



Carbon Earth Whitepaper

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Abstract

Carbon Earth heralds a transformative era in sustainability investment by merging innovative blockchain technology with the carbon markets. Over 140 countries, including the UAE, US and China, are committed to becoming carbon neutral by 2050. Our objective is to introduce simplicity, convenience and efficiency into every sustainability investment or transfer of carbon credit yield, while uncompromising robust governance and security through the coding in our tokenized carbon credits.

The tokenization of carbon credits marks a significant milestone, offering a novel solution that combines fungible and non-fungible attributes to ensure consistency while accommodating the unique characteristics of each carbon credit. This innovative approach revolutionizes the carbon market landscape by embedding critical information and governance features directly into smart contracts, thereby enhancing transparency, accountability, and efficiency. By encapsulating essential metadata, tokenized carbon credits facilitate granular tracking and verification, empowering stakeholders with real-time insights into carbon credit ownership and utilization. This unprecedented level of transparency and immutability fosters trust among participants, mitigates risks of fraud and double-spending, and facilitates seamless compliance with evolving regulatory frameworks.

Carbon Earth Tokens (CET) introduces a pioneering approach of distributing tokenized carbon credits to its holders, offering an enticing and convenient avenue for investment in sustainability initiatives. Furthermore, it addresses the inherent challenges of traditional carbon markets, by ensuring transparency, consistency, governance, and security through its ecosystem, fostering confidence among participants and stakeholders.

At the core of CET's value proposition lies its utilization of tokenized Real-World Assets (RWA). Each CET is backed by these assets that are represented digitally on the blockchain, and provide intrinsic value to CET by anchoring its price dynamics and fostering stability. As such, the price is supported by the perpetual yield of carbon credits that is generated from our sustainability investments. Moreover, CET employs deflationary mechanisms, strategically designed to curb inflationary pressures and sustain long-term value appreciation. Additionally, CET incorporates sophisticated market-making strategies, bolstering market liquidity and enhancing price discovery mechanisms. This proactive approach not only fortifies CET's resilience but also augments its attractiveness to investors seeking exposure to the burgeoning carbon markets.

In summary, CET is a pioneering force, poised to revolutionize sustainability investment paradigms while addressing the pressing challenges of climate change. With its innovative features, including tokenized carbon credits, robust governance, and market-driven mechanisms, CET stands at the forefront in the quest for a greener, more sustainable future.

Introduction

The global imperative to combat climate change has ignited a pressing need for innovative financial mechanisms to fund decarbonisation projects. Article 6 of the Paris Agreement sets out how countries can achieve their climate and carbon emissions goals, by allowing international collaboration through the Paris Agreement Crediting Mechanism (PACM). PACM allows the international transfer of ITMO certified carbon credits that are earned through decarbonisation capabilities. This is a significant development, as it empowers emerging market countries with high carbon emissions to achieve “carbon zero” status with minimal impact to their productivity. In response, Carbon Earth introduces a novel cryptocurrency ecosystem designed to finance decarbonisation initiatives while generating perpetual yields of carbon credits for its Carbon Earth Token (CET) holders.

Decarbonisation projects, ranging from carbon capture installations to reforestation efforts, are vetted and funded through the sale of CET. The Carbon Earth ecosystem functions as the primary medium for the distribution of such carbon credits in our staking pools. Through blockchain technology, we facilitate transparent and fair distribution, ensuring the integrity of carbon credit issuance.

Crucially, CET is backed by the tokenization of Real World Assets (RWA), that holds their value during cryptocurrency market volatility, therefore providing price support during adverse market conditions. Furthermore, the ecosystem incentivizes continuous participation and engagement by offering fixed or variable returns in the form of carbon credits, stable coins or more CET.

This innovative approach not only addresses the urgent need for financing decarbonisation projects but also creates a self-sustaining cycle of environmental impact and financial return. By intertwining cryptocurrency technology with climate action, the proposed ecosystem offers a scalable and transparent solution to combating climate change while providing tangible benefits to its participants.

Problem statement

The carbon reduction markets lack standards, tools and governance which makes it difficult for participants to source and finance carbon offsetting.

Reducers

Carbon reducers find it difficult to finance the verification, operation and sales of carbon credits.

Companies

Companies that need carbon offsetting find it hard to source quality carbon credits.

Investors

Carbon credits are becoming an attractive investment asset but it is difficult to trade in these markets.

Vision and objectives

Our vision is to become a market leading, innovative and impactful participant in the carbon reduction finance space, through finance and support of initiatives, whilst generating a competitive return on investment.

Objective 1: Fund a diverse and innovative number of initiatives around the globe.

Objective 2: Establish a streamlined, automated and technology based platform to support the ecosystem.

Objective 3: Generate a profit on investment and demonstrate that carbon reduction is a viable investment category.

Objective 4: Attract and retain talent from the sustainability, finance and technology sectors.

Objective 5: To become a regional voice of innovation and fintech in MENA.

Objective 6: Grow the company to a \$100m valuation and a recognised brand in the carbon reduction sector.

Objective 7: Align our investment to ESG and SDG to ensure the initiatives make a positive impact.

Solution overview

A comprehensive platform providing end-to-end support for carbon reduction finance, from initiative funding to carbon emission offsetting. The operation is supported by a range of applications and processes with an emphasis on automation. By automation, we achieve scalability and efficiency and can support the long term vision for the company.

Sourcing and verification. Find high-quality initiatives and finance them through our investment model.

Trust through transparency. A trusted source of verified carbon credits through the use of blockchain technology.

Carbon credit lifecycle support. A streamlined suite of features that simplifies the management of the carbon credit lifecycle.

Carbon credit sales and trading

Meet the demand and find the best price through presale auctioning and trading exchange.

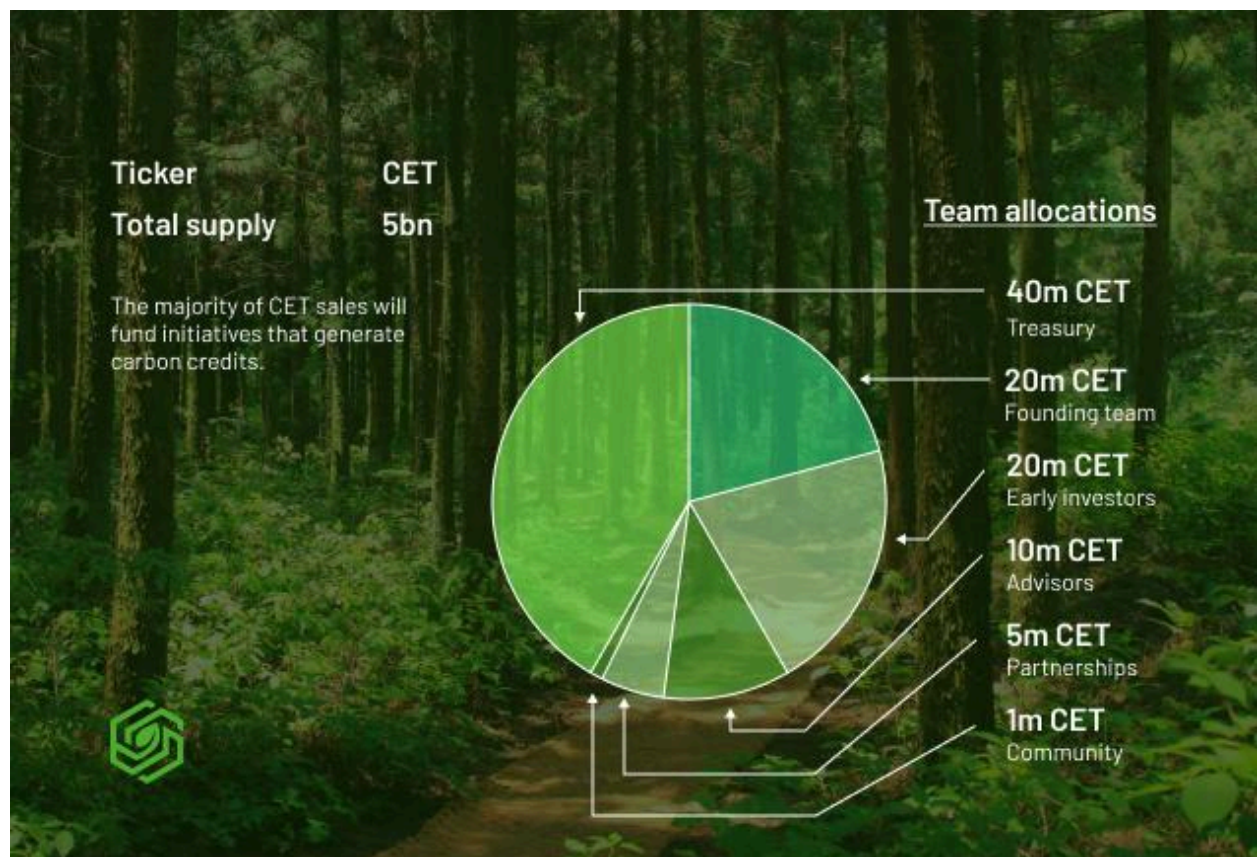
Tokenomics

The Carbon Earth Token CET is a utility token that fuels our ecosystem. CET gives you the ability to stake and get rewarded by the yield of carbon credits that the initiatives within our portfolio generate. CET is an efficient way of representing the funding contribution to an initiative and later matching it with a proportionate yield.

Carbon Earth token overview

Introducing the Carbon Earth Token (CET), an ERC20 utility token implemented with the robust OpenZeppelin library. With a total supply of five billion tokens, CET supports Carbon Earth's mission to accelerate the global transition to a low-carbon economy. Initially available for sale, CET will be listed on leading exchanges to ensure liquidity and ecosystem support. As the foundation of the Carbon Earth platform, CET offers diverse utilities, from accessing premium features to participating in governance decisions. Join us in combating climate change and building a sustainable future with CET.

Token distribution



Total Token Supply: 5 billion tokens. The majority of these will be locked up and owned by the treasury and released over time to grow the ecosystem. Full release schedule works as follows:

Initial Token Distribution:

Founding team The initial ten members of the team will receive an allocation of CET based on their experience and on-going contribution. The token will be vested for six months from the date they were allocated.	20m CET
Early investors / presale We are preselling twenty million tokens at \$0.02 with no vesting to incentivise quick investment from a friends and family round.	20m CET
Advisors In order to reward advisors we will pay a mixture of tokens and cash. The token allocation will encourage a long term engagement and incentivise advisors to contribute to the success as much as possible. Advisor tokens will be vested for 6 months from the date they allocated.	10m CET
Partnerships When appropriate, we will engage with partners and collaborate with both commercial and technical aspects. As part of incentivising this contribution, we will partially or fully reward them with CET. Partner tokens will have no vesting.	5m CET
Community development We will make an allocation available for airdrops, competitions and rewards in order to spark interest in our project at an early stage. Community tokens will have no vesting.	1m CET
Treasury A buffer will be held by Treasury for liquidity management.	40m CET
Initiative funding The remaining tokens will be used for initiative funding and are locked in a vesting schedule released according to the table below.	4.9bn CET

Token utility

CET offers a number of utility features. Its main utility is the distribution of carbon credits that a holder is entitled to when staking the token. The distribution is calculated by the number of tokens held as a percentage of the overall decarbonisation initiative yield.

Token governance

Tokenized carbon credits are ERC-1400 tokens that have embedded governance to solve many of the legacy problems in the carbon markets, while ensuring transparency and oversight. The following governance is applied to the tokenized carbon credits:

- **External audits.** Carbon Earth is subject to external independent audits to provide assurances that all our operations are aligned to regulation
- **Vesting.** We use the token locker from safe.global to provide a locking mechanism that will prevent any release of new tokens to the market that do not follow the specified schedule.
- **Multisig wallets.** In order to make any transfers we apply multisig approvals that requires the senior management to sign off on each transaction.
- **ERC-1400.** The standard offers a number of features that can be used for governance.
- **Blockchain.** The global nature of the blockchain will provide cross-border consistency that is aligned to ITMO guidance
- **Transparency and oversight.** Our ecosystem will be built on the Ethereum network that allows for complete transparency and supervisory oversight
- **Double spending restrictions.** Each smart tokenized carbon credit will be coded to restrict 3rd party sales of expired carbon offsets to prevent double spending. Carbon credits can either be used directly by the owners or converted to USDC/USDT/CET on the Carbon Earth platform
- **Duplication prevention.** Carbon Earth will use ERC-1400 smart contracts that are capable of fungible and non-fungible attributes.

Each ERC-1400 tokenized carbon credit will include key information to ensure auditable information and traceability, including but not limited to the following:

- Date/time of verification
- 3rd Party verification team, company or government agency
- Date/time of certification
- Certification body i.e. ITMO
- Country of origin
- Decarbonisation project name
- Decarbonisation project identifier i.e. company registration number
- Method of decarbonisation
- Type of elements or objects used for decarbonisation i.e. peat bogs, type of trees, type of minerals, etc

- Other information relevant to the source of carbon credits
- Number of carbon credits in the original certificate
- Unique reference ID of the original block of carbon credits that were issued

Token economics

Each CET is “proof of investment” into sustainability projects or decarbonisation capabilities. Proceeds from CET sales will be transferred into sustainable investments that produce a fixed return of carbon credits, which is distributed to all CET holders. As such, each CET benefits from a yield of carbon credits that will be reflected in the CET price. If the price of CET declines, the carbon credit yield per CET increases, which attracts investors to support the CET price.

Example

If:

- I. *Sum of all CET sales revenue = Sc*
- II. *Quantity of carbon credits produced from Sc investments = Qc*
- III. *Price of carbon credits = Pc*
- IV. *Price of CET = Px*
- V. *CET yield = Yc*

Where:

$Sc \approx$ total investment capital into decarbonisation projects

$Px \propto Y$

*$Yc = (Qc * Pc) / Sc$*

Scenario 1

*Yield stabilization during increased scalability: Carbon Earth sells $100(Qc * Pc)$, which translates into $100(Sc)$, therefore Yc remains the same.*

Scenario 2

CET price stability during market declines: Px declines, which increases the Yc , and the CET price is supported by investors seeking to maximize yield

Scenario 3

CET price support: Pc increases inline with the forecast demand of carbon credits, which increases the fiat denominated Yc , which increases Px

Token issuance and sales model

Carbon Earth will use exchanges as launchpads to distribute newly issued CET into circulation

Pre-sale: 5%

Sales through private transactions prior to the token sale

Institutional Allocation: 10%

CET will be available at a discounted price for institutions or HNWI who place large orders

Staff: 15%

Ongoing incentives throughout the lifetime of the company

Public Issuance: 55%

CET will be made available through 3rd party exchanges in allocations that are distributed annually for 10 years. Each allocation will have a decreasing volume of CET that is supplied at increasing price increments. Market making strategies will be used to moderate the supply of CET when each allocation is released

Reserve 15%

Carbon Earth will retain an allocation of CET to allow for unforeseen circumstances.

Unsold CET is interchangeable between the public issuance and institutional allocation.

Use of seed funds

Licensing/Regulatory Approvals	10%
Sales/Marketing	20%
Operations	10%
Platform Development	60%

Token vesting schedule

Allocation	Description	Vesting period in month
Presale < 20m	First 20m presale tokens	0
Presale > 20m	Remainder of presale tokens after 20m	3
Founders	Any founder incentives after token sale	12
Core team bonuses	Annual or periodic staff bonuses	6
Executive joining incentives	Sign-on incentives for senior executives	12
Advisors	CET remuneration for collaborations	6

Token burn and deflationary mechanisms

25% of surplus CET from public issuances will be burnt to moderate supply, prior to the release of subsequent allocations.

Token staking mechanism

The Carbon Earth staking pool is a dynamic mechanism where CET is staked for a period of time. During this period, staked CET earns carbon credits in proportion to the stake percentage. If CET is withdrawn the staking ceases, halting further carbon credit accrual.

What sets our staking pool apart is its flexibility. At set intervals, participants can withdraw carbon credits from the pool, even while their CET remains staked. This feature ensures a steady flow of profit or a predictable yield of carbon credits.

Moreover, tokenized carbon credits generated from decarbonization projects funded by CET sales enrich the staking pool. The distribution of carbon credits is meticulously calculated based on the number of staked CET, offering a fair and transparent reward system.

Example:

If 50% of all issued CET is staked and 50% is used for speculative trading, the 50% CET that is staked will receive 100% of the available carbon credits in the staking pools.

Staking will be unavailable for unsold or unissued CET owned by Carbon Earth, so the carbon credit yield per CET in circulation is not negatively impacted by company reserves or CET that is locked up prior public issuance.

Token lockup periods

Each allocation of CET that is available for public issuance will be locked up in the Carbon Earth treasury until it is scheduled for annual release.

Target public issuance schedule

Token sale	190m CET
Allocation 2	360m CET
Allocation 3	320m CET
Allocation 4	280m CET
Allocation 5	240m CET
Allocation 6	200m CET
Allocation 7	180m CET
Allocation 8	160m CET
Allocation 9	140m CET
Allocation 10	120m CET

Token rewards and incentives

CET holders receive tokenized carbon credits as rewards for staking their CET and are incentivised to keep their CET staked by the increased nominal amount of carbon credits available in the staking pools as the investment pool grows.

Revenue model

Carbon Earth receives revenues from the following sources:

- **5%** of Carbon Credits generated by decarbonisation projects that are funded by CET sales
- **0.75%** Exchange fee for converting carbon credits to USDT/USDC/CET on our platform.
- **0.25%** Transaction fee to withdraw funds via fiat payment rails (excluding 3rd party payment provider fees)

Sustainability and long-term viability

The Carbon Earth objectives in terms of sustainability are not limited to environmental sustainability, but operational strategies are included in the company to ensure a long and prosperous future for Carbon Earth and its ecosystem.

By transferring the CET sales revenue into sustainable investments that produce a perpetual yield of carbon credits, we are creating protection for CET holders during any significant sell-off in the cryptocurrency markets. As the price of CET falls, the carbon credit yield per CET increases, which will create a theoretical “buy-zone” for investors seeking access to a high yield of carbon credits. This link to RWA is intended to provide protection during the “crypto-winters” and ensure a sustainable and long-term viable plan that is supported by the rising demand for carbon credits.

Token risks and challenges

Carbon Earth operates an EWRM (Enterprise Wide Risk Management) model that includes policies and procedures to ensure direct lines of accountability are mapped to key areas of the organization. The EWRM approach ensures that any risk event is communicated to the relevant individuals in the most efficient manner possible to identify and mitigate the root cause of the risk event while minimizing reputational damage through clear, concise and transparent communications with investors, stakeholders and the general public.

Key risks and mitigating measures

Competition	There is a likelihood that other carbon credit crypto projects will appear alongside the ones already existing. The risk to Carbon Earth is a decreasing market share and a fragmented standardization landscape. We will counter this by spending a significant effort in marketing our streamlined processes and best price finding.
Market risks	CET sales proceeds are transferred into the RWA which will theoretically limit exposure to the crypto market volatility risks, in addition to market making strategies and mechanisms to moderate supply will be implemented.
Initiative risks (financial, execution, geographical, people risks)	Carbon Earth will invest in a varied portfolio of projects to minimize diversifiable risk and limit exposure to any one or more project failures
Crypto banking risks	Carbon Earth will open multiple banking accounts to minimize the concentration risk of any loss of banking capabilities and/or one or more banking failures.

FX and crypto exchange risks	The Carbon Earth treasury will hold CET, USDT, USDC, ETH and tokenized Carbon Credits. Any other crypto assets will be converted to USD denominated stable coins to minimize FX exposure and ETH will be held to facilitate transactions of the Ethereum blockchain. We do not plan to perform any proprietary trading or hold currencies for speculative gains.
Hacks and scams	The most significant of risks and especially prevalent in the crypto markets. Our mitigation is based on segregation through airgaps, multisig approvals and cold storage.
Regulatory risks	Carbon Earth will seek to establish a relationship with all relevant regulatory bodies to ensure that we work towards a strong compliance ethos at our core. In terms of strategic advantage, any regulatory challenges will be applicable to competitors and other market participants, which can give Carbon Earth a strategic advantage when regulatory approvals are granted. A key factor will be the regulator's view in terms of classifying CET as a security.
Counterparty risks	We may enter into partnerships, collaborations, joint ventures, or strategic alliances with third parties. If we are unsuccessful in establishing or maintaining strategic relationships with these third parties or if third parties fail to deliver operational services, our financial condition could be adversely impacted. Legal agreements will be tailored to partially mitigate the impact of such risks materializing
Interest rate risks	Interest rates may have an impact on the demand for the fiat denominated yield of carbon credits per CET. This will be partially mitigated by the Carbon Earth continued quest for high yielding decarbonisation projects.
The future of the crypto and carbon markets	The carbon markets and crypto markets are relatively new and subject to a high degree of uncertainty. This risk is partially minimized by the experience and capabilities of the executive team to navigate such an environment. Furthermore, the Web3 innovation of Carbon Earth should help the company to achieve and retain a competitive advantage in both the carbon and crypto markets
Legal risks	Carbon Earth will have a General Counsel and legal advisors on retainer to advise on the most appropriate and course of action to be taken, in terms of legal issues that may arise.
Platform outages	As a technology company, Carbon Earth will have a fully functioning development team that will be available to address any platform outages. Such outages will be entered into the risk register and controls put in place to identify the root cause of such outages before they materialize into a failure.

Technology architecture

Technology overview

The technology behind Carbon Earth represents a convergence of innovation, security, and decentralization. At its core, the platform aims to redefine the way we transact and interact in the digital world, offering users a robust infrastructure for conducting various financial and non-financial activities. Carbon Earth leverages blockchain technology to create a secure and transparent ledger of transactions reflecting the lifecycle of carbon credits. This blockchain serves as the foundation upon which the entire platform is built, ensuring that every transaction is recorded immutably and cannot be tampered with. Through the use of advanced cryptographic techniques and consensus mechanisms, Carbon Earth ensures the integrity and trustworthiness of the activity in the ecosystem. In addition to its blockchain, Carbon Earth utilizes smart contracts to automate and enforce the terms of agreements between parties. These self-executing contracts are programmed to execute predefined actions when certain conditions are met, eliminating the need for intermediaries and reducing the risk of fraud or manipulation.

Overall, the technology behind Carbon Earth is designed to be scalable, secure, and user-friendly. By combining the strengths of blockchain, AI, and other cutting-edge technologies, Carbon Earth is poised to revolutionize the way we transact and interact in the digital age.

Hybrid architecture

Carbon Earth employs a hybrid architecture that combines the best aspects of centralized and decentralized systems. This hybrid approach is designed to address the inherent trade-offs and limitations of each paradigm, while maximizing the benefits for users.

Centralized systems offer advantages such as scalability, speed, and ease of use. However, they also introduce single points of failure and increase the risk of censorship or manipulation. Decentralized systems, on the other hand, provide transparency, security, and censorship resistance. However, they often suffer from scalability and usability issues and the lack of central governance makes it unsuitable for traditional finance. By combining the strengths of both centralized and decentralized systems, Carbon Earth is able to offer users a seamless experience without sacrificing security or decentralization. For example, certain components of the platform may be centralized to improve performance and scalability, while critical functions such as transaction validation and asset custody remain decentralized to ensure trustlessness and resilience.

Overall, the hybrid architecture of Carbon Earth enables it to achieve the scalability, speed, and security necessary to support the various aspects of carbon credit finance.

Blockchain

The blockchain powering Carbon Earth serves as the backbone of the entire platform, providing a secure and immutable ledger of transactions. Built on a decentralized network of nodes, the blockchain records every transaction in a transparent and tamper-proof manner, ensuring that all participants have access to the same information and that no single entity can control or manipulate the network.

In addition to recording transactions, the blockchain also serves as a platform for executing smart contracts. These self-executing contracts are programmed to automatically enforce the terms of agreements between parties, eliminating the need for intermediaries and reducing the risk of fraud or manipulation. Smart contracts are the cornerstone of Carbon Earth's functionality, enabling automated and trustless execution of agreements between parties. These self-executing contracts are programmed to enforce predefined rules and conditions, eliminating the need for intermediaries and reducing the potential for disputes or fraud. One of the key advantages of smart contracts is their transparency and immutability. Once deployed on the blockchain, smart contracts cannot be altered or tampered with, ensuring that all parties can trust in the integrity of the agreement. Additionally, smart contracts execute automatically when predefined conditions are met, reducing the need for manual intervention and streamlining the transaction process. This results in a high level of trust the various parties in the ecosystem can put on the validity and correctness of the carbon credits managed by Carbon Earth.

Smart contract components

Carbon Earth Token CET. The CET is an ERC20 token that can be viewed on the link below.

<https://etherscan.io/address/0x430BF5e78c1A2f2644d93235e2f0269407B7eb79>

It was created using the BitBond Token Tool <https://tokentool.bitbond.com>

CET is based on the OpenZeppelin implementations and is non-mintable.

Tokenizer. The tokenizer is a set of smart contracts that are used to tokenize carbon credits. It takes in all the salient information and mints an ERC1400 token and stores it on the blockchain. Any associated documents will be stored to IPFS.

Carbon credits. A tokenized carbon credit follows the ERC1400 standard with additional capabilities added by Carbon Earth.

ERC1400 provides the following features:

- **Partitioning.** ERC-1400 supports the partitioning of security tokens into different categories or tranches, each subject to distinct rights, restrictions, and obligations. This

enables issuers to tailor token offerings to specific investor preferences or regulatory requirements.

- **Controller Operations.** The standard defines a set of controller operations that govern token issuance, transfer, redemption, and other lifecycle events. These operations are configurable and can be customized to accommodate various regulatory frameworks and business models.
- **Document Management.** ERC-1400 includes provisions for attaching and managing off-chain documents, such as legal agreements, prospectuses, or regulatory filings, to provide investors with comprehensive disclosure and transparency.
- **Investor Protections.** The standard incorporates features for enforcing investor protections, including transfer restrictions, investor accreditation checks, and compliance with Know Your Customer (KYC) and Anti-Money Laundering (AML) regulations.
- **Granular Permissions.** ERC-1400 enables issuers to define granular permissions and access controls, allowing them to restrict token functionality based on investor eligibility, jurisdictional requirements, or other criteria.

Staking pool. We implement our staking pool from the ground up as a smart contract. The term staking pool has changed a bit, as well as what you call staking. Since Proof of Stake was rolled out as the consensus algorithm on Ethereum, staking is associated with transaction validation. However, we refer to staking as the act of locking up your tokens during which time you receive a reward. The implementation provides a number of features to achieve the functionality we need.

Verifier registry. Our global, transparent registry of verifiers will be deployed and can be used by other smart contracts to view information. The registry is kept up to date with our management UI.

Ethereum

Choosing Ethereum as the foundational blockchain for Carbon Earth offers a multitude of advantages and opportunities that align closely with the project's goals and vision. Below, we delve into the reasons why Ethereum stands out as the preferred option, outlining its key strengths, potential drawbacks, and a comparison with major competitors.

Pros of Ethereum

- **Established Ecosystem.** Ethereum boasts one of the most robust and established ecosystems in the blockchain space. It has a vast community of developers, users, and projects, providing ample opportunities for collaboration, integration, and growth.

- **Smart Contract Functionality.** Ethereum pioneered the concept of smart contracts, enabling developers to create programmable, self-executing contracts that automatically enforce predefined rules and conditions.
- **Interoperability.** Ethereum supports interoperability with other blockchains and protocols through standards such as ERC-20 and ERC-721. This interoperability allows for seamless integration with existing projects and platforms, enhancing the flexibility and utility of Carbon Earth.
- **Security.** Despite past incidents such as the DAO hack, Ethereum has continuously improved its security measures and protocols. It benefits from a large network of nodes and miners, making it highly resilient to attacks and ensuring the integrity of the platform.
- **Scalability Solutions.** While Ethereum has faced scalability challenges, it has released solutions such as Ethereum 2.0, which transitioned to a proof-of-stake consensus mechanism and improved scalability through sharding. This upgrade significantly enhanced Ethereum's throughput and performance.

Cons of Ethereum

- **Scalability Issues.** Ethereum has struggled with scalability due to its limited transaction throughput and high gas fees during periods of network congestion. This has led to delays and increased costs for users, particularly during times of high demand.
- **Competition.** Ethereum faces stiff competition from other blockchain platforms that offer similar or improved features, such as scalability, interoperability, and security. Competitors like Binance Smart Chain, Solana, and Polkadot have gained traction by addressing some of Ethereum's limitations.
- **Gas Fees.** Ethereum's gas fee model, which determines the cost of executing transactions and smart contracts, can be prohibitive for users, especially during periods of network congestion. High gas fees can deter users and limit the scalability of decentralized applications (dApps) built on Ethereum.

Comparison with major Ethereum competitors

Binance Smart Chain (BSC): BSC has gained popularity due to its low transaction fees and fast confirmation times. However, it sacrifices some decentralization for scalability, relying on a smaller number of validators compared to Ethereum's decentralized network.

Solana: Solana offers high throughput and low latency, making it suitable for high-performance applications. However, it is still relatively young compared to Ethereum and has yet to establish a comparable ecosystem and developer community.

Polkadot: Polkadot aims to provide interoperability between different blockchains through its parachain architecture. While promising, Polkadot is still in its early stages of development and adoption compared to Ethereum.

In conclusion, Ethereum remains a compelling choice for Carbon Earth due to its established ecosystem, smart contract functionality, interoperability, and ongoing efforts to improve scalability. While it faces challenges such as scalability issues and competition from other platforms, Ethereum's strengths and potential for growth make it a solid foundation for building innovative decentralized applications.

Oracles and data sources

In order to interact with external data sources and real-world events, Carbon Earth relies on oracles. Oracles serve as bridges between the blockchain and off-chain data, providing reliable information that can be used to trigger smart contract execution.

To ensure the reliability and integrity of oracles, Carbon Earth employs a variety of techniques, including data aggregation, consensus mechanisms, and cryptographic signatures. By leveraging multiple oracles and data sources, Carbon Earth mitigates the risk of data manipulation or censorship, ensuring the trustworthiness of the information used to trigger smart contract execution.

Overall, oracles play a crucial role in enabling Carbon Earth to interact with the real world in a secure and decentralized manner. By bridging the gap between the blockchain and external data sources, oracles enable a wide range of innovative applications and use cases.

Types of oracles:

- Carbon credit reference prices, primarily from other exchanges and market data providers.
- Verifier information and verification status.
- Company information for initiative assessment.
- Payments. Certain lifecycle events will trigger if a carbon credit is purchased.

Open source

Carbon Earth is committed to the principles of transparency, collaboration, and innovation, which is why it embraces open-source development practices. By making some of its codebase publicly accessible, Carbon Earth invites developers from around the world to contribute to its development, audit its code, and suggest improvements.

Furthermore, open-source development promotes interoperability and compatibility with other projects and platforms, fostering a vibrant ecosystem of decentralized applications and services. By building on open standards and protocols, Carbon Earth enables seamless integration with other blockchain projects and technologies, enhancing its utility and value proposition.

Progressive Web Applications (PWA)

Carbon Earth is committed to providing users with a seamless and accessible experience, which is why it leverages Progressive Web Applications (PWAs). PWAs combine the best features of web and mobile applications, offering users a fast, reliable, and engaging experience across all devices and platforms.

PWAs are designed to be lightweight and responsive, enabling fast load times and smooth performance even on slower internet connections. Additionally, PWAs can be installed directly onto a user's device, allowing for offline access and seamless integration with native features such as push notifications and device sensors. By adopting PWAs, it ensures that the platform is accessible to users around the world, regardless of their device or internet connection. Whether accessing the platform on a desktop computer, smartphone, or tablet, users can enjoy a consistent and intuitive experience that adapts to their needs and preferences.

Overall, PWAs play a crucial role in the mission to democratize access to financial services and empower individuals to take control of their financial future. By offering a seamless and accessible user experience, the aim is to break down barriers and create opportunities for financial inclusion and empowerment.

Testing and audits

Prior to deployment, the release candidates undergo rigorous testing and audits to ensure the security, reliability, and performance of its technology. Through comprehensive testing methodologies and third-party audits, Carbon Earth identifies and addresses any potential vulnerabilities or weaknesses, thereby safeguarding the integrity of the platform.

Testing and audits are conducted at every stage of development, from the initial design phase to the final deployment. This ensures that the software meets the highest standards of security and reliability, providing users with peace of mind and confidence in the platform. Additionally, Carbon Earth regularly engages with external auditors and security experts to review its codebase and infrastructure, ensuring that it remains resilient to emerging threats and vulnerabilities. By staying proactive and vigilant, Carbon Earth demonstrates its commitment to maintaining the trust and confidence of its users.

Technology roadmap

Carbon Earth follows a comprehensive technology roadmap that outlines its short-term and long-term goals, milestones, and timelines. This roadmap serves as a guiding framework for the development and evolution of the platform, ensuring alignment with its vision and objectives.

The technology roadmap is a dynamic document that evolves over time in response to changing market conditions, user feedback, and technological advancements. It provides a clear and transparent overview of Carbon Earth's strategic priorities and initiatives, enabling stakeholders to track progress and measure success.

Key components of the technology roadmap include:

Development milestones

Major milestones and deliverables that mark progress towards the completion of the platform.

Feature roadmap

Planned features and enhancements that will be implemented in future releases.

Timeline

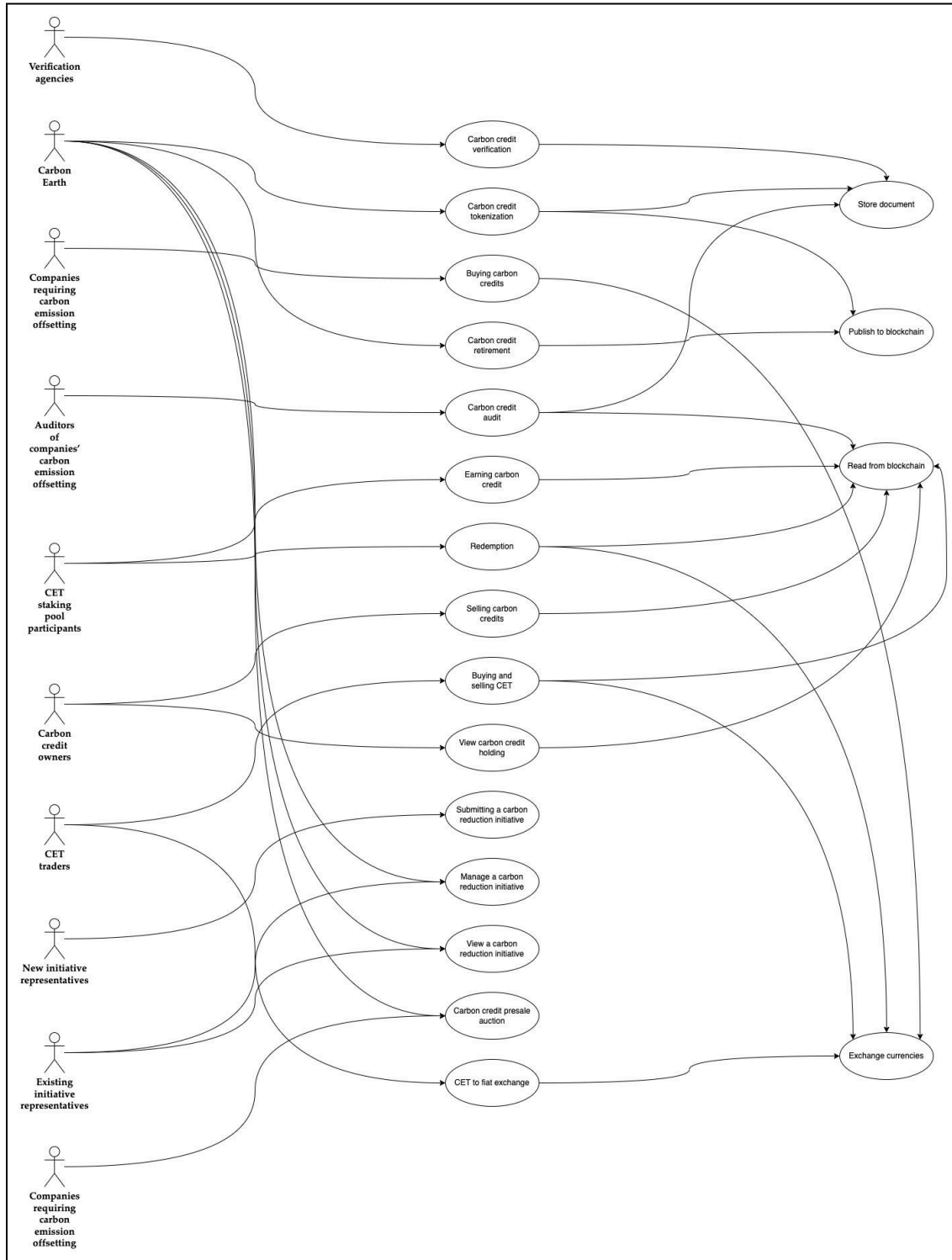
A timeline of key events and milestones, including development sprints, testing phases, and deployment dates.

Resource allocation

Allocation of resources, including manpower, budget, and infrastructure, to support the execution of the technology roadmap. By following a technology roadmap, it ensures that the development efforts are focused, strategic, and aligned with its long-term vision and objectives.

Use cases and applications

Use cases



Carbon credit verification

Actors: Verification agencies

In order for a carbon credit to have any value, it must be verified. Carbon credits are particularly sensitive to fraud or incorrectness due to the way they effectively are just counters with no physical product. Carbon credit verification mainly involves audits and monitoring by third parties, usually supported by internal processes and systems.

The verification is applied to the initiative that generates the carbon credits, following a methodology that typically involves the following:

Project Documentation. Comprehensive documentation detailing the project's design, implementation plan, and expected emissions reductions. This documentation serves as the basis for the verification process and includes project descriptions, methodologies used for quantification, baseline emissions estimates, and monitoring plans.

Selection of Verification Standard. Selection of a recognized carbon offset standard against which the project will be verified. Common standards include the Clean Development Mechanism (CDM), Verified Carbon Standard (VCS), Gold Standard, and others. Each standard has specific requirements and methodologies for project validation and verification.

Independent Third-Party Verification. An independent third-party verifier, accredited by the chosen standard, conducts a thorough review of the project documentation and implementation to ensure compliance with the standard's requirements. This verification process typically involves site visits, interviews with project stakeholders, and data review to assess project integrity and accuracy of emissions reductions claims.

Quantification of Emissions Reductions. The verifier evaluates the project's emissions baseline (the level of emissions that would occur without the project) and assesses the actual emissions reductions achieved due to project activities. This quantification may involve complex calculations, modeling, and data analysis depending on the project type and methodology.

Risk Assessment. The verifier identifies and assesses potential risks to the accuracy and reliability of the emissions reductions claimed by the project. This includes evaluating factors such as data quality, monitoring protocols, project permanence, leakage (indirect increases in emissions elsewhere), and additionality (demonstrating that emissions reductions would not have occurred without the project).

Issuance of Carbon Credits. Upon successful verification, carbon credits (also known as carbon offsets) are issued to the project. Each credit represents one metric ton of carbon dioxide equivalent (CO₂e) that has been reduced, avoided, or sequestered by the project. These credits

can then be traded or sold on carbon markets to individuals, companies, or governments seeking to offset their own emissions.

Registry Listing. Verified carbon credits are typically registered in a central registry or database maintained by the standard-setting body. This registry provides transparency and traceability, allowing buyers to verify the authenticity and ownership of carbon credits.

Carbon credit tokenization

Actors: Carbon Earth

Carbon credits are tokenized by Carbon Earth when they are issued. The tokenization is the process of creating a digital asset representing the carbon credits and publishing it to the blockchain. The tokenized carbon credit mirrors the same structure and lifecycle as the real world carbon credit.

The tokenization is handled by a process at Carbon Earth which utilizes a combination of smart contracts and a web application UI. All pertinent information about the initiative is entered and a unique identifier is generated that is immutable.

Buying carbon credits

Actors: Companies requiring carbon emission offsetting

The Carbon Earth carbon credits are sold to companies directly through the platform. Once a carbon credit is purchased, it is officially retired and can be included in carbon emission offsetting.

There are a number of ways we conduct carbon credit sales:

- **Presale auctions.** This is done before the initiative is even started and can raise capital to fund the project.
- **Over-The-Counter (OTC).** Individual deals are struck to meet special requirements and can offer companies the timing needed and volume discounts that they might be facing.
- **Platform purchase.** We have the functionality for a streamlined purchase of carbon credits using bank transfers or credit card payment.

Carbon credit retirement

Actors: Carbon Earth

Carbon credit retirement refers to the permanent removal of carbon credits from circulation in the carbon offset market. When carbon credits are retired, they are effectively canceled or "retired" from use, meaning they can no longer be sold, traded, or used for offsetting greenhouse gas emissions.

Carbon credit retirement serves several purposes:

- **Environmental Integrity.** Retiring carbon credits ensures that the emissions reductions they represent are permanently accounted for and not double-counted. This maintains the integrity of carbon offset projects and prevents the inflation of emissions reduction claims.
- **Emission Reduction Commitments.** Organizations, governments, or individuals retire carbon credits as part of their commitment to reducing greenhouse gas emissions. By retiring carbon credits, they demonstrate their contribution to mitigating climate change beyond regulatory requirements or voluntary goals.
- **Market Signal.** Retiring carbon credits can send a signal to the carbon market, indicating strong demand for emissions reductions and potentially influencing market dynamics such as carbon credit prices and investment decisions.
- **Accountability and Transparency.** Carbon credit retirement enhances transparency and accountability in the carbon offset market by providing clear evidence of emissions reductions achieved and ensuring that credits are not reused or resold after retirement.

Carbon credit retirement typically occurs through a formal process facilitated by registries or carbon credit tracking platforms. When carbon credits are retired, they are recorded as "retired" or "canceled" in the registry, and their unique serial numbers are marked as inactive to prevent further transactions. Entities may retire carbon credits for various reasons, including corporate sustainability commitments, compliance with emissions regulations, offsetting carbon footprints, or supporting specific carbon reduction projects. Retirement may be voluntary or mandatory, depending on the context and regulatory requirements.

Overall, carbon credit retirement plays a crucial role in maintaining the credibility and effectiveness of carbon offsetting as a mechanism for mitigating climate change, ensuring that emissions reductions are genuine, verifiable, and permanent.

Carbon credit audit

Actors: Auditors of companies' carbon emission offsetting

Audits form an important part of a company's carbon emission offsetting process, where they are requested to prove the offset they have acquired and can take credit for. The audit will

include verification of internal financials and as well as processes to confirm emission and pertinent to Carbon Earth, it will involve the recording of the carbon credits purchased. A number of different carbon offsetting audit methodologies are in use and it depends on the company which one will be applied.

In order to support a carbon offsetting audit, Carbon Earth provides a public, tamper-proof and validated record of every carbon credit that can be verified by the auditor via a standard API.

Earning carbon credits

Actors: CET staking pool participants

By staking the CET token, you earn a yield of carbon credits as a function of the amount of CET and the amount of yield the initiatives produce. The tokenized carbon credits are distributed amongst the staker wallets at intervals which will vary depending on the initiative. Typically, this is done directly after a carbon credit has been tokenized. The amounts are all visible on the blockchain and easy to verify.

$$\text{Staking yield} = \text{Total initiative yield} * \text{CET Stake} / \text{Staking pool size}$$

Example: If you own 1m CET out of a 100m pool, your percentage holding is 1%, or 0.01. If the total initiative yield is 100,000 carbon credits, you stand to earn 1,000 carbon credits.

If time is taken into account the calculation changes a bit, effectively you would earn a pro-rata based yield which is calculated with a day count. If a wallet has been staking all the days since the last yield calculation, the above formula is sufficient. However, if the staking started at a later stage, the number of days will be taken into account.

Example: Continuing on the example above, the first 100,000 carbon credit addition happened 30 days ago. 15 days later, a new staking wallet is added which also represents 1% of the pool. If another 100,000 carbon credits are added today, this new wallet will only be entitled for 15 days of yield i.e. 500 carbon credits. We start the day count at midnight UTC.

Whilst staking, the CET will be locked in the pool, so it will not be possible to trade it.

Redemption

Actors: CET staking pool participants

The actual distribution of carbon credits to the staking wallet is done when the stake is withdrawn, commonly known as a redemption. A staker can either redeem part or the whole stake. As the CET is redeemed, it will be returned to the wallet along with the earned carbon

credits. By only distributing the carbon credits when the stake ends instead of on an ongoing basis, we reduce the number of transactions.

You can also withdraw the carbon credits earned thus far, without stopping the staking. This allows you to take profit and continue receiving a yield.

Selling carbon credits

Actors: Carbon credit owners

To derive returns from carbon credits, holders have the option to sell them to Carbon Earth at a price determined through various mechanisms: presale auctions, existing orders, or via third-party exchanges. These prices are denominated in USD, with support for a diverse range of currencies and payment methods, ensuring accessibility and flexibility for sellers.

As a pivotal liquidity provider, Carbon Earth assumes the crucial role of bridging any gaps between supply and demand within the carbon credit market. Particularly in the early stages, imbalances between supply and demand are expected to occur frequently. In such scenarios, Carbon Earth leverages its reserves to fulfill orders, thereby maintaining market stability and facilitating transactions.

To safeguard against the risk of double-counting carbon credits, it is imperative to maintain comprehensive control over their lifecycle, including the sale to end-user companies. Consequently, sales transactions are restricted to the Carbon Earth platform or certified exchange environments where the retirement of carbon credits is seamlessly integrated and guaranteed. This stringent control mechanism ensures the integrity of the carbon credit market, preventing duplication and maintaining the efficacy of carbon offsetting efforts.

Buying and selling CET

Actors: CET traders

The primary avenue for trading CET will be through various cryptocurrency exchanges. Exchange functionality is fundamental right from the inception of our ecosystem, serving as a crucial catalyst for its expansion. CET will be strategically listed on multiple exchanges, leveraging their platforms to facilitate widespread access and liquidity. As our ecosystem gains momentum, we anticipate a steady enhancement in both the quality and liquidity of CET trading across these exchanges.

These initial listings mark the beginning of a journey towards broader adoption and recognition within the trading community. By establishing a presence on reputable exchanges, we aim to bolster confidence in CET's utility and value proposition. Moreover, increased liquidity ensures

smoother trading experiences for users, fostering a vibrant marketplace for carbon emission offsetting.

As our ecosystem evolves and garners greater traction, we envision forging partnerships with additional exchanges, further augmenting the accessibility and liquidity of CET trading. This strategic expansion not only amplifies the reach of our carbon offsetting initiative but also solidifies our commitment to fostering a sustainable future through innovative blockchain solutions.

View carbon credit holding

Actors: Carbon credit owners

For a recipient of carbon credits, who received them either through staking or through purchase, an up to date view of the current amount, value and type is required. Various key metrics are displayed allowing for detailed insights in the carbon credit holding.

Submitting a carbon reduction initiative

Actors: New initiative representatives

In order to seek funding from Carbon Earth, an initiative can submit a proposal to us. The information required would depend on the type of initiative, but there are some common data points we require for all:

- Initiative name
- Summary of initiative
- Location
- Category
- Amount of capital required
- Anticipated carbon credit yield
- Timeline
- Pitch deck or business plan
- Team information
- Company information
- Verification methodology if any

Manage a carbon reduction initiative

Actors: Existing initiative representatives, Carbon Earth

Managing an initiative involves keeping all the information up to date and monitoring its ongoing progress. Regular audits are carried out, either on-site or remotely to verify the yield of carbon credits. Audits are logged and can be verified on the blockchain.

Viewing carbon reduction initiatives

Actors: Existing initiative representatives, Carbon Earth

The view of an initiative gives all the insights and information that you could possibly need.

Carbon credit presale auction

Actors: Companies requiring carbon emission offsetting, Carbon Earth

Many initiatives need funding up-front or have a stockpile of carbon credits to sell to the market. Carbon Earth will source demand and conduct a presale auction to achieve the best possible price for the carbon credits. The auction starts with a presentation of the carbon credits and their characteristics, the available amount and other important information.

Prior to the auction, Carbon Earth would have collected KYC information ahead of time and only vetted participants are allowed to take part. Material such as a presentation about the initiative would also be made available to registered participants.

Then Carbon Earth will collect bids for parts or the whole amount and present to the initiative. It is quite possible that the seller prefers certain buyers even if the price is not as good as others.

The auction ends by a legally binding agreement to purchase the carbon credits and various commitments are signed up to. All is executed within the platform online.

CET to fiat exchange

Actors: CET traders

In order to exchange CET or carbon credits to fiat an exchange mechanism is provided and integrated in the flow. This allows simple exchanges between the various stores of value in the system. For example, when staking is stopped, an investor might prefer to withdraw any profits as US dollars rather than tokenized carbon credits so a conversation will happen.

Applications

Carbon reduction for companies

The most important utility of our carbon credit features lies in facilitating companies' efforts to reduce their carbon footprint. Our system not only assists in acquiring the necessary carbon credits to offset emissions but also ensures a seamless and user-friendly experience. Through our streamlined application, we empower companies with the liquidity they require in carbon credits, all while securing the most competitive prices in the market.

Carbon reduction for individuals

The surge in individual interest towards carbon offsetting has sparked a significant demand for accessible avenues for purchasing carbon credits at the consumer level. With households emitting an average of around 10 metric tons of carbon annually, equivalent to 10 carbon credits, there's a pressing need for solutions to offset these emissions. To meet this demand, we are poised to develop a user-friendly mobile application. This innovative tool will empower users to effortlessly calculate their carbon footprint and seamlessly purchase the required carbon credits, all through a simple credit card transaction. This initiative not only fosters environmental responsibility but also ensures that offsetting carbon emissions becomes an intuitive and convenient process for individuals looking to make a positive impact.

Blockchain network carbon neutrality

Numerous expansive blockchain ecosystems continue to heavily rely on energy-intensive computational resources, often sourced from non-sustainable electricity. Our objective is to address this environmental concern by undertaking a comprehensive assessment of the carbon footprint associated with the top 20 blockchains. Initially, we will analyze and quantify the emissions, paving the way for a standardized formula to calculate the carbon footprint down to the level of individual token holdings. This groundbreaking approach not only enables entities and communities to offset their collective carbon footprint but also empowers individuals to take personal responsibility for their environmental impact. Such an application is poised to resonate within the crypto community, driving increased demand for carbon credits and fostering a culture of sustainability within the blockchain space. By marrying technology with environmental consciousness, we aspire to catalyze positive change and promote eco-friendly practices in the digital realm.

AI based initiative verification

As we invest in and support initiatives, Carbon Earth has a role to play in monitoring the initiatives to make sure the agreed level of yield is maintained. There are several ways we will do this, and we will favor an automated approach that utilizes artificial intelligence (AI) whenever possible.

Forest or peat bog based initiatives are examples where AI can be used in combination with satellite imagery. Algorithms can be implemented which work out the vegetation, detect changes and predict future yields.

Initiatives

Types of carbon reduction initiatives in scope

Improved forest management

Improved forest management involves sustainable practices aimed at enhancing the capacity of forests to sequester carbon dioxide from the atmosphere. This approach typically includes activities such as reforestation, afforestation, selective logging, and preventing deforestation. By maintaining healthy forest ecosystems and increasing forest cover, carbon stocks are preserved or enhanced, contributing to climate change mitigation efforts.

Biomass with Carbon Removal and Storage (BiCRS)

Biomass with Carbon Removal and Storage (BiCRS) refers to the use of organic materials, such as agricultural residues, woody biomass, or dedicated energy crops, to generate bioenergy while simultaneously capturing and storing the carbon dioxide emitted during the biomass combustion process. This approach can involve techniques like carbon capture and storage (CCS) or biochar production, where the captured carbon is permanently sequestered in geological formations or in soil, respectively.

Renewable energy

Renewable energy refers to energy derived from natural resources that are constantly replenished, such as sunlight, wind, water, and geothermal heat. Unlike fossil fuels, which release carbon dioxide when burned, renewable energy sources produce little to no greenhouse gas emissions during electricity generation. By transitioning from fossil fuel-based energy systems to renewables like solar, wind, hydro, and geothermal power, emissions associated with electricity generation can be significantly reduced, thus mitigating climate change.

Waste management

Waste management encompasses various strategies for minimizing the generation of waste, promoting recycling and reuse, and treating and disposing of waste in an environmentally responsible manner. Effective waste management practices, including composting, recycling, anaerobic digestion, and landfill gas capture, can help reduce methane emissions from organic waste decomposition and curb emissions from landfills. Additionally, waste-to-energy technologies can harness the energy content of waste materials while reducing reliance on fossil fuels.

Mineralization

Mineralization involves the accelerated weathering or chemical transformation of minerals, such as silicates, carbonates, or olivines, to capture and store carbon dioxide from the atmosphere. Through natural processes, these minerals react with carbon dioxide to form stable carbonate compounds, effectively sequestering carbon in geological formations over long timescales. Mineralization techniques are being explored as a potential carbon removal approach to complement other mitigation strategies.

Seaweed sinking

Also known as ocean afforestation or ocean reforestation, involves the cultivation and deployment of large-scale seaweed farms in coastal or open ocean environments to absorb carbon dioxide from seawater. Seaweed growth relies on photosynthesis, which removes carbon dioxide from the water and converts it into biomass. When seaweed biomass sinks to the ocean floor or is harvested and stored, it effectively sequesters carbon over extended periods, contributing to marine carbon removal efforts and ecosystem restoration.

Initiative assessment

Carbon Earth applies a comprehensive approach to initiative assessment before investment is carried out. To some extent, one can see a carbon reduction initiative as any other company or organization, but there are additional factors that are important to include such as local society impacts, longevity and the level of innovation.

There are a set of primary factors which are derived from underlying detailed information:

- **Capital requirement.** How much funding is required for it to be producing carbon credits. This is partially calculated from the initiative's own financials but also by Carbon Earth's comparison to similar initiatives, projections and internal models.
- **Expected yield** of carbon credits per year. Verified by a third party verification agency.
- **Time** until carbon credits are being produced. This might differ from the time the initiative is live.
- **Risk** score.
- **Type** of initiative. The category and specific type of carbon reduction approach.
- **Location.**
- **Team.**

Commercial agreements

The way we fund and support initiatives vary depending on the initiative. For forests or land that yields carbon credits, we typically would enter a leasing arrangement for a minimum of 5 years. For initiatives that are based on innovative engineering such as BiCRS plants, we would invest equity capital and own a percentage of the physical plant.

As we establish our organization, we will employ or retain legal counsel who will be responsible for the contractual aspects of our commercial agreements. To some extent, we rely on contractually binding agreements to protect our investments, which makes initiatives in certain geographies unviable.

Initiative investment thesis

Before Carbon Earth invests in initiatives we conduct a comprehensive due diligence effort to establish a set of key criteria. This will protect our investment and build a strong portfolio of carbon credit sources.

Key investment considerations:

Predicted yield. Initiatives should provide robust predictions of the expected yield of carbon credits. We have thresholds in place to only invest in initiatives that are financially viable and can show how they plan to become sustainable.

Verification and certification. Ensuring that carbon credits generated by projects are verified and certified by reputable third-party organizations according to recognized standards such as Verra's Verified Carbon Standard (VCS) or the Gold Standard.

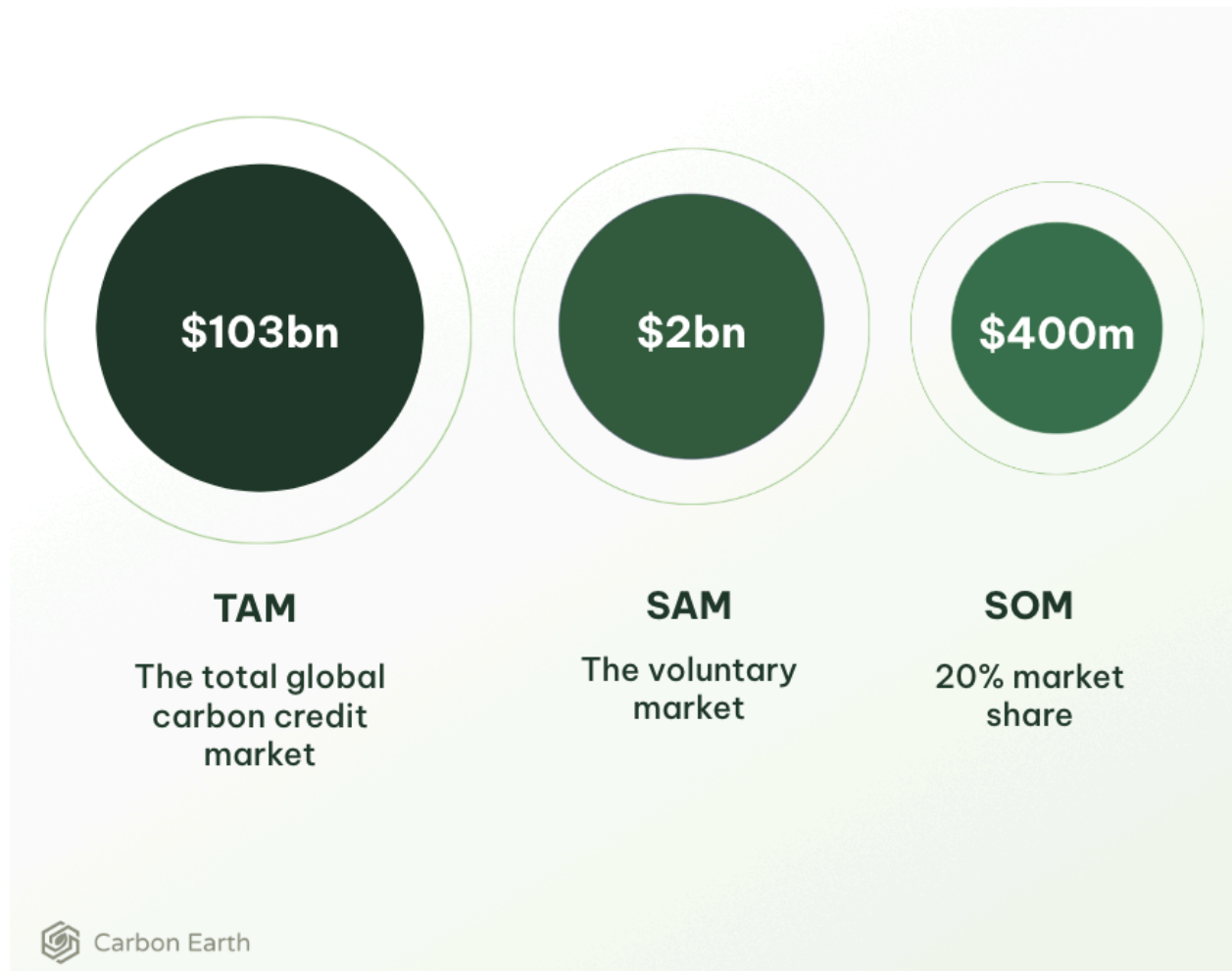
Market dynamics. Monitoring market trends, policy developments, and regulatory frameworks to anticipate shifts in demand for carbon credits and optimize investment strategies accordingly.

Risk management. Conducting thorough due diligence to assess the risks associated with each investment, including regulatory, market, operational, and environmental risks, and implementing appropriate risk mitigation strategies.

Long-term sustainability impact. Initiatives should demonstrate a commitment to long-term sustainability and resilience, considering factors such as soil health, biodiversity conservation, and community engagement.

Market analysis

Market size



Growth

It is predicted that the global carbon credit markets will grow from 103bn in 2023 to 2tn by 2030. Predicting the exact growth of the carbon credit market involves numerous factors and can be influenced by shifts in regulations, market dynamics, technological advancements, and global efforts to address climate change. However, there are several trends and forecasts that can provide insight into the potential growth trajectory of the carbon credit market:

Increasing Regulatory Support. Many countries and regions are implementing or strengthening carbon pricing mechanisms, such as emissions trading systems or carbon taxes, to incentivize emissions reductions. As more jurisdictions adopt these policies, demand for carbon credits is likely to rise.

Corporate Sustainability Goals. A growing number of companies are setting ambitious carbon neutrality targets and incorporating carbon offsets into their sustainability strategies. This trend is driven by consumer demand, investor pressure, and a desire to mitigate climate risks.

Voluntary Carbon Markets. The voluntary carbon market, where companies and individuals purchase offsets voluntarily rather than to comply with regulatory requirements, is expanding rapidly. This growth is fueled by corporate commitments to offset emissions, consumer demand for eco-friendly products and services, and the emergence of new offsetting platforms.

Technological Innovation. Advances in satellite technology, remote sensing, blockchain, and data analytics are making it easier to monitor, verify, and trade carbon credits. These innovations are reducing transaction costs, improving transparency, and increasing confidence in the integrity of carbon offset projects.

International Cooperation. Initiatives such as the Paris Agreement and international partnerships to promote climate finance and technology transfer are driving collaboration on emissions reduction efforts. This cooperation can stimulate demand for carbon credits from projects in developing countries and facilitate cross-border trading.

Economic Recovery and Green Stimulus Packages. In response to the COVID-19 pandemic, many governments are implementing green recovery measures and investing in renewable energy, clean transportation, and sustainable infrastructure. These investments create opportunities for carbon offset projects and support market growth.

Public Awareness and Advocacy. Heightened awareness of climate change and increasing public concern about environmental issues are driving demand for climate solutions, including carbon offsets. Advocacy campaigns, educational initiatives, and media coverage contribute to a broader understanding of the importance of carbon markets.

While these trends indicate significant potential for growth in the carbon credit market, it's important to note that market dynamics can be influenced by unpredictable factors such as policy changes, economic conditions, and technological disruptions. Therefore, while forecasts suggest a promising outlook for the carbon credit market, actual growth rates may vary depending on a complex interplay of factors.

Opportunity

As the market standardizes and carbon reduction regulation is adopted, there will be a huge demand for verified carbon credits to offset a company's emissions.

Carbon Earth is uniquely positioned to take advantage of this opportunity.

Expertise

The founding team has decades of experience in finance, technology and venture building.

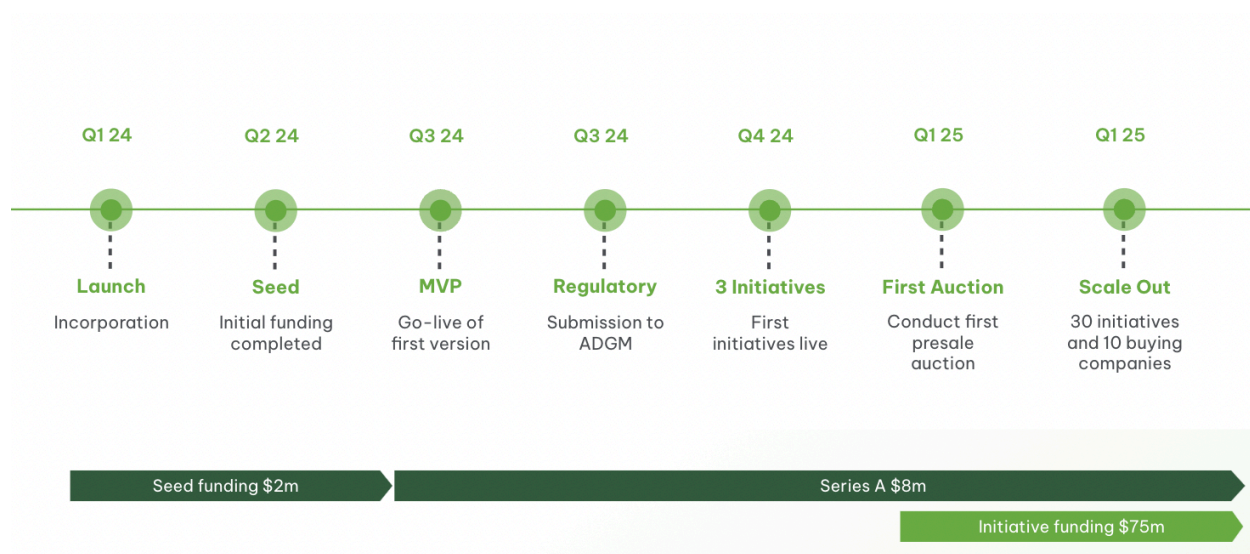
Technology

Innovative technology such as blockchain and AI forms the essence of our value proposition.

Location

We are based in the UAE, a country with strong support for carbon reduction initiatives and financing.

Roadmap



Launch

Incorporation of the required legal entities in ADGM or elsewhere.

Seed

The seed financing round is absolutely vital to get this venture off the ground and establish the platform.

MVP

The Minimal Viable Product MVP release will see the first version released and used end-to-end by real customers and investors. It fulfills all requirements but possibly some of the admin functionality and visual aspects are not included.

Regulatory

In order to operate in a regulated environment, we will attain all the licenses required to conduct the business in the way we are expected to. This milestone is all about having prepared and submitted the applications, not the completion and approval since it is up to the regulator.

3 Initiatives

This important milestone will see us having 3 initiatives online producing carbon credits. We would then be able to provide a solid yield to the staking pool and operate at a decent scale.

First Auction

As we accumulate carbon credits and sign up initiatives, we need to source the demand and find the prevailing price. Hence we would conduct a presale auction where predicted output of carbon credits would be auctioned off to the most suitable bidder.

Scale Out

As we proved the platform and processes, we would aim to scale out to increase the carbon credit yield and the resulting profits. This would include more initiatives, new partnerships and more buyers. We would also increase the number of investors which means an increased focus on automation, security and horizontal scalability is required.

Team and advisors



Alan Wepener

CEO and Founder

Over twenty years of combined experience in financial services and digital assets, including JP Morgan Investment Banking, PIMCO Asset Management, and former Managing Director and Chairman at CEX.io. He is a certified anti-money laundering specialist, with an MBA in Strategic Planning and extensive experience in financial derivatives trading, governance, risk and compliance.



Ingemar Svensson

CTO and Founder

Twenty five years of experience spanning traditional financial technology and innovative startups. He is a former CTO at SunGard Asset Management as well as senior roles at Bank of America Merrill Lynch, Barclays Capital and Lehman Brothers. Over the past ten years he has co-founded a number of startups in Web3, fintech and AI.

Legal and regulatory compliance

Carbon Earth aims to attain a number of regulatory licenses. The target jurisdiction is the UAE based Abu Dhabi Global Market (ADGM). ADGM offers a vibrant and robust ecosystem of regulated entities, investors and service providers. Its regulation is similar to the UK FCA regime and includes a number of innovative licenses such as digital asset management.

As a fund manager, investment company and crypto entity, the following licenses will be in scope:

Financial Services Permission (FSP) for Operating a Crypto Asset Business. ADGM offers a framework for the regulation of crypto asset activities, including the issuance, trading, and custody of crypto assets. Companies engaged in activities such as cryptocurrency exchange services, crypto asset trading, custody, and token issuance would need to obtain a Financial Services Permission (FSP) specifically tailored for crypto asset businesses.

Financial Services Permission (FSP) for Fund Management. Companies involved in managing investment funds, including crypto investment funds or cryptocurrency portfolios, would require a Financial Services Permission (FSP) for fund management. This license allows the company to manage collective investment funds, including hedge funds, mutual funds, private equity funds, and venture capital funds.

Digital Investment Manager License (DIM). ADGM offers a Digital Investment Manager (DIM) license for entities providing automated or algorithm-driven investment management services, including those involving cryptocurrencies and digital assets. This license is suitable for companies offering robo-advisory services, algorithmic trading, and digital asset management solutions.

Digital Asset Exchange License (DAE). For companies operating digital asset exchanges or trading platforms facilitating the trading of cryptocurrencies and digital tokens, a Digital Asset Exchange (DAE) license is required. This license allows the company to operate a regulated exchange platform for the trading of digital assets, subject to compliance with ADGM's regulations and requirements.

Custodian License. Companies providing custody services for cryptocurrencies and digital assets would need to obtain a Custodian License. This license authorizes the company to hold and safeguard clients' digital assets in compliance with regulatory standards for custody and security.

Market Maker License. Market makers providing liquidity and facilitating trading activities on digital asset exchanges may require a Market Maker License. This license enables the company

to engage in market-making activities, including providing bid and ask prices and facilitating order matching on trading platforms.

AML/CFT Compliance and Regulatory Reporting Requirements. In addition to specific licenses, crypto and fund management companies operating in ADGM must comply with anti-money laundering (AML) and countering the financing of terrorism (CFT) regulations. Compliance with AML/CFT requirements involves implementing robust customer due diligence (CDD) procedures, transaction monitoring, and reporting suspicious activities to the relevant authorities.

Token sale details



CET

Exchange:	Coinstore
Date:	9 May 2024, 11am (GMT+8)
Price target:	\$0.25
Main pair:	CET/USDT

The graphic features a large, bold 'CET' in the top left. To the right, there is a large, stylized green logo consisting of a hexagon with a leaf-like shape inside. The background is a light green gradient with faint, pixelated patterns.

We aim to establish markets on a number of exchanges to create the liquidity necessary to support our initiatives and operation.

Conclusion

The reaction of Governments in response to climate change has been unified and decisive, while the public concern about the environment has been overwhelming. It is the view of Carbon Earth that the regulations imposed on industries to curb their carbon emissions is only the beginning and will continue to increase the demand for carbon offsetting solutions. As sustainable living becomes a part of life, Carbon Earth believes that we provide an effortless and convenient solution for countries, companies and individuals to become carbon neutral, while benefiting from a lucrative financial opportunity.