AFRICA'S CARBON FUTURE: AN ASSESSMENT OF THE CHALLENGES AND PROSPECTS OF EMISSIONS TRADING AND CARBON MARKET ADOPTION IN AFRICA

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Abstract

Carbon markets are a fundamental mechanism for reducing emissions and meeting climate objectives. They enable the trading of carbon credits generated by activities that lower greenhouse gas emissions, with emissions trading being a key model. In Africa, however, carbon markets are still in the early stages of development. This article, employing the doctrinal research methodology, examines the challenges and prospects of emissions trading and carbon market adoption across the continent. It finds that although Africa contributes minimally to global emissions, it remains highly vulnerable to climate impacts. At the same time, the continent's pressing developmental priorities often take precedence over the establishment of carbon markets, and emissions are likely to rise as development continues. This does not negate the importance of carbon markets. Emerging initiatives in countries such as South Africa and Egypt, along with continental efforts like the African Carbon Market Initiative (ACMI), demonstrate growing interest and potential. Properly designed carbon markets could unlock climate finance, stimulate investment in renewable energy, create jobs, and support emissions reductions while promoting economic growth. However, several obstacles persist, including inadequate data and monitoring, reporting and verification (MRV) systems, institutional and policy gaps, and political instability. The article therefore recommends increased infrastructural investment, capacity building to strengthen data systems and emissions monitoring, and the development of coherent legal and policy frameworks at national, regional, and continental levels, with support from initiatives such as ACMI, to enhance readiness for continent-wide carbon markets.

Keywords: Carbon markets, Emissions trading, Climate finance, Greenhouse gas emissions, Sustainable development

1.0 Introduction

Carbon emissions refer to carbon compound release into the atmosphere that occurs from anthropogenic activities such as fossil fuel burning, industrial processes and deforestation.[593] These activities over the past century have negatively affected Earth systems, being some of the largest contributions to global warming and climate change acceleration.[594] As these effects become increasingly recognised, efforts are being put in place to tackle this increasing challenge to protect the Earth and its resources. One of the strategies countries have begun to employ through policy frameworks is the carbon market.[595]

In basic terms, Carbon Markets are systems that facilitate carbon credits generated by activities that reduce greenhouse gas emissions, and one of these systems is Emissions Trading. Emissions Trading, which is also referred to as cap-and-trade mechanisms, refers to a system of setting a total cap on the amount of carbon that entities can emit, issuing emission permits and then allowing entities that emit less to trade the permits as commodities.[596] As a result, companies that emit higher amounts would have to purchase permits to do so, which would raise the cost of production, thereby incentivising the need to invest in low-carbon energies. While emissions trading and carbon taxing have been criticised as commodifying pollution,[597] reports have also indicated their immense contribution to emissions reduction.[598] The Climate treaties significantly encouraged countries to explore strategies of emissions reduction, with market mechanisms being one of them.[599]

Several countries have begun to explore carbon markets and adopt emissions trading in different forms, with the European Union leading the charge through its Emission Trading System under

[593] Ali Akbari and Others, 'Characteristics, Emissions, Capture, Storage, and Utilization of Carbon Dioxide: A Comprehensive Review of Challenges and Technologies for Greenhouse Gas Mitigation' *Petroleum Research* 2025.
[594] K. O. Yoroa and M. O. Daramola, 'CO2 Emission Sources, Greenhouse Gases, and the Global Warming Effect.' In *Advances in Carbon Capture* (Elsevier, 2020).
[595] United Nations, 'Carbon markets and sustainable development: Bridging economic, environmental and technological divides' < https://unctad.org/system/files/official-document/ldc2024_ch1_en.pdf> accessed 2nd April, 2026.
[596] S. C. Karmaker and Others, 'Innovation under Cap-and-Trade: How Emission Trading Systems Propel Decarbonization *Next Energy* (2025) 7 100220 1-10.
[597] T. Kalinowski, 'Institutional Innovations and Their Challenges in the Green Climate Fund: Country Ownership, Civil Society Participation and Private Sector Engagement' *Sustainability* (2020) 12, 8827 1-13.
[598] A. S. Komla Kukah, 'How Carbon Trading Contributes to Reduction in Emission of Greenhouse Gases: A Narrative Literature Review' *Journal of Facilities Management* (2024) 23 (1) 1-17.
[599] UNFCC 1992, Paris Climate Change Agreement 2015.

the EU Emissions Trading Directive 2003.[600] The US, Japan, Turkey, China and others have also considered their exploration.[601] As can be noticed, efforts in this direction are being actively carried out by developed countries. While the burden of emissions reduction is not placed at equal levels with Africa, and while Africa contributes little to global carbon emissions, Africa should not be left behind.[602] Global climate commitments have also included commitments to assist developing countries (which include African countries) in meeting their net-zero 2060 goal,[603] and one of the ways Africa can contribute to the fight against climate change is to also explore emissions trading and other carbon market options. Through the African Carbon Market Initiative and other national initiatives, Africa's involvement provides an opportunity for economic growth while still promoting emissions reduction.[604] But caution is to be exercised.

Africa still faces developmental challenges such as limited industrialisation, poverty, political instability, corruption, limited healthcare, and energy instability,[605] among others, that may affect the adoption or success of a continental framework such as an emissions trading scheme. This article thus explores if emissions trading can be successfully utilised in Africa to meet climate objectives, the prospects that lie, the challenges that the continent faces in so doing and what recommendations can be made to tackle these challenges, ensuring that Africa adopts a market-based system that can become the continent's climate currency.

2.0 Conceptual Clarifications

2.1 Africa

Africa refers to the 54-country continent comprising diverse political, economic, ecological and cultural systems. It is the second largest and second most populous continent after Asia, with a

[600] EU Emissions Trading Directive 2003/87/EC.
[601] Dolphin and Merkle, 'Which countries have a carbon emissions trading system?' (Our World in Data: 2024). <https://ourworldindata.org/grapher/carbon-emissions-trading-system> Accessed 15th November 2025.
[602] R. Chevallier, 'Africa's Common Climate Response and Action Plan' (Policy Briefing 261, 2022). <https://saiia.org.za/wp-content/uploads/2022/06/Policy-Briefing-261-chevallier.pdf> Accessed 15th November 2025.
[603] W. N. Digitemie and I. O. Ekemezie, 'Assessing the Role of Climate Finance in Supporting Developing Nations: A Comprehensive Review' *Finance & Accounting Research Journal* (2024) 6 (3) 408-420.
[604] Seforall, 'Africa Carbon Markets Initiative builds on Momentum from COP27, announces 13 Action Programmes' (16th January 2023). <https://www.seforall.org/press-releases/africa-carbon-markets-initiative-builds-on-momentum-from-cop27-announces-13-action> Accessed 15th November 2025.
[605] A. Nomsoor, 'Major Developmental Challenges of African States,' *Journal of Political Science and Leadership Research* (2025) 11 (3) 66-83.

population of about 1.4 billion people.[606] It covers 20% of the Earth's land and 6% of its surface area.[607] Nigeria is the continent's largest country by population,[608] while Algeria is its largest country by area.[609] It has a nominal GDP of 2.8 trillion and a GDP Purchasing Power Parity (PPP) of up to 10 trillion.[610] In the climate discourse, "Africa" is often considered as a collective regional bloc due to shared structural features including low carbon emissions contributions, high climate effect vulnerability, limited financial capacity for climate mitigation and adaptation and limited industrialisation.[611] Its climate vulnerabilities extend from drought to flooding, desertification, biodiversity loss, and land degradation, among others.[612] Africa is therefore captured as a geopolitical category, highlighting the continent's developmental challenges, its diversity, governance and efforts made towards meeting climate objectives.

2.2. Carbon Emissions

Carbon emissions refer to the emissions or release of carbon dioxide (CO_2) into the atmosphere and account for more than 80% of greenhouse gas (GHG) emissions.[613] These emissions emanate from sectors such as energy production, manufacturing, agriculture, transportation and land-use changes.[614] Carbon emissions are one of the main causes of climate change because they trap heat in the atmosphere and drive global warming, making their limitations and reduction a primary goal of international climate treaties, regional and national climate strategies.[615]

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[606] S. Galal, 'Demographics of Africa - Statistics & Facts' (Statista, 8th August 2025). <https://www.statista.com/topics/7928/demographics-of-africa/> Accessed 16th November 2025.
[607] A. P. Sayre, *Africa*, (Twenty-First Century Books, 1999).
[608] S. Galal, 'Population in Africa 2025, by selected Country' (Statista: 28th November 2025). <https://www.statista.com/statistics/1121246/population-in-africa-by-country/> Accessed 29th November 2025.
[609] S. Galal, 'Largest Countries in Africa 2020, by Area' (Statista: 28th November 2025). <https://www.statista.com/statistics/1207844/largest-countries-in-africa-by-area/> Accessed 29th November 2025.
[610] GDP PPP, Current Prices, International Monetary Fund, 2022. <https://www.imf.org/external/datamapper/PPPGDP@WEO/OEMDC/ADVEC/WEOWORLD> Accessed 18th November 2025. GDP Nomina, Current Prices, International Monetary Fund, 2022. <https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD> Accessed 18th November 2025.
[611] A. E. Obasa, 'Navigating the Storm: Ethical Consideration to Climate Justice and Sustainable Health Equity in Africa' *The Journal of Climate Change and Health* (2025) 25 100645 1-7.
[612] M. Wiston, 'Effects of Climate Change and Variability in Africa: A Review of Concepts and Evidence*' International Journal of Environment and Climate Change* (2020) 10 (12): 431-450.
[613] K. A. Oyewole and Others, 'Carbon Dioxide Emission, Mitigation and Storage Technologies Pathways' *Sustainable Environment* (2023) 9 (1) 1-17.
[614] Yoroa and Daramola (n. 2). N. E. Hassan, 'Global Warming: Causes, Impacts and Urgent Strategies for a Sustainable Future: A Review' *GSC Advanced Research and Reviews* (2024) 20 (03) 78.
[615] K. R. Shivanna, 'Climate Change and its Impact on Biodiversity and Human Welfare' *Proceedings of the Indian National Science Academy* (2022) 88:160–171.

2.3 Carbon Market

A carbon market is a market-based system where carbon credits, allowances, or emissions permits are bought, sold, or traded as a means of incentivising emissions reductions.[616] Carbon market operates in two broad forms: Voluntary Carbon Markets, where companies or individuals purchase carbon credits to offset emissions[617] and Compliance Markets, where regulated entities must acquire allowances to meet legally binding emissions limits.[618] Carbon markets use pricing to encourage investments in low-carbon technologies, promote efficiency and channel finance towards climate change mitigation projects such as renewable energy, forest protection, biodiversity conservation and other land-use initiatives.[619]

2.4. Emissions Trading

Emissions Trading, which is also referred to as cap-and-trade mechanisms, refers to a system of setting a total cap on the amount of carbon that entities can emit, issuing emission permits and then allowing entities that emit less to trade the permits as commodities.[620] Thus, companies that emit higher amounts would have to purchase permits to do so, which would raise the cost of production, thereby incentivising the need to invest in low-carbon energies.[621] While companies that emit less can sell their surplus. By placing a cost on carbon and creating a market for emissions reduction, an Emissions Trading Scheme (ETS) seeks to achieve climate objectives at a low economic cost.[622] Effective ETS requires strong MRV systems, effective monitoring, transparent governance, robust data and enough emitters to ensure market liquidity.[623]

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[616] T. Damayanti, S. Aslanoğlu and U. Doğan, 'Carbon Market: Recent and Future Research' *Journal of Business Academy* (2024) 5 (1) 32-51.
[617] R. G. Newell, W. A. Pizer and D. Raimi, 'Carbon Markets 15 Years after Kyoto: Lessons Learned, New Challenges' *Journal of Economic Perspectives* (2013) 27 (1) 130.
[618] K. Wetterberg, J. Ellis and L. Schneider, 'The Interplay between Voluntary and Compliance Markets: Implications for Environmental Integrity' OECD Environment Working Papers No. 244, 2024.
[619] *Ibid.*
[620] Karmaca and Others (n.4).
[621] M. Tang and Others, 'Effects of Carbon Emission Trading on Companies' Market Value: Evidence from Listed Companies in China' *Atmosphere* (2022) 13 (2) 240.
[622] J. Pan, 'To tax or to trade? A Global Review of Carbon Emissions Reduction Strategies' *Energy Strategy Reviews* (2024) 55 101508 1-14.
[623] E. Narassimhan and Others, 'Carbon Pricing in Practice: A Review of Existing Emissions Trading Systems' *Climate Policy* (2018) 18 (8) 967-991.

3.0 Africa's Climate Change and Carbon Emissions Realities

Africa contributes just about 4% of the global carbon emissions, but is expected to suffer more consequences from the hazards of climate change.[624] Among the top ten country emitters, four (4) contribute up to 69% percent to Africa's CO_2 emissions percentage.[625] These include South Africa, Egypt, Algeria and Nigeria.[626] The remaining six (6) include Morocco, Libya, Tunisia, Kenya, Angola and Sudan. Economic development in Africa relies heavily on carbon-intensive energy sources, which is why emissions reduction may take longer than projected.[627] Oil and gas are thus the largest contributors to carbon emissions.[628] Land use, transportation, agriculture and industries also contribute a share to CO2 emissions in Africa.[629] While it is noted that Africa's share of global emissions is not high, it is projected to increase in the coming years.[630] Thus, as a party to global climate treaties, Africa needs to build the foundations needed by strengthening its laws and institutions on emissions management towards sustainable development.

4.0 Africa's Carbon Policy Context

Africa's carbon policy context refers to any existing policy or strategy framework or plan for Africa that provides for the adoption of market mechanisms, carbon taxes, or emissions trading as a tool to tackle climate issues, encourage investment in renewable transition and achieve net zero by 2060. Some of these strategies or policy agreements are considered hereunder.

4.1 African Union (AU) Climate Change and Resilient Development Strategy and Action Plan 2022-2032

The AU Climate Change and Resilient Development Strategy and Action Plan is a ten-year plan that was introduced in 2022 with the objective of optimising Africa's response to climate issues. The enhancement of adoption and access to technology, inclusivity and cooperation between

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[624] T. Gunaratne, and Others, 'Unmasking Climate Vulnerability in Africa: The Role of CO_2 and CH_4 Emissions on Rising Temperatures and Sea Levels' *Humanities and Social Sciences Communications* (2025) 12 (601) 1-14.

[625] Intelpoint, 'Top Ten African Countries' Contribution to CO2 Emission from Fossil Fuel' (2023). <https://intelpoint.co/insights/top-ten-african-countries-contribution-to-co2-emission-from-fossil-fuel-2023/> Accessed 19th November 2025.

[626] *Ibid.*

[627] R. O. Alao and Others, 'Breaking down the Barriers to a Green Africa: Detangling the Overlapping Issues of Fossil Fuel Energy Consumption, Resource Richness and Economic Growth,' *Resource Policy* (2025) 109 105720.

[628] *Ibid.*

[629] *Ibid.*

[630] O. E. Olubusoye and D. Musa, 'Carbon Emissions and Economic Growth in Africa: Are they Related?' *Cogent Economics & Finance* (2020) 8 1850400 1-21.

African nations, mitigation and adaptation, are part of the specific objectives of the Strategy.[631] Thus, the Strategy seeks to transform Africa's energy systems, mobility and transport, blue economy, water systems, food systems and urbanism.[632]

Concerning carbon and emissions trading, the Strategy recognises the importance of developing carbon trading opportunities as one of the ways of promoting climate-resilient governance.[633] Furthermore, the Strategy encourages the use of economic incentives such as carbon trading to support sustainable businesses that support sustainable agriculture, ecological and biodiversity protection.[634] These market-based mechanisms form the basis for the adoption of any future carbon or emissions trading scheme for the continent.

4.2. Africa's Climate Change Strategy (2020-2030)

Africa's Climate Change Strategy is an offshoot of Africa's Agenda 2063, which seeks economic growth, sustainable development, peace and progress for Africa by 2060. The overall objective of the Strategy, thus, is to achieve the 2063 Vision by "building the resilience of the African continent to the impacts of climate change."[635] Under this Strategy, one of the fundamental ways of achieving Africa's climate objectives and economic growth is the adoption and utilisation of carbon taxes and trading for the continent.[636] The Strategy recognises carbon markets as part of the global climate framework. It underscores that adaptation is the continent's paramount concern due to its significant susceptibility to climate effects and its historically minimal contribution to global greenhouse gas emissions.[637] The document emphasises issues indicating that these market mechanisms have, in reality, enabled developed countries to transfer mitigation responsibilities, consequently placing the burden on developing regions.

The text highlights the potential danger of Africa being utilised as a dumping ground for outdated, high-emission technologies disguised as investment opportunities. It emphasises the necessity for

[631] AU Climate Change and Resilient Development Strategy and Action Plan (2022-2032).
[632] *Ibid.*
[633] *Ibid.*
[634] Ibid, 38, 42-43, 83-84.
[635] Africa Draft Climate Change Strategy (2020-2030). https://archive.uneca.org/sites/default/files/uploaded-documents/ACPC/2020/africa_climate_change_strategy_-_revised_draft_16.10.2020.pdf accessed 2nd April, 2026.
[636] *Ibid.*, 65 and 69.
[637] *Ibid.*

enhanced regulatory standards and unified continental frameworks before further involvement in emissions trading systems.

The 2020–2030 Strategy appears to portray carbon trading as an additional and conditional mechanism to the more general demands of climate justice, resilience building, and sustainable development on the continent.

4.3 African Continental Free Trade Agreement (AfCFTA) and Relevance for Carbon Trading Alignment

The AfCFTA is an agreement that entered into force in 2019 and was introduced to boost trade and economic integration across Africa.[638] The Agreement's implementation is on track to see 45% increase in trade and economic growth across Africa by 2045.[639] However, as growth is expected, so is a corresponding increase in emissions in Africa. It is to be noted that Africa currently contributes 4% to the global carbon emissions percentage.[640] In 2045, emissions are projected to double, increasing to 10%, and this is due to the increase in energy production and consumption, coupled with the slow but steady increase in industrialisation across the continent.[641] The projection appears to contradict global climate objectives of net zero by 2060 if the current expectations for industrialisation are to rise to 12% and more in the coming decades.

But policymakers and stakeholders have considered that Africa's climate objectives can still be met and emissions can be reduced,[642] even as the continent continues to experience economic growth at the projected rate. This can be made possible through aligning the Agreement's goals with carbon trading and similar market-based mechanisms for the continent that will help the continent expand renewable energy adoption and low-carbon industrialisation.[643]

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[638] Agreement Establishing the African Continental Free Trade Area, entering into force in 2019. <https://au.int/sites/default/files/treaties/36437-treaty-consolidated_text_on_cfta_-_en.pdf> accessed 18th November 2025.

[639] AICTR, 'African Continental Free Trade Area: Proposing Transformative Strategic Sectors' (24th March 2025). <https://africainternationaltrade.com/2025/03/24/the-economic-report-on-africa-2025-the-transformative-promise-of-the-african-continental-free-trade-area-afcfta/#> accessed 18th November 2025.

[640] Gunaratne, and Others (n. 31).

[641] P. A. Kwakwa, 'Sectoral Growth and Carbon Dioxide Emission in Africa: Can Renewable Energy Mitigate the Effect?' *Research in Globalization* (2023) 6 100130 1-11.

[642] L. Fontagné and Others, 'Greening the Implementation of the African Continental Free Trade Area' (CEPII Working Paper: 4th February 2024). <https://cepii.fr/PDF_PUB/wp/2024/wp2024-04.pdf> accessed 19th November 2025.

[643] *Ibid.*

5.0 Why Africa Needs to Explore Market-Based Approaches Like the Emissions Trading System to Meet Its Climate Goals

This question is indeed pertinent to ask and, indeed, to answer. Africa's climate realities are not the same as those of other continents, such as Europe or North America.[644] Coupled with the continent's developmental needs and little contribution to carbon emissions, adopting an emissions trading system is not the first priority. However, this does not indicate that market-based approaches are not necessary in any way. This section discusses the reasons Africa needs to explore market-based approaches like the Emissions Trading System to meet its climate goals.

5.1 Emissions Trading System Can Strengthen Africa's Climate Financing and Mitigation Efforts

While Emissions Trading may not solve all of Africa's climate challenges and vulnerabilities, exploring such market-based approaches can significantly strengthen the continent's climate financing and mitigation efforts.[645] Africa's climate priorities remain heavily adaptational, such as food insecurity, land degradation, floods, droughts and low energy access,[646] and many African nations lack the financial and institutional capacity, emissions monitoring and recording data systems and industrial base needed for a fully functioning ETS like that obtainable in the EU.[647] However, market mechanisms, whether voluntary or compliance-based or regional, national, or sectoral, can attract much-needed capital,

5.2 Emissions Trading System Incentivise Low-Carbon Industrial Development in Africa

The Emission Trading System promotes low-carbon industrial development by requiring companies that release elevated levels of carbon to acquire permits, increasing their production costs, which would inadvertently encourage their investment in low-carbon energy sources.[648]

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[644] Gunaratne, and Others (n. 31).

[645] N. Bekele-Thomas, 'Africa's Carbon Market Awakening: From Potential to Power' (Africa Business: 23rd June 2025). <https://african.business/2025/06/partner-content/africas-carbon-market-awakening-from-potential-to-power> accessed 19th November 2025.

[646] Wiston (n. 19).

[647] N. Ashraf and K. Karaki African Voluntary Carbon Markets: Boom or Bust? Discussion Paper No. 375, 2025, 1-21. <https://ecdpm.org/application/files/6917/2665/8470/African-voluntary-carbon-markets-Boom-or-bust-ECDPM-Discussion-paper-375.pdf> accessed 19th November 2025.

[648] M. Tang and Others, 'Effects of Carbon Emission Trading on Companies' Market Value: Evidence from Listed Companies in China' *Atmosphere* (2022) 13 (2) 240.

5.3 Emissions Trading System Supports Africa's Long-Term Decarbonization Goals[649]

This mechanism entices private sector investment by incentivising businesses and investors to finance low-carbon technology and projects capable of generating transferable credits and prospective returns. Simultaneously, ETS frameworks can be connected to global carbon markets, thereby attracting international climate finance from development partners, multilateral institutions, and foreign investors pursuing credible emission reduction prospects.

5.4 Emissions Trading System Complements Existing Efforts for Fulfilling Africa's Climate Commitments

ETS can facilitate the execution of regional and continental climate initiatives, like those proposed by the African Union. By potentially connecting national carbon markets or standardising regulations, ETS frameworks might promote regional collaboration, enable cross-border investment, and establish larger, more efficient carbon markets across Africa. Emissions Trading System serves as a supplementary policy tool that enhances current climate initiatives by increasing their flexibility, cost-efficiency, and outcome orientation. It connects policy aspirations with realistic execution, assisting African nations in advancing more effectively towards meeting their climate obligations while maintaining economic growth.

Thus, while an ETS is not an immediate tool for fulfilling climate commitments, it remains valuable to complement existing efforts if carefully adapted to Africa's structural realities and if supported by Monitoring, Reporting and Verification (MRV) systems, transparent governance and phased implementation. A few efforts towards this are considered hereunder.

6.0 Existing and Emerging African Carbon Markets

Africa does not yet have a continental carbon market framework. What most African nations currently employ is environmental or carbon taxes. However, plans, strategies and national legislations are exploring the possibility and outcomes of carbon markets adoption of various forms, including voluntary and compliance, carbon taxes, offsets and reductions. Few initiatives, plans and national frameworks are considered hereunder:

[649] H. Wang and Z. Zhang, 'Construction and Application of Regional Carbon Performance Evaluation Index System: The Case of Chinese Provinces' *Sustainability* (2024) 16 (11) 4460.

6.1 African Carbon Markets Initiative

Africa's Carbon Markets Initiative was introduced at the Conference of the Parties (COP) 27 with the aim of expanding Africa's voluntary and compliance carbon markets, enhancing the continent's contribution to global carbon reduction under the Paris Agreement.[650] The Initiative was spearheaded by African and international partnerships and seeks to kickstart Africa's involvement in carbon markets at a substantial level, which will drive economic growth and environmental sustainability.[651] It seeks to provide advice, reports, and convene regulatory processes, among others, to adopt a comprehensive and beneficial carbon market for Africa.[652] The Initiative can spearhead research and development of a carbon market system, such as an emissions trading system, that is suitable for Africa.

6.2 South Africa's Carbon Tax and Offset Scheme

South Africa is ambitious in its climate efforts and commitments. The country's Carbon Tax Act 2019 was the first carbon tax policy. The Act was enacted to provide a tax on carbon emissions as a way of promoting more sustainable means of production and consumption for South Africa and to promote emissions reduction.[653] The carbon tax is levied on those who emit a certain amount of CO_2, provided thereunder. The Act, however, provides for allowances to cushion the effect of the tax burden.[654] One of the allowances provided for is a carbon offset allowance, which enables companies to offset the tax by purchasing verified credits.[655] The taxation is being implemented in 3 phases to allow businesses to gradually adapt, while the tax will be subject to an increase within every phase, yet providing for more offset allowances.[656] South Africa's carbon tax shows a working market-based system to support emission reduction efforts, which is looked at as a foundation for an emissions trading system in Africa, subject to other considerations.

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[650] African Carbon Market Initiative, About us. <https://africacarbonmarkets.org/about-us/#eluidda6b7abe> accessed 19th November 2025.
[651] *Ibid.*
[652] *Ibid.*
[653] South Africa Carbon Tax Act 2019, Preamble.
[654] *Ibid.*, Part II.
[655] *Ibid*, s. 13.
[656] A. Gounden, 'Carbon Tax: A Basic Overview' (Moore South Africa: 14th April 2025). <https://www.moore-southafrica.com/news-views/april-2025/carbon-tax-a-basic-overview> accessed 19th November 2025.

6.3 Egypt Voluntary Carbon Market

Egypt launched a Voluntary Carbon Market (VCM) in 2024, which was aimed at promoting sustainable investment and reducing carbon emissions through carbon credits trading. The regulatory framework for the VCM was made pursuant to the Prime Minister Decree 4664 of 2022.[657] The Decree amended the Executive Regulations of the Capital Markets Law to effectively create a voluntary market where CO_2 emissions reduction certificates could be traded on the Egyptian Stock Exchange.[658] Egypt launched its VCM in line with its commitments at the COP 27, which was held in Sharm El-Sheikh and the need for climate financing that reduces emissions but still supports economic growth.[659] Primarily, the goal of the VCM is to facilitate the trading of carbon credits, attract investments and support climate commitments. Since its launch, more than 4,000 carbon credits have been traded, and an increase in capacity is expected.[660] Indeed, the voluntary market style Egypt opted for is the first of its kind in Africa and creates a platform for necessary investments in green technology that can transform Egypt's economy.

7.0 Challenges and Opportunities to the Adoption of a Continental Carbon Market System for Africa: Emissions Trading System in Focus

Africa faces several challenges and opportunities which may limit or promote its ability to successfully adopt a continental market-based system. These challenges and opportunities are explored in this section.

7.1.1 Data and Measurement, Reporting, Verification (MRV) Deficits

A notable barrier to implementing an effective Emissions Trading System in Africa is the weakness of necessary data systems and the underdevelopment of robust MRV frameworks.[661] An

[657] Prime Minister Decree 4664 of 2022. Adsero, 'Establishing a Voluntary Carbon Market in Egypt: Legal Framework and Strategic Implications' (12th September 2024). <https://adsero.me/establishing-a-voluntary-carbon-market-in-egypt-legal-framework-and-strategic-implications-establishing/> accessed 19th November 2025.
[658] Africarbon, 'The Egyptian Exchange (EGX) Announces the Launch of the Pan African Voluntary Carbon Market' (27th February 2025). <https://african-exchanges.org/media/news/egyptian-exchange-egx-announces-launch-pan-african-voluntary-carbon-market> accessed 19th November 2025.
[659] Egypt Today, 'FRA adds new projects to voluntary carbon market, bolstering the database to 28 projects' (Egypt Today: 24th March 2025). <https://www.egypttoday.com/Article/3/139218/FRA-adds-new-projects-to-voluntary-carbon-market-bolstering-the> accessed 19th November 2025.
[660] Africarbon (n. 65).
[661] T. Hailu, 'Empowering Africa: Overcoming Challenges to Harness Carbon Markets for Renewable Energy' (Power for All: 28th January 2024). <https://www.powerforall.org/news-media/articles/empowering-africa-overcoming-challenges-harness-carbon-markets-renewable-energy#> accessed 19th November 2025.

ETS depends heavily on accurate, transparent and timely data to determine the level of emissions, allowance allocations, monitoring and compliance as well as penalty enforcement.[662] The lack of monitoring technology, state-of-the-art data systems, technical capacity and reporting systems significantly limits Africa's capability in implementing a good emissions trading system for the continent.[663]

7.1.2 Institutional and Regulatory Capacity Gaps

The adoption of an emissions trading scheme for Africa is mostly hindered by apparent institutional and regulatory capacity gaps, both at the continental, regional and national levels.[664] There is currently no policy framework in place which comprehensively explores the feasibility of the adoption of an emissions system for the continent.[665] Additionally, many of the plans and strategies are still being considered, which prolongs the timeline for the adoption of any ETS or carbon tax system that may be explored.[666] Most African countries do not have a regulatory framework establishing carbon taxes or other market-based systems such as ETS.

7.1.3 Corruption and Political Instability

Corruption and political instability are perhaps two of the most recognised causes of the leadership challenges Africa faces generally.[667] But this is especially applicable to efforts geared towards adopting an Emissions Trading Scheme for the continent.[668] A good number of African nations are considered the most corrupt globally.[669] Climate finance, therefore, faces risks if corruption in Africa continues to exist because funds meant for implementing climate objectives risk being mismanaged. Regarding political instability, the political instability, internal conflicts, insecurity,

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[662] European Commission, 'Monitoring, Reporting and Verification.' <https://climate.ec.europa.eu/eu-action/carbon-markets/eu-emissions-trading-system-eu-ets/monitoring-reporting-and-verification_en> accessed 20th November 2025.
[663] Hailu (n. 67).
[664] I, Maumoh and A. Onoja, 'Climate Change Policy Uncertainty and Challenges in Carbon Emission for East and Southern African Regions' *Transactions in Energy and Sustainability* (2024) 1 (1) 24–40.
[665] *Ibid.*
[666] *Ibid.*
[667] J. Poncian and E. S. Mgaya, 'Africa's Leadership Challenges in the 21st Century: What can Leaders Learn from Africa's Pre-Colonial Leadership and Governance?' *International Journal of Social Science Studies* (2015) 3 (3) 106-115. (2015) 3
[668] S. Dixit and S. Bardiya, 'Carbon Trading in Developing Economies: Challenges, Opportunities, and Best Practices' *International Journal for Multidisciplinary Research* (2024) 6 (6) 1-5.
[669] S. Hanson, 'Corruption in Sub-Saharan Africa' (Council on Foreign Relations: 6th August 2009). <https://www.cfr.org/backgrounder/corruption-sub-saharan-africa> accessed 20th November 2025.

wars that ravage the continent, from Sudan to the Democratic Republic of the Congo, Nigeria, Niger, Burkina Faso, amongst others, hinder the attainment of peace necessary for leadership to thrive, to further carbon market and climate policy creation and objectives.[670]

7.1.4 Limited Industrial Emissions Base

Another important challenge is the limited industrial emissions base that Africa currently has. One of the goals of the African Continental Free Trade Agreement is to boost trade and economic integration in Africa. This is because Africa has limited heavy industries and factories.[671] Africa does not have the level of industrialisation needed to apply an extensive level of emissions trading to the carbon emissions that would be emitted relatively.[672] These circumstances can lead to limited efforts in promoting emissions trading since Africa does not emit as highly as other continents, such as the European Union or Asia.[673]

7.1.5 Legal Fragmentation between African Countries

This study considers that a few African nations are taking steps to explore market-based mechanisms such as emissions trading or carbon taxes. While this is indeed commendable and provides an insight into how emissions trading will work on a national scale before being adopted continentally, the fragmentation of climate and environmental laws between different states indicates that there is a lack of harmonised plans for a continental partnership.[674] The challenge this can pose will exist if these approaches are not harmonised at a continental level to promote harmonised emissions trading.

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[670] B. Clement, O. Nzechie and E. Erezi, 'The Influence of Political Systems on Climate Change Policy Implementation in Africa', *International Journal of Social Sciences and Management Research* (2023) 9 (7) 1-17.
[671] H. T. Dinh, 'Industrialization in Africa: Issues and Policies' Policy Center for the New South (Research Paper, 2023). <https://www.policycenter.ma/sites/default/files/2023-10/RP_05-23_Hinh%20T.%20Dinh%20VF.pdf> accessed 20th November 2025.
[672] E. D. Epelle, 'Industrialization beyond the African Climate Paradox' (Illuminem: 27th July 2024). <https://illuminem.com/illuminemvoices/industrialization-beyond-the-african-climate-paradox> accessed 20th November 2025.
[673] Gunaratne, and Others (n. 31).
[674] Nigerian Climate Change Act, 2021; South African Carbon Tax Act 2019; Kenyan Climate Change Act, 2016.

7.2 Opportunities to the Adoption of a Continental Carbon Market System for Africa: Emissions Trading System in Focus

The adoption of a carbon market mechanism, whether in the form of carbon taxes or emissions trading, voluntary or compliance-based, or sectoral, provides several opportunities for Africa and is highlighted hereunder:

7.2.1 Potential for Climate Finance Inflows

Introducing carbon-based mechanisms as part of efforts to cut carbon emissions is in line with international climate practices and opens up the continent for potential climate finance inflows into African countries to align with climate objectives.[675]

7.2.2 Incentivising Renewable Energy Transitions

Carbon market mechanisms such as emissions trading create opportunities for the incentivisation of renewable energy through carbon credits and allowances, which is essential for energy systems to provide a stable and sustainable power supply, furthering climate goals.[676]

7.2.3 Forest and Land Use Opportunities

Funds gotten from carbon market mechanisms can be used to fund afforestation, reforestation and regeneration efforts in places where forests have been depleted.[677] They can also be used to fund nature-based solutions to support sustainable growth and green modernisation.[678]

7.2.4 Job Creation and Green Industrialisation Prospects

Apart from the alignment with climate objectives and the fulfilment of climate goals explained earlier, there are economic opportunities associated with carbon market systems. These deepen employment in fields of emissions monitoring and compliance through data systems and

[675] J. Strand, 'Climate Finance, Carbon Market Mechanisms and Finance "Blending" as Instruments to Support NDC Achievement under the Paris Agreement', World Bank Policy Research Working Paper 8914, 2019. Dixit and Bardiya (n. 72).
[676] M. Verma, 'Navigating the World of Carbon Credits: Strategies for Emissions Reduction and Market Participation' *International Journal of Trend in Scientific Research and Development* (2023) 7 (5) 259-264.
[677] M. E. Z. Romero and Others, 'Economics of Forest and Forest Carbon Projects. Translating Lessons Learned into National REDD+ Implementation' (UNEP Rise Centre on Energy 2013).
[678] D. Henry, 'Can Carbon Markets supercharge Nature-based Solutions to Climate Change?' (Think Landscape: 1st April 2022). <https://thinklandscape.globallandscapesforum.org/56632/can-carbon-markets-supercharge-nature-based-solutions-to-climate-change/> accessed 21st November 2025.

technology, provided that investments are made therein.[679] Additionally, market approaches can also provide opportunities for green industrialisation, which will be beneficial for Africa.[680]

8.0 Conclusion

Conclusively, Africa's carbon future depends less on adopting shiny global models, but more on choosing what can actually work for its own carbon and climate realities. Emissions trading is not the magic wand to meeting the continent's climate ambition; neither is it an immediate necessity. Still, it remains a worthy pathway coupled with others encouraged by Climate treaties, but on African terms. While the continent's low industrial emissions, weak data systems and uneven institutional capacity limit the prospects of a full-scale ETS or carbon market system today, these systems can still play a complementary role in the future, offering opportunities to unlock climate finance, green growth and a sustainable future. Thus, what Africa needs is to build the foundations needed by strengthening its laws and institutions, building credible MRV and data systems, investing in infrastructure and capacity and supporting national and regional carbon market initiatives, which can form the basis for a continental system.

Thus, the adoption of an emissions trading system or other carbon market mechanisms in Africa, despite the existing challenges, can be beneficial for Africa. But it can only happen if African governments can rise to the occasion and have the political will necessary to optimise Africa's input to the fight against climate change. To do so, the following recommendations should be considered and implemented.

1. Since climate objectives need finance to fulfil, it is recommended that infrastructural investment be made through national, regional and continental finance mechanisms. This would provide the technology needed to foster climate adaptation and resilience, including renewable/low-carbon energy, paving the way for a sustainable carbon market.
2. The continent, under the auspices of the African Union (AU) or other regional economic bodies such as the Economic Community of West African States (ECOWAS), South African Development Community (SADC), and East African Community (EAC), should enhance

[679] Q. Wang, H. Huang and T. Liu, 'Job Destruction or Job Creation?: Evidence from Carbon Emission Trading Policies' *Economic Analysis and Policy* (2024) 84 1010-1028.
[680] Carbon Action Platform Africa, 'Carbon markets: big opportunities for Africa, if we lean in to make it work.' <https://cap-a.org/carbon-markets-big-opportunities-for-africa-if-we-lean-in-to-make-it-work/> accessed 21st November 2025.

capacity building and knowledge to equip African nationals with the skills to operate technologies for carbon reporting and monitoring. Additionally, the AU should promote partnerships with national and international governments and bodies to further research into the development of a continental market framework.

3. The ACMI should provide advice and assistance to States in piloting a national carbon tax or emissions trading system, which would also be in harmony with other States and regions. This would provide a background for a continental framework.

4. A pan-African carbon market framework and a continental MRV standard should be put in place. These would promote emissions accountability and harmonization while a phased implementation with allowances directed at cushioning the effects thereof would sustain the positive effects of the framework.

5. Existing national, regional and continental climate laws and regulatory agencies should be strengthened and implemented optimally to provide regulatory and legal backing for carbon market systems, placing the continent on a pathway to climate accountability and sustainable growth.

6. A regional or continental emissions database should be provided to encourage corporate emissions accounting, promoting awareness of the level of emissions released by any given corporation, which would form the basis of the amount of carbon tax or ETS that will be apportioned.