Stock Capital:

The Future Is Green, and Goes Beyond the Carbon Market and Blockchain.

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Abstract

Two of the biggest challenges in integrating sustainability into the financial market are access and stability. Stock Capital addresses these issues by combining ReFi (Regenerative Finance) with the usability of RWAs (Real World Assets), creating an ecosystem where real-world assets are tokenized and globally accessible.

Stock Capital connects investors from the crypto industry to the environmental preservation and sustainability sector. Through the tokenization of sustainable bonds, carbon credits, and socio-environmental projects, it enables direct investments in environmental protection in an institutional and scalable way.

1. Introduction

The Gap Between Crypto Investors and Sustainable Assets

In recent years, the crypto industry has established itself as one of the most dynamic and innovative sectors in the global financial market. With decentralization as a fundamental pillar, investors and developers have been working to transform traditional paradigms, offering new investment opportunities, as well as greater transparency and governance. However, when it comes to accessing financial assets focused on global sustainability, decentralized investors face significant barriers that hinder their participation in this expanding market.

Challenges in Accessing Sustainable Assets

Despite the growing interest in investments aligned with the ESG agenda (Environmental, Social, and Governance), the current structure of the carbon and sustainable asset market is still largely dominated by traditional entities, limiting accessibility for crypto investors.

Lack of Interoperability

The carbon market and environmental assets typically operate on closed platforms, with legacy systems that do not easily integrate with blockchain technologies, creating a technological barrier for investors who wish to acquire and trade these assets efficiently and in a decentralized manner.

Fragmented Regulation and Bureaucracy

The carbon market is largely regulated by governments and international organizations, and this requires a series of certifications and validations for the issuance and trading of carbon credits. This highly bureaucratic environment makes it difficult for decentralized projects to participate, as they seek to operate efficiently and without intermediaries.

Lack of Standardized Protocols

Currently, there is no consolidated global standard for the tokenization of carbon credits and other sustainable assets. The lack of standardization undermines investor confidence, creating uncertainty about the credibility and usefulness of these assets within blockchain ecosystems.

Limited Supply Against Growing Demand

With the growing environmental concern and global decarbonization goals, the demand for carbon credits and sustainable assets has been increasing rapidly. However, the supply is still limited, especially for investors who operate exclusively with decentralized methodologies. The imbalance between supply and demand is expected to worsen in the coming years, making these assets even scarcer and more expensive.

Lack of Governance and Transparency in Credit Issuance

Many decentralized investors are skeptical of traditional carbon credit issuance and trading processes, as these operations often lack transparency and traceability. Without a reliable and decentralized governance model, the risk of greenwashing and ineffective credits becomes an ongoing concern.

2. How the Carbon Market Emerged

The carbon market was created along with the United Nations Convention on Climate Change during ECO-92, held in Rio de Janeiro. In 1997, during a meeting in the city of Kyoto (Japan), it was decided that participating countries should adopt stricter commitments to reduce greenhouse gas emissions.

As a result, the reduction of greenhouse gas emissions gained economic value, leading to the commercialization of carbon credits. It was established by convention that one ton of carbon dioxide is equivalent to one carbon credit.

In this manner, carbon market agents implemented three trading mechanisms:

- **Emissions trading:** This mechanism determines that nations with CO2 emissions below the permitted levels can sell the excess to other countries emitting above the limits.
- **Joint implementation:** This mechanism allows developed countries to work together to achieve goals related to carbon emission reduction through agreements among them.
- **Clean Development Mechanism (CDM):** This mechanism allows developing countries, even without carbon emission reduction targets, to contribute to and invest in the carbon market by trading with countries that have established targets under the Kyoto Protocol and the United Nations 2030 Agenda.

3. Carbon Footprint

A carbon footprint is the total amount of carbon dioxide and other greenhouse gasses generated by the activities of an individual or organization. It includes both direct and indirect emissions.

A direct emission originates from a source owned by the reporting entity. An example is carbon dioxide produced from the combustion of fossil fuel inside a delivery vehicle owned by a company.

Indirect emissions result from the activities of the reporting entity but originate from sources that the reporting entity does not own. These are also called upstream or downstream activities.

4. Carbon Offsetting

Carbon offsetting is a credit that an individual or organization can purchase to decrease their carbon footprint. When the number of carbon offset credits obtained equals the carbon footprint of an individual or organization, that person or organization is carbon neutral.

More generally, carbon offsetting is any reduction in greenhouse gas emissions (GHG) to compensate for emissions occurring elsewhere.

Carbon offset credits indicate that an organization or person has reduced their emissions. The term carbon offsetting is used to describe both the credit and the act of carbon offsetting.

A carbon offset credit represents a reduction of 1 metric ton of carbon dioxide emissions. The goal of carbon offsetting is to reduce all or part of a carbon footprint.

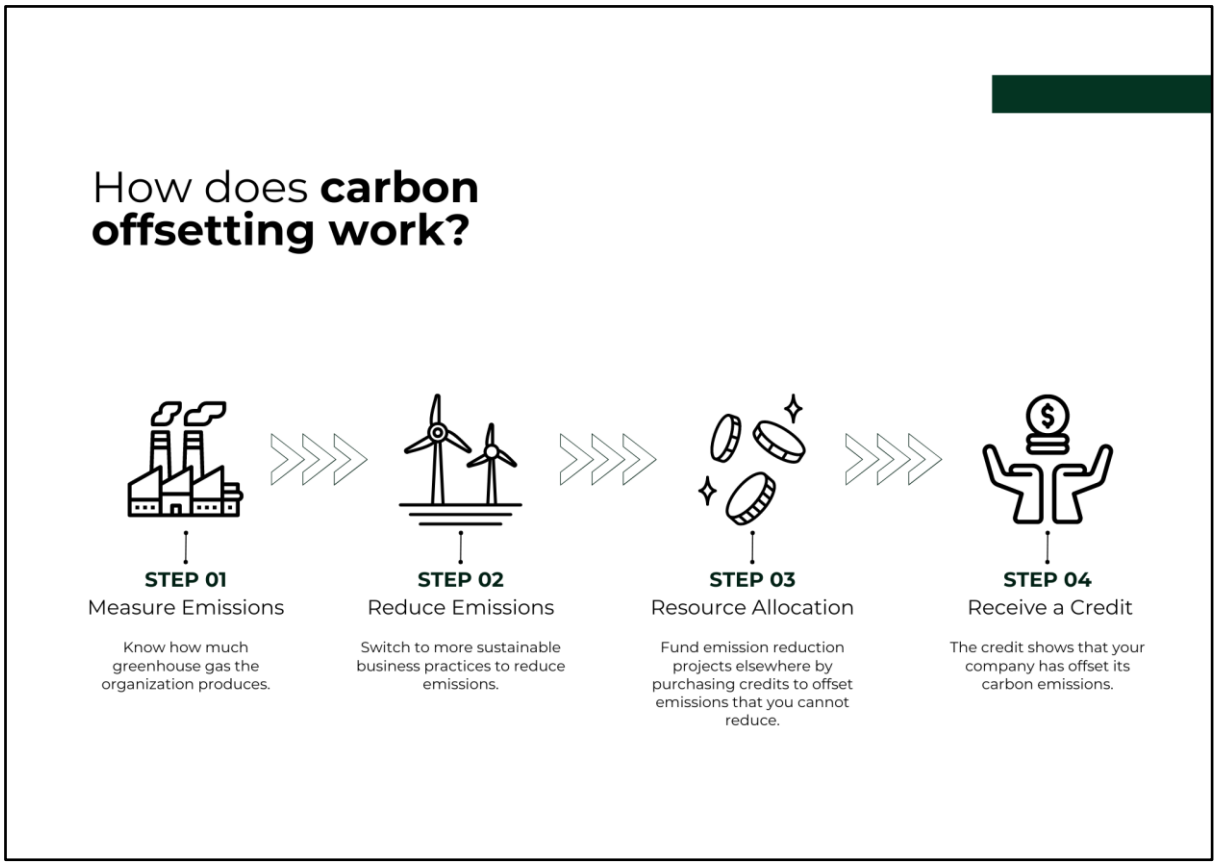
Organizations and individuals seek carbon offsetting voluntarily or to comply with regulations. An individual or company may pay a certified company to remove a portion of carbon from the atmosphere, often in another part of the world. The client calculates their emission level, and the certified company charges a fee based on that level.

The certified company will then invest a portion of that money in a project that reduces carbon emissions. The individual or organization receives a certificate or some other proof that they have purchased a carbon offset.

They can use this as evidence that they have demonstrated compliance.

5. Carbon Offset Through Credit Purchase

- **Emission Calculation:** The company calculates the amount of greenhouse gasses it emits in its activities, such as fuel combustion or industrial production.
- **Carbon Credit Acquisition:** Based on the emission calculation, the company purchases Carbon Credits from certified projects that reduce or remove the same amount of greenhouse gasses equivalent to what it emitted.
- **Emission Offset:** The Carbon Credits acquired by the company are used to offset its emissions, making it carbon neutral, meaning the company's net carbon emissions are zero, contributing to combating climate change.



6. Carbon Cycle in Forests

Trees, like all other plants, fix atmospheric CO_2 through photosynthesis and convert it into biomass and other materials necessary for metabolism. Above ground, most of the long-term carbon storage in forests occurs as woody biomass.

Part of this carbon becomes soil organic carbon through the addition and decomposition of fallen branches, litter, and dead roots, and a recent study found that 50% to 70% of soil carbon storage in boreal forests occurs in roots and microorganisms and fungi associated with roots.

The remaining carbon is released back into the atmosphere through tree respiration and the decomposition of soil organic matter. Storing carbon in woody biomass is a good choice because it is a stable and long-term carbon reservoir.

Even if a forest is no longer sequestering additional carbon or is sequestering it at low rates, the carbon previously sequestered in the biomass is preserved for a long time because wood decomposes very slowly, and tree roots prevent erosion and the subsequent oxidation of soil organic carbon.

7. Dynamic Cycling of Carbon Over Time

In young trees, respiration and carbon losses to the atmosphere are low; therefore, most of the carbon fixed by photosynthesis is converted into biomass and sequestered. As trees age, respiration increases because energy is needed to replace dying tissues, and a smaller proportion of carbon fixed through photosynthesis is converted into biomass and sequestered.

At a certain point, trees no longer sequester additional carbon but maintain a constant amount of carbon. This steady-state condition occurs when the carbon obtained from photosynthesis and the carbon lost through respiration are equal. Different tree species reach steady-state at different times, somewhere between 90 and 120 years.

Research indicates that late-succession forests have more stable steady-state carbon reservoirs due to a larger biomass of root-associated fungi below the zone of decomposing fungi found in the oxygen-rich upper soil layers.

8. Carbon Sequestration Methods

Carbon sequestration is a key strategy for mitigating climate change, as it helps reduce the concentration of greenhouse gases in the atmosphere. Among the various approaches that can be adopted, reforestation and forest management stand out.

- **Reforestation:** It involves planting trees in areas where they have not grown in the past 100 years. A common example is planting short-rotation woody crops, such as hybrid poplars, which grow rapidly and sequester large amounts of carbon in a short period. These trees are planted and harvested within 10 to 15 years, with the biomass being used for paper production and other wood-derived products. Reforestation aims to restore trees on lands that have been deforested during this time frame.
- **Forest Management:** Forests can be managed to maximize their carbon storage. Techniques such as extending the rotation period, selective thinning, and planting fast-growing species are used to increase carbon sequestration.

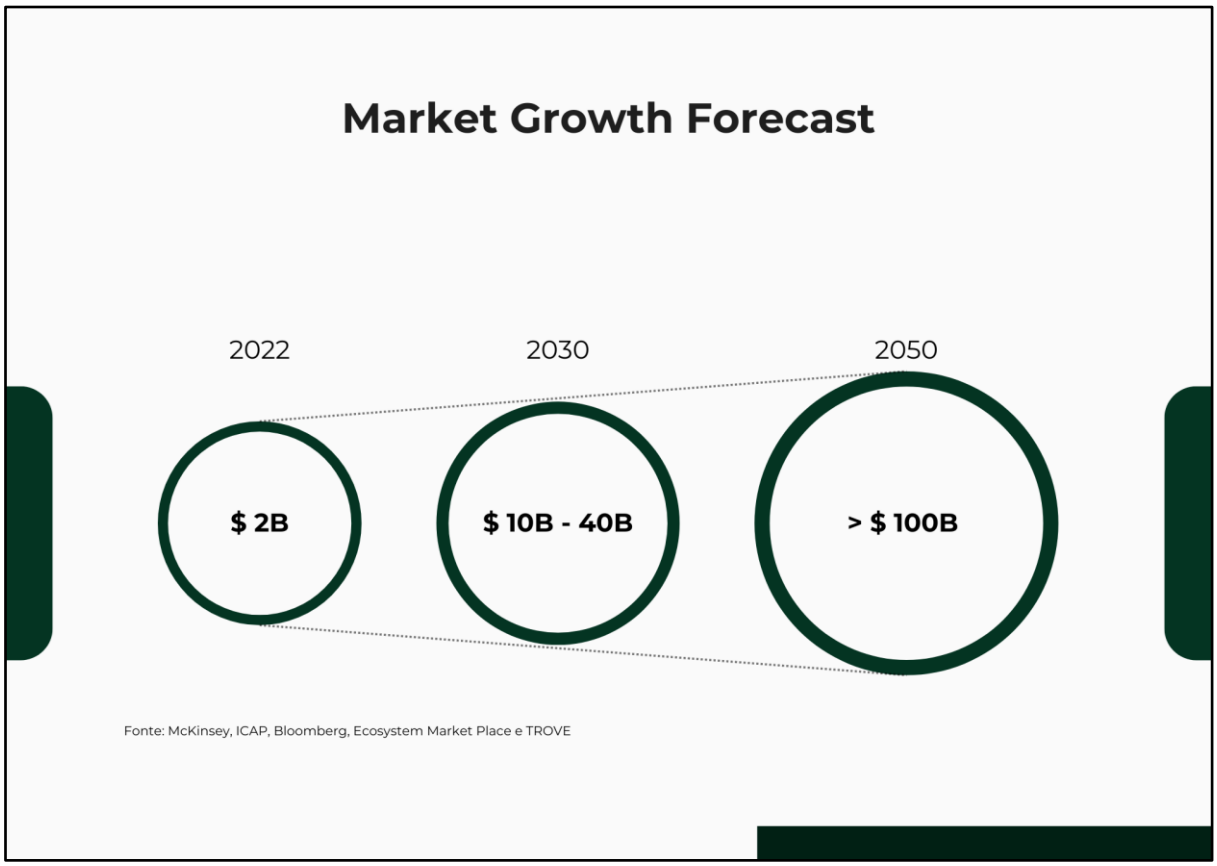
Forest health practices that avoid the complete harvesting of trees and leave reserve trees to promote a diverse soil ecology have greater potential to promote maximum carbon storage.

9. Market Potential

The voluntary carbon market has grown almost fourfold in the last year, reaching nearly $2 billion in traded credits.

By 2030, the market is expected to reach a volume between $10 billion and $40 billion, and by 2050, it is expected to exceed $100 billion. South America is currently one of the main suppliers in the market, with 17% of the total global credits and 19% of all worldwide offsetting.

The supply and demand for credits have been growing year by year, driven by the ESG agenda and increasing awareness of the importance of a low-carbon economy.

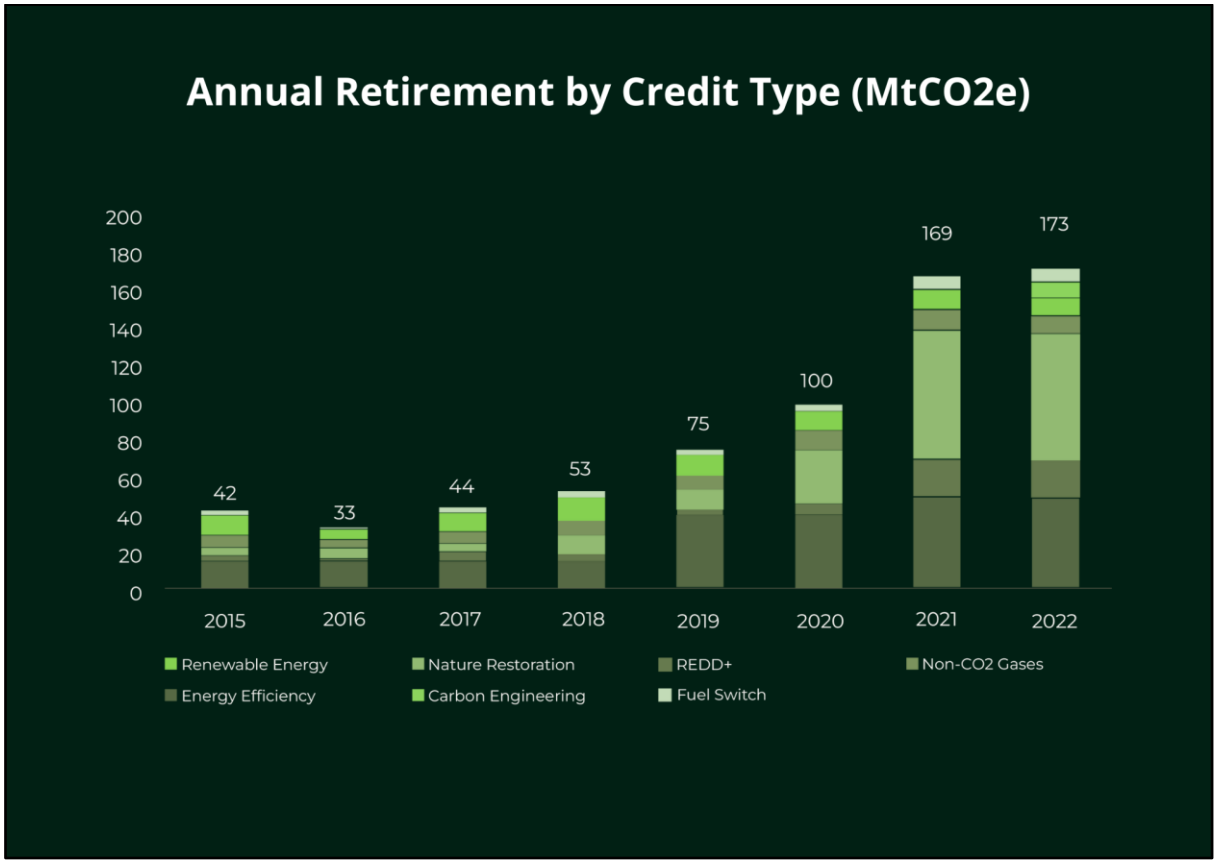


10. Demand for Carbon Credits

The number of retired carbon credits has more than quadrupled in the past seven years, reaching 173 million tons. Retirement is an important indicator as it represents the credits that are taken out of circulation and used by end buyers to offset their carbon footprint.

Retiring carbon credits is a way to reduce greenhouse gas emissions. When a carbon credit is retired, it represents a ton of emissions that are not released into the atmosphere. This can be achieved through a variety of projects, such as reforestation, energy efficiency, and renewable energy.

The growing retirement of carbon credits is a positive sign that people are becoming more aware of the impact of their emissions and are seeking ways to reduce their environmental impact.



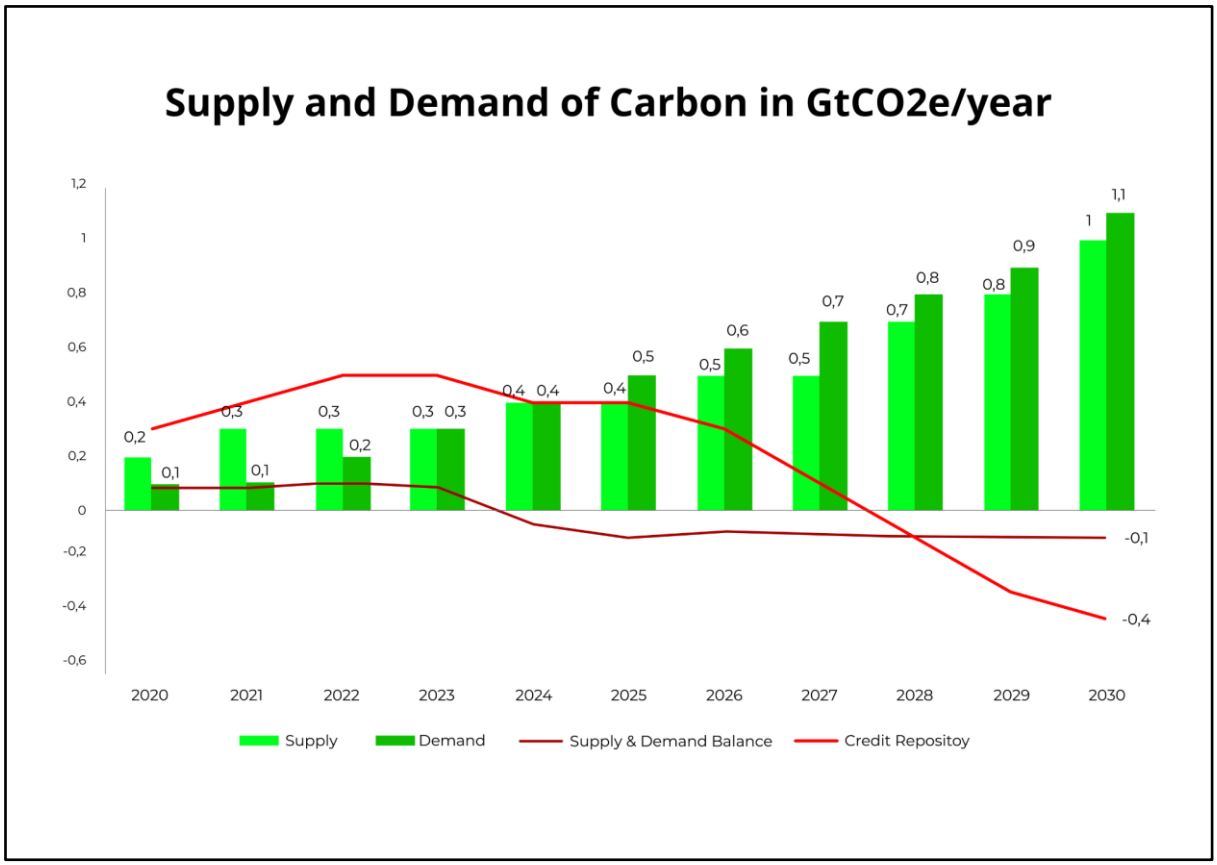
DEMAND FOR CARBON CREDITS WILL SURPASS SUPPLY BY 2025

According to a study by the Boston Consulting Group (BCG), demand for carbon credits will surpass supply by 2025. The study predicts that demand for carbon credits will grow at an annual rate of 30% until 2030, while supply will grow at an annual rate of 15%. The growth in demand for carbon credits is driven by several factors, including:

- Investor pressure on companies to reduce their greenhouse gas emissions.
- The increased structuring of the carbon credit market.
- Regulatory changes requiring companies to offset their carbon emissions.
- Customer preference for products and services from environmentally responsible companies.

Despite the potential supply for carbon offsets, the existing structure is undersized, with major players unable to meet the entire demand. Consequently, there will be an imbalance between supply and demand for the entire period from 2024 to 2030.

The imbalance between supply and demand for carbon credits will have a significant impact on the price of credits. The price of carbon credits is expected to increase significantly in the coming years, making it more expensive for companies to offset their carbon emissions.



11. Greenwashing, an Issue of Transparency

In recent years, concerns about climate change and the search for sustainable solutions have driven the adoption of corporate strategies focused on carbon offsetting. However, alongside the growth of this market, a significant issue has also emerged: greenwashing. This practice occurs when companies and organizations present an environmentally responsible image without their actions effectively matching this commitment.

Greenwashing not only deceives consumers and investors, but it also compromises the integrity of the carbon market, undermining the credibility of environmental initiatives. In this context, transparency becomes a crucial factor in ensuring that carbon credits represent real emission reductions and that the market functions in a reliable and efficient manner.

In the context of the carbon market, greenwashing can occur in various ways, including:

- **Purchase of low-quality carbon credits:** Companies acquire credits from projects that do not promote real emission reductions or that are not properly audited.

- **Lack of credit traceability:** Many credits are traded without a reliable tracking system, allowing the same unit to be sold more than once (a practice known as "double counting").
- **Offsetting without real impact:** Some organizations claim to neutralize their carbon emissions without implementing concrete actions or ensuring that the credits they purchase contribute to the actual reduction of CO_2 in the atmosphere.
- **Misleading marketing:** Companies use environmental claims and certifications to appear committed to sustainability without adopting practices that align with these claims.

These issues generate mistrust in the market, drive away serious investors, and hinder the development of a robust system for the pricing and trading of carbon credits.

The lack of transparency in the carbon market represents a major obstacle to its sustainable development. Among the key challenges are:

- **Fragmented Governance and Regulation:** Many countries and institutions have different regulations for carbon credits, making standardization and validation of these assets difficult.
- **Difficulty in Auditing and Certification:** The process of verifying credits can be time-consuming and subject to human error or conflicts of interest between validators and issuing companies.
- **Lack of Access to Reliable Data:** Many transactions still occur in a non-transparent manner, without the proper public disclosure of information regarding the origin, retirement, and impact of acquired credits.
- **Technological Barriers:** The use of traditional systems to record and track carbon credits hinders automation and increases operational costs.

The need for a solution that ensures transparency, traceability, and integrity is clear. It is in this context that blockchain emerges as a transformative tool, capable of eliminating the vulnerabilities that make the market vulnerable to greenwashing.

12. Tokenization of Carbon Credits

Stock Capital is developing an innovative ecosystem for the carbon credit market, using blockchain technology to ensure greater transparency, efficiency, and accessibility for carbon market stakeholders.

1. Blockchain Carbon Credit Marketplace

Stock Capital has developed a decentralized platform that connects buyers and sellers, promoting greater liquidity in the market and facilitating the trading of tokenized carbon credits.

- **Global Access and Liquidity:** Investors from anywhere in the world can trade carbon credits securely and efficiently, expanding the market and promoting a more balanced pricing.
- **Traceability and Immutability:** Each carbon credit is represented by a unique token, allowing its tracking at every stage, from issuance to retirement.
- **Process Automation:** Smart contracts optimize the validation, trading, and retirement of credits, reducing bureaucracy and increasing operational efficiency.

2. Governance System and Public Transparency for Carbon Credits

The solution created by Stock Capital enables continuous auditing and public access to information about traded and retired carbon credits, strengthening the credibility of the carbon market.

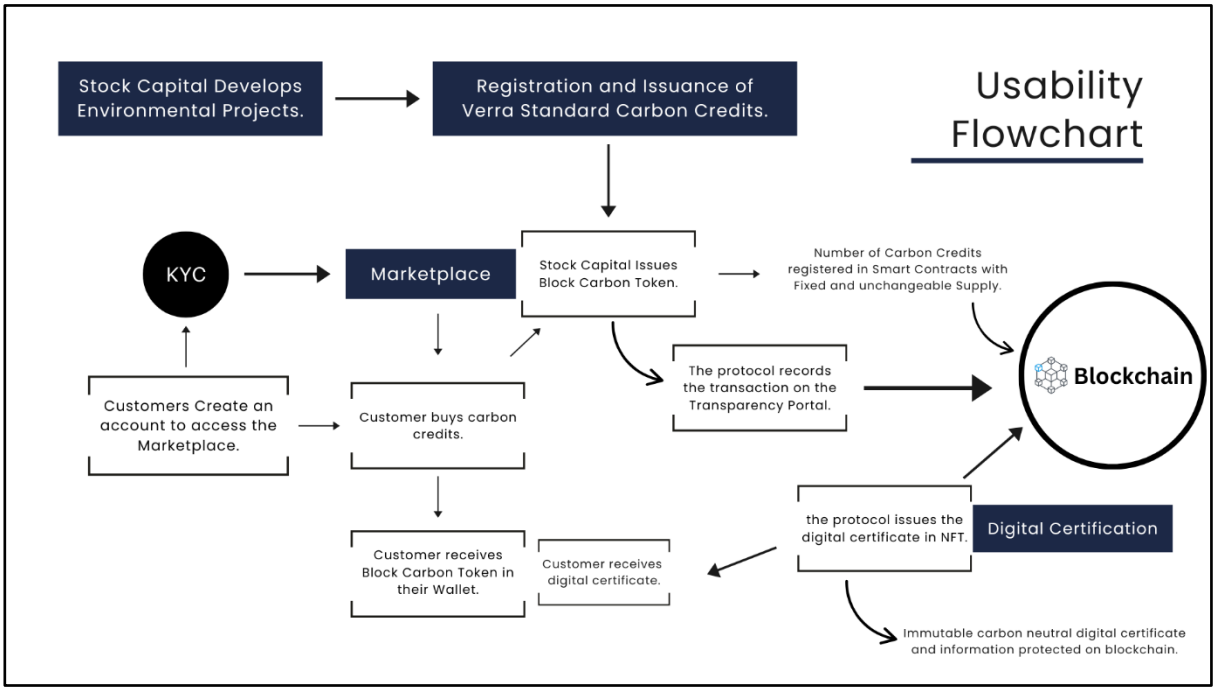
Transparent governance, through the use of blockchain, ensures immutable and auditable records, ensuring that each tokenized credit represents real emission reductions.

3. Immutable Digital Certificate for Carbon Credit Compensation

Stock Capital will use a blockchain-based digital certificate that permanently and immutably verifies carbon emission offsetting.

This system ensures the traceability and immutability of each certificate stored on the blockchain, guaranteeing its authenticity and eliminating the risk of counterfeiting. The immutability of the records enhances the credibility of the offsets, strengthening the reputation of the companies and investors involved.

Additionally, the automated issuance of certificates reduces operational costs and facilitates audits and ESG reporting, making carbon credit management more efficient.



13. Staking

The Stock Capital Staking is a structured economic mechanism that allows token holders to allocate their assets into pools linked to environmental and social projects. Based on an applied Proof of Stake (PoS) system, this model allows participants to contribute liquidity to sustainable initiatives, ensuring returns proportional to the underlying revenue generation.

The earnings distributed to holders are denominated in USDC and directly linked to the net revenue obtained from the sale of carbon credits generated by the financed projects. This approach strengthens the efficiency of staking as a mechanism for capitalizing and redistributing financial flows, minimizing risks of centralization and reinforcing the resilience of the rewards model backed by tokenized assets.

In addition to allowing a liquid staking structure, which enables the strategic reallocation of tokens between different pools, the model integrates with on-chain decentralized governance systems (DAO). This integration ensures transparency, security, and alignment of incentives between participants and the Stock Capital infrastructure.

Staking Pool Structure

Stock Capital adopts a modular staking model, distributing pools across different capital allocation levels based on the impact and maturity of the linked environmental and social projects. The pools are structured to optimize the lock-up dynamics and generate efficiency in the pricing of tokenized environmental assets.

Each staking pool is associated with a specific environmental project, featuring dynamic parameters for token allocation and reward distribution.

Calculation of APY

The Annual Percentage Yield (APY) reflects the projected profitability over time and is defined by the compound return formula:

$$APY = \frac{(Total\ Reward\ Received\ (USDC) + Initial\ Capital\ (Staked\ Tokens)\ \frac{365}{Pool\ Duration\ (Days)}}{Initial\ Capital\ (Staked\ Tokens)} - 1$$

Token Reward Calculation

Each Stock token allocated in staking receives a proportional fraction of the earnings generated by the trading of carbon credits:

$$Reward\ per\ Token = \frac{Distributed\ Value\ in\ the\ Pool\ (USDC)}{Total\ Staked\ Tokens\ in\ the\ Pool}$$

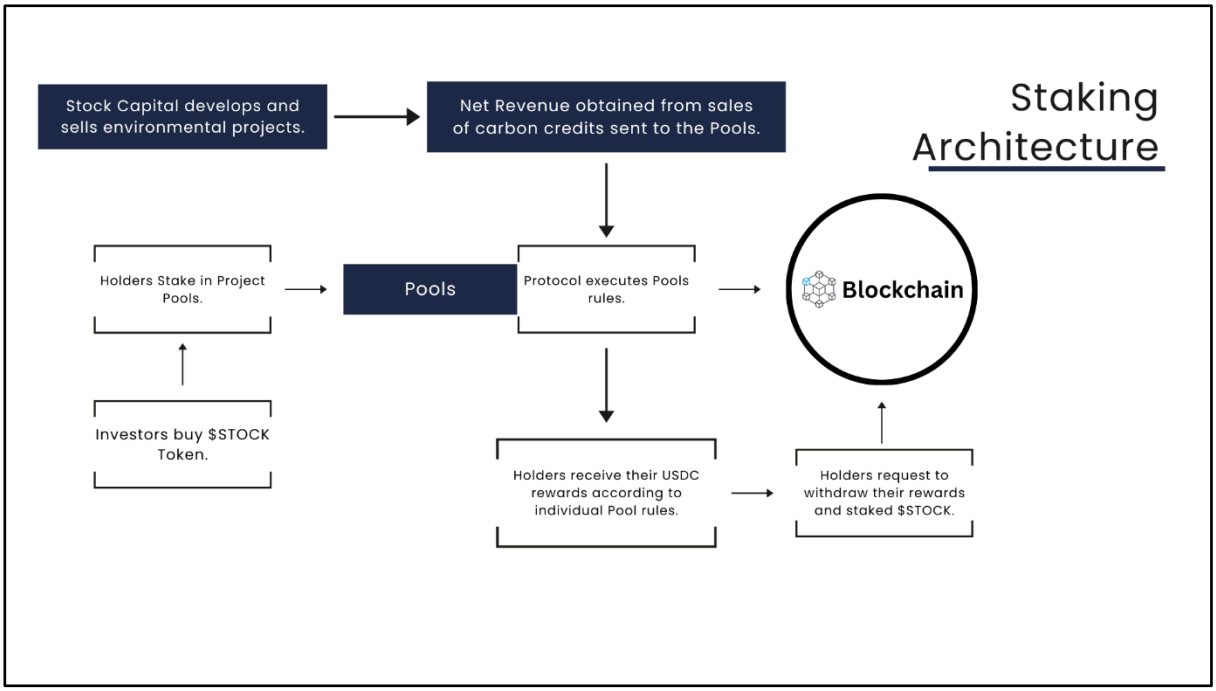
Individual Reward Calculation

$$Reward\ per\ Holder = Reward\ per\ Token * Staked\ Token\ Quantity$$

Security, Liquidity, and On-Chain Governance

The Stock Capital staking infrastructure is backed by audited smart contracts, implementing strict standards of security and transparency:

- Programmatic execution of rewards, ensuring impartiality and mitigating operational risks.
- Periodic audits and on-chain verifiability, ensuring the integrity of the protocol.
- Integration with DAO systems, enabling decentralized governance to optimize staking and reward flows.



14. Decentralized Carbon Credits Protocol with Bitcoin-Backed Reserve

The Stock Capital introduces an innovative approach to decentralized finance (DeFi) focused on sustainability, integrating decentralized carbon credits with a reserve mechanism collateralized by Bitcoin. The core objective of the protocol is to ensure financial stability through a Bitcoin reserve, reducing volatility and increasing the credibility of digital assets backed by carbon credits.

Protocol Architecture

The protocol is designed to be Layer-1 compatible, ensuring modular interoperability across multiple blockchain networks.

Bitcoin-Based Pricing Mechanism

The price of carbon credits will be dynamic and adjusted in relation to the price of Bitcoin, ensuring a market value aligned with the protocol's reserve.

The pricing of carbon credits follows the formula:

$$P_{CC} = k \cdot P_{BTC}$$

Where:

- P_{CC} the unit price of a carbon credit;
- P_{BTC} is the real-time price of Bitcoin;
- k is a correlation coefficient adjustable by the protocol.
- For correlation coefficient levels, the protocol will consider 0.0001.

Collateralized Bitcoin Reserve Mechanism

A fraction of the resources from the sale of STOCK tokens is allocated to a Bitcoin reserve registered on-chain, protected by Merkle Proof attestations.

A fraction of the resources from the sale of carbon credits is allocated to a Bitcoin reserve registered on-chain, protected by Merkle Proof attestations.

The reserve functions as an economic stabilizer, ensuring liquidity and trust in Stock Capital's tokenized carbon credit instruments.

All transactions involving reserve assets are transparently verifiable through zero-knowledge proof (ZKP) methodologies.

Explanation of the Fundamental Elements of the Formula

The unit price of a carbon credit represents the financial value assigned to each metric ton of CO_2 compensated. This price is dynamically adjusted based on market demand and the value of the Bitcoin reserve, ensuring transparency and stability in the trading of carbon credits.

The real-time price of Bitcoin reflects the current market value of the carbon credits. However, fluctuations in the price of Bitcoin do not influence the issuance of new carbon credits, nor do they affect existing credits. Only the price of the carbon credits available for trade will be adjusted according to the variation of Bitcoin.

Decentralized Autonomous Organization (DAO) Governance Model

Governance decisions, including the use of the Bitcoin reserve and the allocation of funding, are managed through a governance framework based on DAO (Decentralized Autonomous Organization).

Stock token holders have voting rights on critical issues, such as project funding, reserve liquidation, and the definition of incentive structures.

The protocol adopts quadratic voting and participation-weighted decision-making, aiming to avoid governance centralization.

Cryptographic Security and Regulatory Compliance

The protocol developed by Stock Capital adopts cutting-edge security mechanisms to ensure immutability, verifiability, and decentralization:

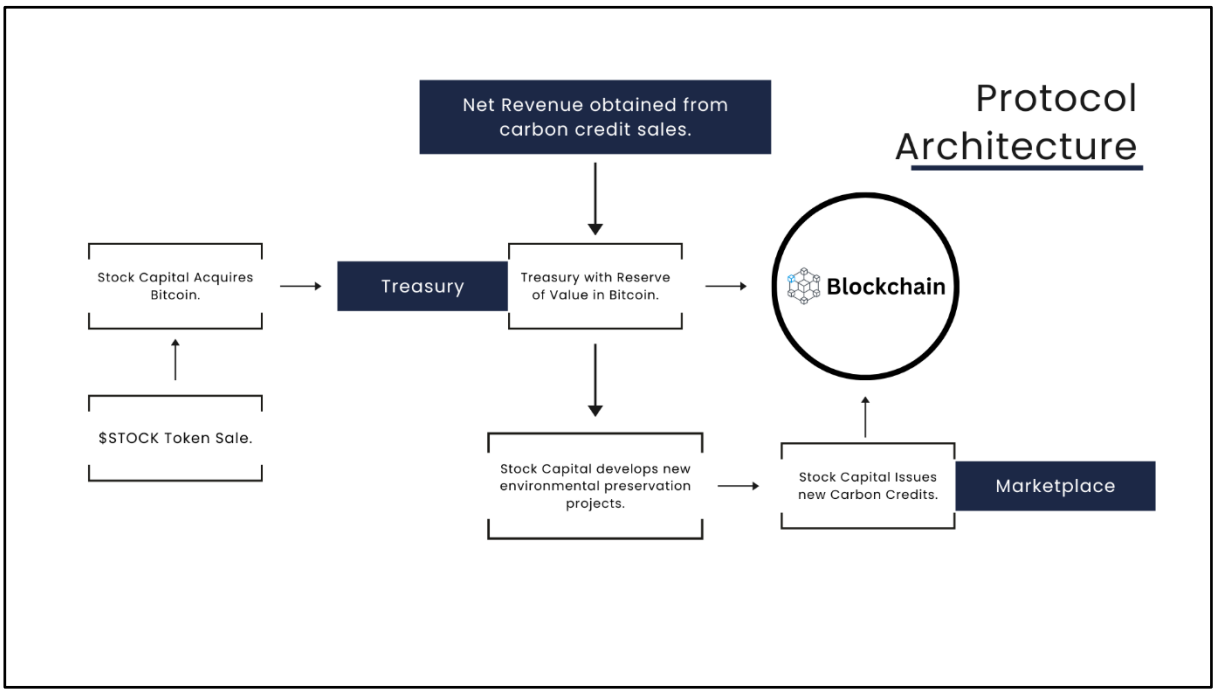
- Proof of Reserves (PoR) audits conducted via ZK-SNARKs, confirming Bitcoin collateralization in a non-intrusive manner.

- Decentralized Identity (DID) frameworks for user onboarding compatible with KYC, without compromising privacy.
- Multi-sign treasury management, with encryption to mitigate systemic risks.

Reserve Settlement Strategies and Capital Allocation

In the event of strategic liquidation of the Bitcoin reserve, funds will be allocated exclusively to:

1. Financing new environmental and social impact projects, ensuring alignment with sustainability goals.
2. Incubation and development of decentralized technologies for sustainability, promoting innovation in ReFi (Regenerative Finance).
3. Token buybacks and liquidity optimization, ensuring a stable and liquid ecosystem.
4. Distribution of dividends to governance token holders, encouraging long-term engagement.



15. Escrow Account

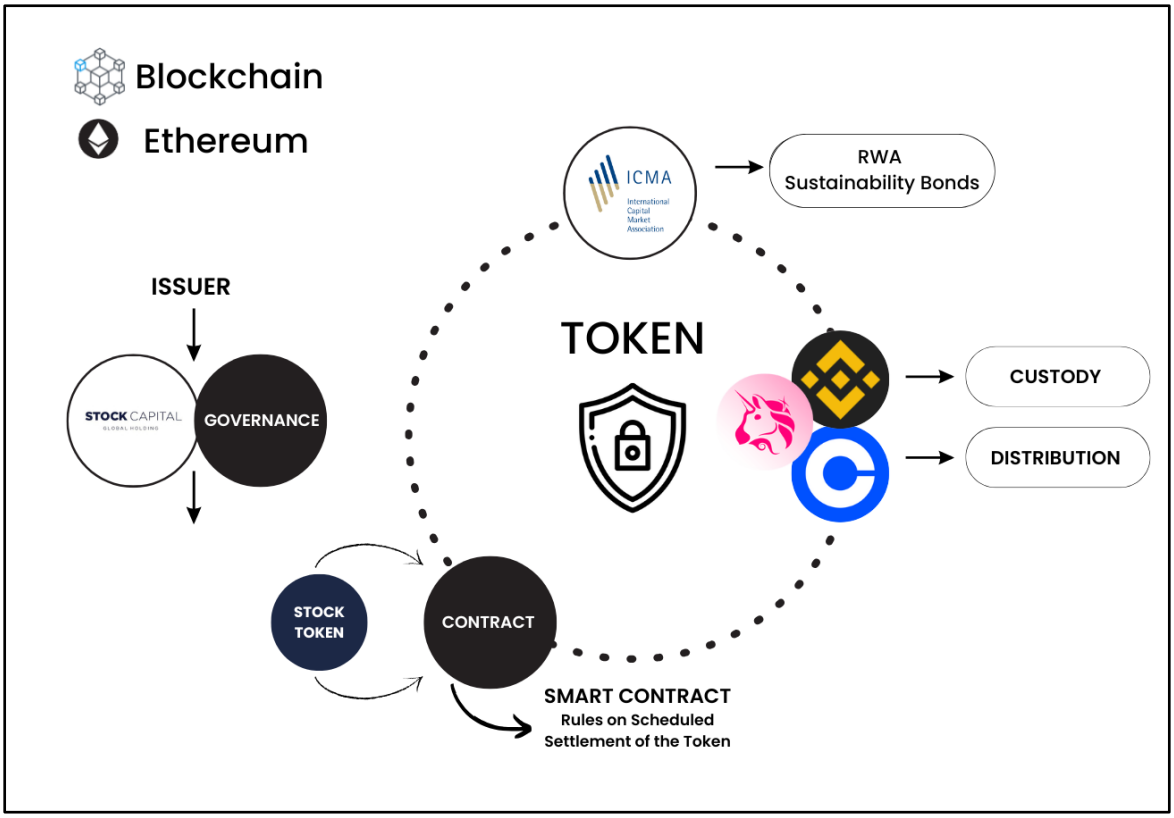
Stock Capital Global Holding will act as the issuer and governance of the Stock Token, ensuring that the smart contract regulates the token's scheduled settlement. The structure follows the guidelines of the International Capital Market Association (ICMA) to ensure compliance and transparency in the issuance of RWA Sustainability Bonds (Real-World Assets tied to sustainability bonds).

The Stock Token will be developed and operated within a smart contract, responsible for executing the rules of scheduled settlement. After issuance, the token will undergo an initial distribution process on decentralized platforms, such as Uniswap. Following market consolidation, distribution and custody will shift to centralized exchanges, such as Binance and Coinbase, ensuring liquidity and accessibility in the secondary market.

The Escrow Account will be essential for controlling the scheduled settlement of assets, mitigating risks and ensuring process transparency. This fiduciary account will be integrated with the smart contracts to ensure that funds or tokens are released only upon compliance with the rules defined in the protocol.

This approach aims to:

- Ensure regulatory compliance and governance;
- Mitigate risks for investors and stakeholders;
- Protect digital assets during the settlement and distribution process;
- Integrate the RWA tokenization infrastructure with the blockchain ecosystem in a secure and auditable manner.



16. Tokenomics

The distribution structure of the Stock Token has been carefully developed to ensure sustainability, corporate governance, and strategic alignment with the long-term goals of the project. This approach prioritizes transparency, decentralization, and equitable incentives for all stakeholders, ensuring the robustness and credibility of the adopted economic model.

This corporate governance model follows the best industry practices, ensuring accountability and equitable participation of stakeholders. The allocated Stock Tokens follow vesting and lock-up mechanisms, preventing excessive concentrations and ensuring a progressive distribution aligned with the project's growth.

17. Governance and Policies

The governance of Stock Capital will be corporate, meaning the company will be responsible for both developing the assets and managing and administering the capital allocated to the projects.

Aiming for security and transparency, Stock Capital commits to providing the holders with reports on financial movements, investments in environmental projects, social projects, and Bitcoin allocations, as outlined in the Use of Proceeds.

The reports will be submitted to independent analysis by a verifier or external consultant specialized in research, corporate treasury, and ESG analysis, responsible for ensuring their integrity and accuracy. Additionally, whenever possible, Stock Capital will be able to provide information related to the projected environmental or social impact of the Eligible Investments.

18. Impact Report

The Impact Report will incorporate both qualitative and quantitative indicators of Environmental and Social performance. This practice is aligned with the ICMA harmonized framework for impact reports from December 2020. It is important to highlight that performance indicators may be updated annually, following the best industry practices.

These inclusions reinforce Stock Capital's ongoing commitment to transparency and accountability, providing stakeholders with a comprehensive view of the allocation of invested resources and the Environmental and Social impact of Eligible Investments.

In this way, there will be full accountability to stakeholders, who will have broad access to information about the resources used for the operation of the entire project ecosystem.

19. Blockchain and Selected Token Standard

Among the numerous blockchains available for token creation, Stock Capital has chosen Ethereum as the foundation for the development of its projects. This decision was made considering several factors.

The primary one is that the Ethereum network is currently the most widely used, not only for the creation of ERC-20 tokens but also for a broad range of projects and tokenized assets. Examples of this include the development of decentralized applications (DApps) and protocols focused on decentralized finance (DeFi).

Ethereum was a pioneer in introducing the concept of smart contracts, a feature that allows created tokens to have predefined business rules and programmable functionalities, as is the case with the solutions developed by Stock Capital.

With these innovations, Ethereum has managed to build a solid and robust network, supported by a series of validators that ensure its decentralization, transparency, and security for global stakeholders.

20. Conclusion

Stock Capital presents a new infrastructure for sustainable investments by combining tokenization of real-world assets (RWA), decentralized governance, and an economic model based on transparency and traceability. The protocol redefines how environmental assets, such as carbon credits, are accessed and traded, eliminating historical barriers to liquidity and interoperability.

Through blockchain technology, Stock Capital establishes a reliable ecosystem, enabling investors to acquire and manage sustainable assets efficiently and at scale. The integration with a Bitcoin-backed reserve model strengthens the financial stability of the system, ensuring the long-term viability of carbon offsetting in the global market.

The demand for decarbonization and sustainability solutions is growing exponentially, and Stock Capital is positioning itself at the forefront of this movement, creating a safe, accessible, and economically viable environment for investors, companies, and stakeholders in the sector. Its decentralized approach, based on emerging technology, drives a future where environmental impact and financial return coexist in harmony, redefining the role of capital in the regeneration of the planet.