



CARBON NEOBANK

INSTRUMENT ANALYSIS
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Carbon Neobank

LAB VEHICLE ANALYSIS

September 2025

The Lab identifies, develops, and launches sustainable finance vehicles that can drive billions to a low-carbon economy. The 2025 Lab cycle targets three thematic areas (mitigation, adaptation, and sustainable agriculture and food systems) and five geographic regions (Brazil, East & Southern Africa, India, Latin America & the Caribbean, and the Philippines).

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SUMMARY

Carbon Neobank is a digital business bank developed by Melanin Kapital, tapping international carbon markets to offer African SMEs - across the maturity spectrum - affordable, flexible growth financing. This vehicle targets decarbonization of supply chains in Africa, focusing on the USD 190 billion agricultural sector. It achieves this by financing the sale and use of sustainable business technologies to boost competitiveness and resilience to threats of carbon border taxes and climate shocks, helping to close an enterprise funding gap of USD 330 billion. Adoption drives inclusive green growth while shielding the livelihoods of 80% of the workforce, particularly women and youth.

Headquartered in Kenya, Carbon Neobank aims to catalyze a USD 1 billion market for SME finance across nine regional markets, targeting a USD 100 million portfolio by 2035. It combats the scarcity and expense of SME finance through inclusive underwriting practices and monetization of incremental emission reductions, both made possible through digital technology advances. High integrity carbon credits are aggregated and sold to corporates supporting sustainable development, in both voluntary and CORSIA markets.

Carbon Neobank provides two service lines: Firstly, working capital – primarily in the form of receivables loans – targeting clean technology distributors (enablers), and secondly, carbon-backed term loans allowing midscale carbon developers (direct users) to expand projects. Enablers receive a share of carbon credit revenue generated during the product lifecycle, effectively buying down interest rates, while developers transform future revenue streams into bankable assets. A technical assistance facility covers project administration costs and strengthens implementation capacity, as necessary.

A partnership with Ecobank facilitates broad geographic access to 33 African countries, enabling expansion to Uganda, Tanzania, and Nigeria to date. Immediate focus areas are small-scale renewable energy-powered appliances and water devices, e-vehicles, clean cooking, and alternative waste management. Later, nature-based solutions will be added.

The Lab Secretariat recommends endorsing this instrument since Carbon Neobank is:

- **Innovative:** It is the first instrument to holistically address dual barriers to greening Africa's economy through SMEs: 1) lack of liquidity for early-stage clean technology businesses, and 2) scarcity of carbon finance for small-scale projects.
- **Actionable:** Proponent fintech Melanin Kapital is proving its proprietary underwriting approach and fintech backbone in four countries, including in base Kenya, with a well-performing USD 1 million demonstration portfolio enabled by GIZ seed funding.
- **Financially Sustainable:** The structure actively manages risk using asset-backed loan structures, insurance to cover the risk of carbon credit non-delivery, and hedging instruments to cover currency risk. Carbon revenue could significantly enhance profitability as demand increases.
- **Catalytic:** A USD 10.8 million pilot includes a private capital mobilization target of USD 7.5 million, including commercial debt covered by a guarantee (committed), and mezzanine finance. This ratio will rise as the model is proven.

Whilst Melanin Kapital engages in fundraising, the team is negotiating a digital carbon pilot partnership with Verra, positioning it competitively for the next phase. Building a carbon financing capability is a critical milestone, enabling the launch of carbon-enabled solutions.

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LIST OF ABBREVIATIONS

AGF	African Guarantee Fund
API	Application Programming Interface
BAU	Business As Usual
CCP	Core Carbon Principles
D/E	Debt-Equity Ratio
DEG	Deutsche Investitions- und Entwicklungsgesellschaft mbH
DFI	Development Finance Institution
dMRV	Digital Measurement, Reporting and Verification
DRC	Democratic Republic of the Congo
DSCR	Debt Service Cover Ratio
ECL	Expected Credit Loss
GHG	Greenhouse Gas
GIZ	German Development Agency
KPI	Key Performance Indicator
ICR	Interest Cover Ratio
IFC	International Finance Corporation
IMM	Impact Measurement and Management
IRR	Internal Rate of Return
LSEG	London Stock Exchange Group
MRV	Measurement, Reporting, and Verification
NPL	Non-Performing Loan
NPV	Net Present Value
SDG	Sustainable Development Goal
SPV	Special Purpose Vehicle
SME	Small and Medium Enterprise
TA	Technical Assistance
USD	United States Dollar
VC	Venture Capital
VCM	Voluntary Carbon Market
VCS	Verified Carbon Standard
VVB	Validation and Verification Body
WACC	Weighted Average Cost of Capital

CONTEXT

Africa has tremendous climate mitigation potential and a vibrant SME sector. Yet, access to finance remains a critical growth barrier to a just transition, with carbon markets out of reach for most.

In Africa, Small and Medium Enterprises (SMEs) support 80% of livelihoods (LSEG 2022). They are the micro engines of the green economy, driving innovation by being early adopters of clean technologies. Fast-growing opportunities include innovative products for sustainable energy, water supply, e-commerce, and logistics, driven by the increasing uptake of solar technology and expanding demand in urban centers. SME growth within these areas is strengthened by a proliferation of green business incubators supporting innovation in countries like Kenya, Nigeria, Ghana, Rwanda, and South Africa, collectively supporting some 5,000 SMEs annually.

Yet, access to finance is inadequate to sustain SME growth. The International Finance Corporation (IFC) estimates the African SME finance gap at USD 331 billion (MIT Sloan 2024), primarily in the form of credit - working capital and loans to provide liquidity and expand production capacity. 40 percent of African SMEs cite limited access to finance as their main growth barrier. The gap is most acute for businesses requiring financing of USD 20,000 to USD 1 million: the so-called missing middle, between the microfinance market and the enterprise scale targeted by banks. Since microloans are priced at up to 45% interest – double bank rates – businesses find themselves unable to scale.

Barriers to business banking include inadequate SME track records, weak financial infrastructure¹, and prohibitive lender collateral requirements. Credit processes, designed primarily for large loans, are onerous and lengthy: misaligned to business working capital needs. SMEs trading in or operating clean technology, such as solar refrigerators, alternative waste treatment, and e-vehicles, often encounter hesitation due to the risks associated with nascent markets, novel technology, and demand uncertainty. Even amongst mature SMEs, such as agricultural exporters, access to credit is inadequate to make the decarbonization investments required to maintain competitiveness as carbon border taxes come into effect.

Carbon markets, while intended to raise finance for marginal climate projects and activities, remain available to only a handful of large project developers. Large offtakers typically require annual issuance of at least 100,000 credits to justify transaction costs, including due diligence, structuring, and project rating or third-party monitoring to manage reputational risk. Yet, an analysis of Voluntary Carbon Market (VCM) issuance across target carbon project types² in the nine target markets revealed that over three-quarters of projects had annual yields below 80,000 tCO₂e, with median sizes below 45,000 tCO₂e for all but one type (i.e. water). The result is a significant mismatch between supply and demand for carbon financing. This has been exacerbated by reduced funding volumes associated with an integrity transition in the VCM since 2022.

¹ Financial infrastructure refers to the systems, institutions, and rules that support efficient financial intermediation, including credit bureau/registries, collateral registries, and payment systems. These increase transaction costs and risks for lenders, resulting in credit rationing to SMEs.

² Small-scale renewable energy, sustainable water, clean cookstoves, alternative waste and low carbon transport. 31 methodologies were analyzed.

Confidence in the future of carbon markets has been increasing since 2024, owing to developments at the COP29 in Baku and release of the Core Carbon Principles (CCP). The CCP aligns the technical crediting requirements in the VCM with the principles underpinning compliance standards³. Several community carbon methodologies have received CCP approval, including cookstoves and biodigesters.

Simultaneously, major independent crediting programs like Verra and Gold Standard have introduced simplified methodologies for small-scale projects and started digitizing measurement, reporting, and verification (MRV) processes to improve access to carbon markets and the integrity of issuance. Digital MRV⁴ (dMRV) accelerates carbon credit issuance through near real-time data processing, enabling earlier revenue realization and integration into shorter term financing structures. While dMRV-enabled methodologies are still being piloted, they are expected to improve the integrity, efficiency, and transparency of carbon financing through leveraging technologies such as remote sensing, Internet of Things (IoT), and mobile data collection.

Meanwhile, fintech platforms and innovative underwriting methods are broadening the range of SMEs served by the formal financial system, with two-thirds of African SMEs now able to adopt digital banking (Burnett 2025). Together with the dMRV-enabled advances in carbon markets, it sets the stage for a broader transformation, opening new growth pathways for African SMEs active in clean technology.

Melanin Kapital Neobank—a fully digital bank for green African SMEs—was launched in Kenya in 2024. It targets particularly women-owned businesses in the agricultural sector – one of Africa’s most vulnerable groups. Carbon Neobank describes the next iteration of the bank as a fully integrated carbon-based lender, delivering the benefits of international carbon markets to thousands of African SMEs. Nine target markets include the Democratic Republic of Congo (DRC), Ghana, Ivory Coast, Nigeria, Rwanda, Senegal, Tanzania and Uganda.

³ Credits must represent real, measurable, and additional emission reductions or removals, be permanent and quantified conservatively.

⁴ Digital MRV refers to the use of digital technologies, automation, and data systems to improve MRV processes for carbon methodologies at each stage:

- Measurement – Using remote sensing, IoT sensors, satellite imagery, drones, and other automated data collection tools to measure at high frequency and accuracy.
- Reporting: automatically aggregating, processing, and standardizing data in real-time or near-real-time, producing structured reports integrated with registries or carbon platforms; and
- Verification: leveraging digital audit trails, blockchain or distributed ledgers, and machine learning models to enable continuous or near-continuous verification.

DESIGN AND POSITIONING

1. INTRODUCTION TO THE VEHICLE

Carbon Neobank is a digital carbon lender advancing loans of USD 50,000 to USD 1 million to green SMEs, with a TA facility preparing projects and bolstering climate-adaptive production capacity to maximize benefit.

1.1 INVESTMENT THESIS: DECARBONIZING VALUE CHAINS THROUGH SME FINANCE

Carbon Neobank contributes to a thriving, resilient African economy by providing green SMEs growth capital required to develop their businesses' revenues, from young firms with USD 100, 000 turnover to mature businesses generating USD 10 million. It is based on the founders' view that green SMEs in the missing middle can be successfully banked through innovative underwriting coupled to digital monitoring to manage risk, while offering incentives to foster brand loyalty and sustainable business practices. Reaching these clients is essential to achieving a just transition, especially businesses in the agricultural value chains that face commodity price volatility, trade barriers, and climate shocks.

The agricultural sector is core to the achievement of a just transition in Africa, providing millions of jobs and livelihoods while generating USD 186 billion value (Statista 2025). It is highly vulnerable to physical risks, such as drought and flooding, and increasingly subject to transition risks, including the EU's Carbon Border Adjustment Mechanism. Improving climate resilience will require decarbonizing farm operations, switching to low-carbon transport for products, and sustainable treatment of waste.

Carbon Neobank offers a suite of financial products designed to accelerate the adoption and trading of clean technologies, supporting accelerated decarbonization where action is needed most. Targeted clean technologies include solar-powered pumps and refrigerators to reduce reliance on diesel, sustainable waste and water treatment systems, electric vehicles, and clean cookstoves. Leveraging existing working capital financing capabilities, Carbon Neobank creates a financial ladder that supports SME scaling and graduation, rolling out three carbon-integrated banking products catering to diverse enterprise types. This offering comprises loans, unsecured working capital loans, and carbon-backed term loans.

For SMEs with revenue models that are not dependent on carbon credits, the bank provides two short-term liquidity solutions to cover day-to-day financial needs:

- **Receivables loan product for the mass market:** Receivable loans of USD 50,000 to USD 500,000, with maturities of three to six months (expected to account for up to two thirds of the portfolio), priced at approximately 16% to 18% (USD rates, adjusted for local currency risk per country). A carbon reward is paid on a rolling basis (e.g., semi-annually) after emission reductions are verified, incentivizing good credit behavior. This product is accessible even to early-stage SMEs, as it shifts credit evaluation from the borrower to the underlying asset, expanding access to finance through taking a credit view on a creditworthy counterparty. Typical borrowers include clean technology innovators and agricultural producers with bankable offtake agreements.
- **Premium unsecured working capital product for established SMEs:** Unsecured facilities of USD 500,000 to USD 1 million with 12-month maturity, priced at 14% to 16% (USD rates, adjusted for local currency risk per country), structured as revolving credit lines for a smaller

group of stable, proven clients. Typical borrowers include larger clean technology businesses requiring more flexible liquidity not tied to individual offtake agreements. The same carbon reward applies.

Mid-tier carbon project developers can access a specialist financial product, pledging current and future carbon credits in registry accounts to unlock additional capital:

- **Carbon-Backed Term Loans:** Collateralized term financing for project developers up to USD 1 million, with facilities increasing to USD 2 million as the Carbon Neobank portfolio scales. These will be priced at approximately 13% USD, repayable over two to three years and aimed at clients with annual revenues of USD 2 million. Borrowers will repay interest over the life of the loan, with principal repaid at maturity, providing adequate runway to generate carbon credits for repayment. Examples of typical borrowers are experienced sustainable waste businesses and clean cookstove distributors where revenue models incorporate sales of carbon credits.

All three product types are expected to be deployed simultaneously in active markets, although the scope for carbon-backed loans will be capped by prudential portfolio limits in the early years.

Nonetheless, early pipeline discussions suggest there may be ways to serve carbon project developers innovatively with short-term liquidity solutions as an interim measure, for example, through carbon-backed receivables financing.

Carbon Neobank is poised to unlock a total addressable market (TAM) of USD 1 billion climate finance opportunity across nine of Africa's most dynamic economies. This figure reflects both the scale of unmet demand for SME growth capital and the vast potential of integrating carbon markets into mainstream business finance. The detailed analysis in Annex 2 describes this opportunity, comprising USD 698 million in receivables loans, USD 233 million in unsecured working capital loans, and USD 96 million in carbon-backed term loans.

1.2 DETAILED INVESTMENT STRATEGY

Carbon Neobank targets the development of a loan portfolio of USD 90 million by 2030, with equal shares of receivables loans, unsecured working capital, and carbon-backed lending. The model centers on attracting clients capable of generating high integrity carbon credits to (i) de-risk loans, (ii) reduce pricing on unsecured working capital and receivables products, and (iii) expand quality pipeline. This creates a flywheel where more technology adoption produces more verified reductions, which in turn finances more growth.

Access to markets for high-integrity carbon is central to this model. The vehicle can deliver innovative business banking products through tapping unmet demand for high-impact carbon credits with strong social co-benefits, focusing on strategic buyers in the VCM and – later – compliance buyers, as Article 6 readiness improves in African markets. Smaller, high-impact projects often are overlooked by institutional buyers that require large transaction sizes. Yet, some of these buyers are willing to pay a premium for verified, high-impact credits that align to their sustainability strategies. Carbon Neobank addresses this gap by bundling issuance from smaller projects to reduce transaction costs for institutional buyers, ultimately enabling more funding to reach the projects most in need of carbon finance.

The primary channel for banking carbon credits is the carbon-backed lending business line. This innovation allows Carbon Neobank to convert carbon financing opportunities with lower risk and client friction by providing an alternative to project funding. Mid-scale carbon project developers usually rely on pre-sales agreements tied to specific projects, fixing prices upfront based on views of the market and

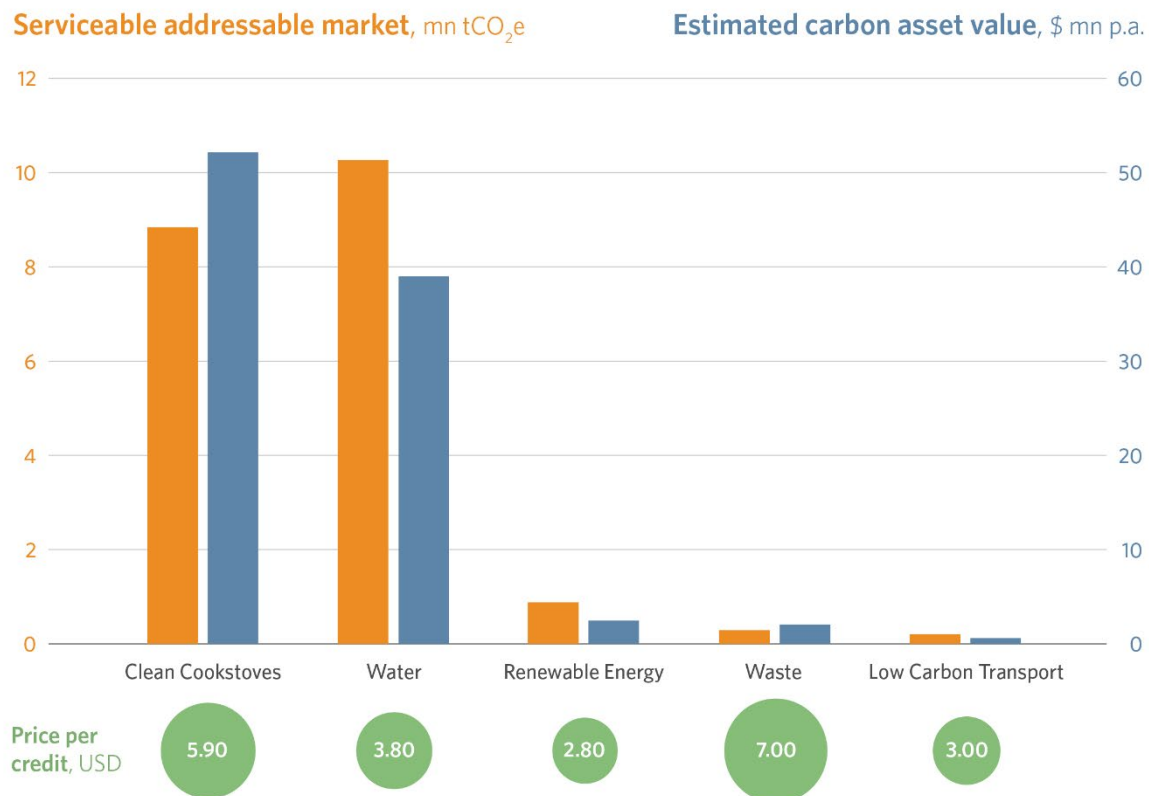
project delivery to access the liquidity required to roll out projects. Terms may be unfavorable due to the seller's limited commercial know-how and networks, perceived heightened delivery risk, the lack of a forward curve in the VCM impacting price forecasting, and elevated transaction costs faced by buyers.

Unlike in the case of presales or forward financing, carbon-backed loans are debt financing instruments with full recourse to the client's balance sheet. While these structures still rely on a view of commercial and performance factors influencing the value of carbon collateralizing the loan, they provide more flexible liquidity through retaining recourse to the developer's balance sheet. This funding allows the developer to expand project activity and ramp up issuance to reach scale. Gearing levels will vary, typically spanning a range of 30-60% carbon value, with forward agreements required to provide price certainty towards the upper end of this range. During the life of the loan, the developer services interest only, while at maturity, Carbon Neobank can facilitate trades at spot prices through its buyer relationships, enabling the developer to secure upside in a market with expectations of rising prices. This market-neutral approach ensures equitable benefit-sharing with communities, addressing a critical emerging policy issue in Africa.

By creating liquidity and pricing transparency for these smaller projects, Carbon Neobank will tap into a market sized at USD 96 million per year in near-term carbon financing potential (i.e., considering only registered projects), as reflected in Figure 1. The bulk of this potential lies in clean cookstove projects, which have proven very popular with VCM and Article 6(2) buyers, and sustainable water projects.

To ensure high integrity, Carbon Neobank will prioritize carbon crediting methodologies approved by the CCP (VCM), CORSIA (airline compliance) and Article 6(4) (Paris Agreement Crediting Mechanism). Focusing on high integrity clean technology credits enables Carbon Neobank to capture an expanding market valued between USD 400–900 million as Article 6 and CORSIA compliance mechanisms mature. In this way, the vehicle bridges a structural capital gap and establishes the foundation for a scalable, commercially viable model of climate-aligned SME banking across the continent.

Figure 1: Carbon financing gap, target markets



Source: Forecast volumes: UC Berkeley Offsets Database; Prices: various sources

Note: Sample restricted to projects producing <100k credits p.a. from the nine target markets

1.3 VEHICLE MECHANICS: DIGITAL BANK TRADING IN CARBON

Carbon Neobank operates as a fully digital carbon bank, integrating three core components: a business banking facility to underwrite loans, a carbon trading desk to expertly deliver carbon finance, and a technical assistance (TA) facility to ensure carbon project preparation and investment readiness (see Figure 2).

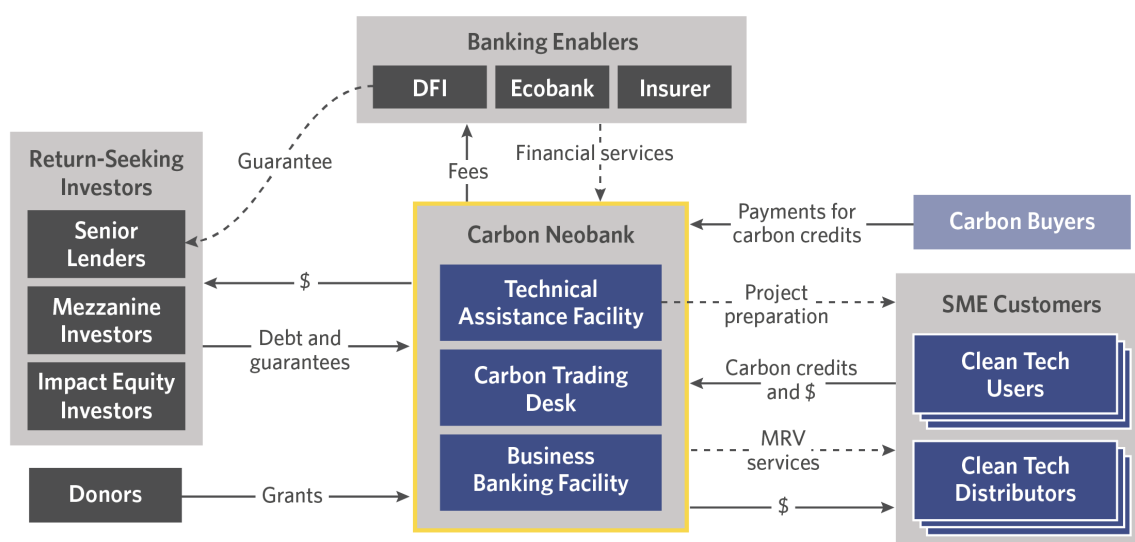
- **The business banking facility** undertakes lending activities, assessing the creditworthiness of clients together with the Credit Committee, and managing onboarding, disbursements, digital monitoring and collections. It is built on a proprietary underwriting system catering for SMEs with limited credit history, with banking facilitated by a fully digitized system. Collaborating with the carbon trading desk, this facility ensures carbon rewards are distributed to mass market and established business customers, whilst structuring specialized carbon-backed term loans for carbon developers and connecting them to the trading desk for offtake.
- **The carbon trading desk** ensures efficient and equitable monetization of emission reductions, providing due diligence, valuation, market-making and transactional expertise using its network of carbon buyers, advisors, and auditors. Historically, mid-tier carbon project developers have relied on presales finance using forward agreements, often struggling to negotiate favorable prices due to several factors: the lack of a forward curve in the VCM impacting price forecasting, perceived delivery risk reducing the value of future yield, and the transaction costs faced by buyers on smaller transactions, resulting in haircuts on the effective price offered per credit.

The carbon desk will also arrange insurance wrappers to comprehensively manage carbon delivery risk; a detailed overview can be found in Annex 6. Where necessary, political risk insurance will be added to policies, protecting carbon assets from expropriation.

- **The TA facility** provides an accessible carbon platform through three capabilities: 1) creating the digital-ready infrastructure to monitor emission reductions across a range of technologies covered by dMRV-enabled methodologies, linking clients and registries like Verra and Gold Standard⁵; and 2) absorbing substantial carbon project administration costs applicable to all projects, including project design documents, validation, verification and issuance; and 3) assisting SMEs that are distributing clean technologies but not currently monetizing their emission reductions to participate in registered carbon projects through a programmatic structure. Practically, this capability means that clients can easily ‘plug in’ to Carbon Neobank’s carbon platform, paying for proportionate usage of the platform as credits are generated⁶.

The integrated operation of all three components is necessary to overcome the typical barriers to SME access to carbon-based finance: project costs, gaps in technical expertise, weak access to major buyers, and day-to-day liquidity to fund operations while business activities are scaling up.

Figure 2: Instrument Mechanics



Revenue sources for the bank include interest income (primary source) and fees for value-added services, such as carbon brokerage and ongoing dMRV services⁷. Expenses include standard banking

⁵ This includes Application Programming Interface (API) integration with carbon registries, facilitating near real-time tracking of emission reductions.

⁶ Later, TA funds may be used to enable participation for regional farmers in inseting programs serving multinational corporates, including training them to modify production practices. This may require a different revenue model depending on the contractual structure of inset payments.

⁷ Over time, Carbon Neobank could elect to substitute interest revenue on carbon-collateralized loans for a share of carbon credits, released onto the spot market via its carbon trading desk – boosting profitability.

overhead, license fees payable to Ecobank, and carbon credit non-delivery insurance premiums, which are priced into interest rates.

Within this structure, carbon credits reduce the cost of finance for working capital clients and serve as collateral to advance term finance to carbon developer clients. Carbon Neobank converts future carbon revenue streams generated by developer clients into bankable assets through two complementary measures: 1) aggregation to achieve fair market prices from its international corporate buyer network; and 2) converting credits into security through borrower pledges of existing and future credits, protected by insurance against delivery, political, and if need be – price – risk.

Investors include the following:

- **Donors and philanthropies**, contributing first-loss capital in the form of grants (approximately 10% of the capital stack) and TA funding.
- **Impact investors**, with the equity tranche contributed by the proponent team and/or venture capital firms (approximately 5-10% of the capital stack) and mezzanine finance (approximately 30-50% of the capital stack) by private impact funds and platforms focusing on financial inclusion or DFIs as the vehicle scales. International investors will be accommodated since carbon-collateralized loans funded by the mezzanine tranche are denominated in dollars.
- **Developmental guarantors**, providing credit guarantees to cover senior debt.
- **Local commercial lenders**, such as banks, contribute senior debt (revolving facilities), approximately 30% of the capital stack initially, growing with track record). In this case, funding will be raised locally and provided in the currency of assets funded.

Carbon Neobank takes the form of a special purpose vehicle (SPV), leasing a license from Ecobank, possibly with country-level subsidiaries to manage local currency portfolios. Substantial participation by independent credit committee members supports good governance and manages the risks associated with multiple innovations.

1.4 TARGET PIPELINE

Origination in respect of the two short-term lending products will leverage Melanin Kapital's relationship with green SME incubators, while regional networks and carbon associations support the development of the carbon term loan portfolio. Both business lines will leverage the strategic relationship Melanin Kapital holds with Ecobank, providing broad geographic reach via the bank licensing agreement and potentially business referrals and joint marketing.

The existing Carbon Neobank pipeline, approaching USD 11 million, is concentrated in the home market of Kenya, which accounts for three-quarters of the pipeline. For now, the pipeline covers only working capital financing requirements, such as receivables loans and unsecured working capital loans aimed at the mass market and established firms accordingly. It is well diversified, with 30 SMEs applying for an average unsecured working capital loan size of USD 350,000. About 80% of the value is secured by receivables, using invoice discounting: an attractive option given modest expected credit loss rates.

Over 40% of the pipeline originates directly from the agricultural sector, with borrowers including organic crop producers serving international clients. Indirect exposure exists via several clean technology suppliers serving agricultural producers, for example supplying solar pumps and other agricultural equipment.

While carbon financing is not yet available, an additional 10 SMEs applying for unsecured working capital loans from Carbon Neobank are mid-tier carbon project developers that also need carbon financing, reflecting pent-up demand. Collectively, this group of carbon project developers could

generate USD 10 million annually from registered and pipeline projects. This is based on the issuance potential of 2.5 million tCO₂e per annum, applying a conservative average price estimate of USD 4 per ton.

2. MARKET ADDITIONALITY ANALYSIS

Carbon Neobank is unique in serving diverse SMEs across Africa's green economy with carbon-integrated finance

Carbon Neobank differentiates from existing instruments in three ways: it integrates carbon finance into mainstream business banking products; it provides flexible capital to support SMEs from startup to scale; and it leverages a digital-first model with broad sectoral and geographic reach.

Carbon Neobank is the only business bank integrating carbon finance across its full product offerings in Africa, enabling SMEs in green value chains to access affordable, tailored financing. Existing SME carbon financing instruments, such as Acorn and Kumo, are typically narrower in scope, limited to a single sector or project (often agriculture or carbon removals), and reliant on complex, high-barrier methodologies. Carbon Neobank's approach is more inclusive, practical, and accessible, using digitized, simplified methodologies to expand access across a broad range of economic sectors and business types. This is enabled by using grouped project methodologies, performing API integration with carbon registries, and the rollout of integrated dMRV tools that automate data capture, simplify compliance, and facilitate more frequent carbon credit issuance. Diverse SMEs gain access to carbon revenues without the burden of managing standalone carbon projects.

Carbon Neobank supports SMEs across the lifecycle with a diverse offering, unlocking working capital in the early stages through receivables loans, offering more flexible access as they build a track record, and ultimately enabling investment for scale through tailored carbon-backed term loans as the business matures. Most existing business financing instruments are monoline, specializing in one product, such as receivables loans or microfinance (e.g., Jia Finance). This narrow, product-specific approach does little to bridge the valley of death—the first three years when many African start-ups fail (Soumaré 2022). Carbon Neobank's flexible underwriting and diverse product offering address this issue, positioning it as an SME growth partner and allowing scaling to USD 100 million and beyond.

The geographical and sectoral coverage of Carbon Neobank significantly exceeds the span of existing instruments. Instruments with similar objectives (e.g., Factor[E] Apollo Agriculture) tend to have a more limited focus. Carbon Neobank's strength lies in its digital-first model and relationship with Ecobank. Through Ecobank, Carbon Neobank gains access to 33 African countries (Ecobank 2024). Its novel approach to carbon-based lending expands opportunities by tapping pent-up demand for carbon financing from cohorts of capable project developers with strong growth outlooks.

Table 12: Comparable instruments

Similar Instruments	Overview	Cabon Neobank Differentiation
Kumo (International)	Fintech platform facilitating origination of carbon-backed loans, focusing on removal credits. Kumo provides intermediation services, holding carbon credits as security to enable banks and institutional investors to underwrite the loans.	Accommodates avoidance credits (majority of clean tech types) and does not rely on conventional lender appetite to underwrite novel transactions.
Jia Finance (Kenya)	Fintech-enabled working capital solutions provider enabling clients to unlock liquidity from receivables, stock, and supplier networks.	Buys down cost of growth finance for green SMEs, by 5-7 percentage points p.a., expanding footprint to region.
Factor[E]'s Apollo Agriculture (Kenya)	Apollo provides smallholder farmers with working capital loans, combining financing with support for sustainable farming practices.	Uses carbon revenues to incentivize sustainability and mobilize additional project funding across the region.
Acorn by Rabobank (Africa, Asia and Latin America)	Integrate sustainable agroforestry practices with access to the voluntary carbon market. 80% of the carbon revenue is returned directly to the farmers.	Provides greater flexibility via a range of loan products, covering diverse sectors and technologies in the agricultural value chain and beyond.
Lendable Decarbonization Fund (Lab instrument, not operational yet)	Rewards green SMEs via interest rates, using carbon, sustainability-linked loans (USD10m+), including direct users and enablers.	Targets smaller SMEs in missing middle: USD 50k-10M turnover.

IMPLEMENTATION AND OPERATIONALIZATION

3. IMPLEMENTATION PATHWAY AND REPLICATION

With the base model operational, the addition of carbon trading capabilities and funding will enable rapid scaling to USD 10 million and beyond

3.1 NEAR-TERM IMPLEMENTATION PLAN

Melanin Kapital launched the baseline Neobank model in early 2024, currently operating a well-performing portfolio of USD 1 million short-term loans in five countries leveraging a grant from GIZ. The core near-term business objective is to achieve operating breakeven with this base model, to allow evolution of the business model into Carbon Neobank.

To introduce the full Carbon Neobank proposition, Melanin Kapital must achieve three climate finance milestones: 1) develop carbon financing capacity, starting with appointing a Head of Carbon Desk; 2) establish strategic partnerships with international carbon buyers and verifiers; and 3) secure long-dated equity and mezzanine funding. Advanced discussions are underway with Verra to enroll as a pilot dMRV partner in Africa, while fundraising progress is evidenced by holding preapprovals for USD 5 million in primarily soft funding. The legal structure will need to be finalized with anchor investors, considering specific domicile and tax requirements.

The pilot phase will focus on proving two key pillars:

- **Carbon financing capability**, through successful issuance and monetization of credits, to prove the model to patient impact investors providing mezzanine and equity capital; and
- **Underwriting model**, including digital monitoring systems and credit performance, to build confidence amongst commercial lenders and expand its access to senior debt.

The carbon-integrated pilot is envisioned to require USD 9 million in capitalization and USD 1 million in working capital to support the carbon desk set-up and technical assistance for enabling activities, supplementing existing funding. Due diligence is underway in respect of provisional commitments of USD local senior debt in local currency, covered by a comprehensive credit guarantee from an African DFI. Mezzanine investment is expected to be sourced from impact investors targeting SMEs (e.g. Blue Orchard, Symbiotics and Triodos Investment Management funds) and – to a lesser extent – retail investment platforms (e.g. Daba Finance, Untapped Global). Given the centrality of SME finance on many DFI agendas, it should also be possible to attract funding from them as the portfolio scales.

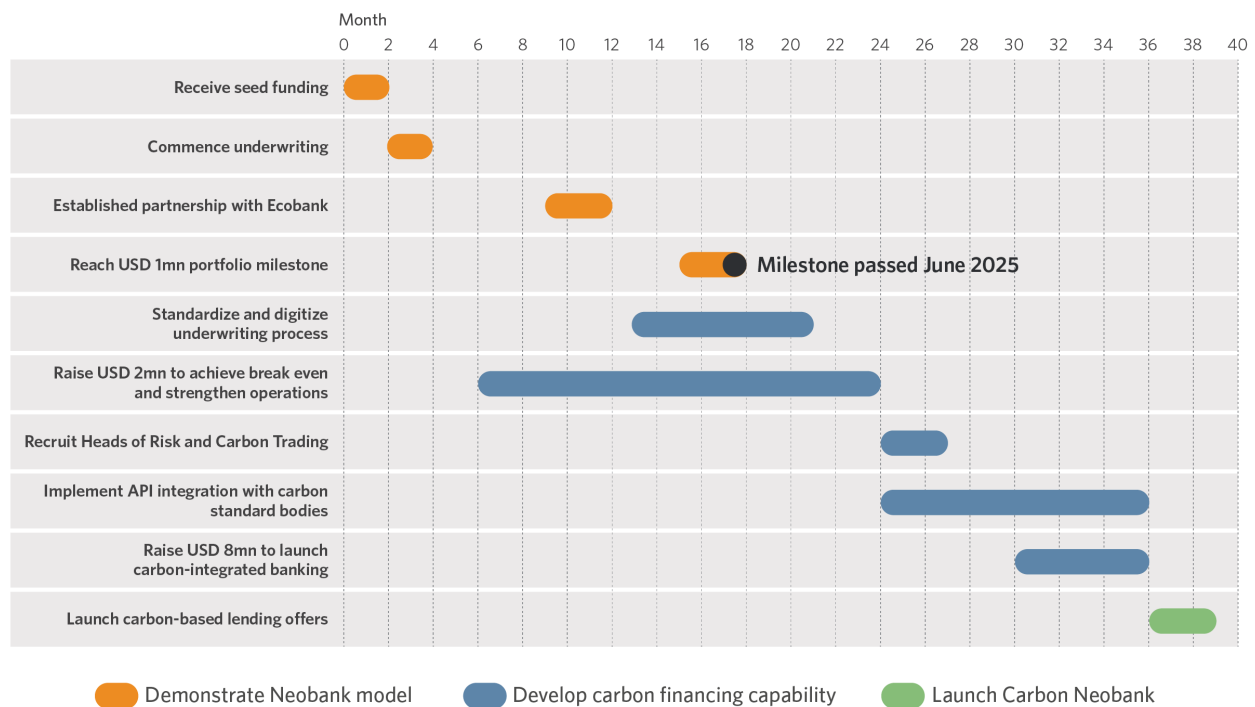
Pilot fundraising needs and anticipated sources of funding are shown in Table 2 below.

Table 23: Pilot funding requirements

Capital Type	Source	Purpose	Volume (USD)
Non-repayable Grants	Philanthropies and donors	Fund establishment of legal structure and TA facility	1 million
Concessional equity	Proponent and donors	Prove credit model, absorbing first loss	1 million
Mezzanine Finance	Impact investors	Fund carbon-backed term loans	5 million
Commercial Senior Debt	Banks	Fund unsecured working capital and receivables loans	3 million
Guarantee	DFI	Shield commercial lenders	3 million

Figure 3 shows the pathway to implementation, reflecting progress since launch.

Figure 3: Implementation Pathway



While the initial focus is on clean technologies (given greater methodological simplicity and market acceptance), Carbon Neobank plans to support the implementation of nature-based solutions in the future, including via insetting programs with consumer-facing multinationals (further analysis on the insetting opportunity can be found in Annex 1). Carbon Neobank will partner with major multinational offtakers of African agricultural commodities, such as cocoa and tea, that are committed to lowering their Scope 3 emissions. These buyers will agree to purchase commodities at a premium from Carbon Neobanks clients due to their verified lower emission intensity. The bank will use the receivables of these higher-value offtake agreements as collateral to extend larger and cheaper loans to smallholder farmers and cooperatives. This financing allows farmers to adopt emissions-reducing technologies and practices that would otherwise be unaffordable.

Critical enablers for this expansion include:

1. Maturing of inseting market standards, particularly allowing pooled industry approaches to enable mainstream adoption (see Annex 1); and
2. Building relationships with corporates engaging in inseting programs, currently only a handful.

The Melanin Kapital team comprises seasoned African finance professionals operating out of Kenya with experience in both SME and sustainability-linked finance.

3.2 POTENTIAL RISKS AND CHALLENGES TO INSTRUMENT SUCCESS

Carbon Neobank faces six major sources of risk, proactively addressed where possible:

- **Credit risk:** SMEs are generally high-risk borrowers, and novel underwriting approaches may underestimate counterparty risk. Nonetheless, approximately 80% of the loans will be collateralized – either with receivables agreements or carbon credits.
- **Operational risk:** Business banking requires strong collections processes and robust systems. Risk of system failure from rapid growth, operational complexity (multiple jurisdictions), and the possibility of cyberattacks are being addressed through leveraging digital technology and boosting management capabilities as the bank grows.
- **Market risk:** Currency and basis risks arising from working across multiple jurisdictions will be managed through a combination of natural hedges (i.e. raising liabilities in the same currency as assets) and – where needed – use of hedging instruments (for example, some developmental guarantors offer currency hedging instruments).
- **Carbon risk:** Carbon non-delivery, a risk specific to carbon-backed loans, is being addressed through carbon insurance provided on an “all risk” basis for both foreseeable and unforeseeable events, addressing timing risk through a pre-agreed delivery schedule. Carbon price volatility will be dealt with through conservative valuations and gearing limits. Initially, to manage risk of credit loss, Carbon Neobank will require a substantial portion of credits serving as collateral to be forward sold to manage pricing volatility, considering the volatility in VCM offtake. As routes to compliance markets (CORSIA and Article 6) open, offtake risk will fall, given more predictable demand and pricing, enabling more flexible trading strategies.
- **Legal and regulatory risk:** Carbon Neobank will be exposed to contractual and regulatory risk across multiple jurisdictions. Asset value may be threatened by unenforceable contracts and the risk of expropriation in some jurisdictions. These risks are addressed through partnering with Ecobank, portfolio diversification, and political risk insurance where needed.
- **Climate risks:** The agriculture sector is heavily exposed to physical climate risks. However, the broad geographic reach and sectoral diversification of Carbon Neobank limit the impact of individual climate events.

The full risk analysis is available in Annex 3.

4. FINANCIAL MODELING OUTCOMES

4.1 QUANTITATIVE MODELING

Modeling reveals strong potential for achieving financial sustainability, achieving operating break-even within two years post-launch as a carbon-integrated lender. Over the first 10 years, it is projected to deliver a platform-level dollar IRR of 12.2% as the portfolio scales from USD 10 million to USD 90 million originated from nine markets, with substantial private capital mobilization supported by several derisking measures.

The revenue model combines two core revenue streams: interest income on loans and carbon brokerage fees. In the early years, most lending (~90%) is expected to consist of unsecured working capital loans (12 months) and receivables loans (3-6 months), with carbon-backed term loans deployed gradually as carbon financing capability matures.

The table below shows key modeling assumptions across the three service lines.

Table 34: Key modeling assumptions

Assumption	Receivables Loans	Unsecured Working Capital Loans	Carbon Term Loans
Interest Rate	17%	15%	13%
Average Loan Size	USD 200,000	USD 750,000	USD 1,500,000
Average Loan Duration	5 months	12 months	30 months
Credit Loss %	4.4%	6.1%	7.0%

Sensitivity testing reveals that feasibility is most sensitive to changes in interest margins, impacted by client demand for affordability, followed by credit losses.

Experience in other African markets suggests that borrowers may be only moderately price-sensitive in this context, given the short-term nature of most financial products and the limited substitutes available in target markets.

The threat of credit loss is mitigated by collateralization across approximately 80% of the book and robust digital credit assessment process leveraging real-time financial and operational data from borrowers.

Scenario modeling was undertaken to evaluate the resilience of Carbon Neobank under varying market conditions. Since interest rates can be realigned on an ongoing basis in a short-term lending model, the focus was on the impact of credit losses (the full financial modeling analysis can be found in Annex 4). It considers the impact of less carbon brokerage revenue for short-term loans where credits did not materialize at 100% forecast rate⁸. Table 4 below shows the values used for modeling, informed by desktop research and industry consultation.

⁸ Historical data for African small-scale projects, with estimated issuance < 100k credits p.a., in the VCM shows under-delivery of approximately 36% forecast over the period 2022-2024 (UC Berkeley 2025).

Table 45: Scenario modeling assumptions

Variable	Low case (negative change)	Base case	High case (positive change)
Credit Losses (% Loans)			
Receivable Loans	5.8%	4.4%	1.1%
Unsecured Working Capital Loans	8.1%	6.1%	1.6%
Carbon-backed Term Loans	9.2%	7.0%	1.8%
Carbon Brokerage Revenues			
% Inclusion: Receivables	25%	75%	100%
% Inclusion: Unsecured Working Capital Loans	25%	75%	100%
% Inclusion: Carbon-backed Term Loans	25%	100%	100%
% Price Increase p.a.	0%	0%	3.7%

Overall, the model shows that Carbon Neobank remains resilient across a range of operating conditions with sound credit and risk management. In a low-case scenario, the IRR drops to 4.8%, with the IRRs on the individual product lines dropping to 9.7% (Receivables Loans), 10.8% (Unsecured Working Capital Loans), and 9.4% (Carbon-Backed Term Loans). This underscores the critical importance of strong underwriting practices. Receivables loans must be secured by verifiable invoices from **credible offtakers**, coupled with strict borrower screening and real-time repayment tracking. Portfolio limits may also be introduced to cap exposure to lower-margin segments, particularly in volatile markets. Additional risk mitigation includes using hedging instruments to manage currency volatility should the need arise.

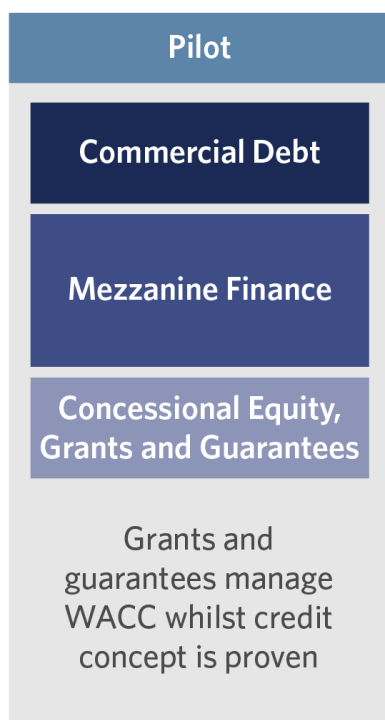
Carbon financing capability delivers attractive upside, contributing to a potential dollar IRR of 26% in the high case. Administrative project costs are borne within the TA facility and recovered over time, allowing Carbon Neobank to reap the rewards on a timely basis and attract strong commercial investor participation.

Table 56: Financial performance indicators (First decade)

Output Metric	Low Scenario	Base Scenario	High Scenario
IRR: Platform	5%	12%	25.6%
NPV	USD 23 million	USD 58 million	USD 121 million
Breakeven Month	>121	>121	77
IRR: Receivables Loans	10%	21%	41%
IRR: Unsecured Working Capital Loans	11%	14%	23%
IRR: Carbon-Backed Term Loans	9%	17%	25%

4.2 PRIVATE FINANCE MOBILIZATION

Private capital mobilization is expected to reach 50-70% during the pilot phase, with a total of USD 5-7.5 million raised through impact equity, senior debt, and mezzanine tranches. The commercial senior debt tranche is expected to rise to 40-50% over the first decade, with a track record of robust cash flows enhanced by a credit guarantee. The mezzanine portion will contribute a further 20%, increasingly sourced from institutional impact investors as the carbon-based lending model is proven.

Figure 41: Capital stack - Pilot

5. CLIMATE AND SOCIAL IMPACT STRATEGY AND PROJECTIONS

Carbon Neobank finances SMEs, driving decarbonization, promoting uptake of sustainability across the continent. Focus is on women-led businesses and the agricultural sector.

5.1 IMPACT MEASUREMENT AND MANAGEMENT STRATEGY

Carbon Neobank is designed to deliver measurable climate and socioeconomic outcomes aligned with the United Nations SDGs, with a focus on scalable, inclusive, private-sector-driven solutions for climate mitigation and resilience. Building on the vehicle's impact thesis, the team has developed a robust set of key performance indicators (KPIs) across multiple climate sectors and co-benefit areas.

These indicators will be embedded into Carbon Neobank's operational systems, with data collected directly from clients and verified using documentation such as purchase records, renewable energy installation certificates, emissions calculations, and carbon credit issuance data. A differentiated approach will be applied based on the lending product, with deeper tracking expected on carbon-backed term loans.

To ensure dedicated attention to data integrity and reporting, a monitoring officer will be appointed to oversee the implementation of the impact measurement and management (IMM) framework. This officer will lead efforts to refine data collection methodologies, liaise with clients, and produce impact dashboards and reports on a quarterly and annual basis. The team also plans to develop simplified digital forms and structured templates for borrowers to report impact metrics, minimizing administrative burden while maintaining consistency and auditability.

The IMM strategy will be integrated into the vehicle's governance and investment committee processes, including regular reviews of impact performance against targets. External audits or verifications may also be conducted annually for key metrics such as emissions avoided and carbon finance mobilized. The full impact framework analysis can be found in Annex 5.

Table 67: Selected impact indicators

Aligned SDGs	Selected Impact Indicators
Gender	Women-led businesses financed directly (#)
Decent Work & Economic Growth	SMEs served with growth finance (#)
Affordable and Clean Energy	Capacity of renewable energy generated by assets financed (MWp)
	Clean cooking devices financed for portfolio companies (#)
Climate Action	Emissions avoided from projects directly or indirectly financed (tCO ₂ e)
	Volume of international carbon financing enabling climate projects in Africa (USD m)
Responsible Consumption	Waste recycled due to interventions of portfolio companies (t)

5.2 PRE-INVESTMENT IMPACT MODELING PROJECTIONS

Pre-investment impact modeling suggests that even a USD 11 million pilot has the potential to generate highly catalytic environmental and socioeconomic outcomes, supporting SMEs at the forefront of Africa's energy and resource transition.

The pilot phase of the project is expected to deliver a range of environmental benefits:

- Enable emission reductions of over 5.2 million tCO₂e, equivalent to removing more than 1 million passenger vehicles from the road for a year.
- Finance generation of 35,000 MWh of renewable energy and distribution of over 175,000 clean cooking devices.
- Recycle more than 18,000 tons of waste through the activities of supported SMEs.

From a social and economic perspective, the pilot will provide growth finance to an estimated 225 SMEs during this phase, with a target of one-third being female-led or -owned (74 SMEs). Access to affordable finance will allow these businesses to expand operations, adopt new technologies, and participate in emerging carbon markets. The platform is designed to prioritize inclusive growth by balancing return expectations with impact incentives.

Importantly, the pilot is structured to demonstrate strong leverage of private finance. Of the total capital stack, 70% is expected to come from private investors, amounting to USD 7.5 million in mobilized capital. This represents a significant crowding-in effect and positions Carbon Neobank as a replicable model for blended finance in climate mitigation.

These projections highlight the platform's potential to serve as a scalable mechanism for channeling climate-aligned finance into Africa's real economy.

Table 78: Pilot impact estimates

Category	Indicator	Value
Catalytic Impact	Private capital invested as a share of total	69%
	Private capital invested in fund	USD 7.5 million
Climate	Clean cooking devices financed	207,902
	Renewable energy financed over 10 years	40,774 MWh
	Waste recycled	21,346 tons
	Emission reductions over 10 years	6.097 MtCO ₂ e
Socio-economic	SMEs served with growth finance	265
	Female-owned or -led SMEs supported	87

5.3 PRELIMINARY GENDER STRATEGY

Gender equity is embedded into the design and operational strategy of Carbon Neobank, viewed as a core enabler of inclusive, sustainable growth. The instrument's gender lens is aligned with the priorities of leading development finance institutions and catalytic capital providers, including the likely guarantor, the AGF, and will be integrated across the vehicle's investment approach and impact monitoring framework.

Carbon Neobank has adopted the 2X Challenge criteria to guide its gender strategy. In practice, the platform will prioritize support for SMEs that demonstrate strong performance in one or more of the following areas:

- Women's ownership or majority leadership
- High levels of female employment, particularly in quality jobs
- Products or services that specifically benefit women end-users (e.g., clean cooking technologies, childcare services, or agricultural productivity tools)

These criteria will inform investment decision-making and client onboarding processes, with borrowers invited to identify applicable gender dimensions and provide supporting documentation. Gender-related performance indicators will be tracked as part of the core impact measurement system, with a focus on:

- Number of women-led SMEs supported
- Proportion and level of female employees at borrower companies
- Outcomes where women benefit from improved energy access, cleaner technologies, or improved economic resilience

Internally, Carbon Neobank also demonstrates strong gender alignment, with 100% of C-suite roles currently held by women, reflecting leadership commitment to gender equity at the highest levels. As the platform grows, this will serve as a model for industry leadership and support broader ecosystem change.

The team may also explore technical assistance partnerships to increase the bankability and growth readiness of women-led businesses, particularly in carbon-intensive and male-dominated sectors. These efforts will be further developed during the pilot phase and monitored for effectiveness.

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6. ANNEX 1 - INSETTING

Carbon Neobank will expand its offerings to include insetting-linked financing products as this opportunity matures commercially, aided by evolving market standards and improving MRV approaches.

Carbon insetting refers to emissions reduction projects that occur within a company's own value chain or supply chain, directly lowering its Scope 3 footprint (McDaniel 2022). By contrast, carbon offsetting typically involves purchasing emissions reductions outside the company's value chain to compensate for its emissions. Insetting projects are embedded in procurement, production, or distribution relationships, for example, helping suppliers adopt cleaner technologies, whereas offsetting is external to operations.

In short, insetting acts inside the supply chain, while offsetting acts outside. The appeal of insetting is that it not only cuts a company's emissions but can also strengthen supply chain resilience and supplier relationships by improving sustainability at the source. This makes net-zero targets, which have limited allowance for offsets, more achievable.

Insetting will be crucial for the African agriculture sector to adapt and secure its export market, which is threatened by increasing border adjustment policies.

Key Standards and Gaps

Currently, insetting standardization is still under development, with the industry remaining fragmented.

Key standards being used as guidance include the Greenhouse Gas (GHG) Protocol and guidance provided by the International Platform for Insetting (IPI). Further developments are underway by Gold Standard, developing methodologies and guidance for insetting, notably the concept of a "supply shed".

The GHG Protocol's Corporate Value Chain (Scope 3) Accounting Standard provides a framework to measure and report Scope 3 emissions in the value chain. While not an insetting-specific standard, it allows emission reduction efforts within the value chain to be reported under the appropriate Scope 3 categories as "value chain interventions." The GHG Protocol also offers guidance to avoid double-counting of such reductions. An upcoming Land Sector and Removals Guidance (LSRG) from GHG Protocol is expected to relax the need for full supplier traceability in insetting, meaning in the future companies may claim insets without tracing every product to a specific supplier.

SBTi sets frameworks for corporate emissions targets aligned with climate goals. While SBTi does not have a specific insetting standard, it emphasizes cutting value-chain emissions in line with science-based targets. Notably, SBTi prohibits using purchased carbon offsets to meet science-based targets, which in effect forces direct reductions like insetting within company supply chains. SBTi has acknowledged the nascent state of insetting and the need for more standardized definitions and accounting methodologies.

Carbon Neobank's Implementation Strategy

As Carbon Neobank scales its operations, it will expand beyond carbon credit markets to include carbon insetting as a core offering to lower financing costs for its clients. This shift will enable the bank to address a larger share of its total addressable market, of which a large share is in the agriculture sector. Initial interventions will focus on clean technologies such as solar-powered irrigation pumps, gradually progressing to more complex decarbonization approaches like agroforestry and other nature-based solutions that reduce emissions from farming.

To enable this, Carbon Neobank will partner with major multinational offtakers of African agricultural commodities, such as cocoa and tea, which are committed to lowering their Scope 3 emissions. These

buyers will agree to purchase commodities at a premium from Carbon Neobanks clients due to their verified lower emission intensity. The bank will use the receivables of these higher-value offtake agreements as collateral to extend larger and cheaper loans to smallholder farmers and cooperatives. This financing allows farmers to adopt emissions-reducing technologies and practices that would otherwise be unaffordable.

Over time, these interventions will not only deliver measurable climate benefits but also improve the resilience and competitiveness of Carbon Neobank's client base. As international trade regulations evolve, including the rise of border carbon adjustments, these producers will be better positioned compared to peers across Africa's export-oriented agriculture markets.

Critical Success Factors

Large corporate offtakers must be motivated to cut their Scope 3 emissions and willing to back that commitment with action and capital. Carbon Neobank's model is viable only if offtakers are willing to pay for verified Scope 3 emissions cuts in their supply chains. Growing corporate commitments to net-zero and Scope 3 targets are a positive sign, but the bank will need to secure anchor offtaker partnerships to demonstrate this demand.

Suppliers must be able to implement the low-carbon projects and effectively use the financing. This includes both capacity and willingness on the part of SMEs. If suppliers lack technical know-how or cannot maintain the new equipment/practices, the expected emissions reductions and so performance payments may not materialize, jeopardizing loan repayment and the climate impact. Carbon Neobank can mitigate this with its capacity-building technical assistance offerings. Adequate training, support, and initial co-funding will be essential so that African SMEs have the skills and resources to implement changes. Success will depend on selecting capable local partners to prepare SMEs for participation.

Reliable dMRV systems must underpin the insetting projects. Offtakers will need assurance that the carbon reductions claimed are real and accurately quantified. This requires collecting primary data from the field and verifying it at a reasonable cost. Today, data gaps are a known weak point; nearly two-thirds of companies struggle with trust and completeness of supplier emissions data (Michel 2024). Carbon Neobank's ability to deploy or integrate low-cost verification technology will be a key success factor for credibility. Strong dMRV reduces the risk of greenwashing and will make it easier for corporate offtakers to confidently count the emissions reductions toward their targets.

Because the concept of insetting is still evolving, Carbon Neobank must stay aligned with the latest standards and ensure its activities qualify under recognized frameworks. This includes adhering to GHG Protocol guidance for Scope 3 interventions and any forthcoming rules, such as the LSRG for land-based insets, so that corporate clients can claim the reductions in compliance with global standards. Conversely, lack of standardization or conflicting rules would pose a risk. Therefore, staying at the forefront of standard-setting and ensuring transparency will be critical.

Finally, the financial value of the insetting benefits must be adequate and equitably distributed across parties. Carbon Neobank's financing arrangements hinge on transfer of the value of avoided emissions to offset loan interest or improve suppliers' credit terms. A critical factor, therefore, is setting a viable price for insets. If the implicit carbon price or premium is too low, suppliers won't see enough benefit to justify the effort, and the bank cannot reduce interest sufficiently to make projects bankable. On the other hand, if buyers are willing to pay a high premium for low-carbon goods, it can dramatically improve project economics. Successful pilot transactions, such as those by Royal Canin or Nespresso, indicate that companies are starting to attribute a monetary value to insets (International Platform for Insetting 2025).

7. ANNEX 2 – MARKET SIZE METHODOLOGY

The total addressable market (TAM) of USD 1 billion was estimated by assessing the combined opportunity across the three product offerings in the nine target markets where Carbon Neobank plans to operate.

The TAM was calculated by analyzing the opportunity across the nine target countries in which Carbon Neobank wishes to operate. The market size for the three key products, receivables finance, unsecured working capital loans, and carbon-backed term loans, was calculated. Similar methodologies were used to size the receivables market and the unsecured working capital loans, whilst the size of carbon-backed term loans was calculated separately.

Table 8: TAM per product type

Product	TAM (USD million)
Receivables Loans	698
Unsecured Working Capital Loans	233
Carbon-Backed Term Loans	96
Total	1 026

Receivables Loans

The TAM for the receivable loan product was estimated using a structured, primarily bottom-up methodology focused on six priority sectors: Farmers, Agri-Suppliers, Green Tech Suppliers, Waste Management Companies, Agri-Beneficiation Companies, and Logistics Providers.

The process began by identifying or estimating the number of companies operating in each of these sectors across target countries. This was achieved through the most reliable publicly available data, and where exact figures were lacking, informed proxies and credible sector-specific sources were used.

Once the company counts were established, the market size for each sector was calculated. This was done either by applying the sector's contribution as a share of national GDP or, more precisely, by multiplying the estimated number of companies by the average turnover of companies in that sector per country. The latter bottom-up approach was prioritized wherever data allowed, ensuring a more granular and realistic view of the opportunity.

Following this, the average Days Sales Outstanding (DSO) was estimated for each sector based on industry benchmarks and financial disclosures. This provided insight into the working capital needs and typical receivables cycles of companies in the target sectors.

The analysis then considered the share of companies within each sector that are either actively greening their value chains or have demonstrated a willingness to do so.

Subsequently, the typical share of receivables that companies seek to finance was estimated, reflecting common practices in working capital management for SMEs.

Finally, an expected participation rate was applied, estimating the proportion of SMEs in each sector that are both willing and able to engage with a receivables financing solution.

Together, these steps formed a robust and credible basis for estimating the TAM for the receivables product.

Table 9: Receivables Loan TAM per target country

Country	Receivables Loan TAM (USD million)
Kenya	82
Tanzania	59
Uganda	30
Rwanda	10
Nigeria	370
Senegal	19
Ivory Coast	36
DRC	42
Ghana	50
Total	698

Unsecured Working Capital Loans

The TAM analysis for the unsecured working capital loan product followed a similar methodological approach to that used for the receivables loan analysis. However, two key input assumptions were adjusted to reflect the specific risk profile and lending criteria associated with unsecured credit.

First, a more conservative participation rate was applied, acknowledging that fewer SMEs would actively seek this type of financing. Second, a significantly lower eligibility rate was assumed, based on the understanding that only creditworthy and lower-risk SMEs would meet the qualification criteria for an unsecured loan. These adjustments ensured the TAM estimate accurately reflected the more selective nature of this product offering.

Table 10: Unsecured working capital loans TAM per target country

Country	Unsecured working capital loans TAM (USD million)
Senegal	27
Tanzania	20
Uganda	10
Rwanda	3
Nigeria	123
Senegal	6
Ivory Coast	12
DRC	14
Ghana	17
Total	233

Carbon-Backed Term Loans

The TAM for the carbon-backed term loan product was estimated by analyzing registered carbon credit projects across the nine target countries. The analysis focused on the five target project types spanning 31 carbon credit methodologies. Only projects projected to generate fewer than 100,000 carbon credits annually were included. This scope ensured that the estimate concentrated on small to mid-sized projects most likely to seek financing solutions of this nature.

To enhance accuracy, an adjustment factor of 20% was applied to account for the historical discrepancy between projected and actual carbon credit issuances. This correction ensured the valuation reflects more realistic, market-aligned issuance volumes.

An average carbon credit price was then calculated for each of the five project types, based on prevailing market data and pricing trends. These values were applied to the adjusted issuance figures to derive the annual monetized carbon value across the selected methodologies and geographies.

To determine the portion of this value that could realistically be used as collateral for term loans, appropriate deductions were made. First, a 10% reduction was applied to account for brokerage and transaction fees. Then, a further 20% reduction was made to reflect typical project operating and maintenance costs. The remaining 70% of the carbon value represents the net benefit to the project developers and thus serves as a proxy for the amount that can be pledged as collateral. This final figure constitutes the TAM for the Carbon-Backed Term Loan product.

Table 10: Term loan TAM per project type

Viable Small-scale Project Type (VCS, GS)	Term Loan TAM (USD million)
Cookstoves	52
Electricity Generation	2
Low Carbon Transport	1
Waste	2
Water	39
TOTAL	96

8. ANNEX 3 – RISKS AND MANAGEMENT STRATEGIES

Table 11: Risk analysis

Risk Category	Risk Description	Management Strategy
Credit Risk	Counterparty credit risk , influenced by economic cycles	- Establish prudential limits to avoid counterparty concentration risk - List of approved creditors for receivable loans to overcome SME barriers ~80% loans are secured by assets - Guarantee to protect private creditors
	Incorrect client credit assessment using novel underwriting approach	First loss tranche to prove credit management system
Operational Risk	Weak collections process , resulting in high NPLs	- Work with aggregators (e.g. cooperatives), collection agents, - If needs be, factor debtor book
	System failure due to rapid scaling, resulting in bank failure	- Digital banking backbone facilitates scaling through automated processes. - Add human resources as the business scales.
	Cyber-risk given recent fintech attacks in Kenya and region	- Licensed as data service provider. - Hire cybersecurity expert to monitor system continuously and install disaster management systems.
	Carbon non-delivery risk, impacting clients, investors and bank profitability	- TA prepares projects, ensuring correct baselines, MRV, etc. - Use carbon credit non-delivery insurance for carbon-backed term loans
Market Risk	Basis risk may materialize if assets and liabilities priced off different interest rates, reducing margins	Match assets and liabilities, using shorter dated treasury debt instruments like revolvers
	Currency risk , particularly if assets in local currency and liabilities in hard currency	- Issue loans in USD export clients (including carbon developers) - Use an FX guarantee for local currency advances
	Carbon credit price volatility may result in lower revenues and carbon portfolio valuation	Structuring: Conservative gearing reduces exposure to price movements, potentially mitigated further by a requirement for a portion of forward sales to secure future liquidity

Legal and Regulatory Risks	Loss of rights to carbon credits , due to domestic policy changes (e.g. associated with Article 6 implementation)	• Diversify portfolio, prioritizing countries with favorable policy environments • Use political risk insurance where necessary
	Burden of compliance with banking regulations in multiple jurisdictions	• Appoint Head of Compliance • Obtain legal experts familiar with active markets as council • Leverage Ecobank license to operate, selectively obtaining licenses in sensitive markets (e.g. Kenya, Nigeria, some West African markets)
	Unenforceable loan agreements in certain jurisdictions	• Use vetted, jurisdiction-specific loan agreements • Limit exposure in countries with legal systems in which enforcement is most challenging
Climate Risk	Physical risks like drought and flooding reduce viability of SMEs in agricultural supply chain	• Ensure portfolio diversification

9. ANNEX 4 – FINANCIAL MODELING

Modeling Approach

The financial model projects Carbon Neobank’s performance over a 10-year period, with detailed assumptions applied across revenue streams, operating costs, and risk buffers. The model is structured to reflect a phased rollout – starting with short-term lending and scaling up carbon-backed financing as the platform’s carbon origination and trading capabilities mature.

The business’s main revenues are:

1. **Interest income** across three core lending products:
 - a. Short-term receivables loans (~5 months),
 - b. Unsecured working capital loans (~12 months), and
 - c. Medium-term carbon-backed term loans (~3 years); and
2. **Carbon brokerage fees**, derived from facilitating the issuance and monetization of carbon credits linked to financed projects.

The business’s main costs are:

1. **Insurance premiums**, primarily on carbon-backed term loans to cover carbon credit non-delivery and political risk;
2. **Personnel expenses**, with particular focus on building out a carbon trading desk (e.g., carbon traders and technical experts);
3. **Allowance for bad debts and ECLs**, which scale with portfolio growth and risk exposure; and
4. **Office and operational overheads**, including regulatory compliance and platform infrastructure.

Table 129: Fundamental model assumptions

Category	Parameter	Assumption
Financing Structure	Commercial senior debt	Partially guaranteed (e.g. by AGF); priced at 6.5% (USD)
	Concessional subordinated debt	From DFIs or donors; priced below market
	Guarantee coverage	Credit guarantee to crowd in private debt
	Grants	Includes project prep, ECL buffer
	Mezzanine finance	Fixed returns
	Impact equity	From founders or VCs; dividends + potential exit
	Investor return	*No fixed exit timeline assumed*
Income Structure	Interest – Receivables Loans	~5 month maturity
	Interest – Unsecured Working Capital Loans	~12 month maturity
	Interest – Carbon-Backed Term Loans	Up to 3 years
	Carbon brokerage fees	On verified carbon credit transactions
Cost Structure	Insurance on term loans	Carbon non-delivery
	Guarantee fee	Charged by guarantor (e.g. AGF)

	Interest expense on debt	Rates vary depending on concessionality
	Staff costs	Includes carbon desk personnel, admin, etc.
	Cloud services / platform software	Includes core banking and carbon tracking
	Telecommunications & equipment	Mainly mobile/data costs + devices
	Office rent	Nairobi HQ + regional satellites
	Bad debts / ECL provision	Based on expected default rates per loan type
	Taxation	Assumed 3% based on anticipated Mauritius tax jurisdiction

Core Revenue Products

The core revenue-generating components of the Carbon Neobank model are its three lending products: receivables loans, unsecured working capital loans, and carbon-backed term loans. Each product type has distinct characteristics in terms of risk, pricing, and duration, tailored to different SME segments and stages of maturity.

The business is modeled to scale up these products in phased fashion: operations begin with short-term receivables loans, which are quickest to underwrite and recover. As credit systems mature and internal capacity grows, unsecured working capital loans are introduced, offering larger ticket sizes and slightly longer durations. Finally, carbon-backed term loans, collateralized by carbon credits and requiring deeper technical due diligence, are introduced approximately 18–24 months into the projection. By Year 3–4, the model assumes a steady rhythm of issuing one carbon-backed term loan per month, reflecting operational maturity and a developed pipeline of bankable carbon project developers.

The table below outlines the key financial and credit assumptions underpinning each of these product lines.

Table 1310: Key assumptions on core products

Assumption	Receivables Loans	Unsecured Working Capital Loans	Carbon Term Loans
Interest Rate	17%	15%	13% + insurance
Average Loan Size	USD 200,000	USD 750,000	USD 1,500,000
Average Loan Duration	5 months	12 months	30 months
Credit Loss %	4.4%	6.1%	7.0%

Credit Losses

The credit loss percentages used in the model were informed by both the nature of the counterparties and the security backing each product, as well as market norms based on reported NPLs and BASEL recommendations.

Expected default rates were based on the NPL rates reported by African banks in the EIB Banking in Africa survey (IEB, 2024). For the base case, the median reported NPL rate of participating banks was

used, as for the low and high case scenarios, the upper and lower 75th percentiles were used as assumptions. Expected default rates were assumed to be constant across product types.

Loss given default rates (LGD) for small enterprises tend to be 33% globally and 42% in Africa (Global Credit Data, 2022), whereas BIS recommends 45% as a minimum when modeling expectations (BIS, 2005). Due to Carbon Neobank operating in a heterogeneous environment, more conservative assumptions were made. Due to receivables loans being short-term in nature and being backed by receivables, a low LGD of 50% was assumed. While the unsecured working capital loans are unsecured and thus exposed to higher borrower risk, a more conservative LGD rate of 70% was assumed. Due to the carbon-backed term loans having longer tenors and being backed by carbon credits, which are highly exposed to carbon credit price risk, a conservative LDG of 80% was assumed.

Taking the expected default rates and LGD rates into account, the ECL rates for each of the product types were estimated using the following relationship:

Expected Credit Loss = (Probability of Default) × (Loss Given Default)
(where Loss Given Default = 1 – Recovery Rate)

This approach reflects the reality that longer-dated exposures tend to carry higher loss severity in the event of default, despite being backed by similar counterparties.

Carbon Revenues

In addition to interest income from lending, the Carbon Neobank model incorporates a carbon brokerage revenue stream, generated from the facilitation and monetization of carbon credits linked to funded projects.

The calculation of carbon abatement per USD1 million in loan capital advanced was based on an analysis of Carbon Neobank's existing portfolio. Portfolio companies were categorized into three distinct groups, **Tech Enablers**, **Implementers**, and **Carbon Finance Clients** (the latter being projects already registered for carbon credit issuance).

For each category, the potential emission reductions were estimated based on historical and project-specific data. It was assumed that the current allocation of assets across these client types would remain consistent in the future.

The total emission reductions attributable to each client category were then aggregated and divided by the total value of loans advanced across the portfolio. This yielded the **carbon yield per dollar loaned**. By multiplying this figure by one million, we derived the **carbon abatement per USD1 million loan advanced**.

Carbon revenue was modeled across all three lending products using the following key parameters:

A **constant carbon price of USD 11.21/tCO₂e** was assumed for receivables and unsecured working capital loans in both low and base scenarios, with a conservative **USD 4.89/tCO₂e** applied to term loans due to their deeper integration with project developers and variable crediting timelines;

Carbon mitigation per dollar of portfolio was set at **0.03 tCO₂e/USD/year** for receivables and unsecured working capital loans, and **0.10 tCO₂e/USD/year** for term loans;

A **brokerage fee of 15%** was applied to the carbon value transacted;

A conservative **revenue inclusion factor** was used to reflect the portion of brokerage revenue likely to be recognized.

Table 1411: Key assumptions on carbon revenues

Lending Product	Price USD / tCO ₂ e carbon mitigated	tCO ₂ e carbon p.a. / USD portfolio size	Brokerage Fee	Inclusion
Receivables Loans	11.21	0.03	15%	75%
Unsecured Working Capital Loans	11.21	0.03	15%	75%
Carbon-Backed Term Loans	4.89	0.1	15%	100%

Sensitivity Analysis

To assess the robustness of the Carbon Neobank model, a detailed sensitivity analysis was conducted across all three core lending products: **receivables loans, unsecured working capital loans, and carbon-backed term loans**. As a first step, each product line was tested in isolation to confirm its stand-alone commercial viability under base case assumptions.

The next step involved varying key revenue-side parameters to assess their relative impact on the platform's IRR. The three most material variables identified were:

1. Interest rate charged to borrowers;
2. NPL rate / Expected credit losses; and
3. Loan duration / average maturity.

Results indicated that **IRR is most sensitive to changes in the interest rate**, particularly for short-duration products such as receivables loans. Even a small downward adjustment in interest rates can compress margins significantly if not offset by concessional capital or carbon revenue. The **second-most sensitive variable was the NPL rate**, especially for unsecured working capital loans or receivables loans. In contrast, **loan duration had a relatively minor effect on returns**, given the short-term nature of the portfolio and the rapid reinvestment cycle of most product lines.

These findings confirm that maintaining competitive but viable pricing, while tightly managing credit risk, will be central to sustaining financial performance, particularly during scale-up. The platform's blended capital structure, use of credit guarantees, secured loans and carbon term loan insurance are designed to mitigate these risks and preserve resilience.

Scenario Analysis

Scenario testing was conducted to evaluate the financial resilience of Carbon Neobank under a range of operating conditions. The analysis focused on key risk variables, primarily **estimated credit loss rates**, with interest rates held constant at market-aligned levels to isolate the impact of non-performance. Carbon revenues were treated conservatively, with differentiated inclusion assumptions by product type and scenario.

The **primary risk identified** is that of higher-than-expected credit losses. This is particularly relevant for receivables and unsecured working capital loans, which serve SMEs with limited track records and often operate in volatile sectors. However, receivables loans are typically secured against verifiable invoices from reputable corporate offtakers, often multinational entities, thereby significantly mitigating actual

credit risk. The only unsecured product line in the model is the unsecured working capital loan portfolio, which carries the highest ECL assumptions and requires the most stringent borrower screening and ongoing monitoring.

In parallel, **carbon revenue assumptions were varied** to reflect differing recognition rates and potential price uplift. While carbon term loan revenues were fully included in both the high and base case scenarios due to the presence of carbon credit non-delivery insurance and offtake agreements, only 75% of expected revenues were included for receivables and unsecured working capital loans in the base case. In the low case only 25% of carbon revenues were included for all three business lines. In the high case, this was increased to 100%, with a modest 3.7% carbon price increase applied to reflect potential upside from market strengthening.

Table 1512: Scenario modeling assumptions

Variable	Low case (negative change)	Base case	High case (positive change)
Credit Losses (% Loans)			
Receivables Loans	5.8%	4.4%	1.1%
Unsecured Working Capital Loans	8.1%	6.1%	1.6%
Carbon-backed Term Loans	9.2%	7.0%	1.8%
Carbon Revenues			
- % Inclusion: Receivables Loans	25%	75%	100%
- % Inclusion: Unsecured Working Capital Loans	25%	75%	100%
- % Inclusion: Carbon-backed Term Loans	25%	100%	100%
- % Price Increase	0%	0%	3.7%

These results confirm the resilience of the overall vehicle, even under adverse conditions. The adverse effect of higher credit losses on returns underscores the importance of strong credit risk management practices and tight operational controls, particularly for short-term and unsecured products. Key

mitigants include requiring verified receivables from high-quality offtakers, maintaining conservative underwriting policies, and ensuring ongoing real-time monitoring of SME repayment behavior.

Table 1613: Scenario modeling results

Output Metric	Low Scenario	Base Scenario	High Scenario
IRR	4.8%	12.2%	25.6%
NPV	USD22.6m	USD58,4m	USD121,1m
Breakeven Month	>121	>121	77
IRR: Receivables Loans	9.7%	20.8%	41.0%
IRR: Unsecured Working Capital Loans	10.8%	14.3%	23.3%
IRR: Carbon-backed Term Loans	9.4%	17.1%	25.3%

Capital Structure Sustainability Metrics

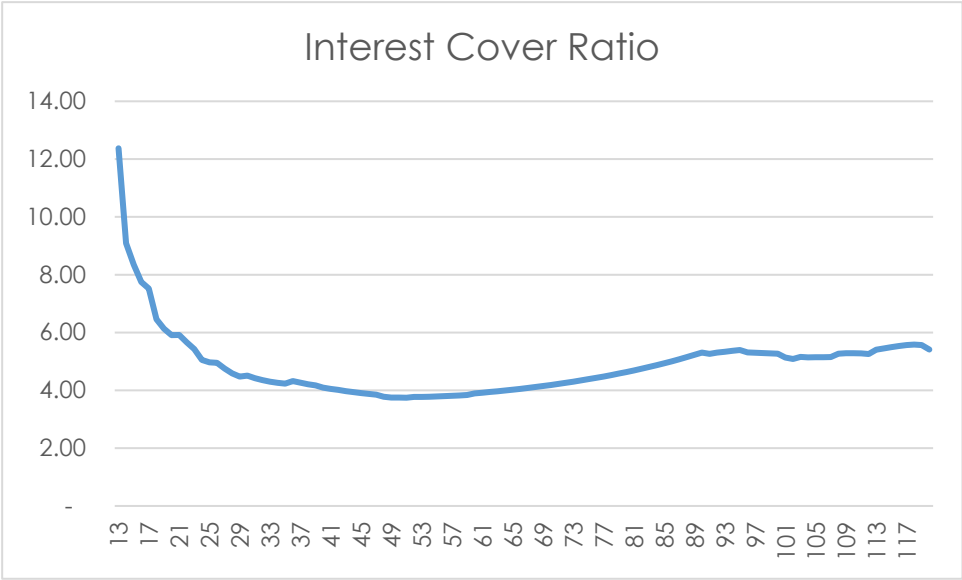
In traditional infrastructure and project finance models, the Debt Service Coverage Ratio (DSCR) is often used as a key metric to assess the ability of a project to service its debt obligations. However, for the Carbon Neobank structure, designed around revolving, continuously redeployed loans facilities, DSCR does not provide meaningful insights.

Given that funds are consistently reinvested into new loans (rather than producing terminal cash flows that repay debt in a linear fashion), the DSCR is artificially low for much of the model period. This is not reflective of the actual health or solvency of the instrument and would be misleading if used in isolation.

Instead, to evaluate the long-term sustainability and financial resilience of the Carbon Neobank structure, we tracked two more appropriate indicators: the **Interest Cover Ratio (ICR)** and the **Debt-to-Equity Ratio (D/E)**.

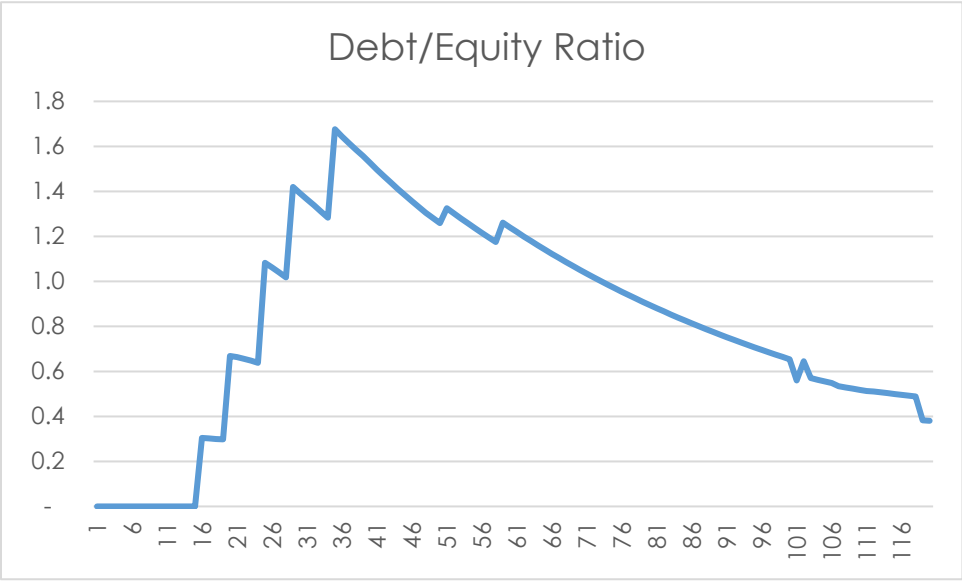
Interest Cover Ratio: This measures the ability of the Neobank to meet its interest obligations through its operating profit. As shown in the chart below, the ICR consistently remains above the standard benchmark of 2.0x. After a brief spike in the initial months due to ramp-up dynamics, the ratio stabilizes at healthy levels throughout the life of the instrument. This indicates a strong buffer against interest payment pressures, even during periods of growth and reinvestment.

Figure 2: Interest cover ratio, monthly



- **Debt-to-Equity Ratio:** This metric tracks the gearing of the fund. The base model demonstrates that the D/E ratio remains below 2.0x throughout the 10-year model horizon, signaling that the fund maintains sufficient equity cushion and is not overly leveraged at any point. This reinforces investor confidence and provides flexibility to accommodate portfolio fluctuations.

Figure 3: Debt/Equity ratio, monthly



Taken together, these two indicators show that Carbon Neobank has a structurally resilient design: interest obligations are well-covered by operational surpluses, and leverage levels remain moderate despite active fund recycling and expansion. This makes the instrument well-positioned to withstand moderate financial shocks or repayment delays without compromising solvency.

11. ANNEX 5 – IMPACT FRAMEWORK

Catalytic Impact Indicators

The USD 10.8 million pilot capital stack for Carbon Neobank has been structured based on a combination of confirmed and highly probable funding sources across public and private finance channels. The approach aims to balance catalytic public capital with scalable private investment, while aligning with the fund’s de-risking and impact objectives.

Table 1714: Pilot Capital Stack

Capital Stack	Value
Public	
Grants	USD 1,000,000
Concessional Debt	USD 2,300,000
Total	USD 3,300,000
Private	
Impact Equity	USD 1,000,000
Mezzanine Finance	USD 5,000,000
Commercial Debt	USD 1,500,000
Total	USD 7,500 000

The **public portion** of the stack includes:

- USD 1 million in **grant funding**, which includes contributions from GIZ (USD 800,000) and DEG (USD 200,000).
- USD 2.3 million in **concessional debt**, likely to be supported by the EU and AGF, both of which have existing climate and gender-aligned mandates that align closely with Carbon Neobank’s goals.

The **private capital** component totals USD7.5 million and is composed of:

- USD1 million in **impact equity**, with indicative interest from Anza Capital, Mercy Corps Ventures, and Catalyst Fund.

- USD 5 million in **mezzanine debt**. These instruments are structured to deliver fixed returns to investors based on verified credit delivery, supported by insurance and counterparty agreements.
- USD1.5 million in **commercial debt**, which will be senior in the capital structure and benefit from guarantees over part of the loan book.

The composition reflects a capital-efficient structure aimed at proving the Carbon Neobank model at pilot scale while building the track record necessary to scale up to a USD90 million facility. The design ensures a **high private capital leverage ratio** (~69%) while maintaining robust downside protection through public and concessional layers.

Table 1815: Selected impact indicators

Aligned SDGs	Selected Impact Indicators
Gender	• Women-led businesses financed directly (no)
Decent Work & Economic Growth	• SMEs served with growth finance (no)
Affordable and Clean Energy	• Capacity of renewable energy generated by assets financed (MWp)
	• Clean cooking devices financed for portfolio companies (no)
Climate Action	• Emissions avoided from projects directly or indirectly financed (tCO₂e)
	• Volume of international carbon financing enabling climate projects in Africa (USD m)
Responsible Consumption	• Waste recycled due to interventions of portfolio companies (tons)

Climate Change Indicators

Projected Cumulative Carbon Offset (tCO₂e)

Carbon abatement estimates were developed using assumptions from the revenue modeling section (see above), which quantified expected emissions reductions per USD 1 million of capital deployed through each of the three lending products: receivables loans, unsecured working capital loans, and carbon-backed term loans. These assumptions reflect the typical mitigation potential of the types of projects supported under each product line, such as clean cooking distribution, renewable energy installations, and other decarbonization initiatives.

For the pilot phase, the projected carbon offset was calculated by multiplying the total projected loan disbursements per product line by their respective carbon mitigation coefficients. This approach was then extended over the 10-year modeling period to estimate cumulative emissions avoided. The final estimate for the pilot implementation phase is **6.097 million tCO₂e avoided**.

Number of Clean Cooking Devices Financed for Companies

The projection of clean cooking devices financed is based on the assumption that only the carbon term loan product would support such projects. Within the term loan portfolio, it is estimated that **40%** of loans will be deployed to businesses distributing clean cook stoves.

To calculate the number of devices financed, an **average unit cost of USD 40 per cook stove** was applied. For each year of the model, the total value of term loans disbursed was multiplied by the 40% allocation factor, and the resulting amount was divided by the average stove cost to estimate the number of devices distributed.

This methodology results in a projected deployment of **207,902 clean cooking devices** over the modeled period, directly contributing to improved energy access, household air quality, and emissions reductions in last-mile communities.

Volume of International Carbon Financing Projects Enabled in Africa

This metric estimates the number of carbon-related projects facilitated through the deployment of Carbon Neobank's lending products. The projection is based on the monthly volume of loan disbursements across the three primary lending instruments: receivables loans, unsecured working capital loans, and carbon-backed term loans.

To isolate the share of lending linked specifically to carbon finance, the following assumptions were applied:

- **80%** of carbon-backed term loans were assumed to support carbon finance projects;
- **70%** of unsecured working capital loans were attributed to carbon finance;
- **60%** of receivables loans were estimated to relate to carbon-enabling activities.

By applying these proportions to the modeled number of loans issued each month over the duration of the pilot and the broader 10-year timeframe, the cumulative number of carbon financing projects enabled was calculated. This results in a projection of **318 carbon financing projects**, representing initiatives supported through international private capital mobilized by Carbon Neobank, during the pilot stage of the project.

Projected Cumulative Renewable Energy Financed (MWh)

To estimate the renewable energy generation impact of the portfolio, we analyzed the share of loan disbursements likely to support renewable energy projects across the three lending products. Conservative assumptions were made regarding the portion of each product type dedicated to renewable energy financing:

- **10%** of receivables loans;
- **10%** of unsecured working capital loans; and
- **20%** of carbon-backed term loans.

Each product line has a distinct average loan size:

- Receivables loans: USD 200,000
- Unsecured working capital loans: USD 750,000
- Carbon-backed term loans: USD1,500,000

Using these average sizes and the assumed proportions supporting renewable energy, we calculated the number of renewable energy projects enabled across the modeled period.

Each qualifying project was assumed to install approximately 1 MW of capacity per USD600k of loan value. To derive annual energy generation in megawatt hours, a conservative annual yield factor of 1,500 MWh per MW of installed capacity was applied. This was multiplied by the cumulative installed capacity across projects to estimate the cumulative renewable energy financed over the pilot and 10-year modeling period.

This methodology results in a projection of **40,774 MWh of renewable energy** generated for the pilot, reflecting the clean energy production capacity supported indirectly through Carbon Neobank's lending operations.

Other Impact Indicators

Number of SMEs Served with Growth Finance & Female-Owned/-Led SMEs Supported

To estimate the number of SMEs that would receive growth finance through Carbon Neobank's lending products, the model used the total volume of loans disbursed per product line and multiplied it by an assumed percentage of new customers per loan type.

To avoid double-counting repeat customers, assumptions were made regarding the share of loans going to **new clients** versus repeat borrowers. The model assumed:

- **50%** of receivables loans and unsecured working capital loans would go to new SME customers (reflecting the likelihood of repeat use for these short-term products); and
- **90%** of carbon-backed term loans would be to new SME clients, given the longer duration and project-specific nature of this financing.

These assumptions yielded the estimate of **265 unique SMEs supported** through the pilot.

To estimate the number of **female-led or female-owned SMEs**, a conservative multiplier of **33%** was applied to the total SME count, reflecting the expected share of women entrepreneurs in the Carbon Neobank customer base. This results in a projected **87 female-led or female-owned SMEs** being supported.

Tons of Waste Recycled Due to Interventions of the Fund

To estimate the volume of waste recycled as a result of Carbon Neobank's interventions, the model applied a conservative methodology based on the total value of loans disbursed across the three lending products (receivables loans, unsecured working capital loans, and carbon-backed term loans).

It was assumed that only **5%** of the loans within each product category would support businesses or projects specifically engaged in waste management or recycling activities. For these waste-related interventions, the model applied a conversion factor of **0.003 tons of waste recycled per dollar invested**, based on available benchmarks and indicative data from similar SME-level interventions.

By applying this waste-to-capital conversion rate to the estimated dollar value of loans allocated to waste-related projects, the model derived the cumulative figure of **21,346 tons** of waste expected to be recycled through the pilot.

12. ANNEX 6 – CARBON DELIVERY INSURANCE

Carbon credit non-delivery insurance is a specialized risk management tool designed to protect forward buyers of carbon credits against the failure of a project to deliver the agreed-upon credits. In a carbon market where performance depends on environmental and technical variables, as well as counterparty reliability, such insurance provides assurance and financial security. By mitigating the risk of under-delivery or non-delivery, these policies enhance trust in carbon markets, improve liquidity, and support broader climate finance objectives.

Typical Non-Delivery Insurance Triggers and Payouts

Non-delivery insurance policies are structured around specific triggers and payout mechanisms. Triggers are tied to defined events of non-performance. For delivery risk policies, a common trigger is the failure of a project to deliver credits by a stipulated date or milestone, as outlined in the off-take agreement.

The payout structures can vary. An “in-kind” payout provides the insured party with replacement carbon credits of equivalent quality and volume when a project fails to deliver. Alternatively, a financial payout is calculated to equal the economic loss arising from non-delivery or a pre-agreed insured value. Financial compensation may take the form of reimbursing buyers for their share of upfront payments on undelivered credits, paying the current market value of the missing or invalidated credits, or providing the insured value corresponding to the portion of credits that were not delivered.

Kita Non-Delivery Insurance

Kita offers carbon credit non-delivery insurance under commercial terms that require premia ranging from 1.5% to 3.5%, with a minimum of USD 25,000. While there is no minimum insured value, premia must be paid upfront, and coverage is restricted to insured parties domiciled in the EU, UK, USA, or Australia.

This coverage takes the form of all-risk insurance, providing broad protection against most risks or losses, apart from those specifically excluded. Unlike “named perils” policies, which only cover risks explicitly listed, this approach ensures greater certainty for investors facing diverse and often unpredictable risks.

Flexibility is also built into the structure, as insurance can be applied at either the project or portfolio level. Buyers are generally encouraged to begin with project-level coverage before transitioning to portfolio-level policies as their exposure expands. Portfolios that diversify across both project types and geographical locations are typically favored, as this reduces concentrated risk.

When a loss event occurs, the claims process typically unfolds over 90 to 180 days, often requiring the insured to access a liquidity facility in the interim. The insured must first attempt to resolve the issue independently, after which a 90-day waiting period applies. The insurer then has 30 days to question the proof of loss, followed by another 30 days for the client to respond, and a final 30-day window for any additional questions before the claim is resolved.

Kita’s non-delivery insurance covers the failure or shortfall in delivery of forward-purchased carbon credits. This includes both avoidable and unavoidable risks, as well as counterparty and carbon-related risks that cause underperformance. Coverage is legally binding and regulated, offering certainty and significant risk reduction. The policy allows for flexible claims, with payouts available in either cash or replacement carbon credits. Coverage extends for up to 10 years, and monitoring technologies are used to remotely track sequestration progress. Insurance can be applied at the point of purchase or any time before delivery of the credits.

Certain risks fall outside the scope of Kita's coverage. These include losses or damage to credits after issuance to the insured, such as non-permanence or invalidation post-delivery. Political and regulatory risks are generally excluded and are more appropriately covered under separate political risk policies. Cyber risks, such as registry hacks, are also excluded, as are nuclear risks, human disease (excluding plant disease), reputational damage, regulatory fines, and any losses beyond direct under-delivery. Broader risks outside delivery failure are not covered.

Implementation for Carbon Neobank

Carbon non-delivery insurance will be employed by Carbon Neobank to secure the future value of carbon credits pledged as collateral for term loans. The insured amount will match the face value of the loan. If a carbon project defaults by failing to repay the loan and/or deliver all the pledged credits, the insurance will cover the portion of the insured value that corresponds to the share of credits not delivered. This mechanism substantially enhances the credit quality of the loans.