Leveraging the AfCFTA for Continental Renewables and Carbon Credit Market: Legal, Institutional and Policy Pathways

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Abstract

Africa is confronted with the dual challenge of addressing severe energy poverty while responding to global pressures for rapid decarbonisation as well as the growing demand for sustainable investment mechanisms. The International Renewable Energy Agency (IRENA) estimates that the continent could generate annually 10 terawatts of solar energy, 350 gigawatts of wind, 15 gigawatts of geothermal, and 1,750 terawatt-hours of hydropower. Despite this, the absence of integrated frameworks limits cross-border energy trade and the development of carbon credit markets, leaving Africa reliant on piecemeal national initiatives and exposing it to risks of carbon colonialism. This article argues that the African Continental Free Trade Area (AfCFTA) offers a transformative platform to address these deficiencies. By harmonising grid codes, tariffs, and renewable energy regulations, and aligning with regional economic communities (RECs), the AfCFTA can enable the emergence of a functional cross-border renewables market. The study examines mechanisms to integrate private sector actors, including independent power producers, financiers, and carbon credit registries, and the role of digital platforms in ensuring transparency and verifiable emissions reductions. Integration with global carbon markets under Article 6 of the Paris Agreement is considered, alongside the critical need for robust monitoring, reporting, and verification (MRV) frameworks. Through critical case studies and prescriptive recommendations, this article demonstrates that the AfCFTA is not merely a trade instrument but a vehicle for continental decarbonisation. Leveraging its institutional and legal architecture can mobilise investment, harmonise policy, and unlock Africa's renewable and carbon credit potential, bridging energy poverty and climate ambition.

1. Introduction

Climate change has become one of the most pressing challenges of the twenty-first century, and Africa is already living through its consequences in ways that are both severe and uneven.[1] In West Africa, coastal erosion has consumed entire fishing communities in Ghana and

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[1] Chika C Mba, 'African Philosophy: Rethinking the Ethics of Development and Human Well-being in the Twenty-First Century' (2025) *African Studies Review* 1

Nigeria.[2] In the Sahel, desertification continues to push populations southward, threatening food security and fuelling migration pressures.[3] East Africa has witnessed recurring droughts that undermine agricultural production, increase food insecurity and exacerbate humanitarian crises.[4] These events illustrate that climate change in Africa is not a distant scenario but a daily reality with social, economic, and political costs. The African Development Bank has projected that climate change could depress Africa's GDP by up to 15 percent by 2030, a figure that underscores the urgency of coordinated responses.[5]

Parallel to these environmental pressures is the persistent problem of energy poverty. Despite its vast resource endowments, Africa remains the least electrified region in the world.[6] The International Energy Agency estimates that almost 600 million Africans still lack access to electricity, while nearly 900 million rely on traditional biomass for cooking.[7] The implications are far-reaching. For one, across Africa, children study under kerosene lamps with attendant health risks, small businesses are constrained by unreliable power, and economies lose competitiveness in global markets.[8] Addressing this dual challenge requires both national responses as well as frameworks that can unlock continent-wide solutions.

Global climate governance has increasingly turned attention to carbon markets[9] and renewable energy as instruments for driving a low-carbon transition.[10] Article 6 of the Paris Agreement provides for cooperative mechanisms that allow countries to trade emission reductions while achieving development benefits, which presents both an opportunity and a dilemma for the continent.[11] This is because the continent is endowed with immense renewable energy potential, from solar capacity in the Sahara to geothermal reserves in the Rift Valley, yet its participation in carbon markets has been minimal. Africa accounted for less than 3 percent of

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[2] United Nations Environment Programme (UNEP), Climate Change in Africa: Adaptation, Mitigation and Governance Challenges (Centre for International Governance Innovation 2009) 8.

[33] United Nations Convention to Combat Desertification (UNCCD), The Great Green Wall: Implementation Status and Way Ahead to 2030 (UNCCD 2020) https://library.unccd.int/Details/fullCatalogue/1551 accessed 7 October 2025.

[4] Food and Agriculture Organization (FAO), *Drought in East Africa: 2022 Humanitarian Impact Report*.

[5] African Development Bank (AfDB), *African Economic Outlook 2022: Supporting Climate Resilience and a Just Energy Transition in Africa*.

[6] Rebecca Peters and others, 'Sustainable pathways towards universal renewable electricity access in Africa' (2024) 5 Nature Reviews Earth & Environment 137

[7] International Energy Agency (IEA), *Africa Energy Outlook 2022* (IEA 2022).

[8] Timothy King Avordeh, Adam Salifu, Christopher Quaidoo and Rockson Opare-Boateng, 'Impact of Power Outages: Unveiling Their Influence on Micro, Small, and Medium-Sized Enterprises and Poverty in Sub-Saharan Africa – An In-Depth Literature Review' (2024) 10 *Heliyon* e33782.

[9] Carbon markets are market-based mechanisms designed to reduce greenhouse gas (GHG) emissions by creating economic incentives for emission reductions. They allow entities to buy and sell emission allowances or carbon credits, which represent a quantified reduction, avoidance, or removal of one metric tonne of CO_2-equivalent (CO_2e) emissions. Carbon credits can be generated through verified projects that reduce emissions, such as renewable energy installations, reforestation, or carbon capture and storage initiatives. These credits may be traded in compliance markets, where governments or regulators mandate emission caps, or in voluntary markets, where companies or individuals purchase credits to offset their emissions. Properly designed carbon markets aim to channel investment into low-carbon technologies, encourage cost-effective emission reductions, and facilitate international cooperation under frameworks such as Article 6 of the Paris Agreement.

[10] Celine Louche and others, 'Financial markets and the transition to a low-carbon economy: Challenging the dominant logics' (2019) 32 *Organization & Environment* 3

[11] United Nations, *Paris Agreement* (adopted 12 December 2015, entered into force 4 November 2016) UNTS 54113, art 6.

projects under the Clean Development Mechanism and continues to trail in mobilising carbon finance.[12] The reasons are not difficult to identify. They include fragmented regulations, limited institutional capacity, and the absence of coherent market structures across jurisdictions.[13]

It is within this context that the African Continental Free Trade Area ("AfCFTA") has become significant. Entering into force in 2019, the AfCFTA brings together 54 African countries with the ambition of creating a single market for goods and services, supported by free movement of people and capital.[14] While its immediate focus has been on reducing tariffs and boosting intra-African trade, which remains at around 14 to 16 percent compared to over 60 percent in Europe,[15] the AfCFTA framework has transformative potential beyond traditional trade. Its institutions, legal architecture, and continent-wide coverage provide an opportunity to harmonise energy and climate policies in a way that national or regional initiatives alone cannot achieve.

The argument advanced in this article is that the AfCFTA could provide the legal and institutional foundation for developing a cross-border renewable energy and carbon credit market in Africa. By establishing common rules, minimising regulatory fragmentation, and providing legal certainty to investors, the AfCFTA framework could help unlock climate finance while also addressing Africa's chronic energy poverty. This would not only advance the continent's position in global climate negotiations but also place Africa on a more sustainable development trajectory. The sections that follow will critically examine the prospects and challenges of this proposal, situating the AfCFTA at the centre of Africa's quest to link climate action with economic transformation.

2. Understanding the AfCFTA and its Role as a Platform for Integration

The AfCFTA is widely regarded as one of the most ambitious integration projects ever undertaken by the African Union; negotiated under the framework of the *Agenda 2063: The Africa We Want*, the agreement seeks to create a single continental market for goods and services, with free movement of businesspersons and investments.[16] It formally entered into force on 30 May 2019 after the requisite 22 ratifications and has since attracted 54 signatories, covering almost the entire continent. The scale alone is remarkable given that with a population of 1.4 billion and a combined GDP of approximately USD 3.4 trillion, the AfCFTA constitutes

[12] UNFCCC, *Annual Report on the Clean Development Mechanism 2020*.
[13] Chinyere Rita Agu, 'Legal Analysis of the Implications of Continental Free Trade Area to Africa' (2025) 16 Nnamdi Azikiwe University Journal of International Law and Jurisprudence 195; Ambrose T Kessy, 'Brexit and the African Continental Free Trade Area (AfCFTA): Some Lessons and Challenges from East Africa' in Frank Mattheis and John Kotsopoulos (eds), *Africa-EU Relations and the African Continental Free Trade Area: Redefining the Dynamics of Power and Economic Partnership in a Complex Global Order* (Springer Nature Switzerland 2024) 129.
[14] Emmanuel Zwanbin, 'AfCTA and African integration: Prospects and challenges' in Abdul-Ganiyu Garba and others (eds), *African Development and Global Engagements: Policy, Climate Change, and COVID-19* (2023) 217.
[15] UNCTAD, *Economic Development in Africa Report 2021: Reaping the Potential Benefits of the AfCFTA for Inclusive Growth* (UNCTAD 2021).
[16] William Asante and Edinam Bernice Amenumey, 'Implementing African Continental Free Trade Area: Lessons from Afro-pessimists and Afro-optimists' (2024) 12(1) *Journal of Business and Enterprise Development* 17.

the largest free trade area in the world by number of participating states.[17] At its core, the AfCFTA aims to boost intra-African trade by eliminating tariffs on 90 per cent of goods, reducing non-tariff barriers, and fostering regulatory cooperation.[18] This is significant considering that intra-African trade has historically been abysmally low, compared to Europe and Asia.[19] The structural reasons for this disparity include inadequate infrastructure, overlapping memberships of regional economic communities (RECs), small domestic markets, and high transaction costs.[20] The AfCFTA is designed to address these limitations by consolidating fragmented markets into a continental one, creating economies of scale, and enabling African countries to trade more with one another rather than remain dependent on external markets.[21] Beyond tariff liberalisation, the institutional design of the AfCFTA is what makes it particularly relevant for broader economic and policy integration. The agreement is structured around multiple protocols covering trade in goods, trade in services, investment, intellectual property rights, and competition policy.[22] Negotiations for additional protocols on digital trade and women and youth in trade have also been recently finalised and await ratification from member states to take effect.[23] This layered architecture transforms the AfCFTA from a simple trade agreement into a dynamic legal framework with the capacity to evolve in response to emerging challenges. It also provides institutions such as the AfCFTA Secretariat in Accra, dispute settlement mechanisms, and councils of ministers with the authority to coordinate implementation and monitor compliance. Such institutional flexibility is critical if the AfCFTA is to move beyond its initial economic scope into adjacent areas like renewable energy and carbon markets.

The suitability of the AfCFTA as a platform for renewable energy and carbon credit trading lies in several factors. First, the agreement's objective of reducing regulatory fragmentation directly addresses one of the core barriers to climate finance in Africa. At present, renewable energy projects and carbon market participation are hindered by disparate national laws, inconsistent standards, and limited regional coordination.[24] A continental framework under the AfCFTA could harmonise rules governing certification of renewable energy, cross-border power trade, and verification of carbon credits. The importance of such harmonisation cannot be overstated. For instance, the European Union's internal market for electricity, built on

[17] Akhilesh Chandra Prabhakar, 'Review of Economic Integration, Industrialization, Global Value Chains & Intra-Trade' (2024) 4(1) *Journal of Economics and Rural Development* 63

[18] Ogonna Beauty Ogbologu, 'Charting the path to African prosperity: Unravelling the economic dynamics of the African continental free trade agreement' (2024) 15(1) *Nnamdi Azikiwe University Journal of International Law and Jurisprudence* 92

[19] Andrew Mold, 'The Economic Significance of Intra-African Trade' in David Luke and Jamie MacLeod (eds), *The Future of African Trade and Development* (Routledge 2022) 25–48.

[20] Collins Chikodili Ajibo, 'AfCFTA, Micro, Small and Medium-Sized Enterprises and Barriers: Prospect for Optimization of Preferences' (2024) 21(1) *Manchester Journal of International Economic Law* 54

[21] Levious Chiukira, 'The emerging role of Women in Informal Cross-Border Trading in Africa under the African Free Continental Trade Area' (2024) 1 *Journal of African Union Studies,* 51

[22] Oluwaseun Oyebamiji, 'Overcoming Barriers to Intra-African Trade: The Role of AfCFTA in Dismantling Colonial Crop Legitimacy, Shipping Constraints, and Transportation Challenges' (2024) 4(1) *Journal of Economics and Political Sciences* 1

[23] Gerhard Erasmus, 'AfCFTA update: Current status and next steps' *Trade Unions and Trade in Africa* (5 March 2024) https://tradeunionsinafcfta.org/afcfta-update-current-status-and-next-steps/ accessed 12 September 2025

[24] Florentina Paraschiv and others, 'The Interplay Between China's Regulated and Voluntary Carbon Markets and Its Influence on Renewable Energy Development—A Literature Review' (2024) 17(22) *Energies* 5587

common standards and interconnection rules, has been instrumental in scaling up renewable energy deployment across member states.[25] The AfCFTA could play a similar role in Africa, albeit adapted to the continent's unique challenges. Second, the AfCFTA creates the institutional and legal certainty needed to attract private investment.[26] Carbon markets, by their nature, depend on investor confidence in the integrity of emission reductions and the enforceability of contracts.[27] Weak institutions and fragmented rules have historically discouraged private actors from engaging in African carbon projects, leading to underrepresentation of the continent in mechanisms such as the Clean Development Mechanism.[28] By embedding renewable energy and carbon trading into the AfCFTA's legal framework, states could provide a higher degree of predictability and security to investors. Such legal certainty is indispensable if Africa is to tap into the estimated USD 100 billion per year in climate finance commitments under the Paris Agreement.[29]

Third, the AfCFTA's continent-wide coverage makes it uniquely positioned to facilitate economies of scale in renewable energy. Africa's renewable resources are unevenly distributed with solar potential being at its highest in North Africa and the Sahel, hydropower in Central Africa, wind resources in the Horn of Africa and South Africa, and geothermal in East Africa.[30] No single country can exploit these resources in isolation without significant inefficiencies. A continental framework that lowers barriers to trade in renewable energy equipment, standardises cross-border power trading rules, and enables joint carbon credit projects could allow African countries to pool resources and reduce costs. This would be particularly important for addressing the chronic underinvestment in Africa's power sector, where annual financing needs are estimated at USD 90 billion, with current investment levels falling far short.[31] Significantly, the AfCFTA is anchored in the political legitimacy of the African Union and enjoys strong rhetorical support from African heads of state.[32] This gives it a convening power that sectoral agreements often lack. While regional initiatives such as the West African Power Pool or the East African Power Pool have made some progress, their limited

[25] Max Willems, 'From states to markets and back? The European Union's decades-long struggle over renewable energy derisking' (2025) Journal of European Public Policy 1

[26] Eyden Samunderu, 'Liberalisation of Trade Regime Under AfCFTA: A Perspective Analysis on Africa's Single Market' (eds), *The Economic Effects of Air Transport Market Liberalisation: A Perspective Analysis of the Single African Air Transport Market (SAATM)* (Springer Nature Switzerland 2024) 641

[27] Vittoria Battocletti, Luca Enriques and Allessandro Romano, 'The voluntary carbon market: market failures and policy implications' (2024) 95 *University of Colorado Law Review* 519

[28] Rafael Leal-Arcas, 'Effectiveness of the UN Framework Convention on Climate Change and the Paris Agreement' (2025) 41(1) Connecticut Journal of International Law indicate page no.

[29] Solomon Nborkan Nakouwo and Dayong Zhang, 'Climate finance and investment in Africa: A case study of Ghana' (eds), *Climate Finance: Supporting a Sustainable Energy Transition* (Springer Nature Singapore 2024) 315

[30] Rebecca Peters and others, 'Sustainable pathways towards universal renewable electricity access in Africa' (2024) 5(2) *Nature Reviews Earth & Environment* 137

[31] Vedaste Ndayishimiye and others, 'Power generation overcapacity in selected sub-Saharan African countries: political-economic drivers and grid infrastructure challenges' (2025) 13 Frontiers in Energy Research 1549844

[32] Athanasios Mihalakas and Bashar Malkawi, 'Regional Integration in Africa—The Role of the AfCFTA in Advancing Political Integration' (2023) Transnational Dispute Management, Arizona Legal Studies Discussion Paper 24-01 (2024)

geographical scope and uneven implementation have constrained impact.[33] The AfCFTA, by contrast, provides a continent-wide platform that could coordinate and integrate these regional initiatives into a broader framework. If leveraged effectively, the AfCFTA could become the institutional backbone for a pan-African green energy and carbon market, thereby positioning Africa to engage with global carbon trading systems on more equitable terms.

Taken together, these factors demonstrate the fact that beyond being just a trade agreement, the AfCFTA serves as a potential driver of Africa's climate and energy transformation. Its ability to harmonise rules, provide institutional certainty, achieve economies of scale, and command political legitimacy makes it an unusually suitable platform for linking Africa's trade agenda with its climate objectives. The challenge, however, lies in translating this potential into actionable policies and enforceable commitments, an issue to which this article now turns.

3. Designing a Cross-Border Renewables Market Under the AfCFTA

The design of a cross-border renewables market under the AfCFTA requires far more than the removal of tariffs on solar panels, wind turbines, or other low-carbon technologies. It calls for the creation of a common regulatory, institutional, and infrastructural ecosystem that enables the seamless trade of electricity and related services across borders. At the heart of this challenge is the need for predictability and compatibility in the legal and technical rules that govern electricity trade. Electricity markets depend on technical standards, operational protocols, and pricing mechanisms.[34] If these are misaligned, electricity cannot flow efficiently across borders. The AfCFTA, with its mandate to facilitate trade integration, provides the legal and political platform to address such divergences. However, the success of such a market depends on whether states are willing to reconcile domestic policy preferences with continental priorities. Without this reconciliation, the promise of an African renewable energy market will remain aspirational. These issues are broadly discussed under the subsequent subheadings

3.1 Harmonisation of National Regulations

One of the most critical steps towards building a functional cross-border renewables market is harmonising national regulations. At present, African states maintain highly diverse electricity systems.[35] For instance, South Africa's energy sector is dominated by a vertically integrated utility (Eskom) struggling with operational and financial crises, while Kenya has made significant advances in integrating renewables through independent power producers (IPPs).[36] Nigeria, by contrast, operates a partly privatised distribution sector but continues to struggle

[33] Ishmael Ackah and others, 'Cross-Border Power Trading Model for SSA; Challenges and Opportunities of Operationalizing Power Pools in Africa' (eds), *Energy Regulation in Africa: Dynamics, Challenges, and Opportunities* (2024) 337

[34] Gowthamraj Rajendran and others, 'A Comprehensive Review of Solar PV Integration with Smart-Grids: Challenges, Standards, and Grid Codes' (2025) 18(9) *Energies* 2221

[35] Augustine Sadiq Okoh and Magnus Chidi Onuoha, 'Immediate and Future Challenges of Using Electric Vehicles for Promoting Energy Efficiency in Africa's Clean Energy Transition' (2024) 84 *Global Environmental Change* 102789 https://doi.org/10.1016/j.gloenvcha.2023.102789.

[36] Lindah Sandra Ddamba, *Barriers to energy transitions in Sub-Saharan Africa: electricity sectors in Kenya, Uganda and South Africa* (PhD thesis, University of British Columbia 2024)

with cost-reflective tariffs and chronic liquidity shortages.[37] These divergences are not merely institutional quirks; instead, they create real and tangible incompatibilities in how electricity is generated, priced, and transmitted. For cross-border trade to function, such differences must be reduced to a common denominator. Shared grid codes and technical standards are particularly important. Electricity cannot be traded across borders unless transmission systems are synchronised, and yet many African states maintain isolated national grids.[38] The lack of uniformity in technical codes leads to inefficiencies and reliability concerns that deter investment.[39] The European Union's experience demonstrates that harmonised technical codes, coupled with independent regulators, can greatly enhance cross-border trade in electricity.[40] The AfCFTA could play a similar role by mandating minimum technical and operational standards that all member states must adopt. However, the challenge lies in enforcement. Unlike the EU, the AfCFTA currently lacks supranational authority to compel compliance.[41] In the same vein, unless its dispute settlement system is complemented by binding enforcement tools, harmonisation risks being no more than rhetoric. Tariff design poses another challenge. Cross-border renewable trade requires tariffs that reflect not only the cost of generation but also the cost of transmission and balancing services.[42] However, tariff regimes across Africa are often distorted by subsidies, political interference, and cost-recovery gaps. In Nigeria particularly, electricity tariffs have historically been below cost-recovery levels, leading to chronic liquidity crises in the sector.[43] In South Africa, tariff increases have been met with public resistance given Eskom's poor performance.[44] Without convergence towards cost-reflective and transparent tariff structures, cross-border electricity trade will remain economically unviable. The AfCFTA could help by promoting a regional framework for tariff setting that balances affordability with cost recovery. Such a framework must also address the political sensitivities around energy pricing, as public resistance to tariff reforms has historically derailed reforms in many states.

Notably, harmonisation of transmission access rules cannot be dispensed with. Currently, cross-border power flows are governed by bilateral or regional agreements that lack

[37] Ibrahim Isah, 'Eleven Years Post Power Privatisation in Nigeria: Still Up NEPA?' (22 June 2025) http://dx.doi.org/10.2139/ssrn.5315622.
[38] Yonghao Gui and others, 'Review of challenges and research opportunities for control of transmission grids' (2024) 12 IEEE Access 94543
[39] Bence Lukács and Péter Molnár, 'Companies' ESG performance under soft and hard regulation environment' (2025) 6(1) *Discover Sustainability* 701
[40] Giulia Ragosa, 'The political economy of electricity market coupling: Comparing experiences from Europe and the United States' (2024) 37(7–10) *The Electricity Journal* 107430
[41] Emmanuel Kwabena Owusu Amoah, 'Safeguards for the AfCFTA to Avoid the WTO Appellate Body Situation' (2024) 21(3*) Manchester Journal of International Economic Law indicate page*
[42] David Borge-Diez and others, 'Cross-border electricity cooperation in Southern Asia: Consequences and benefits' (2024) 12(11) *Processes* 2324
[43] George Anachebe Nwangwu, 'Making Hard Choices: Africa's Energy Markets in the Global Energy Transition' (eds), *Africa's Energy Transition: Pathways from Dependence to Leadership* (Springer Nature Switzerland 2025) 151
[44] Josh A Dippenaar and Bernard Bekker, 'Understanding interconnection rule non-compliance: Lessons from South Africa's surge in unauthorised distributed energy resources' (2025) 85 *Energy for Sustainable Development* 101661 check page no. for accuracy.

consistency.[45] Some states impose wheeling charges or export restrictions that discourage trade.[46] The AfCFTA could establish a continental protocol that standardises such rules, ensuring that electricity can flow across borders without arbitrary barriers. However, such harmonisation would require states to accept a degree of supranational oversight over their grids, a step that may encounter resistance. The challenge, therefore, is to design a governance framework that respects state sovereignty while creating the predictability necessary for investment and trade.

i. Regional Cooperation: Role of RECs (ECOWAS, SADC, EAC)

Regional Economic Communities (RECs) have long played a central role in Africa's energy integration. ECOWAS, through the West African Power Pool (WAPP), has made significant progress in interconnecting national grids, while the Southern African Power Pool (SAPP) remains one of the most advanced in terms of actual electricity trade.[47] The East African Community (EAC) has also made notable efforts in developing shared transmission infrastructure and regional energy strategies.[48] These regional initiatives are crucial, as they provide the operational foundations upon which a continental market could be built. However, their coexistence with the AfCFTA raises questions in relation to alignment, duplication, and hierarchy.

One of the key challenges is that RECs operate at different speeds and levels of institutional maturity. While SAPP has developed functioning trading mechanisms, WAPP continues to struggle with reliability issues and limited cross-border flows.[49] Similarly, the EAC, despite progress, faces structural barriers in financing and grid stability.[50] The AfCFTA, by design, is meant to build upon and coordinate these regional efforts rather than displace them. Yet, unless a clear division of responsibilities is established, there is a risk of overlapping mandates and fragmented implementation. For example, if ECOWAS adopts one set of technical standards while the AfCFTA proposes another, investors may be deterred by uncertainty. A carefully negotiated alignment mechanism is therefore essential. Furthermore, there are political dynamics to RECs that may not align with continental priorities. In Southern Africa for instance, South Africa's dominance within SAPP has sometimes skewed decision-making towards its national interests.[51] The AfCFTA must therefore provide a framework that not only

[45] Ishmael Ackah and others, 'Cross-Border Power Trading Model for SSA; Challenges and Opportunities of Operationalizing Power Pools in Africa' (eds), *Energy Regulation in Africa: Dynamics, Challenges, and Opportunities* (2024) 337

[46] Ibid.

[47] Mohamed A Eltahir Elabbas, 'Regional Power Trade in Africa: The Different Institutional and Regulatory Models of African Power Pools' (eds), *Energy Regulation in Africa: Dynamics, Challenges, and Opportunities* (Springer Nature Switzerland 2024) 283

[48] Jennifer Nabaweesi and others, 'Urbanization and modern renewable energy consumption among East African Community (EAC) countries: an empirical analysis' (2024) 18(6) *International Journal of Energy Sector Management* 1378

[49] Shoaib Ahmed and others, 'A review of renewable energy communities: concepts, scope, progress, challenges, and recommendations' (2024) 16(5) *Sustainability* 1749

[50] Ibid.

[51] Jarrad Wright and others, *Evolving Competitive Markets in SAPP: Leveraging Competitive Wholesale Electricity Markets to Drive Renewable Generation Capacity in the Southern African Power Pool (SAPP)*

coordinates REC efforts but also mitigates the risks of political capture by dominant states. A possible approach could involve creating a continental regulatory body under the AfCFTA that sets minimum standards, while allowing RECs to adapt these to regional contexts. Such a body would ensure coherence without erasing the value of regional diversity.

Critically, the financing of regional projects is a shared problem that concerns all. While RECs have designed ambitious interconnection plans, implementation is often hampered by weak creditworthiness of utilities, limited fiscal opportunities, and donor dependency.[52] The AfCFTA could leverage its continental scale to negotiate better financing terms, create pooled investment facilities, and enhance the bargaining power of African states in global climate finance negotiations. By aligning REC efforts under a continental framework, the AfCFTA could reduce duplication, attract investment, and accelerate the pace of renewable energy integration. However, this will require a shift from the declaratory politics that often characterise African integration efforts to a more pragmatic, implementation-focused approach.

ii. Private Sector Participation

No cross-border renewables market can function effectively without robust private sector participation.[53] Across Africa, governments have historically dominated the electricity sector through state-owned utilities.[54] However, decades of inefficiency, chronic underinvestment, and politicised tariff-setting have made clear the limitations of this model.[55] Independent Power Producers (IPPs) have emerged as a corrective mechanism, particularly in markets such as Kenya, South Africa, and Nigeria.[56] However, their role has largely been constrained by fragmented national regulations, opaque procurement processes, and the absence of credible guarantees for cross-border trade. The AfCFTA could transform this dynamic by providing a continental framework that standardises the rules governing IPPs and enables them to operate seamlessly across borders. The case for such harmonisation is compelling. IPPs in Africa face some of the highest project development costs globally, in part because every national market has its own licensing, tariff, and contractual regime.[57] This lack of scale makes financing renewable projects more expensive, thereby limiting affordability for end-users.[58] A harmonised AfCFTA framework could introduce standardised power purchase agreements

(National Renewable Energy Laboratory (NREL), Golden, CO, United States, Technical Report No NREL/TP-6A40-90992, 2024)

[52] Ifeanyi-Nwaoha Nnadozie, 'Energising Africa: enabling private sector development in renewable energy' *Economy & Society – Policy Brief* (30 June 2025) https://afripoli.org/energising-africa-enabling-private-sector-development-in-renewable-energy accessed 15 September 2025

[53] Jakob Zinck Thellufsen and Henrik Lund, 'Cross-border versus cross-sector interconnectivity in renewable energy systems' (2017) 124 Energy 492

[54] Anton Eberhard, 'The political economy of power sector reform in South Africa' (2007) 1 *The Political Economy of Power Sector Reform* 215

[55] Ibid.

[56] Pfano Mashau and Jabulani Christopher Nyawo, 'Governing and empowering independent power producers in South Africa' (eds), *Next-Generation Artificial Intelligence Driven Smart and Renewable Energy* (132–144)

[57] Anton Eberhard and Katharine Gratwick, 'The Kenyan IPP Experience' (2005) 16(4) *Journal of Energy in Southern Africa* 4

[58] Anton Eberhard and K Nawal Gratwick, 'Independent power projects in Sub-Saharan Africa: determinants of success' (eds), *Yes Africa Can: Success Stories from a Dynamic Continent* (2011) 371

(PPAs), regional credit enhancement mechanisms, and predictable dispute resolution tools. By reducing transaction costs and legal uncertainty, it would make African renewables projects more bankable.[59] Moreover, financiers, whether development finance institutions (DFIs), private equity, or climate funds, are more likely to commit large-scale capital if they see a unified continental market with credible legal safeguards.[60]

Equally important is the integration of carbon credit registries. As African states increasingly explore carbon markets, private registries and verification bodies will play a critical role in ensuring transparency and credibility.[61] However, without a cross-border framework, registries risk remaining fragmented, creating duplication, double-counting, and reputational risks. The AfCFTA could provide the regulatory umbrella under which registries operate, setting minimum transparency standards while allowing competition and innovation in verification methodologies. Such an approach would not only strengthen investor confidence but also ensure that African carbon credits are seen as credible in international markets, particularly under Article 6 of the Paris Agreement.

Nonetheless, the role of the private sector must be critically interrogated. IPPs, if poorly regulated, may prioritise profit over affordability, exacerbating energy poverty.[62] Similarly, carbon credit registries run by private actors could create monopolistic tendencies or undermine national sovereignty if not subject to strong oversight.[63] The AfCFTA must therefore strike a delicate balance between enabling private initiative and embedding it within a regulatory framework that ensures fairness, transparency, and alignment with continental development goals. Without such safeguards, private sector participation risks entrenching inequalities rather than delivering the transformative benefits envisioned.

iii. Leveraging Fintech and Blockchain (Digital Platforms) for Transparent Tracking of Cross-Border Energy and Carbon Credit Flows

The integration of digital platforms into the design of a cross-border renewables and carbon market is no longer optional. Africa's electricity and carbon sectors are plagued by opacity, inefficiency, and credibility concerns.[64] In power trade, metering inconsistencies and disputes over transmission losses frequently undermine trust between utilities.[65] In carbon markets, weak Monitoring, Reporting, and Verification (MRV) systems have fuelled fears of "carbon

[59] Ibid.
[60] Robyn Clark, James Reed and Terry Sunderland, 'Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance' (2018) 71 *Land Use Policy* 335
[61] Bernardo Miguel Cunha Manarte, *Challenges and Opportunities in the Voluntary Carbon Market: How Can Emerging Regulatory Frameworks and Blockchain Technology Enhance Transparency and Credibility in the Market* (PQDT-Global 2022)
[62] Gul Muhammad and Aziz Ur Rahman, 'Independent Power Producers (IPPs) in Pakistan: An Elite Capture: IPPs, energy, corruption, forensic audit, solar panel, neo liberal economy, capitalist, subsidy, tax, elite, elite capture' (2025) 2(1) *The Journal of Research Review* 105
[63] Justin Damian Macinante, *Effective and flexible emissions trading markets: international emission trading by networking carbon markets on distributed ledger technology architecture–regulatory and institutional frameworks* (2020)
[64] Martin Otundo Richard, 'Examining the Inefficiencies in Carbon Trading Markets: a Focus on Market Failures in Kenya's Emerging Carbon Economy' (3 September 2024) (2024)
[65] Darragh Carr and Murray Thomson, 'Non-technical electricity losses' (2022) 15(6) *Energies* 2218

colonialism," where African credits are undervalued or discredited due to lack of transparency.[66] Digital platforms, particularly those built on fintech innovations and blockchain technology, offer a promising solution. Blockchain, for instance, has the potential to provide tamper-proof records of energy flows, ensuring that electricity transmitted across borders is measured accurately and compensated fairly.[67] Smart contracts could automate settlements between utilities, IPPs, and financiers, reducing delays and disputes. In the carbon market context, blockchain-based registries could track the lifecycle of a carbon credit from issuance to retirement, minimising the risk of double-counting or fraudulent claims.[68] Such innovations could enhance trust, attract investment, and align African systems with international best practices.

Fintech solutions are equally important in addressing the payment side of cross-border trade. Many utilities in Africa struggle with liquidity, making them unreliable counterparties for power purchase agreements.[69] Mobile money and fintech-enabled escrow systems could allow cross-border payments to be ring-fenced, reducing counterparty risk. For example, platforms similar to Kenya's M-Pesa could be scaled into regional markets to facilitate low-cost, secure financial transactions between buyers and sellers of renewable energy or carbon credits.[70] This would not only improve efficiency but also expand participation to smaller actors, including community-based renewable projects.

It is however important to note that technology is not a panacea or a magic pill. Digital solutions require strong regulatory frameworks to ensure interoperability, data protection, and cyber-security.[71] Blockchain platforms, while promising, have high energy demands that could undermine sustainability goals if not carefully managed. Additionally, there is a risk of digital exclusion if rural communities and smaller firms are unable to access or afford these systems. The AfCFTA must therefore approach digitalisation strategically, embedding it in a broader governance framework that ensures inclusivity and accountability. Rather than treating technology as a silver bullet, it should be seen as an enabler that complements, rather than substitutes, sound regulation and institutional capacity.

4. The AFCFTA and the Carbon Credit Market

The rise of carbon trading mechanisms has created new avenues for financing climate action, with global carbon markets projected to grow from an estimated USD 2 billion in 2022 to over

[66] Benja Faecks, M Smits and I Möller, *The Evolution of Sustainable Development in the Voluntary Carbon Market* (PhD diss., MSc Thesis, Environmental Policy Group, Washington University 2022)
[67] Amit Kumar Vishwakarma and others, 'Blockchain-based peer-to-peer renewable energy trading and traceability of transmission and distribution losses' (2024) Journal of the Operational Research Society 1
[68] Mohammad Aftab Mahmud and Md Ridwan Mahmud, *Blockchain based Voluntary Carbon Market for Bangladesh* (PhD diss., IUB 2025)
[69] Anton Eberhard and Maria Shkaratan, 'Powering Africa: Meeting the financing and reform challenges' (2012) 42 Energy Policy 9
[70] Anna Sung, 'Technology and Financial Innovation in Emerging Markets: Impacts on Value Creation' (eds), *Valuation in Emerging Markets: Challenges, Approaches and Strategies* (Springer Nature Switzerland 2025) 331
[71] Dimitra Markopoulou, Vagelis Papakonstantinou and Paul De Hert, 'The new EU cybersecurity framework: The NIS Directive, ENISA's role and the General Data Protection Regulation' (2019) 35(6) *Computer Law & Security Review* 105336

USD 50 billion by 2030.[72] In spite of this, Africa's participation is disproportionately low as previously highlighted, accounting for less than 3 per cent of global transactions despite the continent's vast mitigation potential in renewable energy, reforestation, and sustainable agriculture. The AfCFTA could provide the institutional foundation for harmonising standards, creating a transparent regional registry, and negotiating Africa's collective position in global market frameworks under Article 6 of the Paris Agreement. By embedding carbon markets within a continental legal system, the AfCFTA could help overcome the regulatory fragmentation that currently limits Africa's bargaining power and undermines investor confidence.

4.1 Africa's Current Challenges

One of the most pressing obstacles to Africa's effective engagement in carbon markets is the absence of harmonised registries across the continent. Most African countries operate isolated or nascent carbon accounting systems, if they exist at all, leading to duplication, opacity, and difficulty in verifying credits for international buyers.[73] The lack of a centralised framework undermines the fungibility of African credits, making them less attractive to global markets that demand consistency and transparency.[74] Without harmonisation, Africa risks perpetuating a patchwork of weak registries, which could facilitate double-counting and diminish trust in African credits. A related challenge is the deficit in MRV capacity. Credible carbon markets rely on robust MRV systems to demonstrate real and additional emissions reductions.[75] However, many African states lack the technical expertise, institutional infrastructure, and financing required to implement internationally recognised MRV protocols.[76] This gap exposes African credits to accusations of poor quality and undermines their value in competitive markets. More critically, it perpetuates dependence on external consultants and international intermediaries, who often capture disproportionate rents from projects that should primarily benefit local communities.

The absence of strong domestic capacity and continental coordination also raises the spectre of carbon colonialism, as previously highlighted.[77] This occurs when international corporations or foreign governments secure cheap offsets in Africa without delivering genuine local benefits, effectively using African landscapes and resources to meet external decarbonisation targets.[78] Examples have already emerged, such as large-scale forest offset projects in Central Africa where local communities have reported inadequate consultation and limited access to

[72] Mohammad Parhamfar, Iman Sadeghkhani and Amir Mohammad Adeli, 'Towards the net zero carbon future: A review of blockchain-enabled peer-to-peer carbon trading' (2024) 12(3) *Energy Science & Engineering* 1242
[73] Martin Otundo Richard, 'Examining the Inefficiencies in Carbon Trading Markets: a Focus on Market Failures in Kenya's Emerging Carbon Economy' (3 September 2024) (2024)
[74] Ibid.
[75] Renhu Tang and others, 'Key challenges for the establishment of the monitoring, reporting and verification (MRV) system in China's national carbon emissions trading market' (2018) 18(1) *Climate Policy* 106
[76] R M Ochieng, I J Visseren-Hamakers, Bas Arts, Maria Brockhaus and Martin Herold, 'Institutional effectiveness of REDD+ MRV: Countries progress in implementing technical guidelines and good governance requirements' (2016) 61 *Environmental Science & Policy* 42
[77] Tatiana Cardoso Squeff, 'Rearranging the geopolitics of climate change due to climate and carbon Coloniality' (eds), *Judicial responses to climate change in the global south: A jurisdictional and thematic review* (Springer Nature Switzerland 2023) 53
[78] Ibid.

resulting revenues. Without robust governance, Africa risks becoming a passive supplier of low-cost credits to global actors, rather than an empowered participant shaping market rules to serve its development priorities.

The AfCFTA offers an opportunity to address these concerns by creating a continent-wide governance framework for carbon trading. By pooling resources to develop a harmonised registry, building regional centres of excellence for MRV, and negotiating collectively in international carbon fora, the AfCFTA could transform Africa's position from a marginal participant to a price-setter in global markets.[79] However, this requires deliberate political will to avoid reproducing extractive patterns of external dependence under a green guise. The success of a continental carbon market will therefore hinge not only on institutional design but also on embedding principles of equity, transparency, and local benefit-sharing at its core.

4.2 Developing a Unified African Carbon Credit Registry under the AfCFTA

One of the most urgent priorities for Africa's effective engagement in carbon trading is the creation of a unified continental registry.[80] At present, Africa suffers from an incoherent system of national registries, many of which are either non-operational or lack international credibility. This fragmentation not only prevents the seamless tracking of carbon credits across borders but also heightens the risk of double counting, undermining trust in the environmental integrity of African credits. The absence of a robust and harmonised system has meant that Africa remains on the periphery of the voluntary carbon market, even as demand for credits grows exponentially in the Global North.[81] The AfCFTA is uniquely positioned to fill this institutional void by creating a centralised African Carbon Credit Registry under its regulatory umbrella. Much as the World Trade Organisation (WTO) facilitates the recognition of rules across jurisdictions, the AfCFTA could serve as the legal anchor for a standardised and transparent registry that consolidates credits generated across member states. A continental registry would not only strengthen investor confidence but also enable African negotiators to present a unified front in global climate governance, thereby countering the fragmentation that has historically weakened Africa's bargaining power. Such a registry should not be a mere technical exercise but rather an instrument of governance imbued with principles of equity and inclusivity. Local communities, particularly those hosting renewable energy and reforestation projects, must be guaranteed transparent benefit-sharing mechanisms. A centralised registry, if properly designed, could integrate digital monitoring tools and blockchain verification to ensure traceability and prevent manipulation, as discussed in the previous section. The AfCFTA Secretariat, working alongside the African Union and the African Development Bank, could establish oversight institutions to manage registry operations, thereby balancing efficiency with accountability. In all, a unified African Carbon Credit Registry would not only harmonise

[79] Chrysa Alexandraki, 'MRV of emissions and mitigation action: The Paris Agreement and financial support for transparency-related capacity building in developing countries' (2020) 10(3-4) Climate Law 308

[80] Panji Winston Chirwa, *The intersection between trade liberalisation and carbon emissions: an appraisal of the agreement establishing the African continental free trade area* (Master's thesis, University of Pretoria, South Africa 2023)

[81] Timileyin P Abiodun, Nnamdi Nwulu and Peter Olukanmi, 'Pioneering emission trading in Africa: An architectural design of a blockchain-powered carbon trading system' (2024) The Journal of The British Blockchain Association

disparate national systems but also lay the foundation for Africa to shape the emerging norms of global carbon governance rather than merely adapt to them.

4.3 Integration with Global Markets

The long-term viability of an African carbon credit market will depend on its ability to integrate effectively with global frameworks, particularly those established under the Paris Agreement.[82] Article 6 provides the international legal framework for cooperative approaches and the transfer of mitigation outcomes across borders. However, participation requires that credits meet stringent standards of environmental integrity, additionality, and comprehensive MRV standards. Failure to comply with these requirements would render African credits ineligible for international trading and undermine their market value. Ensuring that African carbon credits are internationally transferable necessitates a deliberate effort to align domestic and continental rules with Article 6 provisions. The AfCFTA could play a central coordinating role by establishing a legal framework that harmonises African standards with global requirements. This would involve designing MRV protocols that are internationally recognised, setting clear rules on avoidance of double counting, and instituting independent verification processes to safeguard credibility. By doing so, the AfCFTA could provide assurance to international buyers that African credits are of high quality, thereby improving market access and bargaining power. Beyond compliance, integration with global markets should be leveraged to advance Africa's strategic interests. The danger lies in treating Article 6 alignment as a mere technical checkbox, without addressing the structural asymmetries of global carbon markets where African credits are often undervalued. Through collective negotiation under the AfCFTA, African states could push for fair pricing mechanisms, resist exploitative offset arrangements, and ensure that revenue from carbon trading supports sustainable development priorities on the continent. In this respect, the AfCFTA is not only a compliance vehicle but also a platform for reshaping Africa's position within the international climate economy.

5. Case Study Approach

A critical review of comparative experiences offers useful guidance for the focus of this article. It exposes the structural design flaws that undermine credibility and reveals institutional best practices that can be adapted to Africa's developmental realities. This section examines the European Union Emissions Trading System (EU ETS), Latin America's voluntary carbon markets, and China's national ETS. Each case study provides insight into both the promise and the peril of regional or national market structures.

5.1 The European Union ETS

The EU ETS, launched in 2005, is often described as the flagship supranational carbon market, covering more than 40 per cent of the EU's emissions.[83] Its design has been lauded for creating a single, centralised Union Registry, strict MRV protocols, and strong compliance penalties,

[82] Lambert Schneider and Stephanie La Hoz Theuer, 'Environmental integrity of international carbon market mechanisms under the Paris Agreement' (2019) 19(3) *Climate Policy* 386

[83] Torbjørg Jevnaker and Jørgen Wettestad, 'Ratcheting up carbon trade: The politics of reforming EU emissions trading' (2017) 17(2) *Global Environmental Politics* 105

thereby instilling market confidence and international credibility.[84] From the perspective of the AfCFTA, this centralisation is a key lesson: fragmented national registries cannot deliver fungibility, while a unified continental system could create the scale and trust necessary to attract global capital. However, the EU ETS also illustrates how market integrity can be undermined. In its first two phases, over-allocation of allowances, driven by lobbying and weak political resolve, led to a collapse in carbon prices, creating windfall profits for large emitters without significant emissions reduction.[85] Price volatility further discouraged long-term investment in clean energy, revealing how political capture can distort market outcomes.[86] This matters for Africa, where state-owned enterprises and entrenched fossil-fuel interests hold significant sway. Unless the AfCFTA embeds strict, independent governance for allocation and enforcement, it risks replicating these early failures. Another weakness is distributive justice. While the EU has mechanisms to recycle revenues into innovation and solidarity funds, it has been argued that low-income member states and vulnerable communities did not benefit proportionately.[87] For Africa, which faces both developmental and climate vulnerabilities, equity considerations cannot be peripheral. A future AfCFTA carbon market must embed mandatory revenue-sharing obligations that prioritise adaptation and resilience projects, not merely fiscal returns for states. The EU's experience is therefore both a template and a warning that comprehensive institutional design matters as much as market scale.

5.2 Latin America's Voluntary Carbon Markets

Latin America provides a cautionary tale of how carbon markets, particularly voluntary offsets, can deepen rather than resolve inequalities.[88] Countries such as Peru, Colombia, and Brazil have hosted forestry and land-use projects funded by external developers.[89] On paper, these projects channel finance into conservation and rural economies. In reality, evidence shows that contracts often transfer rights over land and resources to developers, while local communities receive meagre benefits.[90] Another deficiency lies in the quality of credits. Weak MRV standards and lack of transparency in registries have raised concerns about additionality and permanence.[91] Credits generated in these contexts often sell at a discount in international markets, further eroding host country's value.[92] The danger is evident for Africa given that

[84] Paul Latimer and Philipp Maume, 'Carbon Market Regulation: Markets and Laws' (2015) 26 *Yearbook of International Environmental Law* 68
[85] Ibid.
[86] Patrick Bayer and Michaël Aklin, 'The European Union emissions trading system reduced CO2 emissions despite low prices' (2020) 117(16) *Proceedings of the National Academy of Sciences* 8804
[87] Stefan Hochrainer-Stigler, Joanne Linnerooth-Bayer and Anna Lorant, 'The European Union Solidarity Fund: an assessment of its recent reforms' (2017) 22(4) *Mitigation and Adaptation Strategies for Global Change* 547
[88] Kathleen McAfee, 'Green economy and carbon markets for conservation and development: a critical view' (2016) 16(3) *International Environmental Agreements: Politics, Law and Economics* 333
[89] Juan Pablo Sarmiento Barletti and Anne M Larson, 'How are land use multi-stakeholder forums affected by their contexts? Perspectives from two regions of the Peruvian Amazon' (eds), *The Wicked Problem of Forest Policy* (Cambridge University Press 2020)
[90] Ibid.
[91] Thibaut Santier, *The next priorities of the Voluntary Carbon Market for mass adoption: The need for new technologies, carbon policy frameworks, and a meta registry* (PhD diss., Université Paris-Saclay 2023)
[92] Leo Mercer and Josh Burke, 'Strengthening MRV standards for greenhouse gas removals to improve climate change governance' (Grantham Research Institute on Climate Change and the Environment and Centre for Climate Change Economics and Policy, London School of Economics and Political Science, London 2023)

without a strong continental framework, national projects risk being absorbed into fragmented voluntary markets, producing low-quality credits and reinforcing dependency on external capital. A key best practice, however, is Latin America's experimentation with legal recognition of community rights. In some jurisdictions, indigenous groups have successfully negotiated clauses guaranteeing free, prior, and informed consent (FPIC) and revenue-sharing.[93] While not universal, these efforts highlight the necessity of embedding community protections into continental frameworks. For the AfCFTA, this means that legal safeguards for communities must be codified into its regulatory umbrella, not left to voluntary or contractual discretion.

5.3 China's National ETS: Scale without Stringency

China launched the world's largest ETS in 2021, covering over 4 billion tonnes of CO_2 from the power sector.[94] Its scale has attracted global attention, although it has been contended that its structural weaknesses limit effectiveness.[95] Allocation remains intensity-based rather than absolute, allowing emitters to increase output while still complying. Penalties for non-compliance are minimal, undermining deterrence. Moreover, MRV systems are underdeveloped, with reports of falsified data and inadequate verification capacity. For the AfCFTA, China's experience illustrates the danger of prioritising symbolic scale over functional robustness. A continental market boasting billions of potential credits will hold little value if they are seen as low quality or non-additional. International investors will discount or avoid such credits, leaving Africa once again supplying "cheap commodities" to global markets. The lesson is that credibility must precede expansion. The AfCFTA would be better served by piloting a smaller but high-integrity market that can command premium prices, before expanding continent-wide. Another critique is the exclusion of non-power sectors. By limiting coverage, China has undermined the transformative potential of its ETS.[96] For Africa, this suggests that any AfCFTA framework must avoid narrow sectoral focus. Instead, it should encompass renewables, forestry, and industrial processes, ensuring that opportunities for both mitigation and economic diversification are maximised. Taken together, these case studies reveal three essential insights. First is that centralisation and harmonisation are indispensable. Fragmented registries, weak MRV, and inconsistent rules cannot deliver credibility. Second, distributive justice must be given enough consideration at the outset. The failures of the EU and Latin America show that without equity provisions, carbon markets risk exacerbating inequality. Third, credibility is more valuable than scale. China's ETS demonstrates that markets built on weak governance do not command international trust. The AfCFTA's comparative advantage is its legal authority as a continental trade framework. If designed critically and deliberately, it could harmonise Africa's fragmented policies, create a unified registry, and provide legal guarantees for equity and community protection. Without these,

[93] Sam Szoke-Burke and Kaitlin Y Cordes, 'Mechanisms for consultation and free, prior and informed consent in the negotiation of investment contracts' (2020) 41 *Nw J Int'l L & Bus* 49
[94] Changying Zhao, Shenghong Ju, Yuan Xue, Tao Ren, Ya Ji and Xue Chen, 'China's energy transitions for carbon neutrality: challenges and opportunities' (2022) 1(1) *Carbon Neutrality* 7
[95] Jiayang Wang, Yiyi Ju and Kiyoshi Fujikawa, 'Climate policies in China: Renewable energy introduction and national emissions trading scheme' (eds), *Empirical research on environmental policies in China: China towards decarbonization and recycle economy* (Springer Nature Singapore 2024) 3
[96] Ibid.

however, Africa risks replicating the deficiencies of past models reflecting an extractive, externally driven market that delivers little to the continent while locking it into global systems on unfavourable terms.

6. Policy and Legal Recommendations

Designing a functional cross-border renewables and carbon credit market under the AfCFTA requires more than technical ambition; it demands a deliberate reconfiguration of Africa's legal and policy architecture. Without strong regulatory scaffolding, efforts will be undermined by fragmentation, investor scepticism, and governance deficits. It is therefore crucial to situate the AfCFTA as both a trade and legal instrument capable of harmonising energy and climate policy across the continent. Most of the proposals and recommendations discussed throughout this article are organised and presented here to provide a coherent framework for policymakers, regulators, and market participants seeking to operationalise these markets. To begin with, a central priority is the establishment of a continental legal framework that sets binding standards for renewable energy deployment and carbon credit trading. The AfCFTA Secretariat, in collaboration with the African Union Commission and the African Development Bank, could develop a protocol on renewable energy and carbon markets under the AfCFTA umbrella. Such a protocol would harmonise licensing procedures, cross-border power purchase agreements, grid codes, tariff principles, and carbon credit verification standards. The current legal framework is marked by national divergence, ranging from Nigeria's Electricity Act 2023 to South Africa's Renewable Energy Independent Power Producer Procurement Programme.[97] This heterogeneity not only discourages investment but also complicates cross-border projects. A continental framework would not displace national sovereignty but instead set minimum standards that allow for compatibility and mutual recognition. In the carbon market context, credibility depends on harmonised MRV standards. At present, many African states lack the institutional and technical capacity to measure emissions reductions in line with global best practice. This creates a risk that African carbon credits are discounted or rejected in international markets. The AfCFTA could coordinate a unified MRV framework, modelled on the Paris Agreement's Article 6 requirements, and create a continental carbon market authority with powers to certify registries, approve methodologies, and safeguard credibility. By doing so, Africa would avoid marginalisation in the rapidly expanding voluntary and compliance carbon markets.Equally important are fiscal and market incentives. Renewable energy deployment and carbon trading will not thrive without predictable revenue streams and risk-sharing mechanisms. AfCFTA members should work towards common principles for fiscal support, including tax credits for renewable developers, tariff guarantees, and regional risk-sharing facilities. Efforts to design carbon pricing instruments, whether carbon taxes or emissions trading systems, should be coordinated to avoid a patchwork of incompatible approaches. Legal certainty around these mechanisms would give investors the confidence required to commit significant capital. RECs such as the Southern African Power Pool and the West African Power Pool already provide important building blocks for cross-border energy trade. However, they operate under disparate legal and regulatory arrangements. The AfCFTA

[97] Marus Gbomagba, 'Role of Law Driving Energy Transitions: A Critical View from China and Selected African Countries' (2025) 16 *Beijing L Rev* 76

should act as a harmoniser, ensuring that REC frameworks are aligned with continental rules and standards. This layered approach would prevent duplication and allow continental law to reinforce rather than replace regional initiatives. The private sector will be central to scaling renewables and carbon markets, but investors will only commit if legal risks are properly managed. A standardised framework for public–private partnerships under the AfCFTA could set baseline protections for investors, including internationally enforceable dispute resolution clauses, and safeguards against political risks such as expropriation or sudden regulatory shifts. By embedding such protections in law, the AfCFTA can transform perceptions of Africa from a high-risk environment to a competitive investment destination. Finally, any legal framework must inherently by design integrate principles of climate justice and sustainable development. Africa cannot afford to replicate extractive patterns that leave the continent as a mere supplier of cheap credits to global polluters. The AfCFTA rules should require that carbon credit revenues are equitably shared, with a portion earmarked for adaptation finance and community development. Renewable projects facilitated under the AfCFTA should also expand access to electricity domestically rather than privileging export revenues. Embedding these principles in law would guard against carbon colonialism and ensure that Africa's energy transition serves its development priorities.

7. Conclusion

The analysis of this paper has revealed that the AfCFTA is not only a trade liberalisation instrument but a potential legal and institutional framework for Africa's energy transition. As shown, fragmented national policies and weak monitoring systems have undermined the continent's ability to build a coherent renewables market or a credible carbon credit system. The AfCFTA offers a pathway to harmonise regulations, establish continent-wide standards, and leverage collective bargaining in global climate and energy markets. However, the risks are clear. Without strict enforcement mechanisms, political will, and institutional capacity, the AfCFTA could replicate existing failures rather than resolve them. The danger of carbon colonialism, where African credits are undervalued and development priorities sidelined, is real. Similarly, without unified registries and credible verification processes, Africa's carbon credits will lack legitimacy in international markets. The task before African policymakers is therefore urgent. It is to embed renewable energy and carbon market integration within the AfCFTA's legal architecture in a manner that safeguards sovereignty, ensures equitable distribution of benefits, and strengthens Africa's global negotiating position. Anything less would leave Africa as a marginal player in markets that will define the future global economy.

Moving forward, the AfCFTA institutions should prioritise the creation of a unified carbon credit registry, mandate harmonised grid and energy regulations across member states, and establish compliance mechanisms backed by sanctions for non-implementation. Only through such deliberate, enforceable measures can the AfCFTA shift from aspiration to action and secure Africa's place in the global green economy.