ANGE **DEVELOPING A** LOCAL CARBON **MARKET IN KENYA**

March 2023

Report by Jos Reinhoudt For Sustainable Inclusive Business (SIB Kenya) under the Kenya Private Sector Alliance (KEPSA) Sponsored by PUM





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SUMMARY

THE ULTIMATE GOAL OF THE CHANGE-THE-STORY PROJECT IS TO ESTABLISH A DOMESTIC CARBON MARKET IN KENYA.

The future of the Kenyan carbon market looks bright. The potential for carbon sequestration is huge and global demand is growing rapidly.

However, the export-focused policy of the Kenyan government leaves Kenyan companies in the dark about domestic offsetting options.

This report:

Describes the current situation.

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Reflects on the opportunities for a Kenyan carbon market.

The project focuses on nature-based solutions because of the extra benefits they provide to the conservation of biodiversity, the protection of landscapes, and community development.

Findings

The research found that new suppliers are struggling to access the market. They are unsure how to approach buyers and have little experience with auditing their projects.

Only scattered examples of Kenyan companies purchasing carbon credits were found on the demand side.

Kenyan companies seem to prefer highly visible offsetting projects near their operations. Targets are often described in terms of the number of trees planted rather than in tons of CO2 sequestered.

This makes it virtually impossible to assess the real climate impact. The research also indicates that a domestic carbon credit price will probably be significantly lower than the 20 US\$/tCO2e used in many calculations.

Future

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To benefit from the growing market for carbon credits and to facilitate Kenyan companies to contribute to climate change mitigation, several scenarios are possible.

The current export-focused production of credits generates a revenue stream for reforestation but leaves little room for domestic demand.

 Significantly lowering the barriers of entry for sellers and buyers would increase trade, but weaken the valued connection between offsetting companies and sequestration projects.

A third scenario is to intensify and expand the current way of working, emphasizing the emotional connections between supply and demand. This scenario remains very close to current practice and reflects best the situation envisioned by SIB-Kenya.

Conclusion

The current administration led by H.E. Dr William Samoei Ruto, CGH President of the Republic of Kenya and Commander-In-Chief of the Kenya Defence Forces, the private sector led by the Kenya **Private Sector Alliance** (KEPSA), and a wide array of the conservancy, agricultural and reforestation organizations is eager to regreen Kenya and fight imminent threats associated with global warming, like drought, loss of biodiversity and failing harvests.

Therefore, an effort to streamline the domestic carbon market alongside the ongoing export of carbon credits undoubtedly is worthwhile. The research clearly shows openings to develop such a market.

CHANGE THE STORY-

THE GOAL OF THE CHANGE THE STORY PROJECT IS TO INVESTIGATE THE OPTIONS FOR ESTABLISHING A SYSTEM THAT WOULD FACILITATE KENYAN COMPANIES TO CONTRIBUTE TO REFORESTATION, THE CONSERVATION OF BIODIVERSITY AND CLIMATE CHANGE MITIGATION BY OFFSETTING THEIR CARBON EMISSIONS USING KENYAN CARBON CREDITS.

Even though no exact numbers are available, it is clear that the European Union (EU) and the United Kingdom (UK) companies are the primary buyers of Kenyan carbon credits. There is no established local offsetting market. SIB-Kenya and its partners are convinced that local greenhouse gas emissions should preferably be compensated with locally produced credits.

The *Change the Story* project aims to deliver a proof of concept for this by connecting Kenyan private sector players with local biodiversity, reforestation or agroforestry initiatives, and intermediary organizations, like carbon credit auditing schemes.

This research report is the first step in this ambitious project. It describes the current situation and reflects on the opportunities for a Kenyan carbon market.

Needless to say, compensation is an option only after everything has been done to reduce emissions, requiring a carbon strategy that is aligned with Science Based Targets (SBT) guidelines.

Therefore, carbon footprint analysis and corporate reduction strategies are also a part of the SIB-Kenya program.

SCOPE & METHODOLOGY-

Climate change and biodiversity are complex, global and interconnected issues. This project is limited to the role of the Kenyan private sector in the voluntary carbon market (VCM) with a focus on nature-based solutions (NBS).

For this report, several stakeholders and experts were interviewed, two online conferences were followed, and relevant background information was studied. A list of sources is included in the appendix.

Due to the practical limitations of this research project, not all aspects of establishing a domestic carbon credits market could be investigated in depth. The goal of this report is to sketch an overview of the current situation and suggest options for further research.



THE PRIVATE SECTOR & CLIMATE CHANGE

CLIMATE CHANGE IS AN EXISTENTIAL THREAT TO MANKIND, AND THE PRIVATE SECTOR HAS A KEY ROLE TO PLAY IN ADDRESSING GLOBAL WARMING, BIODIVERSITY LOSS AND DEFORESTATION. THIS SECTION SUMMARIZES CORPORATE CLIMATE AND OFFSETTING STRATEGIES.

Corporate climate strategies

In any corporate sustainability strategy, the issue of greenhouse gas (GHG) emissions should be discussed.

Roughly speaking, a climate strategy ideally consists of at least these elements:



Apart from these elements, other aspects may be included, like implementation plans, verification, reporting, etc. This document only discusses offsetting.

Corporate offsetting strategies

Offsetting is the final step in a corporate carbon strategy and should only be used for greenhouse gas (GHG) emissions that cannot (yet) be avoided. It has become good practice to offset unavoidable emissions by purchasing carbon credits.

One carbon credit is sufficient to offset one ton (1,000 kg) of CO2 or an equivalent amount of other greenhouse gases. For practical reasons, in this report, the word 'carbon' is used to describe any greenhouse gas.

Carbon credits can have two different sources: nature-based or technology-based, leading to the removal of CO2 from the air or avoidance of greenhouse gas emissions.

The table shows some examples.

	Nature-based	Technology -based
Removal	Reforestation, afforestation, agroforestry	DACCS (Direct Air Carbon Capture and Storage)
Reduction, avoidance	REDD+ projects, nature conservancy	Cookstoves, solar panels, Electric Vehicles

This project focuses on nature-based solutions. The added value of this category is that it not only contributes to climate change mitigation, but also the conservation of biodiversity, the protection of landscapes, and community development.

Technology-based removal techniques are still in their infancy, but at least one Kenyan startup is planning to enter this young market: <u>Octavia</u> <u>Carbon.</u>

KENYAN CARBON MARKET

This chapter gives an overview of the current Kenyan carbon market. Describing the regulatory context, the supply side of the Kenyan market, domestic demand side characteristics, and the position of facilitating organizations.



Legal and regulatory context

Notwithstanding the ongoing debate about the benefits of the growing market for carbon credits, Kenya has virtually no legal constraints for the trading of credits. The development of a legal framework that would restrict credits to be issued or bought, the taxation of credits or the introduction of a mandatory carbon emissions market are not expected in the coming years. The current administration seems to be strongly in favour of an active role of the private sector in reforestation and afforestation initiatives.

Supply side

The global market of carbon credits is booming. <u>Shell and</u> <u>BCG</u>, along with many other researchers, estimate that turnover reached US\$2 billion in 2021, and will grow to 10-40 US\$ billion in 2030.

These estimates leave room for great fluctuations, but this market will continue to grow at top speed.





KENYA RANKS NUMBER 8 ON THE LIST OF COUNTRIES SELLING CARBON CREDITS FROM NATURE-BASED SOLUTIONS.

Breakdowns of these global figures per country are only available for the supply side of the market; there is no reliable information on the demand for credits in local markets. Kenya ranks number 8 on the list of countries selling carbon credits from Nature-Based Solutions, according to the <u>Voluntary Carbon Market overview 2022 by</u> <u>ClimateFocus.</u>

Another recent report by ClimateFocus (<u>Unlocking nature-based</u> solutions through carbon markets in Kenya) calculates a realistic future size of the Kenyan carbon credits production.

The figures account for all kinds of constraints like land tenure, political environment, and attractiveness to foreign investments.

Overall, ClimateFocus estimates that ultimately between 43 and 67 per cent of the available potential can be unlocked.



Based on the estimated volumes by CarbonFocus and an average market price of \$20/tCO2e, the size of the nature-based carbon credits market in Kenya would reach around \$258 million in 2030.

The estimates of potential market size presented at the <u>Kenya Carbon</u> <u>Market Roundtable</u> hosted by KEPSA and held on the 23rd and 24th of January 2023 are more optimistic.

The source of the data could not be found, so differences in estimates could have various explanations.

The table below displays the different estimates:

Year	Market size estimate (MtCO2/yr)	Average of estimate (MtCO2)	Market size at 20 \$/tCO2e (Million \$)	Source
2016-21	4.33	4.33	87	KEPSA
2023	4.0-5.9	4.95	99	ClimateFocus
2030	9.0-15.8	12.9	258	ClimateFocus
2030	30	30	600	KEPSA
2050	16.2-25.1	41.3	826	ClimateFocus



Note that these figures only give a very rough estimate of the potential monetary market size. In reality, both volume and price may vary considerably.

Even though numbers differ, it is obvious that both KEPSA and <u>ClimateFocus</u> consider the conditions for scaling up the production of carbon credits in Kenya to be very favourable.

STRUGGLE TO PROFESSIONALIZE

From a macro perspective, the production of carbon credits in Kenya has enormous potential, but for individual companies, it can be a challenge to tap into this development.

The interviews with stakeholders on the supply side make it clear that suppliers are struggling to access the market.

They are unsure how to approach buyers and have little experience with auditing their projects. In general, they hope to benefit financially from their efforts to sequester carbon but do not have a solid pricing strategy.

Also, revenues from carbon credits are seen as an extra, while their focus is on other aspects of their business, like growing timber, increasing the quality of their agricultural production or the conservation of forests.

This could result in a lack of specific expertise on carbon credits trading among smaller producers.

In conclusion, there seems to be an enormous potential for producing carbon credits in Kenya, but suppliers are struggling to get a grip on their business model.

Demand side



As opposed to the supply side of the Kenyan carbon market, very little data is available about the demand side.

Due to the limitations of the research carried out, a comprehensive overview of the domestic demand for Kenyan carbon credits cannot be presented here. However, some impressions stand out.

EXPORT FOCUSED

Where the potential supply of credits seems abundant, this research project only found scattered examples of Kenyan companies purchasing carbon credits.

Verified credits that are produced in Kenya, are generally considered to be an export products.

The following quote provides a clear summary of the governmental approach to carbon credits.

Senior Policy Advisor in the Office of the President, Mr Mohammed Ali Daud, reiterated Kenya's commitment to climate action and that the country was seeking creative and innovative approaches to scale up climate action as an economic opportunity with a specific focus on growing it as an export product. During the 27th Session of the Conference of Parties (COP27) held in Egypt Sharm EI Sheikh, H.E. President Dr William Ruto described carbon credits as Kenya's "next significant export" and called for simplified and more transparent carbon market systems that directly benefit communities. Expanding the country's carbon market ecosystem could result in 600,000 new jobs in project development, monitoring carbon generation, and overall economic growth. (Source, KEPSA: <u>Scaling Kenya's carbon market</u>: <u>context, challenges, and opportunities</u>)

This export-focused policy leaves the local market in the dark about domestic trading.

PREFERENCE FOR LOCAL PROJECTS

Being solely focused on export, few carbon credits are sold locally. However, there is a strong indication that Kenyan companies are very willing to contribute to reforestation, afforestation and agroforestry projects.

As opposed to European companies, Kenyan businesses do not tend to see verified carbon credits as a commodity that they need to purchase to offset unavoidable carbon emissions.

On the European VCM, there is in general no real intrinsic link with the source of the carbon credits. Kenyan companies, on the other hand, seem to be willing to offset their unavoidable emissions with domestic sequestration projects, but only if they can connect to these projects in different ways as well.

One of the interviewees expressed a clear preference for 'hyperlocal' projects, referring to the idea that protecting a forest nearby has a greater emotional value than sequestering carbon in other regions, let alone in another country.

The tendency to prefer offsetting projects in the proximity of their operations can be considered a specific form of 'insetting'. According to the <u>International</u> <u>Platform for insetting</u>: 'I**nsetting** projects are interventions along a company's value chain that are designed to generate GHG emissions reductions and carbon storage, and at the same time create positive impacts for communities, landscapes and ecosystems.'

In the Kenyan situation, the preferred projects can also be outside the value chain but close to the physical location of a business's operation. The key is the perceived dependency on local ecosystems. Possibly as a result of the preference for local, Kenyan projects, offsetting targets are often set in terms of the number of trees planted or square km covered rather than in tons of CO2 sequestered.

The <u>Safaricom Annual</u> report 2022 (page 133) is an illustration:

The remaining 26% of our carbon emissions will be offset through our reforestation programme.

We have committed to growing five million trees in degraded public forests in five years and have to date planted over one million trees in Kieni forest, South Marmarnet, Nandi South, Kakamega and Port Reitz.



The Kenyan government uses the same methodology to stress the importance of carbon capturing with nature-based solutions.

<u>NTV Kenya</u> reports on 22 December 2022:

On Wednesday, President William Ruto launched a tree restoration program at Ngong Hills Forest to combat the effects of climate change in the country.

The initiative, which aims to plant 15 billion trees by 2032, will work to reduce greenhouse emissions, stop and reverse deforestation, and restore 5.1 million hectares of deforested and degraded landscapes through the African Landscape Restoration Initiative. Obviously, in terms of communication, it is far easier to understand the value of 'planting one million trees' than to grasp the meaning of 'sequestering 1 ton of carbon dioxide equivalents'.

However, it is not always made explicit how much carbon is supposed to be captured per tree or hectare, and for how many years the newly planted trees will be managed.

This makes it virtually impossible to assess the value of the tree planting initiatives in terms of climate impact.

PRICE



On the global voluntary carbon market, prices fluctuate wildly, from less than 4 to over 40 US\$/tCO2e for nature-based solutions.

Therefore, experts often take an average price of 20 US\$ as a rule of thumb for quick calculations. This price is also used by the Kenyan government for carbon policy purposes.

Because targets and achievements are presented in the number of trees, it is hard to verify the amount of carbon that has been captured by these projects, and hence the price Kenyan companies are paying to offset 1 ton of carbon.

Based on the interviews and publicly available data, there is a strong indication that on a domestic carbon market in Kenya, prices could be significantly lower than the US\$ 20 that is used to calculate the future market potential.

Safaricom pledges to plant 1 million trees a year. For 75 KES per tree, it would cost them 75M KES or US\$600,000 to offset their 2021 carbon footprint of 66,032 tCO2. This indicates a price of US\$ 9.09 per ton of CO2. Because of COVID, Safaricom did not manage to plant the full 1 million trees. With 650,000 trees planted, the price they pay for 1 ton of CO2 drops to US\$ 5.91. Note that Safaricom can be considered a good practice in Kenya.

The company not only is very transparent about its carbon footprint, but it has also committed to Science-Based Targets for the climate.

No comparable data was found about other Kenyan corporates, but it is not likely that they pay higher carbon prices than Safaricom.

In an interview, one SME shared a price of around 2 US\$/tCO2 as their carbon offsetting budget.

In conclusion, it is safe to say that a domestic price for carbon credits probably will be significantly lower than an average export price of US\$ 20.

Facilitating organizations



To connect demand and supply, various facilitating organizations are indispensable. They have several roles: brokering, verifying and auditing, facilitating payments, etc. Numerous international carbon trading companies have operations in Kenya. Several local companies are looking into the possibilities to enter the VCM as facilitating partners.

When it comes to auditing, global players like Verra seem to have the advantage of a strong brand and established verification schemes. If Kenya wants to successfully export credits, a reputable verification partner is a must.

For an internal market, there may be an opening for parties that verify domestic carbon credits.

Verification schemes are abundant all over the world. For local markets, specific criteria may be relevant.

Examples include the Dutch National Carbon Market (Nationale Koolstofmarkt) which recognizes local solutions like <u>CO2-emission reduction through an</u> <u>increase in groundwater levels in peatland areas</u>, or the UK-based Soil Association, which has criteria fitted for British circumstances like their <u>Woodland</u> <u>Carbon Code</u>.

Brokering can also form an interesting segment for Kenyan newcomers. Several Kenyan companies are planning to enter this market, like <u>OxbowTechnologies</u> and <u>4Rdigital.</u>

ANALYSIS

Based on the research done, it is clear that the future of the Kenyan carbon market looks bright. The potential for carbon sequestration is obvious and global demand is growing rapidly. To benefit from this and to facilitate Kenyan companies to contribute to climate mitigation, community development and reduced biodiversity loss, several scenarios emerge.

EXPORT-FOCUSED

At this moment, most -if not all verified carbon credits that are produced in Kenya are exported.

This generates a revenue stream that allows Kenya to fund its reforestation ambitions but leaves little room for local companies to play a role in the market, at least on the demand side.

This is the business-as-usual scenario.

CREDITS AS A COMMODITY

To facilitate the buying and selling of carbon credits, an effort could be made to commoditize local carbon credits.

The goal would be to significantly lower the barriers of entry for both small carbon projects and local buyers. This would be favourable to local platforms because of their proximity to the market.

On the downside, this would weaken the emotional value of local credits, and with it maybe the market price.

Also, there is a risk that this would lead to the dumping of low-value credits, undermining the purpose of offsetting.

LOCAL TRUST

A third scenario could be to intensify & expand the current way of working, where local companies support local reforestation, afforestation & agroforestry projects. One of the strengths of this scenario is that it remains very close to current practice. Negative aspects of this practice include the lack of transparency regarding the amount of carbon sequestered and the unknown monetary value of 1 ton of sequestered CO2 on the Kenyan market. Of the three scenarios, this one comes closest to the situation SIB-Kenya envisions. The negative aspects of this scenario are not fundamental and could be overcome or countered with proper interventions.

CONCLUSION

Developing a local market for carbon credits in Kenya will not be an easy task. However, the current administration, the private sector, and a wide array of conservancy, agricultural and reforestation organizations all are eager to regreen Kenya and fight imminent threats associated with global warming, like drought, loss of biodiversity and failing harvests.

Therefore, an effort to streamline the domestic carbon market alongside the ongoing export of carbon credits undoubtedly is worthwhile. The research clearly shows openings to develop such a market and is recommended to set up a pilot to better understand the Kenyan idiosyncrasies of domestic supply and demand of carbon credits.

ANNEXES

Interviews

For this report, the following persons were interviewed.

- Adriaan Kauffmann Head of Regional Office East Africa at <u>Justdiggit</u> Nairobi.
- Esther Mangiza Sustainability Consultant and Elfrieke van Galen – Partner at <u>TheRockGroup</u>.
- Julius Nganga Senior Director, East and Southern Africa at <u>Rainforest Alliance</u>.
- Jack Ayieko, Komaza.
- Lynda Holt Director and Kenya Mutiso -Founder, <u>African Forest.</u>

- Michel Schuurman Director of Business Development, <u>Treevive</u>.
- Maggie Hobbs Director, Tambuzi.
- Steve Trott Projects Manager, Watamu Marine Association, <u>Eco-</u> <u>World Watamu</u>.
- Valentine Cheruiyot Manager, Climate and Environmental Management at <u>Safaricom</u>.
- Zack Brian Founder, Oxbow Technologies.

Report

Apart from these interviews, lots of conversations were held with experts from several companies.

Conferences

For this report, two conferences were attended.

 Kenya Carbon Market Roundtable held on the 23rd and 24th of January 2023, Scaling Kenya's carbon market: context, challenges, and opportunities.

 KEPSA in collaboration with the Ministry of Environment, Climate Change and Forestry. Private sector consultation meeting for the development of a carbon credit benefit sharing mechanism for Kenya in the context of REDD+ implementation- held on 1st February 2023.

Report

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Other sources

Where possible, weblinks to sources are linked in the text of the report.

- ClimateFocus, 2022: Unlocking nature-based solutions through carbon markets in Kenya
- ClimateFocus, 2022: Voluntary Carbon Market Overview 2022
- McKinsey, 2021: Putting carbon markets to work • on the path to net zero
- Ministry of Environment and Forestry, 2021: Kenva's National REDD+ Strategy

Stakeholders

For reference and further research, a selection of stakeholders is listed here.

CLIMATE PROJECTS

- Basi Go, Carbon Offsets in E-mobility.
- Soil Carbon by Boomitra.
- Conservation financing by Northern Rangeland Trusts.
- Tea Drying and Biomass Briquettes by Tamuwa.
- JustDiggit, Nairobi. •
- Yasa.
- Greenbelt Movement.
- REDD+.
- Africa Wood Grow.
- Western Tree Planter Association.
- Takataka Solutions.

OFFSETTING COMPANIES

- Flower farms, like Tambuzi Farm.
- Corporates, like Safaricom, L'Oreal, NCBA Bank, and Kenya Airways.
- Yara.
- Earthly.org.
- The TIST agroforestry project in Kenya.

FACILITATING ORGANIZATIONS

- Rainforest Alliance.
- Oxbow.
- 4RDigital.
- Auditing companies like Verra, PlanVivo, and GoldStandard.
- Africa Carbon Markets Initiative.
- Specialized international consultants like CarbonTrust, SouthPole, and Treevive.

Carbon credits under fire

During the research period of this report, a fierce debate about the value of carbon credits was going on. This was kicked off by an investigation by The Guardian that claimed that carbon credits do not significantly contribute to climate goals. For context, some key publications are listed here.

- The Guardian Revealed: more than 90% of rainforest carbon offsets by the biggest certifier are worthless, analysis shows.
- Sylvera and many other industry players reacted with an open letter: Open Letter: In Support of High-Integrity Carbon Markets.
- In a comment on Reuters, Luke Pritchard, deputy director of nature-based solutions for the We Mean Business Coalition, a group of seven nonprofit organizations, BSR, CDP, Ceres, CLG Europe, Climate Group, The B Team and WBCSD, call for system improvement: Carbon market scrutiny must be a call to action to improve them, not abandon them.
- In the slipstream of all this, insetting is also scrutinized. The **NewClimate Institute:** Corporations push "insetting" as new offsetting but report claims it is even worse.
- WEF lists 5 reasons why forest carbon credits are an important part of climate action.

-COLOPHON & CONTACT-

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Jos Reinhoudt is a seasoned sustainability expert focused on actionable business strategies to create a climate-neutral, circular and inclusive economy. Passionate about East Africa, biodiversity, and innovation. In 2020 and 2021 he worked with SIB-Kenya on the <u>Single-Use Plastic Ban</u> and <u>Circular Agriculture</u>. He runs an independent consultancy, Duurzame Denkkracht, and also works for <u>MVO</u> <u>Nederland</u>, the largest European corporate network for sustainability.

CLIENT: SIB-KENYA UNDER KEPSA



SUSTAINABLE

Sustainable Inclusive Business

Sustainable Inclusive Business Kenya is a Knowledge Center established under KEPSA. SIB is driving and catalyzing change through inspiration, initiative, facilitation and connection. We bring companies and their stakeholders together to share knowledge and good practices and set goals to create a sustainable and inclusive economy and futureproof businesses with a positive impact on People and Planet.

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PUM: "We share knowledge to strengthen businesses and improve lives. Our volunteers work with SMEs in emerging markets to create a positive impact on the economy, environment and society and contribute to the UN's Sustainable Development Goals. We were established in 1978 as PUM (Programma Uitzending Managers) by the Dutch employers' association (VNO-)NCW. Since then, we have supported over 45,000 entrepreneurs."

TheRockGroup

TheRockGroup: Consultancy 'driving sustainable businesses'. We believe that fair and sustainable business can and should accelerate the transition towards a sustainable economy and society. TheRockGroup works on different levels, each focussed on offering tailor-made services to help different stakeholders take a proactive role in this transition.



The cover picture was generated from DeepDreamGenerator

Nairobi, Kenya. Presented in March 2023.

Reinhoudt, Jos. (2023). Change the story, Developing a local carbon market in Kenya. SIB-Kenya.

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