging asset class can give the market more legitimacy and encourage investment.
Role of Green Bonds	Green bonds could be a solution to fund domestic carbon projects, with central banks potentially acting as underwriters. This would unlock new sources of financing and reduce reliance on foreign currency debt. Additionally, collaboration with multilateral development banks (MDBs) could further support the growth of domestic carbon markets.

Bankability of Climate Change Projects

To facilitate global decarbonization and effectively contribute to the goals of the Paris Agreement, carbon markets must – in addition to promoting high environmental integrity – represent well-functioning market mechanisms that are liquid, efficient, and stable. The Taskforce for Scaling Voluntary Carbon Markets acknowledges[1] that only such fully functioning markets will materially improve the overall bankability of climate change mitigation projects and mobilize investments at scale. The Taskforce also points out that for investments to be catalyzed, banks and other financiers should provide lending facilities for project developers collateralized by generated carbon credits. Such structured financing and securitization are necessary to allow investors and financial intermediaries to manage risk, develop financial markets, and design new funding instruments for pioneering emerging markets like the voluntary carbon market.

Banks often do not recognize carbon revenues as stable or creditworthy income streams. At the same time, the sector also faces significant financing gaps due to limited access to upfront capital, uncertain carbon pricing, and high verification and certification costs. Additionally, the volatility of carbon markets and the lack of standardized valuation mechanisms further hinder enterprises from leveraging carbon finance for growth. Addressing these challenges requires targeted financial interventions to de-risk investments, integrate carbon revenues into financial assessments, and stimulate greater market participation.

Furthermore, carbon markets are not yet fully integrated into financial systems. Regulatory uncertainty, fragmented market structures, and inconsistent valuation methodologies continue to pose challenges, while concerns about credit quality and permanence further limit mainstream adoption. Many financial institutions remain hesitant to classify carbon credits as financial assets due to price volatility and liquidity constraints.

Commercial lending against future carbon revenues and using carbon credits as collateral remain uncommon in today's carbon market. The lack of (inter)national regulatory guidance around the role of carbon credits in structure finance transactions is restricting access of "mainstream" financiers, with the current carbon market landscape being dominated by a handful of specialized equity and debt investors. This limits the market's potential and raises the cost of finance to project developers who have to compete for a limited pool of capital.

1 World Bank (2020) The State of Access to Modern Energy Cooking Services. Available here: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/937141600195758792/the-state-of-access-to-modern-energy-cooking-services

Needed Outcomes for Confidence in Carbon Credits and Carbon Markets

As carbon credits gain recognition as a financial asset class, their viability in mainstream financial markets depends on key attributes such as valuation stability, liquidity, and legal clarity. The table below assesses the strengths and challenges of carbon credits as an asset. It identifies critical areas where financial regulatory intervention could support market maturation and enhance their role in sustainable finance. Following the table, five primary long-term outcomes essential to building confidence in carbon credits and promoting widespread adoption in financial markets are outlined.

Performance of carbon credits as an asset class against indicators of "good quality collateral"

Indicator	Assessment
Ability to Ascertain Value The capability to determine the value of an asset through market value, third-party appraisal, or comparable measures.	• Carbon credits can be valued through established (exchange-traded) markets where prices are determined by supply and demand dynamics. • **The value of carbon credits can be determined with reasonable accuracy, meaning that this is not a priority area for financial regulatory intervention.**
Market Value Stability The degree to which the value of collateral remains stable/ comparable/predictable compared to the moment of collateral valuation.	• The value of carbon credits is subject to significant fluctuations due to changing market demand, poor liquidity, and regulatory changes. Furthermore, the value of voluntary carbon credits diminishes over time ("vintage effect"). • **The volatility of carbon credit prices represents a material risk, and financial regulatory intervention that could help stabilize pricing would be beneficial to overall market maturation.**
High Liquidity The ease and cost-effectiveness with which an asset can be converted to cash without significantly affecting its value.	• Compared to other assets, the carbon market has a small capitalization that is associated with lower liquidity and large movements in pricing. • **The limited liquidity in carbon markets represents a material risk and financial regulatory intervention that could help deepen trading activity would be beneficial to overall market maturation.**

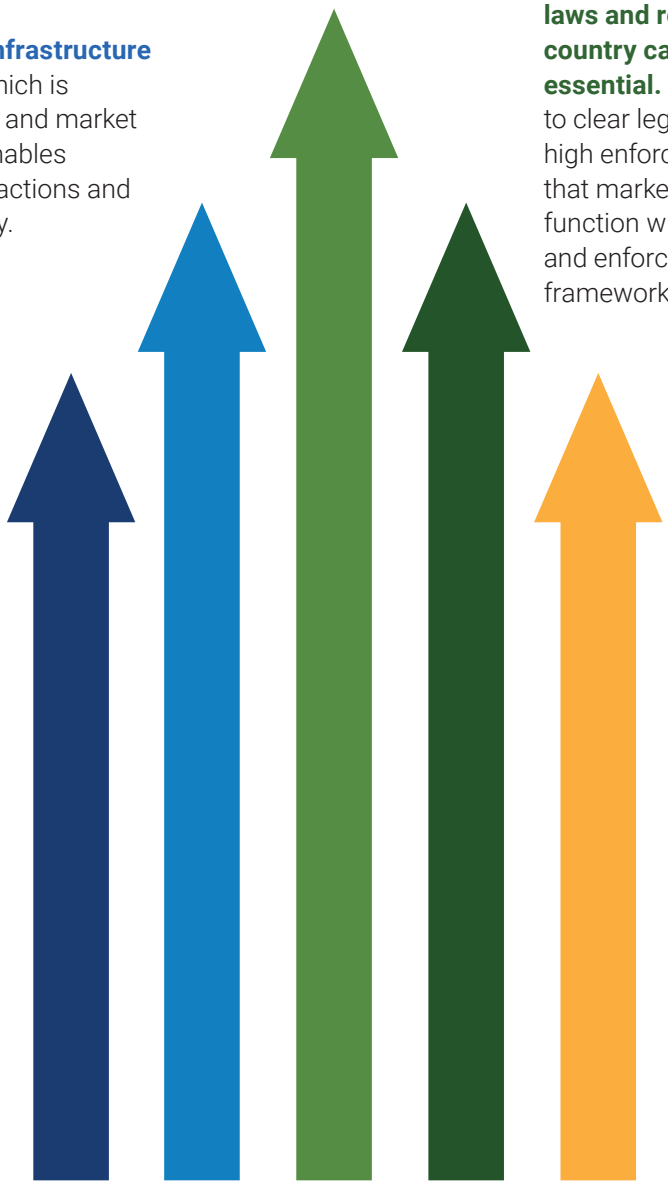
Indicator	Assessment
Low Credit Risk The risk of default associated with the entity issuing or backing the asset.	• Credit risk may apply to both the carbon project developer, as well as the counterparty that is obligated to offtake the carbon credits. • **The credit risk associated with carbon projects is elevated where no alternative collateral is available, and financial regulatory intervention that could reduce counterparty risk that would be beneficial to overall market maturation.**
Clear Legal Ownership The formal recognition and regulation of ownership claims over the asset.	• Uncertainty exists in many African jurisdictions as to i) ownership rights over generated emission reductions or removals; and ii) the legal treatment of the asset in financial market transactions. • **The legal risk associated with carbon credit ownership can be material, and financial regulatory intervention that could reduce this legal uncertainty would be beneficial to overall market maturation.**
High Enforceability The ease with which legal rights to the collateral can be enforced in case of borrower default.	• Carbon credits, being a relatively new form of asset, lack comprehensive legal frameworks or precedents and standardized enforcement mechanisms to ensure claims. • **The enforceability risk associated with carbon credits can be material, and financial regulatory intervention that could reduce this legal uncertainty would be beneficial to overall market maturation.**
Low Sovereign Risk The risk associated with the political and economic stability of the jurisdiction where the asset is generated.	• Carbon credits are generated from projects across diverse geographic locations, which exposes them to varying levels of geopolitical sovereign risk. • **The sovereign risk associated with carbon projects in many African states can be material, and financial regulatory intervention that could reduce risk would be beneficial to overall market maturation.**
High Economic or Development Relevance The socio-economic value of the asset beyond its market value as a financial asset.	• Carbon credits have tangible environmental benefits and economic utility, which makes them useful beyond their market value. • **As such, this is not a priority area for financial regulatory intervention.**

To advance on these key market developments, the eight assessed indicators above can be synthesized into **five overarching long-term outcomes** needed to build confidence in carbon credits and promote market scaling. Each of these outcomes directly addresses key attributes that require improvement to unlock the market's full potential:

3 Reduced risks in the carbon credit value chain are associated with low legal risk and low credit risk, offering greater security for investors while mitigating uncertainty in carbon credit investments.

4 Robust and supportive laws and regulations for host country carbon markets are essential. This is connected to clear legal ownership and high enforceability, ensuring that market participants function within a well-defined and enforceable regulatory framework.

2 Efficient market infrastructure supports liquidity, which is linked to high liquidity and market value stability. This enables more seamless transactions and reduces price volatility.



1 Mainstream use of standardized carbon credit contracts is linked to high enforceability and clear legal ownership, ensuring that credits are legally robust and transferable.

5 Financial instrument innovation is required to address market value stability, high liquidity, and other attributes. It encourages the development of new financial products to stabilize and scale the carbon market further.

Financial Regulatory Pathways for Scaling Carbon Markets

The Role of Regulators

Building on the identified market challenges and the key outcomes needed for strengthening carbon markets, financial regulators have a pivotal role in creating the necessary conditions for carbon credits to function as a credible financial asset class. Addressing issues such as price volatility, liquidity constraints, credit risk, and legal uncertainties requires regulatory interventions that enhance transparency, risk management, and investor protection.

Financial regulators and their role in carbon markets

Regulator	Mandate	How Mandate Aligns with Carbon Markets
Central Banks	Price stability, financial stability, employment, sustainable development*	Carbon markets influence financial stability by impacting credit risk, capital flows, and macroeconomic stability. Central banks can integrate carbon credits into risk assessment frameworks, support green finance policies, and explore how carbon markets fit within monetary policy considerations.
Securities Regulators	Investor protection, market integrity/ conduct, capital market development, compliance monitoring	Carbon credits function as financial assets requiring governance, transparency, and trading oversight. Securities regulators can ensure market integrity by enforcing disclosure requirements, standardizing carbon-linked financial instruments, and developing robust trading mechanisms for secondary markets.
Insurance Market Regulators	Consumer protection, market conduct regulation, licensing, and oversight	Carbon markets introduce risks such as credit default, project underperformance, and price volatility. Insurance regulators can support risk management by encouraging the development of carbon credit insurance products, integrating climate-related risks into underwriting models, and ensuring financial resilience in the sector.

***Note:** In some jurisdictions, sustainable development, environment, and/or climate change mandates are explicitly included in central bank authorities' responsibilities.

To support these objectives, financial regulators can take the following steps:

1. Establishing legal clarity on the classification of carbon credits as financial assets.
2. Integrating carbon-related financial risks into regulatory stress-testing frameworks.
3. Supporting the development of financial products that leverage carbon markets, such as carbon-linked bonds and securitization structures.
4. Enhancing investor protection measures to prevent fraud and ensure transparency in carbon trading.
5. Encouraging insurance mechanisms that reduce risks associated with carbon credit issuance and delivery.

Pathways for Integrating Carbon Credits into Mainstream Financial Markets

The interventions outlined below offer an approach to addressing the barriers to integrating carbon credits into mainstream financial markets that have been discussed. These interventions are designed to foster an efficient and reliable market for carbon credits by focusing on regulatory clarity, enhanced transparency, and increased market participation. These interventions are grouped into three implementation categories to support the systematic integration of carbon credits into financial markets. These are not necessarily sequenced.

Establishing a Stable Carbon Market Infrastructure

Regulatory guidance and risk management

Intervention 1 Issue Guidance on Carbon Credit Assets' Prudential Treatment

SUMMARY

Currently, the prudential treatment of carbon credits by commercial banks is uncertain in most jurisdictions across Africa. This foundational intervention seeks to provide tiered guidance on integrating carbon credits as assets in banks to align with Basel III standards. This includes guidance on the financial treatment of carbon credits, their valuation, risk weights, and collateral haircuts within the banking sector. The guidance can range from informal advisory to formal prudential guidelines issued by regulators.

STRATEGY SUGGESTED

Regulators can study the treatment of comparable assets (including intangible assets) in the Basel III framework and regional or national accounting frameworks. Dedicated working groups should be set up to draft informal guidance, showcase pilot case studies, and issue phased guidance to demonstrate the incremental value of carbon market investments.

OUTCOMES

- Standardized treatment of carbon credits as bankable assets
- Greater consistency in carbon credit valuation and reporting
- Increased financial stability through improved risk management practices

Intervention 2 Include Carbon Credits as Mitigators in Bank Climate Risk Recommendations

SUMMARY

Banks must enhance their climate and environmental risk management frameworks, and African financial institutions are progressing in adopting good practices for climate-related and environmental risk management. This intervention seeks to clarify the role of carbon credits in mitigating climate risks, which may enhance bank acceptance of these assets.

STRATEGY SUGGESTED

Regulators can build on good practice guidelines for climate-related risk management, such as those of the NGFS and the Basel Committee. Public consultations should guide the development of carbon market-specific guidelines to understand current practices by domestic financial institutions and promote buy-in for the final recommendations.

OUTCOMES

- Improved understanding of carbon credits' role in risk management
- Increased appetite for banks to finance against carbon credits

Intervention 3 Cover Carbon Credits in ESG and Climate Disclosures

SUMMARY

ESG disclosure refers to the process by which financial institutions report on their environmental, social, and governance activities and performance. Climate risk reporting (i.e., based on the TCFD recommendations) is a vital domain that is increasingly being applied in Africa. Integrating carbon credits into evolving ESG disclosure/sustainability reporting requirements for financial institutions and/or companies will promote transparency and accountability in financial reporting.

STRATEGY SUGGESTED

Regulators can build on existing ESG disclosure guidelines and collaborate with financial institutions or companies to ensure ESG disclosures reflect carbon credits. Current climate-related disclosure standards already allow covering carbon credits, too, so the way forward can be a combination of making the disclosure rules more prescriptive and/or engaging market players to include them, even if the volumes held are not yet substantial.

OUTCOMES

- Improved overall market transparency about how carbon credits relate to broader ESG activities.
- There is increased trust in and demand for the asset due to a clear use case for carbon credits by financial institutions and companies.

Market transparency and data integration

Intervention 4 Integrate Carbon Credit Data into Climate Risk Databases

SUMMARY

Integrating data on carbon credits into existing climate risk databases (or newly developed databases if they do not exist yet) will enhance banks' risk assessments and lending decisions and make carbon credits more suitable as collateral. For other market players, it could reduce perceived risks and increase trust in carbon credits.

STRATEGY SUGGESTED

Collaborate with data providers to ensure that financial institutions have access to comprehensive carbon credit data, including pricing trends, emission reductions, project details, vintage years, and ownership records. This data will help banks assess the credits' risk mitigation potential and suitability as collateral.

OUTCOMES

- Increased trust in carbon credits to invest in or to hold the asset as collateral.

Intervention 5 Incorporate Carbon Credits in Stress Testing Frameworks

SUMMARY

Stress tests help evaluate banks' capital adequacy. Including carbon credits in such stress tests will help banks assess their resilience to carbon price fluctuations and regulatory changes. An increased understanding of the asset class's impact on key financial risk indicators will build the confidence of financial institutions in financing firms that hold such credits or directly lend against carbon credits.

STRATEGY SUGGESTED

Include carbon credits in top-down or bottom-up stress tests focusing on transition risks. (Note: In this context, bottom-up stress tests are conducted by banks on their balance sheets, while top-down stress tests are run by regulators using system-wide bank data and macro-level methodologies).

OUTCOMES

- Increased preparedness for climate-related financial risks
- Improved understanding of carbon credits' role in risk management
- Increased appetite for banks to finance against carbon credits

Expanding Market Participation and Financial Integration

Financial market expansion

Intervention 6 Support Insurability for Carbon Credit Value Chains to Mitigate Investment Risk

SUMMARY

Rules and guidelines exist to facilitate the activities of insurance companies and ensure that these institutions are run prudently, and policyholders are protected. In many African jurisdictions, these rules already extend to general climate risk recommendations and can be expanded to carbon credits as a new asset class. Clarifying the insurability of carbon credit-related risks and providing recommendations or standards on their treatment will enhance confidence in servicing this market by insurance companies. Moreover, specific recommendations can be formulated for other elements of the carbon credit value chain, particularly the underlying clean cooking projects and assets, including project risks, damage risks, and liability risks.

STRATEGY SUGGESTED

Engage with insurance companies to base the draft elements on experience and best practices. Some insurance companies, domestic or international, might already offer products and services tailored to carbon credit-related risks, providing valuable lessons and benchmarks for developing recommendations.

OUTCOMES

- Improved insurance products tailored to carbon credit projects
- Increased investment in carbon market activities due to lowered real and perceived risk

Intervention 7 For example, Classify Clean Cooking Projects within National Green Taxonomies

SUMMARY

A green taxonomy aims to enable investors to make informed, sustainable capital allocation decisions. Taxonomies are built around identified economic activities regarded as sustainable and can be linked to fiscal incentives or requirements around product marketing (i.e., to avoid greenwashing). While some typical carbon credit-eligible activities, such as renewable energy production, are already included in most taxonomies, other carbon credit project activities—including clean cooking—will help direct more finance toward such projects and boost trust in carbon market investments more generally.

STRATEGY SUGGESTED

Green taxonomies have recently been adopted or are under consideration in several African countries. The successful introduction of such taxonomies is grounded upon close consultations with relevant stakeholders, including investors, industry representatives, development partners, and government authorities. Discussions with domestic clean cooking enterprises and non-profits working in the space are required to ensure the definition of clean cooking activities is appropriate for the domestic context.

OUTCOMES

- Increased funding for clean cooking initiatives
- Enhanced clarity for investors on sustainable opportunities linked to carbon markets

Intervention 8 Incorporate Clean Cooking Projects in Green Bond Frameworks

SUMMARY

While some examples of green bond issuances contribute to clean cooking investments, there are significant opportunities for scaling. By publishing guidelines or recommendations, regulators can advocate for incorporating clean cooking projects into green bond frameworks. This will facilitate further bond issuances with such use-of-proceeds and investment in clean cooking initiatives.

STRATEGY SUGGESTED

Using the Green Bond Principles/Climate Bond Standards as a basis, engage with bond issuers to develop frameworks that include clean cooking projects. As the respective regulator prepares the framework, it is essential to cooperate with the actual or prospective issuers to ensure that the new guidance reflects market realities.

OUTCOMES

- Attraction of diverse investors to the green bond markets broadly
- Increased issuance of green bonds tied to clean cooking and other carbon market interventions

Financing mechanisms and standardization

Intervention 9 Incentivize Loans for Carbon Credit-Related Projects

SUMMARY

Financial incentives or regulatory reliefs can encourage banks to prioritize loans for projects that generate carbon credits or to invest more in green bond financing with such projects. This intervention calls for introducing specific eligibility criteria targeting eligible clean cooking projects.

STRATEGY SUGGESTED

Work with domestic commercial banks to design incentive programs that reward sustainable lending practices. Ensure prudent lending is maintained so financial risks do not increase. Possible incentives include dedicated refinancing programs, green capital requirement discounts, and less stringent project finance lending requirements (e.g., collateralization, debt/equity, and other financial ratios).

OUTCOMES

- Increased debt finance for carbon credit initiatives, both within carbon markets and beyond

Intervention 10 Standardize Listing, Trading, and Clearing Criteria for Carbon Credits and Linked Products

SUMMARY

Standardizing listing, trading, and clearing criteria for carbon credits will enhance market efficiency and transparency. This initiative aims to create a uniform framework that facilitates easier access for participants and encourages greater market participation. Establishing clear guidelines helps mitigate risks associated with carbon trading, improves liquidity, and fosters investor confidence.

STRATEGY SUGGESTED

Regulators can engage with market participants—traders, brokers, and financiers—to develop and refine standardized criteria. Regular consultations and workshops will facilitate knowledge sharing and ensure that the requirements meet the needs of all stakeholders. This collaborative approach will also help identify potential challenges as areas for improvement.

OUTCOMES

- Improved market liquidity
- Greater investor confidence
- Harmonized practices

Investment security and product development

Intervention 11 Clarify Carbon Credits Treatment in the Portfolio of ESG Mutual Fund

SUMMARY

Many countries set standards for ESG/sustainability-themed funds. As a part of such standards, clear guidelines on carbon credits will enhance their inclusion in ESG portfolios and promote investment.

STRATEGY SUGGESTED

Include the carbon credit element as part of the development/revision of the ESG fund standards. Carbon credits are special instruments, and such credits, or carbon-credit linked securities or other derivatives, might be suitable for inclusion in ESG funds. However, because of their unique characteristics, how conventional equity/bond fund managers treat them is often unclear. If ESG standards exist in the respective country, clarifying the asset's treatment is logical.

OUTCOMES

- More investments in carbon credits as a new asset class covered by funds
- Improved liquidity for carbon credits as a result

Intervention 12 Incubate Carbon Credit-Linked Bond Instruments

SUMMARY

A results-based finance bond or green bond with a coupon structure positively related to the development of carbon prices can stimulate early investment in carbon projects and unlock affordable project financing at scale. Testing such a carbon-linked bond in a sandbox allows market players to test such innovative instruments in a controlled environment.

STRATEGY SUGGESTED

Collaboration with domestic and international commercial financial institutions, DFIs, and other relevant stakeholders, like the Climate Bonds Initiative, could be used to co-create and test carbon credit-based financial instruments. Financial regulators could play a decisive leading role or a more passive (but supportive) one. Regular workshops and feedback sessions could be organized to gather insights and adjust the sandbox framework.

OUTCOMES

- Enhanced market participation, involving potentially also risk-averse players
- Shifting risk-weights of green assets on the balance sheet of financial institutions
- Can be specifically tailored to clean cooking interventions

Intervention 13 Incubate Securitized Carbon Transactions

SUMMARY

Carbon credit offtake agreements (ERPAs) can mitigate risks by providing a predictable carbon revenue stream, which is critical for investor confidence. This intervention promotes using longer-term ERPAs (potentially backed by guarantees) to anchor carbon credit securitization structures.

STRATEGY SUGGESTED

Collaboration between a pool of project developers that can offer comparable carbon credits, deal underwriters, and potential de-risking by DFIs. The role of financial regulators might be indirect, but even in that case, by promoting such activities or publicizing "lessons learned," regulators like central banks can bring attention to these innovative financing strategies in support of broader climate and sustainable development objectives.

OUTCOMES

- Providing diversification effect that provides financiers with comfort to invest in the asset class
- Incentivizing project developers to develop new projects and incorporate a risk-share to ensure their vested interests

Risk mitigation and price stability

Intervention 14 Provide Backstop Guarantees to Deliver Minimum Price Support

SUMMARY

The high volatility in carbon prices reduces the financial appeal of carbon market investments, including cookstove projects. The lack of a predictable cost of carbon credits leads to considerable investment risk, as many ventures depend primarily on future carbon revenues. Providing backstop guarantees to deliver minimum price support will eliminate downside risks for these businesses, encouraging participation from mainstream investors.

STRATEGY SUGGESTED

The lead for this intervention should lie with a development (finance) institution that can manage the development, testing, and scaling of a mechanism that underwrites a carbon credit price level for underfunded, high-quality cookstove projects in a particular jurisdiction or region. Operationalizing the concept could involve a phased development and testing of the instrument on a full grant model to demonstrate the mechanism's reliability, build trust in the system, and provide enough data to allow the private sector to assess and price the risks involved accurately.

OUTCOMES

- Incentivizing project developers to develop new projects and incorporate a risk-share to ensure their vested interests
- Providing project risk mitigation that provides financiers with comfort to invest in projects
- Supporting projects at levels that ensure financial and development additionality

Intervention 15 Provide Backstop Guarantees to Insurers Covering Carbon Market Investments

SUMMARY

Well-functioning insurance markets are pivotal in enabling effective trade in commodities and other types of assets. With carbon credit-linked insurance products slowly entering the market, dedicated public-private insurance programs or risk-pooling mechanisms can assist in standardizing the offering and familiarizing investors with their use. DFIs can be well-positioned to support initial backstopping insurance guarantees that target interventions dedicated explicitly to a particular asset class, such as clean cooking carbon credits.

STRATEGY SUGGESTED

Similarly, while regulators like central banks or insurance regulators may endorse this intervention, a national development institution or multilateral funder experienced in credit and political risk insurance markets are best suited to lead it. Commercial insurers can bring in the technical underwriting expertise and broad experience with both short- and long-tenor risks, with the lead implementer(s) de-risking the exposure of the principal insurers to bring down cost and risk for investors.

OUTCOMES

- Providing project risk mitigation that provides financiers with comfort to invest in projects
- Improved regulatory clarity for insurers

Call to Action

Financial regulators have a unique opportunity to accelerate the development of carbon markets by implementing targeted interventions aligned with their mandates. Strengthening financial oversight, integrating carbon credits into financial systems, and addressing market risks can unlock new investment flows and ensure long-term market stability.

To accelerate financial sector engagement in carbon markets, regulators should prioritize the following actions:

Operationalize the Cross-Cutting Regulatory Innovation Sandbox - Ensure collaboration across central banks, securities regulators, and insurance regulators to test financial instruments linked to carbon markets.

Issue Clear Prudential Guidelines on the classification and risk treatment of carbon credits in financial institutions' portfolios.

Develop Legal and Market Infrastructure to strengthen enforceability, ownership clarity, and investor protection in carbon transactions.

Expand Carbon Credit Integration in Financial Instruments by supporting their inclusion in ESG funds, green taxonomies, and sustainability-linked bonds.

Facilitate Coordination Among Regulators to align financial oversight with international standards and best practices.

The table below provides a clear roadmap for regulatory interventions, specifying key steps that central banks, securities regulators, and insurance regulators should take to enhance the credibility and stability of carbon markets.

Regulatory actions to strengthen carbon markets

Regulator	Specific Actions
Central Banks	• **Integrate carbon markets into prudential regulations:** Issue guidance on the prudential treatment of carbon credits in bank balance sheets. • **Enhance financial stability measures:** Incorporate carbon credits into systemic financial risk assessments, including stress testing frameworks. • **Support market development:** Facilitate the use of carbon credits as collateral in climate-related lending and green finance instruments. • **Participate in the cross-cutting regulatory innovation sandbox:** Allow financial institutions to test carbon-backed lending, trading, and monetary policy linkages.
Securities Regulators	• **Standardize carbon credit trading:** Establish rules for listing, trading, and clearing carbon credits and carbon-linked products. • **Enhance market transparency:** Introduce carbon credit disclosure requirements under ESG reporting frameworks. • **Develop carbon-based financial instruments:** Support regulatory sandboxes to test carbon credit-linked bonds, securitization structures, and market-based risk mitigation instruments. • **Engage in the cross-cutting regulatory innovation sandbox** to refine regulations for integrating carbon credits into financial markets.
Insurance Market Regulators	• **Facilitate Carbon Credit Insurance Solutions:** Define regulatory treatment of insurance products covering carbon credit risks. • **Incorporate Carbon Credit Risks into Underwriting Guidelines:** Provide clarity on insurability of carbon projects and market risk exposure. • **Enable Risk-Mitigation Instruments:** Collaborate with central banks and financial institutions to develop guarantee mechanisms that stabilize carbon credit prices. • **Engage in the Cross-Cutting Regulatory Innovation Sandbox** to pilot new insurance products for carbon market risk mitigation.

By implementing these actions, financial regulators can transform carbon credits into a stable, investable asset class, unlocking billions in climate finance while maintaining financial system integrity.

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